

# National Studies on Assessing the Economic Contribution of the Copyright-Based Industries



Creative Industries Series No. 6



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# The Economic Contribution of Copyright-Based Industries in Bhutan





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## Executive Summary

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### Introduction

There has been growing interest among countries in estimating the economic contribution of the creative industries that are protected by copyright, commonly termed copyright-based industries (CBIs). This worldwide trend is premised upon increasing empirical evidence of the importance of copyright-based activities in the growth and development of national economies. This pilot project was commissioned by the World Intellectual Property Organization (WIPO) at the request of the Royal Government of Bhutan (RGOB) to identify Bhutan's CBIs and to estimate their economic contribution.

Copyright is a relatively new concept in Bhutan: it was introduced in the 1990s. Bhutanese society is unique in the sense that it believes in sharing knowledge and creativity for the wellbeing of the community as a whole. Creativity is perceived as a form of meditation, and hence the belief in earning merit leads one to create arts and crafts for the benefit of society as a whole. Most crafts are produced for household use. With this distinctive socio-economic structure of Bhutan in mind, the study uses the framework and guidelines recommended by WIPO to quantify the contribution of CBIs in terms of value added, employment and foreign trade.

WIPO distinguishes CBIs into four categories, based on the nature and significance of copyright activities. These include core and non-core CBIs:

- The *core* copyright industries refer to 'industries that are *wholly engaged* in creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter'<sup>1</sup>.

The *non-core* CBIs include:

- The *interdependent* copyright industries, defined as those industries that 'wholly or primarily *facilitate* the creation, production and use of works and other protected subject matter'<sup>2</sup>.
- The *partial* copyright industries, defined as those industries in which 'a *portion* of the activities are *related* to works and other protected subject matter'<sup>3</sup>.
- The *non-dedicated support* industries: those in which 'a portion of the activities are related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries'<sup>4</sup>.

### Economic Contribution of CBIs

Based on the study estimates, the total contribution of CBIs to the Bhutanese economy in 2008 was:

- 5.5% of GDP or Nu.3,009 million;
- 10.1% of total employment or 25,215 persons;
- 4.0% of total exports or Nu. 912.4 million;
- 6.9% of total imports or Nu.1,604.8 million.

The contribution of CBIs to GDP was only Nu. 648.8 million or 2.8% in 2001, but it increased almost five-fold by 2008. In other words, CBIs grew at a rapid pace of about 21.3% per annum, outperforming the national economy, which grew at 9.0% during the period. Interestingly, each of four CBI groups surpassed the national growth rate during this period. The core and interdependent CBIs grew the fastest at 123% per annum, followed by the non-dedicated support industries at 14.5%. The high rate of growth of core CBIs during this period is due to the low base of growth. Prior to the year 2000, the main core CBIs such as printing press, literature, films, TV and cable TV, IT and IT-enabled services hardly existed. Their significant growth took place only after the year 2000.

Given the unique structure of the Bhutanese economy and the differing growth among CBI groups, the partial CBIs are relatively more significant in Bhutan. The core and partial CBIs accounted for an overwhelming 75%

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<sup>1</sup>WIPO Guide pg. 29.

<sup>2</sup>WIPO Guide pg. 33.

<sup>3</sup>Ibid.

<sup>4</sup>WIPO Guide pg. 35.

of the total CBI share of GDP in 2008. This is because many of the core and partial CBIs flourished due to economic liberalisation, which became more systemic, especially after 2005. This is also due to the promotion of cultural tourism. The core CBIs accounted for about 34%, partial contributed 41%, non-dedicated support industries accounted for 14%, and the interdependent CBIs 11% of the total value added of CBIs. The relatively small share of the interdependent CBIs is due to the weak manufacturing base in Bhutan.

The CBIs also make an important contribution to employment. Based on the 2005 Population and Housing Census, they contribute about 9% of total employment in Bhutan. Partial CBIs account for the largest share of employment (71%), followed by the non-dedicated CBIs at a distant 15.9%. On the other hand, the core and interdependent CBIs are relatively small and thus they contribute only 10.2 and 2.8% respectively to the total employment in CBIs. Given the characteristic labour-intensity of partial CBIs and their significance in Bhutan's CBIs, labour productivity in CBIs is lower than the national average. The more capital-intensive non-dedicated support CBIs, however, register the highest labour productivity among all CBI groups.

The partial CBIs not only make the largest contribution to GDP and employment, they also have the greatest impact on the economy. The inter-industry linkages reveal that the partial CBIs have the highest backward linkages with the domestic market, whereas the other CBI groups have notable backward linkages with the rest of the world. The partial CBIs have the greatest linkages with the agriculture sector and therefore they can play a more dominant role in rural development and poverty alleviation. With respect to forward linkages, 90-100% of the sales of different categories of CBIs are made to the services sector. The most probable explanation lies in the hospitality sector (tourism), which is the main buyer of copyright-based products, given the small population base and low purchasing power of the people.

As highlighted above, CBIs are net importers. However, the partial CBIs export almost their entire output (about 99%) and account for 98% of the total exports of all CBIs. Within this category, the weaving and handmade paper industries are the largest net exporters and consequently the biggest net foreign exchange earners among all CBIs.

Cross-country analysis of selected countries shows that Bhutan's CBIs contribute moderately to GDP at 5.5%, better than CBIs in Philippines, Jamaica and Latvia but less than those in Malaysia, Mexico and USA. However, CBIs in Bhutan were the most dynamic, expanding at double-digit rates of between 13-32% from 1997 to 2008, in contrast with between 6-7% in some of the developed economies such as Australia, Netherlands or the USA.

Notwithstanding the notable contribution and performance of CBIs in Bhutan, there are issues and problems that impede their full potential. Some of the key constraints include poor coordination of CBI development stemming from institutional weaknesses, difficulties in obtaining credit, and lack of investment in R&D and human resource development. As in many developing economies, there is also poor understanding and appreciation of the importance of copyright among consumers and producers alike. A lack of consistent and reliable data on CBIs is a major impediment to making a realistic assessment of the potential of CBIs in Bhutan.

### Policy Recommendations

The growing significance and worldwide recognition of the rising role of creative industries as the engine of growth, as well as the potential of CBIs in Bhutan given its unique geographical and economic landscape, necessitate a consistent and coordinated approach for promoting CBIs in Bhutan. To meet current and future challenges faced by CBIs, the following recommendations are made:

- (i) In line with the proposals for the development of cultural industries, it is recommended that supporting policies such as advocacy and strategy development, as well as cultural asset management, be implemented for CBIs. Preparing a comprehensive policy and strategy is the first step in their development, along with human resource, technology and infrastructure development. These must be accompanied by setting up of clear objectives, benchmarks and responsibilities for coordination, follow-up and implementation.
- (ii) To improve the quality and availability of timely data on CBIs, coordination and cooperation amongst the five key Ministries – Home & Cultural Affairs; Economic Affairs; Labour and Human Resources; Information and Communications; Finance; as well as the National Statistics Bureau (NSB) – is vital. As NSB is the clearing house for national data, it has to be actively engaged in checking the quality of data by assisting in statistical surveys and studies. The national income accounts should also be

prepared in a more-detailed manner so that disaggregated data for various activities are available to planners and researchers. The NSB has to take a leading role in this regard as well.

- (iii) To facilitate the above task, the necessary institutional arrangements must be put in place. One option is to provide a specific mandate to an agency, like the proposed Cultural Commission or DCSI/APIC, for such cooperation and coordination in the generation and dissemination of data. The mandate of this body should include, *inter alia*: (a) clarification and delineation of responsibilities for maintaining and developing data on CBIs as well as creative and cultural industries; (b) cooperation in carrying out any statistical surveys, including agreement on their terms of reference so that a study can serve the need of more than one agency as well as meet NSB's qualitative requirements; (c) collect trade data at a disaggregated level; and (d) cooperate in policy and programme implementation in areas such as technology, R&D and human resource development to avoid duplication of efforts and resources. When it comes to copyright and creative industries, the IPD should play an active role in coordination and direction, in cooperation with the lead central agency.
- (iv) The role of the IPD in advocacy and creating public awareness must be strengthened in order to build a stronger culture of IP protection within the Bhutanese society. The IPD must play a more proactive role in disseminating information on copyright protection. Its website has to be more user-friendly, with information, facts and figures that are easily understood. In addition, in cooperation with the Royal Bhutan Police and judiciary, the IPD must provide greater support to the private sector in dealing with piracy and other kinds of IP abuses and eventually develop a joint public-private sector strategy to combat this growing problem.
- (v) To enable the IPD to carry out its role and functions more effectively, it is proposed that the IPD be transformed into an autonomous government agency, as in the case in Malaysia and other countries. As its activities cut across the work of many public and private institutions, it can function more effectively as an autonomous agency under a board of directors drawn from different professions. It can assume greater flexibility in programme operations and achieve better coordination with other agencies. If full autonomy is not feasible, the second-best option is to elevate the IPD to the status of a department. The IPD's existing facilities and staff should be reviewed and strengthened where necessary, to enable it to meet the above functions and to elevate its profile within the government. A stronger government body on IP will have a favourable impact on the development of the national creative industries and will help improve coordination at appropriate levels.
- (vi) Incentives in the form of fiscal, financial and infrastructural support should be granted in order to foster private sector investment in CBIs. Bhutan's private sector is still in its infancy. As such, public-private partnership will go a long way to enable CBIs to compete in the global market. A cluster for creative industries should be developed, like the IT Park, including the encouragement of foreign direct investment (FDI) that can bring new technology, different skills and much-needed capital for investment in collaboration with the Bhutanese private sector.
- (vii) There is a need to improve the availability and accessibility of credit, especially for the SMEs. The focus should be on improved credit information; better project appraisal; removal or at least relaxation of the requirements of collaterals for loans; and improved legal protection for both banks and borrowers. Some of these elements are being addressed by the RMA, but a separate window or facility for lending to SMEs is necessary to encourage their growth.
- (viii) The study shows some emerging areas with much potential. These include films and music, print and media, handloom weaving, handicrafts and furniture. Among these, the first three industries have better prospects. More in-depth sector-specific analysis should be carried out for these industries, in order to identify the issues and challenges faced by them and to target policies and programmes accordingly. Simultaneously, other less-developed CBI sectors like advertising services, photography, visual arts software and databases should be encouraged to attain their full potential.

## Abbreviations

APIC	: Agency for the Promotion of Indigenous Crafts
BICMA	: Bhutan Information, Communication and Media Authority
BIMSTEC	: Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (Bangladesh, Bhutan, India, Myanmar, Nepal, Thailand & Sri Lanka)
BPO	: Business Processing Office
CBS	: Centre for Bhutan Studies
CBIs	: Copyright and Related Right-Based Industries
DOC	: Department of Culture, MoHCA
DRC	: Department of Revenue & Customs, Ministry of Finance
DCSI	: Department of Cottage & Small Industries, MoEA
FDI	: Foreign Direct Investment
GDP	: Gross Domestic Product at market price unless stated otherwise
GNH	: Gross National Happiness
GVA	: Gross Value Added
HR	: Human Resources
HRD	: Human Resource Development
IP	: Intellectual Property
IPD	: Intellectual Property Division, MoEA
IPRs	: Intellectual Property Rights
ITAB	: Information Technology Association of Bhutan
LFPR	: Labour Force Participation Rate
MoHCA	: Ministry of Home & Cultural Affairs
MoEA	: Ministry of Economic Affairs
MoIC	: Ministry of Information & Communication
MoLHR	: Ministry of Labour & Human Resources
MPAB	: Motion Pictures Association of Bhutan
NDS	: Non-Dedicated Support
NSB	: National Statistics Bureau
NVA	: Net Value Added
Nu.	: Bhutanese Ngultrum
PC	: Partial Copyright
R&D	: Research and Development
RGOB	: Royal Government of Bhutan
RMA	: Royal Monetary Authority of Bhutan
SMEs	: Small and Medium Enterprises
TRIPS	: Trade Related Intellectual Property Rights (WTO Agreement)
TSC	: Transport, Storage and Communication
UNCTAD	: United Nations Conference on Trade and Development
UNDP	: United Nations Development Programme
UNESCO	: United Nations Educational, Scientific and Cultural Organization
UNIDO	: United Nations Industrial Development Organization
WIPO	: World Intellectual Property Organization
WTO	: World Trade Organization
WRT	: Wholesale and Retail Trade

# 1. Introduction

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## 1.1 Background

Interest among countries has surged since the 1970s to estimate the contribution of copyright and related right-based industries (hereafter referred to as CBIs) to the national economy. The economic contribution of CBIs is measured in terms of its share of value added, employment and trade in the economy. Several countries, both developed and developing, have done studies which show that the overall contribution of CBIs to the national economies has been rising steadily during the past two decades, reaching as high as 11.1% of GDP in the United States in 2004 and 8.8% of total employment in the Philippines in 1999. Apart from the Philippines, other Asia-Pacific countries that have undertaken similar studies include Australia (2001)<sup>5</sup>, Singapore (2003) and Malaysia (2009) (WIPO 2003 & Kanapathy 2009).

This study is the outcome of a request by the Royal Government of Bhutan (RGOB) to the World Intellectual Property Organization (WIPO) for assistance in assessing the economic contribution of CBIs to the national economy, which has been witnessing an average growth of real GDP at 8.4% in the past decade (2001-2010). The study will also serve as a reference for introducing new policy measures to enhance the growth of CBIs in the country. Accordingly, WIPO and the Intellectual Property Division (IPD) of the Ministry of Economic Affairs (MoEA) commissioned the study in April 2009.

## 1.2 Objective of the Study

The objectives of the study are to:

- (a) Quantify the economic contribution of CBIs in Bhutan by estimating their share of value added and employment in the economy, and revenue generated from foreign trade;
- (b) Carry out an in-depth analysis of selected CBIs of importance to Bhutan in terms of their market structure, value chain, demand and supply patterns, labour market, policy frameworks, institutional support (including the role of collecting management organisations and other copyright-related organisations), terms of trade and cross-border issues, financing mechanisms, implications of the digital environment, among others; and
- (c) Propose policy, strategy and institutional interventions for encouraging the growth and development of CBIs in the country.

## 1.3 Process, Scope and Methodology

The study commences with a review of the literature and data on CBIs, culminating in consultations among national and international consultants, the government and WIPO in June 2009 at Thimphu. The consultation, *inter alia*, reached an understanding on the scope, coverage and methodology for the study. The consultation also identified a few similar studies, such as those in Malaysia and Jamaica, as references. The consultations with WIPO and the international adviser continued throughout the period of the study.

The study will cover all CBIs that have been grouped into four categories, i.e. core, interdependent, partial and non-dedicated CBIs. In line with other national studies, Bhutan's CBIs will be identified using WIPO's methodology and guidelines. WIPO defines CBIs using the International Standard Industrial Classification (ISIC) codes. Likewise, Bhutan's CBIs are determined using the ISIC codes. As the NSB does not strictly follow the ISIC codes, the four-digit ISIC classification by MoEA is used. Bhutan's CBIs are described in Annex 1.

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<sup>5</sup>Australia did an update of its study in 2007 [http://www.wipo.int/export/sites/www/ip-development/en/creative\\_industry/pdf/economy\\_table.pdf](http://www.wipo.int/export/sites/www/ip-development/en/creative_industry/pdf/economy_table.pdf)

## 1.4 Data Sources and Limitations

The study is based on secondary data sourced from NSB. In addition, primary data was gathered through a structured questionnaire survey carried out between October and November 2009, semi-structured interviews and focus group discussions. The sources of secondary data, survey questionnaire and details of individual meetings and focus group discussions are given in Annexes 2 to 4 respectively.

The economic contribution of CBIs is captured through three key summary indicators, while its performance is assessed using a variety of indices. The key summary indicators include the share of CBIs in GDP, national employment and international trade. Apart from intra-CBI contribution, the relative contribution of CBIs, *vis-à-vis* other industries, over time and between countries, is also analysed.

The relative performance of the CBIs is assessed by computing various growth rates as well as labour productivity. A host of other performance indicators<sup>6</sup>, such as capital output ratio, input-output ratio, plant load factor and profitability ratios, are used to measure their physical and technical efficiency.

The data are collected for four years, i.e. 1997, 2001, 2005 and 2008. However, secondary data are not readily available for all CBIs for all chosen years. These data gaps are addressed through sample surveys and extrapolation using relevant industry growth rates. In June 2011, consultations were held to estimate a more realistic contribution of core CBIs to GDP and employment. The list of the core CBIs consulted is given in Annex 5.

The share of CBIs in GDP is calculated by using data obtained through the above consultations and data compiled by NSB. The gross value added (GVA) of CBIs is obtained from the Census on Manufacturing Industries, 1997 and 2001. However, the GVA for the years 2005 and 2008 had to be estimated.

- For the core copyright industries, the primary data are collected through consultations with such major industries.
- For partial copyright-based industries, the GVA at market price for the years 2005 and 2008 are extrapolated using the growth rate of the manufacturing sector.
- The contribution of the interdependent copyright-based industry is imputed indirectly because of non-availability of disaggregated information. The imputation is based on the ratio of contribution of interdependent copyright industries' GVA to the GVA of core copyright industries. This ratio is derived from the studies undertaken in Latvia and Jamaica<sup>7</sup>. The ratio is about 37%.
- The share of non-dedicated support (NDS) industries is also indirectly imputed using the methodology applied in the study of the economic contribution of copyright-based industries for Latvia. In this study, the share of non-dedicated support industries is calculated using an average weight of 5% of the GVA of the WRT and TSC categories.

Due to highly unreliable data on employment, the contribution of CBIs to total employment is based on data from the 2005 Population and Housing Census. Prior to 2005, not only the population estimates varied significantly over time but population distribution across sectors also fluctuated. Even recent data remains unreliable, as the year-to-year fluctuations remain high. For this reason, any time series analysis can be misleading and the CBI contribution to employment is only estimated for the year 2005 onwards.

The trade data used in the study is from the 2008 Bhutan Trade Statistics. It would be pertinent to note that the trade statistics compiled by the Department of Revenue and Customs (DRC) differs from that published in the National Account Statistics, 2000-2008 compiled by NSB. The two sources differ on the value of exports and imports and hence create differences in all other variables derived from the two.

Furthermore, the problem in estimating the share of CBIs in international trade arises from the fact that data on exports and imports are not classified from the source of origin or destination of industry activity. This leads to over-estimation of the contribution of CBIs to trade. This is especially true in the case of imports. For

<sup>6</sup>Capital output ratio is the ratio of the stock of the capital to the output produced; input-output ratio is an amount of input used to produce a unit of output; plant load factor is ratio of actual output to full capacity output; and profitability ratio is the ratio of profit to net value added or ratio of profit to sales.

<sup>7</sup>The criteria for the selection of these two countries were: (1) The level of development and the nature of the economy of the two countries are similar to the Bhutanese economy compared to studies of other countries cited in the WIPO Study, and (2) Jamaica has also used similar criteria in preparing its study.



example, the statistics published by the DRC only tells us how much of a particular commodity is imported, say, particle boards. It is not possible to identify whether they are imported by CBIs or by construction firms.

The coverage, accuracy and reliability of this study therefore need to be seen in this perspective. To a certain extent, the problem was diluted, by two means. First, the data was re-classified from the census of manufacturing on a uniform basis. Second, the labour to output ratio in 1997 was used to estimate employment in each category of CBIs in different years to minimise this error.

## 1.5 The Copyright Factor

The copyright factor signifies the weight of copyright in the value added or employment of a firm. A detailed explanation of the computation of the copyright factor for each of the four broad categories of CBIs is given in Annex 6.

The copyright factor is calculated using information collected through the sample survey. A stratified random sampling was used with a sample size of 109. The list of CBIs provided by the MoEA served as the sample frame. The samples were drawn using the method of probability proportional to the population.

For the core CBIs, all of the firm's activities are attributed to copyrights and hence its copyright factor was assumed at 1. For the non-core CBIs, not all of the firm's activities can be attributed to copyright and hence a value of less than 1 was assigned. As shown in Table 1, the difference in the copyright factor across the non-core group is marginal. Non-dedicated support industries have the highest copyright factor among the non-core group. The least copyright factor is found in the interdependent copyright industries.

**Table 1: Copyright Factor in Non-Core CBIs**

Category of CBI	Average Copyright Factor
Interdependent	0.021
Partial	0.026
Non-dedicated support	0.028

Source: Sample survey

The copyright factor for each industry group calculated from the samples is shown in Table 2. Some industries have relatively low copyright factors compared to others, due to the lower level of copyright involved in the production process.

**Table 2: Copyright Factor Industry Group-Wise**

Category of CBIs	Industry Group	Copyright Factor
Partial	Handicrafts	0.033
Partial	Furniture	0.014
Interdependent	Electronics	0
Interdependent	Computers	0.12
Non-dedicated	Cable TV	0
Non-dedicated	Telephone booths	0
Non-dedicated	Cyber café	0.02

Source: Sample survey

## 1.6 Structure of the Study

The study is divided into nine sections. Section 1 introduces the study and covers its background, objective, process and methodology, data sources and estimation procedures. Section 2 provides an overview of CBIs, including their background, definition, description, legal and institutional framework, and a review of recent developments. Sections 3 to 7 form the core of the study and focus on estimating the contribution of CBIs and their performance indicators. Section 8 discusses policy recommendations and Section 9 looks at future directions.

## 2. Overview of the Copyright Industries

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### 2.1 Background

Copyright is a relatively new concept in Bhutan that was introduced in the kingdom in the 1990s. Bhutanese society is basically community-based, thus it is not surprising that it believes in sharing knowledge and creativity for the wellbeing of the community as a whole. Creation is a form of meditation in Bhutan. 'Art is synonymous with spiritual practice and the execution of art earns merit.' (DoC, p.2). Hence, a belief in earning merit leads one to create arts and crafts for the benefit of the society.

The Bhutanese people utilise natural resources in local surroundings for producing different goods. This is clear if one looks, for instance, at Bhutanese arts and crafts, be it traditional architecture, painting, weaving or any craft from among its 13 major crafts collectively known as '*Zorig Chusum*'. Bhutan's successive rulers, clergy and layman alike, have preserved these crafts over centuries. The 13 crafts are:

- (i) bamboo and cane weaving
- (ii) wood crafts
- (iii) handloom weaving
- (iv) gold and silver crafts
- (v) sculpture and pottery
- (vi) casting
- (vii) papermaking
- (viii) painting
- (ix) embroidery and appliqué works
- (x) carpentry
- (xi) masonry
- (xii) wood carving and
- (xiii) blacksmithing

The creativity in arts and crafts has assumed a new meaning with the development and monetisation of its barter economy since the 1960s, and more specifically after opening the country for tourism in 1974. These products in their social and community setting have formed an important source of income for many artisans, though there is much room for their improvement in quality, standard and sophistication.

### 2.2 Definition

Copyright is one of the two branches of intellectual property (IP), the other being industrial property. According to WIPO, 'It applies to every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression.' (WIPO 2003, p.13). Unlike patents, copyright protects only the form of expression of ideas but not the ideas themselves. It is aimed at protecting the creator's right over unauthorised copying for commercial purposes.

As CBIs are sometime termed as cultural or creative industries, it is important to clarify these terms. Culture plays a pivotal role in social and economic development and so CBIs and cultural industries have to be seen together. 'Cultural industries' refer to those industries that produce fairly large-scale industrial products with significant cultural content and are often used in relation to mass-media production. On the other hand, the term 'creative industries' is wider in scope and 'includes, besides the cultural industries, all cultural or artistic production, whether live or produced as an individual unit, and is traditionally used in relation to live performances, cultural heritage and similar 'high art' activities. The borderline between the two is often very fine' (WIPO 2003, p.18); though WIPO clarifies it by stating that creative industries are copyright-dependent (WIPO 2007). In the context of the study, the term 'copyright and related right-based industries' (CBIs) is used most of the time and if the other two terms are used, it is to denote their general context that copyright plays a significant and identifiable role within those industries. The classification of cultural industries, creative industries and CBIs is given in Table 3.

**Table 3: Classification of Copyright-based, Creative and Cultural Industries**

Copyright-based industries	Cultural industries	Creative industries
<b>Core Copyright Industries:</b> Press and Literature Music, Theatrical Production, Operas Motion Picture and Videos Radio and Television Photography Software and Databases Visual and Graphic Arts Advertising Services Copyright Collecting Societies	Printed Matter and Literature Music and Performing Arts Visual Arts Audio-Visual Media Cinema and Photography Radio and TV	Advertising Crafts Design Designer Fashion Film and Videos Interactive Leisure Software Music TV and Radio Performing Arts Publishing Software
<b>Interdependent Industries:</b> TV Sets, Radios, VCRs, CD Players DVD Players, Cassette Players, Electronic Games Equipment, and other similar equipment Computers and Equipment Musical Instruments Photographic and Cinematographic Instruments Blank Recording Material Paper	Cultural Heritage Socio-Cultural Activities Sports and Games Environment and Nature	
<b>Partial Copyright Industries:</b> Apparel, Textiles, and Footwear Jewellery and Coins Other Craft Furniture Household Goods, China, and Glass Wall Coverings and Carpets Toys and Games Architecture, Engineering, surveying Interior Design Museums		Arts and Antique Markets Architecture
<b>Non-dedicated Support Industries:</b> General wholesales and retailing General transportation Telephony and Internet		

Compiled from: UNIDO 2005, WIPO 2003 & UNESCO n.d.

WIPO places CBIs into four categories for statistical and functional purposes. These are core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated support copyright industries (WIPO 2003). These are further divided into sub-groups as can be seen in Table 3. The core CBIs refer to 'industries that are wholly engaged in creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter.' They are further divided into nine sub-groups.

The interdependent copyright industries are defined as those 'engaged in production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production and use of works and other protected subject matter'. This category is divided into two sub-groups – core interdependent and partial interdependent, both of which cover manufacture, wholesale and retail trade. The first sub-group under this category is integral to the core copyright industries while the latter has a supportive role only.

The partial CBIs are defined as those in which 'a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales'. This group may have a particular service component in it.

Finally, the NDS industries are those in which 'a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries'.

### 2.3 Legal and Institutional Framework

Laws are generally initiated by the agency that is responsible for managing a particular sector; for instance, the IPD in regard to intellectual property. However, since the establishment of a democratic system of government in April 2008, the Parliament, consisting of the National Council (Upper House) and the National Assembly (Lower House), has assumed a greater role in the formulation, review and amendment of legislation.

While laws may be initiated by a concerned agency and passed by the Parliament, these are left to the courts (at the district, sub-districts and High Court levels) for enforcement. The courts are not traditionally used to administer laws on copyright, despite the efforts of the IPD in the past to create awareness and promote inter-agency coordination and collaboration for law enforcement. Even if their works are copied, the owners of copyright themselves are unaware or hesitant to go to the court due to hassles in meeting legal requirements to prove violation of the law.

For all IP matters, the IPD is the lead organisation. Its principal functions are: to initiate appropriate legislation, rules and regulations; to create national awareness on IP issues; to maintain registries for patents, trademarks and industrial designs; to support right-holders in the commercialisation of their works and to strengthen enforcement of IP rights. In regard to copyright, the protection is automatic, as Bhutan is a signatory to the Berne Convention for the Protection of Literary and Artistic Works. In other countries, the copyright-holders themselves cooperate through Collective Management Organisations (CMOs), which are absent in Bhutan, to protect their rights. Two studies were carried out with WIPO's assistance to assess the feasibility of setting up a CMO in Bhutan. For the present, resource constraints make CMOs unfeasible.

The IPD organises activities in cooperation with WIPO and other relevant international organisations to create awareness on IP and its multiple dimensions. It initiates dialogue with educational institutions about incorporating IP in their curricula. In addition, there is a continuous process of institutional building through participation of stakeholders in seminars and workshops, and implementation of national projects, including ICT projects and database development.

### 2.4 Protection of Copyright

The copyright element in Bhutan is based more in the context of creative industries that have traditionally been lumped and interpreted under the broad framework of culture. CBIs, therefore, are a departure from the traditional understanding of creativity in arts and crafts, and embrace the meaning of copyright as used since 2001 when the Copyright Act was adopted.

The Copyright Act, 2001 provides for the protection of literary and artistic works as well as derivative works, as outlined in Table 4 below. No protection is granted for an idea, principle, concept, procedure, system, discovery or data, official texts or their translations.

**Table 4: Protection of Copyright Works**

A.	Literary and Artistic Works
	<p>These are original intellectual creations in literary and artistic works and include:</p> <ul style="list-style-type: none"> <li>a. Books, pamphlets, articles, computer programs and other writings;</li> <li>b. Speeches, lectures, addresses, sermons and other oral works;</li> <li>c. Dramatic and dramatic-musical works, pantomimes, choreographic works and other works created for stage productions;</li> <li>d. Stage productions of works mentioned above and of expressions of folklore that are apt for such productions;</li> <li>e. Musical works, with or without accompanying words;</li> <li>f. Audio-visual works;</li> <li>g. Works of architecture;</li> <li>h. Works of drawing, painting, sculpture, engraving, lithography, tapestry and other works of fine art;</li> <li>i. Photographic works;</li> <li>j. Works of applied art; and</li> <li>k. Illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.</li> </ul>
B.	Derivative Works
	<ul style="list-style-type: none"> <li>a. Translations, adaptations, arrangements and other transformations of works; and</li> <li>b. Collections of works and collections of mere data (databases), whether in machine readable or other form, provided that such collections are original by reasons of selection, coordination or arrangement of their contents.</li> </ul>

Source: Copyright Act of Bhutan, 2001

The owner of copyright has the exclusive economic and moral rights on his or her works. The economic rights relate to reproduction, translation, adaptation, distribution, rental or public lending of the original or copy of audio-visual work, a computer program, a database, musical work in graphic form, importation of the copies of the work, public display and performance, broadcasting and other modes of communication to the public. The moral rights include claim on display of authorship or ownership, the work or otherwise as well as the right to object any distortion of such work.

The recognition of the need to protect copyright is low, both with the owners and enforcement agencies, despite efforts being made by the IPD to create public awareness. A recent study carried out by the MoEA confirms this situation and outlines measures for improvement (MoEA 2010a). The measures that have been recommended include: *'suo moto'* raids by the police on suspected cases of violation; expeditious settlement of cases; training of judges for dealing with IP laws; training of police personnel and IP prosecutors; promotion of greater public awareness; a clear national policy statement on IP; and greater cooperation and coordination of efforts among stakeholders. A guideline for enforcement of rights has also been prepared, on which action is awaited from the government (MoEA 2010b).

**Table 5: Milestones on Copyright in Bhutan**

Year	Milestones
1994	Accession to Convention establishing WIPO
1997	Establishment of the Intellectual Property Division
2001	Enactment of Copyright Act of the Kingdom of Bhutan
2004	Accession to the Berne Convention for the Protection of Literary and Artistic Works
2008	Trial on the voluntary registration of copyright system
2010	Drafting of an enforcement mechanism as well as rules and regulation under the Copyright Act, 2001

Source: IPD, MoEA

The Copyright Act, 2001 governs the protection of copyright, and its milestones are given in Table 5 above. The Act deals with copyright works and protection of performers, producers of sound recording and broadcasting organisations, and enforcement by courts. The copyright works define literary and artistic works, derivative works, economic and moral rights, and provide for reproduction for quotation, personal, educational and broadcasting, information and library purposes with due acknowledgment to the source of the work. Performers, producers and broadcasting organisations can authorise their works and programmes for reproduction. Finally, the courts can treat violation of the copyright law as any infringement of the civil and criminal law. The enforcement rights are summarised in Table 6.

**Table 6: Enforcement of Rights under the Copyright Act, 2001**

<b>A.</b>	<b>Provisional measures</b>
	A court can apply civil and criminal law to: <ol style="list-style-type: none"> <li>1. Grant information against infringement of rights;</li> <li>2. Impound copies of works or sound recordings produced or imported without owner's authorisation; and</li> <li>3. Apply Part V on Border Measures &amp; Customs Rules under the Industrial Property Act, 2001.</li> </ol>
<b>B.</b>	<b>Civil remedies cover:</b>
	<ol style="list-style-type: none"> <li>1. Compensation to owners of any right protected under the Act by the infringer, the amount to be fixed by the court;</li> <li>2. Authority to destroy or dispose of pirated goods unless the owner of copyright requests otherwise;</li> <li>3. Minimising risks of further infringement; and</li> <li>4. Issuance of order prohibiting acts of infringement and imposition of fines ranging from Nu. 5,000.00 to Nu. 50,000.00 when the order is violated.</li> </ol>
<b>C.</b>	<b>Criminal sanctions cover:</b>
	<ol style="list-style-type: none"> <li>1. Wilful infringement of copyright for profit-making purposes will result in punishment of up to one year or a fine of Nu. 1,000,000.00 or both; and</li> <li>2. Power to the court to increase the upper limit to increase the above fine up to double the amount if a defendant commits another crime within five years of the first conviction.</li> </ol>
<b>D.</b>	<b>Abuse of technical means:</b>
	<ol style="list-style-type: none"> <li>1. Application of civil remedies and criminal sanctions as indicated above if technical devices used in the protection or management of copyright devices or means are violated through applicant of various methods; and</li> <li>2. The owner of the copyright will be compensated in the same manner as in the case of infringement if the protection device is made or imported for sale or rent with a view to alter the technical devices including devices to circumvent the encrypted programme broadcast.</li> </ol>

Source: Copyright Act of Bhutan, 2001

## 2.5 Review of Recent Developments in Key CBIs of Bhutan

This section traces the development of the key CBIs and related sectors in Bhutan. The CBIs are dispersed under various public and private organisations, and data and information is difficult to obtain. They have not been studied from the copyright perspective, not even a single sector or sub-sector. While those areas mentioned below are growing on their own, areas like photography, software and database as well as advertising services can do better in an improved policy environment for the development of the private sector.

### 2.5.1 Film and Music

Though awareness about copyright is generally low, a small group of entrepreneurs engaged in creative works is keen to exploit their commercial potential. This is discernible particularly in the music, film and broadcasting sectors. Piracy of movies and music and unauthorised broadcasting of programmes by cable television channels and private radio stations have created news headlines in the local media in recent years.

Movie theatre owners and sellers of audiocassettes, CDs and DVDs have often complained of losing business due to piracy, which is also a serious global and regional problem. The porous border with India, which itself

is fighting a long battle against piracy, does not provide a conducive environment for Bhutan to enforce copyright laws. Only a few cases have been filed in courts, though many such cases go unreported due to lack of awareness and the onus of submitting proof to the courts. The legal profession itself is not sufficiently equipped to handle such cases.

In 2008, legal action was taken against three persons for flouting the copyright law. At least four legal cases have been dealt with by the courts or settled outside the courts in the past six years, the most notable being the one between the Bhutan Broadcasting Service (BBS) and Sigma Cables in Thimphu (Kuensel, 31 May 2003). The latter was accused of broadcasting a BBS production without the producer's permission. BBS won the case, sending a strong signal to the market that such abusers would not escape the hands of the law in future.

These developments are welcome, as they could potentially deter similar cases in the long run. However, in the short run, the onus of proving copyright ownership not only remains difficult and costly but also lies exclusively with the creator. The IPD maintains that its responsibility is limited to developing a proper legal framework for copyright and creating public awareness, and not in law enforcement, which is the work of the police and courts. However, copyright holders are seeking help, better institutional support and enforcement of the law by the relevant government agencies. Meanwhile, film and music producers are reluctant to release movies and music albums in CDs, VCDs, DVDs and audiocassettes before they fully recover their cost of production. For instance, out of 86 movies produced till 2008, only six have been released as VCDs and DVDs (Kuensel, 30 May 2008).

Since the production of the first Bhutanese motion picture in 1988, the Bhutanese film industry has made a considerable impact on entertainment and as a source of publicity for Bhutan in the outside world. The replacement of foreign films by indigenous films has contributed to showcasing Bhutanese culture and has generated revenue and employment. For instance, the entertainment industry as a whole – of which films are an important component – was the seventh largest contributor of revenue to the government in 2007. It has 78 producers, 14 production houses, 12 music-recording studios and employs about 50 persons (full-time and part-time) on average in producing a film. As of 2008, a total of 116 Bhutanese films (feature and documentary) and about 400 music albums were produced. The industry today boasts of as many as three international awards including the one from the Cannes Film Festival and six international awards for documentaries. The potential for the industry to contribute to the national economy is considerable (Wangchuk 2008).

The above progress has been achieved with little support from the government and virtually no foreign collaboration, but through the enterprising spirit and drive of a small group of Bhutanese artists. The Motion Picture Association of Bhutan (MPAB), which was formed in 1999, has 90 members today representing feature films, music and performing arts. Apart from piracy, some of the main problems faced by the industry include lack of professionalism, difficulties in obtaining loans from financial institutions, limited movie theatres for screening, and cumbersome government procedures for compliance. The Media Development Fund, established under the Bhutan Information, Communication and Media Authority (BICMA), lacks funding. The MPAB is striving hard to improve the industry, which in 2010 saw as many as 31 movies being produced, the highest number produced in a year so far. The corresponding figures for 2008 and 2009 were 16 and 20 films respectively.

A welcome development for the industry is the government support and incentive outlined in the Economic Development Policy (EDP) in 2010 by way of waiver of customs duty and sales tax on import of professional equipment. The Policy also exempts income tax on earnings from films, documentaries and serials produced for public broadcasting and reduced the sales tax on film tickets from 30% to 10% between 2010 and 2015. Further, the Golden Award, from His Majesty the King on the National Day in December 2009, to the MPAB represents the highest recognition for its contribution to the Bhutanese society, which should provide some impetus to the industry.

### 2.5.2 *Print and Media*

The printing industry is growing rapidly. The capacity for printing different types of works within the country has increased and improved in recent years with the growth in demand for printing. Most of the printing presses depend on government orders for their survival, as the demand from the private sector is small. The

printing of school textbooks is an important segment of the industry, though the actual printing is often done in India owing to lower production costs, thereby diverting the potential benefits of employment and income to the economy.

The increasing production of written material about Bhutan by Bhutanese and foreign authors (CBS 2009) can be seen from Table 7 below. A few authors have produced multiple works, particularly in the national language, thus helping to fulfil the government objective of promoting Dzongkha.

In September 1999, the Centre for Bhutan Studies (CBS) was designated as the national agency for issuing international standard book numbers (ISBN). Between 2000 and 2008, 1,176 books, magazines, articles and government publications were issued with ISBNs, out of which 25% were from the Ministry of Education. About 38% of the registered works were the creation of an individual or joint authorship, which shows encouraging signs of creativity among the growing number of writers in Bhutan.

**Table 7: Issuance of ISBN from 2000 to 2008 on Works by Different Groups**

Year	Authors	Govt. Agencies	Printing Press	Business, NGOs & Int. Organisations	Total	Remarks
2000	10	53		3	66	Issuance of ISBN starts
2001	26	54	7	6	93	
2002	13	17		5	35	
2003	37	19	23	1	80	
2004	19	22	9	11	61	
2005	18	45	3	3	69	
2006	32	53	9	1	95	
2007	27	59	1	13	100	
2008	214	70	15	13	302	Coronation & Centennial Celebrations
Years not specified	46	42	153	34	275	Year of ISBN issued unknown
<b>TOTAL</b>	<b>442</b>	<b>434</b>	<b>210</b>	<b>90</b>	<b>1,176</b>	

Source: Centre for Bhutan Studies, 2009.

As obtaining the ISBN is voluntary, many publications may not be submitted to CBS for registration and are thus excluded from the above data. Hence, the data is only indicative. Even then, it shows a clear growth trend from 2006 onwards, reaching the maximum in 2008 when many publications were issued to commemorate the Coronation and Centennial Celebrations of the Monarchy. There are 275 ISBNs whose year of registration remains unknown.

The media plays a vital role in a nascent democracy like Bhutan as it helps to shape public opinion, and seeks accountability and transparency in the functioning of the government and national institutions. The convergence of media and ICT becomes a powerful force for the growth of business enterprises and creativity. A recent Media Impact Study found that one-third of the population is already using mobile phones, a service that began only in 2003 (MoIC 2008). There is also significant growth in access to media in the form of TV, radio and newspapers. The media content is also moving from its traditional information domain to the growing demand for entertainment (MoIC 2008).

The print, radio and telecommunications networks in the country have also expanded rapidly. From one government radio station until recently, four additional radio stations in the private sector have now been set up providing competition and variety in informative, educational and entertainment programmes. Similarly, there are two daily and seven weekly newspapers today, as compared to one until 2007<sup>8</sup>. Fifty-two private cable operators provide 24-hour news coverage and entertainment on as many as 50 international channels. The national TV service that was started only in 1999 remains the only station to provide local and national programmes that are reflective of indigenous creativity.

<sup>8</sup>Two weekly newspapers in Dzongkha and a weekly for the youth in English were started in 2010 and 2011.



### 2.5.3 Handloom Weaving

Weaving is an important cottage industry in Bhutan, as it is extensively practised as a cash income business in central and eastern Bhutan. The handloom designs are largely traditional, have passed down from one generation to another and are in the public domain. The industry is predominantly in the informal sector, as only three weaving businesses were registered as per the Baseline Study<sup>9</sup>. Data on production, sales and employment cannot be obtained easily and therefore are not captured in the national data.

Some efforts have been made by the government since the 1980s to improve colour and designs and to produce different garments from handloom for export. The government developed a handloom design and weaving centre in Khaling that was later handed over to the National Women's Association of Bhutan (NWAB), a non-government organisation devoted to promoting income-generating activities for women. Another project in the 1990s that also produced different items from hand woven materials was privatised. More recently, two UN-assisted projects tried to carry forward the design and production of new garments and other products for domestic and export markets. These efforts have encouraged a few individuals to create new designs that are now recognised through an annual design competition arranged by the Department of Culture. These designs have not, however, been registered, because either they do not meet the criteria or the designers simply do not register their new creations. Though industrial designs are separate from copyright in terms of IP classification, they are nonetheless closely related, as such designs can be easily copied by the use of IT and multiplied without the knowledge of the creator. This is a special area where creativity can be promoted and protected through combined efforts between industrial designs and copyright domains.

### 2.5.4 Handicrafts, Furniture and Visual Arts

Bhutanese handicrafts are dominated by bamboo and cane baskets, wooden cups and bowls, scroll paintings, various handloom products, traditional jewellery, masks, and clay and metal sculptures. The principal market is the growing tourist industry, though these products are also consumed in the domestic market. Data on production and sales are also sketchy and unreliable. The little export that takes place is through carry-on baggage of passengers travelling abroad rather than export consignments, and therefore escapes from official records. Increasing the number of tourists and the introduction of credit cards is expected to increase sales to tourists.

Along with marketing, a combination of creativity, skills and quality plays a critical role in developing a successful handicrafts industry. It requires a proper strategy and policy support for development. Government intervention remains largely uncoordinated, though different agencies like the Institute of Zorig Chusum carry out product development and improvement programmes. However, the newly established Department of Cottage and Small Industries (DCSI) and the Agency for Promotion of Indigenous Crafts (APIC) – an autonomous public agency – are expected to fill this vacuum to some extent and to foster a more rapid growth of the handicrafts sector in line with renewed government focus on the sector.

Carved Bhutanese furniture has some potential, but the market is disorganised. The high labour cost also makes products uncompetitive for export; it is largely produced for the domestic market. The data on production, sale and export of furniture are lacking and often unreliable. It will take more time before entrepreneurs can invest in producing carved furniture with different designs at commercial levels.

As in the general handicrafts and other creative sectors, the concept of copyright has not yet seeped into the minds of most visual artists, except those who engage in modern paintings. Yet, visual art is traditionally a very important aspect of the Bhutanese culture in various forms of painting, masonry, sculpture, and wood and metal carving. While the IP ownership has traditionally remained in the public domain, product adaptation and innovation is impossible without protecting the creativity of the artist. Enhancing knowledge and awareness on IP, and particularly copyright, is needed for the benefit of the artists in these fields.

<sup>9</sup>This is the first comprehensive study done on cultural industries in Bhutan, which was completed in June 2009 based on a survey carried out by the Department of Culture and CSO with the support of UNDP, UNESCO and UNIDO.

### 2.5.5 Other Related Areas

Information and communication technology (ICT) has assumed prominence since the beginning of the decade with the Bhutan ICT Policy and Strategy (BIPS) issued in 2004. BIPS was a commitment from the government to harness the potential of ICT by ensuring good governance, creating an information culture and applying ICT in business and industry with a view to improving Bhutan's competitiveness in the region. BIPS was also meant to address sectoral policies, infrastructure, human capacity, content and application, and enterprise in relation to ICT. One of its activities was to enforce IP legislation in cooperation with the IPD, DRC, Judiciary and Police, and the work in this respect is ongoing. A review in 2009 found that the implementation of BIPS was generally satisfactory and on course.

Despite the growing application of ICT in public and private sectors, there is much to be done to engender individual creativity that is vital for economic growth. The national capacity remains low, with little or no progress in software and database development. The ICT is mainly confined to internet and mobile telephone connectivity, as well as supply of imported equipment and ICT-related services. The major IT users are the government and corporate sector. As they do not have sufficient confidence in local IT firms and professionals, they continue to engage external consultancy firms and expertise in IT and software development.

A notable achievement is the adoption in August 2009 of the Vision for the Information Society (VIS) that seeks to raise national consciousness and identity in Bhutan and promote creativity through information. Media, IT and culture are identified as three integrated components of the Information Society in the 21<sup>st</sup> century. The VIS defines the scope of 'media' as oral, TV, radio, internet, film and music, printing and publishing, gaming and mobile phones. 'IT' is recognised as an infrastructure, as a means of imparting skills and encouraging creativity. 'Culture' embodies libraries, visual and performing arts within the VIS, but excludes religious and other cultural activities, arts and crafts. The Ministry of Information and Communications (MoIC) is mandated to take the lead in realising the Vision as a 'ministry of creative clusters' and supporting tangible (commercial) and intangible forms of activities for a new Information Society.

## 2.6 The Promotion of Culture-Based Creative Industries

A concerted effort to study the role of creative industries, but principally cultural industries, was made in 2007 under the UN system to support Bhutan in implementing the Paro Initiative on Cultural Cooperation in the BIMSTEC region, adopted in 2006. This followed the initiative taken by BIMSTEC countries in 2004 to enhance the role of culture in socio-economic development of the member countries with Bhutan assuming the leading role for its implementation within the regional body.

A project entitled: 'The Promotion of Culture-Based Creative Industry for Poverty Reduction and Community Vitalisation' was implemented between 2007 and 2009 resulting, *inter alia*, in the Baseline Report referred to earlier. The second output of the project was to bring about improvements in the marketing, design, quality, production and entrepreneurial development of the craft sector. The Baseline Report is meant to serve as a pilot study that can be applied in other BIMSTEC countries to collect and analyse data on cultural industries. The aim is to ultimately create a 'cultural index' in BIMSTEC to measure the contribution of culture to socio-economic development in the region.

Although the role of IP is recognised in the project document, there is no specific component on it. Nonetheless, the Baseline Report forms a useful reference point for this study, as some information on CBIs has been collated and the WIPO classification is used in data compilation. Its key findings within the limitations imposed by the availability of data are:

- (a) A variety of culture-based industries exists in Bhutan, with new enterprises like TV production and the movie industry entering the scene;
- (b) The number of persons involved in the culture-based industries, or having skills related to those industries, are significant by international comparisons. About 10 per cent of the workforce (25,278) is engaged in the cultural sector, as per the 2005 Population and Housing Census. However, about 60,118 people professed to have some skills in culture-based industries – 35% in urban and 65% in the rural areas;
- (c) A majority of the culture-based industries are in rural areas and outside the formal sector. The data from these industries are therefore not captured fully by surveys or studies in the past;

- (d) Culture-based industries generally fall into five main categories – arts and applied arts, cultural and religious services, crafts-based manufacture, media and cultural tourism;
- (e) Furniture-making is the largest sub-sector followed by the printed press; and
- (f) Crafts are produced primarily for domestic use, though some export through tourists is taking place. But there are no data maintained on it. The data on trade of cultural products are therefore skimpy and unreliable.

Another related development is the approval in 2008 of the index for Gross National Happiness (GNH), a philosophy that Bhutan has championed in the last decade. GNH seeks to measure economic growth, not in terms of GDP, but in a more holistic concept of development that includes social and emotional wellbeing of people. Cultural diversity and resilience is one of the nine dimensions or components of the GNH index. Artisan skill (meaning traditional skill) is an aspect of the cultural dimension that brings individual contentment. The other dimensions are psychological wellbeing, time use, community vitality, health, education, environmental diversity, living standard and governance. The main challenge, however, lies in the operationalisation of the GNH index.

The two initiatives mentioned above have far-reaching implications for the creativity of CBIs and the development of cultural industries in Bhutan in the future.

## 2.7 Key Issues and Constraints

### 2.7.1 *Weak Database*

Though the copyright legislation was passed in 2001, little effort has been made thus far towards gathering data and information on CBIs in the country. There has also been poor coordination of policies and programmes with respect to CBIs.

As creative activities, many CBIs in Bhutan operate within individual settings and hence they are not captured by official data gathered on the basis of licence, or registration data maintained by various government organisations – principally the MoEA. The production of goods and services for commercial purposes requires business permits (termed a licence). However, if the total investment of a commercial enterprise is less than Nu.1 million, only a registration is needed.

### 2.7.2 *Poor Inter-Agency Coordination*

The process of capturing data has become even more cumbersome with the dispersal of responsibilities to other organisations within the government on the basis of their evolving mandates. As many CBIs, such as media, films and music and ICT, fall within the purview of the information and communication sector, they are now monitored and regulated by BICMA, an autonomous regulatory body. Other CBIs, especially those engaged in wholesale and retail trade, remain with MoEA, with the exception of land transport, which is regulated by the Roads and Surface Transport Authority (RSTA), functioning under MoIC. In addition, other creative and cultural industries, such as visual and graphic art, drama and theatre, are the responsibility of the Department of Culture under the Ministry of Home and Cultural Affairs. There are non-governmental organisations, like the NWAB, Handicrafts Association of Bhutan, Tarayana Foundation and Youth Development Fund, which are involved in developing various arts and crafts to benefit women, youth and disadvantaged groups in society. A central body is therefore necessary in the government to coordinate these initiatives and direct resources for their accelerated growth. The dispersal of responsibilities to various agencies has also contributed to a lack of focused approach in promoting creative industries, or CBIs for that matter, as much as the cultural industries. As stressed above, the mandate for the development of CBIs is subsumed under a number of parent organisations (MoHCA, MoEA and MoLHR), each of which has its own agenda and not specifically that of its CBI components. In such an environment and in the absence of a programmed approach to their development, the development of CBIs receives little attention.

### **2.7.3 Lack of Awareness of Copyright Protection and Enforcement**

Despite the efforts of the IPD to create awareness and disseminate knowledge and information, the value of protecting IP is yet to percolate through the Bhutanese society at large. This is particularly true for rural areas, despite a relatively strong base for creativity in handicrafts and cottage industries. Whatever awareness has been created, it is limited to the music and movie industries, as well as the media that are concentrated in urban areas – particularly Thimphu. Both these sectors are already making visible impact with their growing popularity. The media, in particular, is rapidly changing views of the people that may have a lasting impact in society.

Based on the data maintained by MoEA, there were approximately 15,148 CBIs in 2008. This represents 8% of the total registered business activities in the country. Though the figure may be tentative, as such segregation has never been done so far, it shows their relative importance in the Bhutanese economy. What is noteworthy is the growth in the media and entertainment sector in recent years, a sector that has also been the most active in protection of copyright, as observed by their concern for piracy and legal cases handled by the courts.

With a rather slow start in IP enforcement, some momentum has gathered in recent years, as shown by the number of cases dealt by the courts – such as the one between BBS and a private cable operator. The MPAB is also taking initiatives on its own to curb copyright infringement, both within the country and in the neighbourhood. The government realises the need to take additional measures – more copyright protection and better enforcement of the law through capacity-building programmes, within the government and private sector, through workshops and seminars – and is taking initiatives like the drafting of enforcement mechanisms and rules and regulations for the Copyright Act, 2001.

### **2.7.4 Lack of Innovation and R&D**

As for creativity and innovation, they are relatively weak in general. This is evident from the sample survey carried out for this study, which shows that less than 1% of the total time is devoted to work used for creative purposes. Considering the very low level of R&D that takes place in Bhutanese industries, the low levels of creativity and innovation are not surprising. However, their potential cannot be over-emphasised.

### **2.7.5 Lack of Skills Training**

The study shows the share of CBIs in total employment as 10.1%, which is quite significant. However, only 8.7% of the labour force employed in CBIs are trained, and about half of them have a low level of education at Grade 8. Given the higher level of productivity in CBIs, a better-trained labour force could be more productive and thereby meet the excess capacities of these industries. Here too, the potential for employment in CBIs is considerable.

### **2.7.6 Inadequate Access to Funding**

The CBIs in Bhutan generally have inadequate access to formal credit facilities. They generally are dependent on funds from the unorganised and informal sector. Lending by the Bank of Bhutan, which is the largest bank, is taken as a proxy variable for finances made available by the organised financial market. Lending to sectors that are closely related to CBIs is given in Table 8. It is clear that less than one per cent is disbursed to the small business sector, an area where individual creativity and copyright usually takes place.

**Table 8: Bank of Bhutan: Loans to Major CBI-related Sectors as of December 2008**

Sector	Amount (Nu. in million)	Percentage
Manufacturing industries	1,906.341	23.51
Trade, commerce and export finance	975.809	12.03
Service industries and tourism	1,312.097	16.18
Personal loan	1,716.467	21.17
Equity finance	6.808	0.08
Small business loans	5.320	0.07
Others*	2,186.848	26.35

\*Includes housing, transport, staff and agricultural loans  
Source: RMA Annual Reports

Bhutanese banks generally do not lend easily, especially to smaller enterprises. Project-tied financing is not common, particularly for SMEs, and banks often ensure that there is both adequate mortgage and repayment mode prior to lending. Bank officials are not always trained in loan appraisals. Having said this, banks too have faced losses when entrepreneurs have become bankrupt in the past. However, of late, there have been some improvements with respect to loan processing. There are also very few banks in Bhutan and in the absence of competition, banks will tend to be risk-averse. Nonetheless, with two new banks entering the market and with improvements in the legislative and policy framework for the operation of financial institutions by RMA, lending to small businesses is likely to improve. The establishment of specialised banks and financial institutions to provide credit support to CBIs is also a step in the right direction.

## 3. Contribution of CBIs

### 3.1 Introduction

The importance of knowledge in the process of economic growth is widely recognised today. More systematic and institutional support to this idea was provided through the incorporation of TRIPS under WTO, to which Bhutan is not yet party<sup>10</sup>. It was a step forward to acknowledge the relevance of IP to trade issues. Copyright is one of the legal ways to protect newly created knowledge or products from free riding. Copyright is increasingly being recognised for its importance in enhancing competitive advantage to a range of industries, including creative industries. Copyright, by providing competitive advantage, becomes crucial for economic growth, employment, international trade and finally, a tool for poverty alleviation and human development. Especially for a country that diligently pursues the goal of GNH, it is an important source of happiness. For these reasons, it is essential to know the contribution that CBIs make to the economy.

To better understand the contribution of CBIs to the economy, it is necessary to begin with a brief description of the structure of the Bhutanese economy. This is followed by a discussion on the economic contribution of CBIs to Bhutan.

### 3.2 The Structure of the Economy of Bhutan

Bhutan is a small land-locked country, with a population of 671,083 and an area of 38,394 km<sup>2</sup>. Bhutan is a developing country, as its per capita GDP in 2008 was US\$ 1,852.4 (NSB 2009). Bhutan is also categorised among the group of countries known as the 'least developed countries' (LDCs)<sup>11</sup>.

The Bhutanese economy has experienced sustained economic growth since 1980, averaging at 7.2% from 1980 to 2008 (Table 9). The differential growth rates of the various sectors have contributed to significant structural changes in the economy, the more significant being the shift away from agricultural to non-agricultural activities. As a land-locked state, the economy is also highly trade-intensive. The growth rate of the agriculture sector from 2000 onwards decelerated steeply to almost half of the 1980s level. On the other hand, the service sector accelerated consistently throughout the period under consideration, while the secondary sector decelerated in the 1990s but recovered to some extent after 2000.

**Table 9: Annual Average Growth Rates of Real Gdp by Major Economic Sectors at Constant Prices (in %).**

Period	Primary Sector	Secondary Sector	Tertiary Sector	GDP
1980-2008	3.6	12.9	7.9	7.2
1980-1989	5.2	18.2	6.7	7.5
1990-1999	3.0	9.0	7.3	5.9
2001-2008	2.2	12.9	10.7	9.0

Source: Derived from various issues of *National Accounts Statistics*

Economic growth was mainly propelled by two sectors – hydroelectricity and construction. The growth of the construction sector is closely tied to the growth of the hydroelectricity sector (See Chart 1).

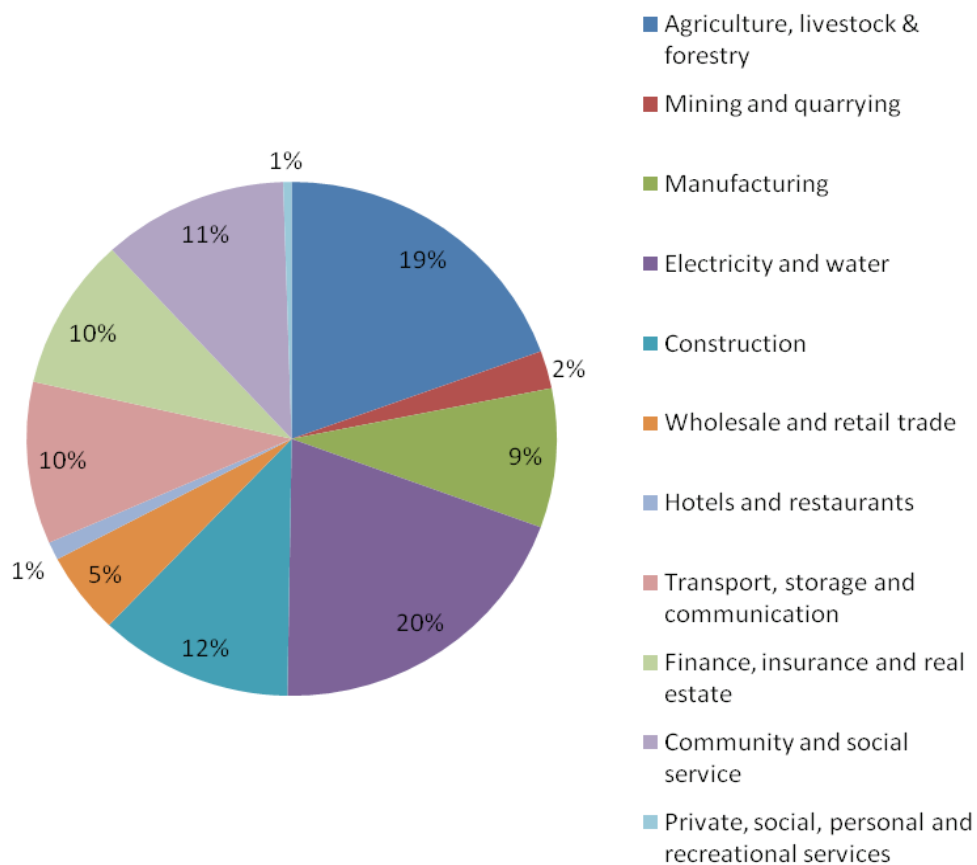
<sup>10</sup>Bhutan has already applied for WTO membership and its Working Party has made considerable progress on the negotiations as of 2008. However, the government is reviewing its decision for membership. See [http://www.wto.org/english/thewto\\_e/acc\\_e/a1\\_bhoutan\\_e.htm](http://www.wto.org/english/thewto_e/acc_e/a1_bhoutan_e.htm)

<sup>11</sup>Since 1971, the United Nations has denominated 'Least Developed Countries' (LDCs) a category of States that are deemed highly disadvantaged in their development process (many of them for geographical reasons), and facing more than other countries the risk of failing to come out of poverty. As such, the LDCs are considered to be in need of the highest degree of attention on the part of the international community. <http://www.unctad.org/Templates/Page.asp?intItemID=3618&lang=1>

The manufacturing sector underwent long-term deceleration after 1990. The average annual growth rate of the manufacturing sector declined from 17.7% in 1980s to 4.1% in the first six years of the present decade<sup>12</sup>. Since many of the interdependent CBLs are mainly manufacturing in nature, this has affected the contribution of this group of CBLs.

The manufacturing sector has also experienced a deceleration in its growth rates after 1990.

**Chart 1: Percentage Share of Different Economic Sectors to GDP (2008)**



Source: *National Accounts Statistics 2000-2008*

Chart 1 shows that, in 2008, the primary sector contributed 21%, the secondary sector contributed 39% and the tertiary sector contributed 40%. Today, the electricity sector (20%) contributes more than the agriculture sector (19%) compared to 1990 when the agriculture sector contributed about 45% to GDP. Likewise, the share of the manufacturing sector has fallen to 9% of GDP.

The private sector in Bhutan is relatively under-developed, as it is still constrained by state controls and regulations. The regulatory environment makes private investment less profitable. The problem is compounded, ironically, by the free trade policy with India, which makes domestic production uncompetitive due to more competitive and efficient foreign firms.

<sup>12</sup>Main document of the *Tenth Five-Year Plan (2008-2013)*, page 25, states clearly this in following words: 'The manufacturing sub-sectors' contribution to the national economy has declined steadily from around 16% of GDP between 1990 and 1995 to around 5% of GDP over the last five years. Additionally, the manufacturing sector, traditionally among the largest employers around the world, has generated little quality employment.'

### 3.3 Economic Contribution of CBIs

The economic contribution of CBIs can be explored through the analysis of three major variables:

- (a) Share of CBIs in GDP;
- (b) Share of CBIs in employment; and
- (c) Share of CBIs in international trade

These variables are analysed for the years 1997, 2001, 2005 and 2008 for the entire sector of CBIs as well as for each of the four CBI groups. Section 3.4 discusses the contribution of the CBIs to GDP, while Section 3.5 analyses the contribution in term of employment. The contribution of CBIs to international trade is examined in Section 6.

### 3.4 Share of CBIs in GDP

In 2008, the CBIs collectively contributed about 5.5% to GDP (Table 12). The share of CBIs in GDP has consistently increased since 2001. The share of CBIs in GDP was 3.3% in 1997 and declined to 2.8% in 2001, before rising to 5.5% in 2005. It has almost remained unchanged since then.

Intra-CBI composition has changed significantly since 1997. Within the CBIs, the share of core copyright industries in GDP increased sharply from 0.3% in 1997 to 1.3% in 2005 and to 1.9% in 2008. The share of partial copyright industries in GDP reflects a steady increase over the period: from 2.1% in 1997 to 2.2% in 2008. The share of non-dedicated support industries in GDP fluctuated marginally. Their share was 0.7% in both 1997 and 2001. This then increased to 0.8% in 2005 and again declined to 0.7% in 2008.

#### 3.4.1 Structural Composition of CBIs

The panel data relating to GVA of CBIs is provided in Tables 10, 11 and 12. Among the CBIs, the partial copyright industry group is the largest. In 2008, it accounted for about 41% of the total GVA of the CBIs, declining from about 66% in 1997 (Table 12). On the other hand, the GVA share of the core CBIs was estimated at about 8% in 1997, but has since increased consistently to about 34% in 2008 and further to 36% in 2010<sup>13</sup>. One plausible explanation for the sharp increase, especially since 2001, could be the unreliable estimates in the 1997 Census on Manufacturing Industry and mainly because of the substantial growth in many of the core copyright activities, such as press and literature, IT and IT-enabled services especially after the year 2000.

The GVA of partial CBIs grew consistently till 2001 but declined thereafter. This trend is not completely devoid of any explanation. The reason for the higher share of the partial CBIs is the overwhelming dependence of the Bhutanese economy on natural resources. The partial CBIs are largely natural resource intensive in nature, as they use natural resources drawn from forests. These industries also form the Zorig Chusom industries of Bhutan. The share of the interdependent CBIs in the GVA of all CBIs declined after 1997, but increased very marginally since the year 2001.

**Table 10: Nominal GVA of the Core CBIs (in Nu. millions)**

Type of Core CBI	2005	2008	2010
Press and literature	197.4	473.9	662.0
Music, theatrical production, opera	38.9	76.2	84.5
Motion picture and video	40.7	81.4	90.7
Radio and TV	82.0	164.2	200.8
Photography	41.6	83.2	104.0
Software and database	45.7	93.0	143.1
Advertising agencies	15.2	30.4	38.0
<b>Total</b>	<b>461.46</b>	<b>1,002.31</b>	<b>1,323.10</b>

Source: Consultations with major core CBIs

<sup>13</sup>The contribution of core CBIs to GDP was determined through consultations with major core CBIs as the NSB does not have relevant data. Their contribution to GDP in 2008 is imputed on the basis of data obtained for 2010.



As tourism in Bhutan is mainly of a cultural nature, the entire tourism industry is taken as cultural tourism – Bhutan follows a policy of high-value and low-volume tourism in order to protect its unique culture and natural environment. The value added by the tourism sector is rising significantly. It grew at an annual compound rate of 25.3% between 2001 and 2005 and at 27.5% between 2005 and 2008. It is because of the rapid growth of cultural tourism that the GVA share of the partial CBIs in total CBIs has been the highest in spite of the decline in the share of partial CBIs in GDP (see Table 12).

**Table 11: Real GVA at Market Price (base year 2000, in Nu.) of Non-Core CBIs**

Type of CBI	Industry	1997	2001	2005	2008
PC	Bronze casting	0.5	0.7	0.8	1.3
PC	Gold and silver smith	1.9	6.4	7.8	12.3
PC	Wood carving/bowl and cups	6.1	0.1	0.2	0.3
PC	Weaving handloom	0.6	6.5	8.0	12.6
PC	Martha factory	0.6	3.0	3.7	5.8
PC	Carpet factory	2.3	0.8	0.9	1.5
PC	Handicrafts	19.7	13.8	17.0	26.7
PC	Furniture	107.2	125.4	154.0	242.1
PC	Handmade paper	3.7	2.1	2.6	20
PC	Incense	1.2	2.1	2.6	4.0
PC	Cultural tourism	175.6	331.2	817.6	1,696.5
NDS	WRT	50.7	52.3	104.4	134.7
NDS	TSC	51.1	104.1	194.5	268.3
	<b>GDP at market price (at constant prices)</b>	<b>13,971.0</b>	<b>22,894.0</b>	<b>35,497.0</b>	<b>54,150.0</b>

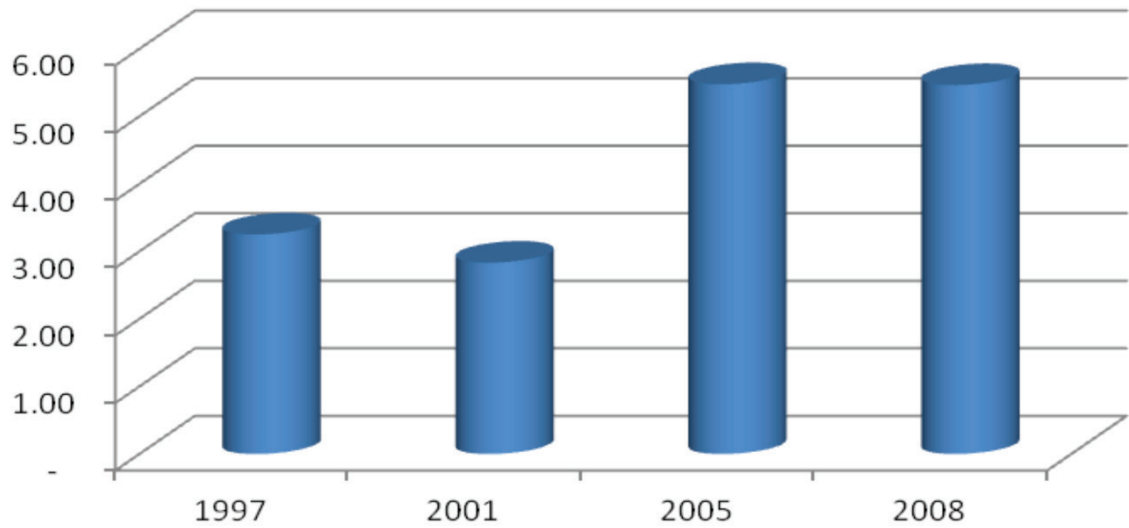
Source: Census of Manufacturing Industries, 1997& 2001; National Account Statistics, 2000-2008

**Table 12: Percentage Share of Each Category of CBIs in GVA of all CBIs and GDP**

	1997			2001			2005			2008		
	GVA	% of GVA of CBIs	% GDP	GVA	% of GVA of CBIs	% GDP	GVA	% of GVA of CBIs	% GDP	GVA	% of GVA of CBIs	% GDP
Core	38.3	8.4	0.3	3.6	0.5	0.0	461.5	23.7	1.3	1,002.3	33.9	1.9
PC	299.7	66.0	2.1	487.5	75.1	2.1	1,009.0	51.9	2.8	1,211.4	40.9	2.2
Interdep.	14.5	3.2	0.1	1.4	0.2	0.0	174.9	9.0	0.5	342.4	11.6	0.6
Non-ded	101.8	22.4	0.7	156.4	24.1	0.7	299.0	15.4	0.8	403.0	13.6	0.7
CBIs	454.4	100.0	3.3	648.8	100.0	2.8	1,944.3	100.0	5.48	2,959.1	100.0	5.46

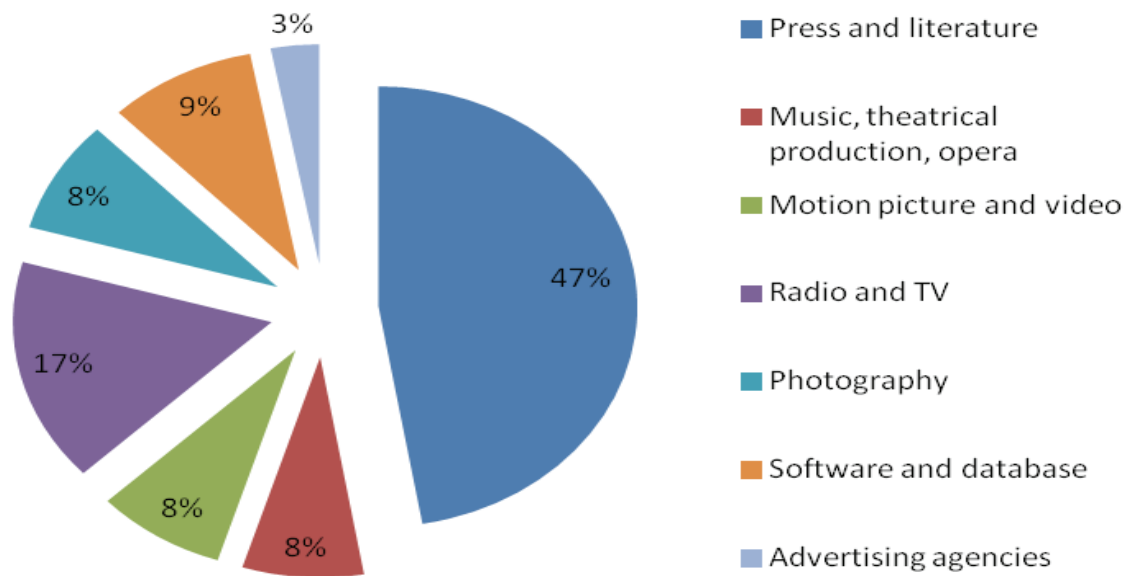
Source: Derived from Tables 10 and 11

**Chart 2: Share of CBIs in GDP (%)**



Source: Table 12

**Chart 3: Share in the GVA of Core Copyright Industries in 2008**



Source: Table 10

### 3.4.2 GVA Growth of CBIs

It would also be of interest to know the GVA growth rate of CBIs and their major components during this period under study. This will be useful in understanding the changing importance of these industries in the overall economy and the structural changes within CBIs.

These growth estimates are divided into three periods as shown in Table 13 – Period 1 (1997-2001), Period 2 (2001-2005) and Period 3 (2005-2008). As the estimates from the 1997 Census of Manufacturing Industry are less than reliable, an analysis of the growth rates in Period 2 and Period 3 is more meaningful. The average annual growth rate of GVA for each component of CBIs and GDP is calculated as shown in Table 13. The total GVA of CBIs recorded the highest average annual growth rate of 31.6% in Period 2. The growth, however, declined to 15% in Period 3. Despite the deceleration, GVA of CBIs grew at a higher rate than GDP. The coefficient of covariance between the average annual growth rate of GDP and the average annual growth rate of GVA of CBIs is 0.35<sup>14</sup>. This shows that one standard deviation change in GVA of CBIs causes 0.35 standard deviation change in GDP. There is evidence of medium positive association between the two variables, implying that the association between GVA of CBIs with GDP is medium and any change in GVA of CBIs has a moderate impact on GDP.

**Table 13: Average Annual Growth Rate of GVA (in %)**

	Period 1 1997-2001	Period 2 2001-2005	Period 3 2005-2008
GVA of core copyright industries	-10.0	237.3	29.5
GVA of partial copyright industries	16.6	26.9	32.7
GVA of non-dedicated support industries	13.4	22.8	11.6
GVA of all CBIs	13.3	31.6	15
GDP	6.3	7.8	9.5

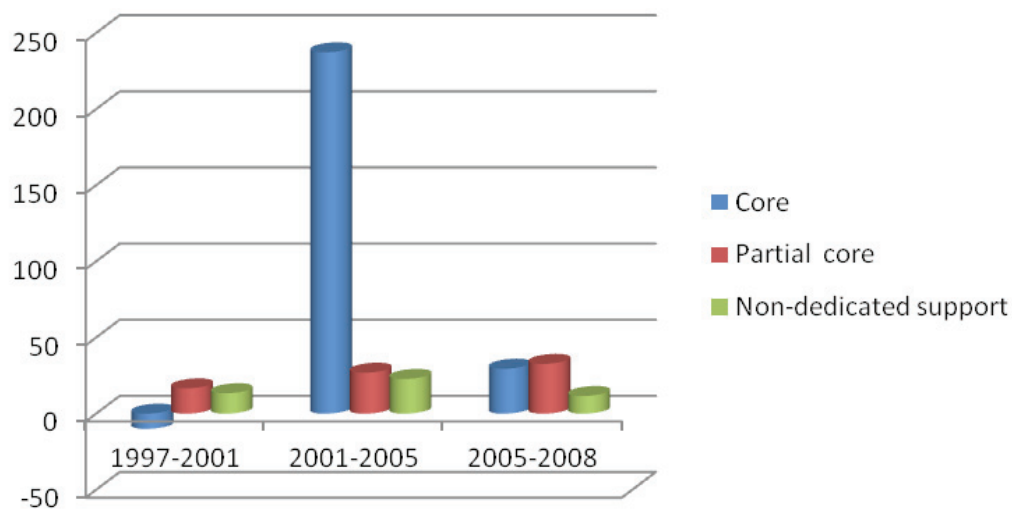
Source: Table 12

The core CBIs grew at an average annual rate of 237.3% in Period 2, and by 29.5% in Period 3. This reflects the dynamism of the core CBIs in Bhutan. If this trend continues, the share of core copyright industries in GDP will increase substantially in the coming years.

The partial CBIs not only experienced acceleration in the average annual growth rates of GVA but also grew at the highest rate in Periods 1 and 3. It grew at 26.9% in Period 2, accelerating to 32.7% in Period 3. The average annual growth rate of GVA of the NDS group was 22.8% in Period 2, but it decelerated in Period 3. It nonetheless registered a double-digit growth of 11.6%. The growth analysis indicates that CBIs in Bhutan are dynamic and have good potential in the near future.

<sup>14</sup>The covariance is calculated using SPSS 11.5 for Windows.

**Chart 4: Average Annual Growth Rates of Different CBIs**



Source: Table 13

### 3.5 Share of CBIs in Employment

Before discussing the share of CBIs in total employment, it is pertinent to give a brief overview of the employment scenario in Bhutan.

Bhutan has a very small population base and its population census is a recent phenomenon. The first professional census was carried out in 2005 and this is the only source of a reliable demographic database. According to the 2005 Population and Housing Census (PHC), the population of Bhutan was 634,981. The projected population for the year 2008, as given by the Labour Market Information Bulletin, 2008 was 671,083, while the Labour Force Participation Rate (LFPR) was 67.3%. The rate of unemployment in 2008 was estimated at 3.7%. As in most countries, the LFPR for females is lower, at 46.4 compared to 49.5 for males.

Like the analysis of the contribution of CBIs to GDP, the contribution of CBIs to employment is done in two segments.

#### 3.5.1 Share of CBIs in Total Employment

In 2008, about 66.7% of the labour force were engaged in the primary sector and the rest in the secondary and tertiary sectors. The total workforce in the economy was 249,030, of which 25,215 persons were employed in CBIs as shown in Table 14. This means that the share of CBIs in total employment was 10.13%. In the same year, 2,574 people were employed in core CBIs, which constituted about 1.03% of total employment. In the partial CBIs, 17,914 persons were employed constituting 7.19% of total employment. The non-dedicated support industries employed 4,012 persons, accounting for about 1.61% of total employment (Table 15).

**Table 14: Employment in CBIs in 2008**

Category	Industry	Persons employed
Core	Press and literature	712
Core	Music, theatrical production, opera	522
Core	Motion picture and video	52
Core	Radio and TV	968
Core	Photography	40
Core	Software and database	255
Core	Advertising agencies	25
PC	Gold, silver and blacksmiths, potters	548
PC	Bronze casting	49
PC	Wood and stone carving/bowl and cups	5,372
PC	Handicraft, weaving handloom, <i>martha</i> and carpet	6,086
PC	Handmade paper	71
PC	Incense	40
PC	Furniture	5,225
PC	Cultural tourism	523
NDS	Wholesale and retail trade	1,828
NDS	Transport, storage and communications	2,184
Interdependent		715
	<b>Total employment in CBIs</b>	<b>25,215</b>
	<b>Total employment in the economy</b>	<b>249,030</b>

Source: Derived from the Population and Housing Census, 2005 for non-core, and consultations with core CBIs in 2011

The number of people employed in each industry is based on their primary occupation and excludes persons who are involved in any economic activity as a secondary occupation. The best practice would have been to use man-hours involved in each activity rather than the number of people involved. Such an exercise would have given more precise estimates of the labour devoted to each activity. In the absence of such information, the analysis of the contribution of CBIs to total employment is therefore an under-estimation.

**Table 15: Share of CBIs in Employment 2008**

	Core	Partial	Interdependent	Non-dedicated	All CBIs
No. of employees	2,574	17,914	715	4,012	25,215
Share in employment in CBIs (in %)	10.21	71.05	2.84	15.91	100
Share in total employment (in %)	1.03	7.19	0.29	1.61	10.13

Source: Derived from Table 14

A notable aspect of the employment in CBIs is that the average productivity of labour in CBIs is lower than the national average. Evidence of this observation can be found in the ratio of the percentage share of CBIs in GDP to the percentage share of CBIs in total employment. This ratio is used as an indicator of the average labour productivity index. In 2008, the share of CBIs in GDP was 5.5%, while its share in total

employment was 10.13%<sup>15</sup> as indicated in Table 15. The ratio is about 1.84, which implies that, on average, CBIs contribute proportionately less to GDP per employment except for core CBIs. Further disaggregation of the data highlights intra-CBI differences in the standards of productivity. The core CBIs appear to be the most productive segment of CBIs as reflected by the share in GDP to share in employment. The partial copyright industries also have relatively lower productivity. On the other hand, the NDS industries are relatively more productive in terms of labour productivity (see Table 16).

**Table 16: Relative Productivity of Labour in CBIs in 2008**

	Share in GDP (in %)	Share in employment (in %)	Share in GDP/share in employment
Core copyright	1.9	1.0	1.8
Partial copyright	2.8	7.2	0.4
Non-dedicated support	0.8	1.6	0.5
All CBIs	5.5	10.1	0.5

Source: Tables 10, 11 and 14

The data provided by the 2001 Census for Manufacturing Industries reveals that core and partial CBIs employed 1,983 persons, of which 73% were male employees. The data provided by this Census also shows that 5.4% of the persons employed were proprietors; the rest were hired employees as highlighted in Table 17. Only a fourth of the total labour employed in CBIs were skilled. The average labour productivity in these two segments is low because of the low skill content of labour. Skill-wise distribution of labour in core and partial core CBIs is illustrated in Chart 5.

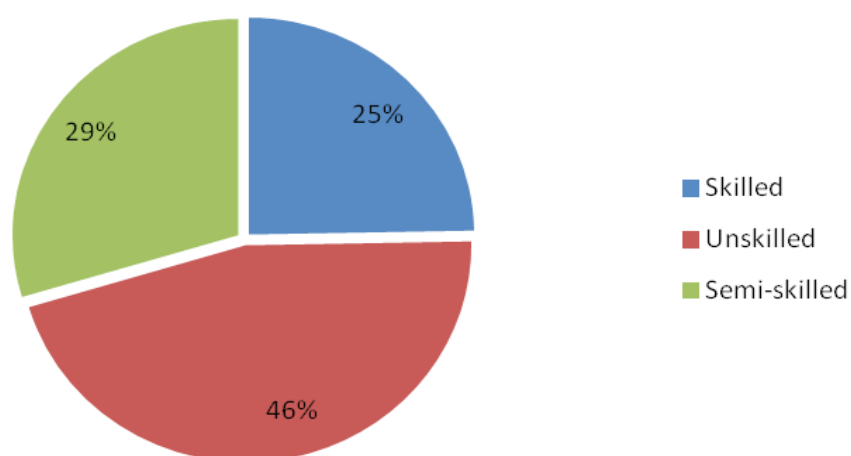
<sup>15</sup>Employment estimates of 2008 are based on two sources, Population and Housing Census 2005 for non-core CBIs and consultations in 2011 for core CBIs. The 2005 estimates are revised for 2008 using growth rate of GVA of each category of non-core CBIs. Similar methodology is applied to convert information collected for core CBIs through consultations in 2011.

**Table 17: Employment Distribution across Core Copyright and Partial Copyright Industries in 2001**

Type of CBI	Industry	Proprietor	Employee	Casual	Skilled	Unskilled	Total
PC	Weaving handloom	11	17	89	43	43	203
PC	Martha factory	0	4	7	11	0	22
PC	Carpet factory	1	10	67	35	0	113
PC	Handicrafts	18	83	91	106	7	305
PC	Furniture	31	269	183	103	150	736
PC	Handmade paper	12	52	21	13	26	124
PC	Incense	4	12	8	4	6	34
PC	Wood carving/bowl and cups	16	3	9	15	11	54
PC	Bronze casting	1	27	10	14	0	52
PC	Gold and silver smithing	11	69	5	38	47	170
	<b>Sub Total</b>	<b>105.8</b>	<b>546</b>	<b>490</b>	<b>382</b>	<b>290</b>	<b>1,813</b>
	<b>% share</b>	<b>5.8</b>	<b>30.1</b>	<b>27.9</b>	<b>21.1</b>	<b>16</b>	<b>100</b>
Type of CBI	Industry	Proprietor	Employee	Casual	Skilled	Unskilled	Total
C	Printing/press	1	16	2	0	0	19
C	Audio visual and video movies	2	25	124	0	0	151
	<b>Sub Total</b>	<b>3</b>	<b>41</b>	<b>126</b>	<b>0</b>	<b>0</b>	<b>170</b>
	<b>% Share</b>	<b>1.8</b>	<b>24.1</b>	<b>74.1</b>	<b>0</b>	<b>0</b>	<b>100</b>
	<b>Grand Total</b>	<b>108</b>	<b>587</b>	<b>616</b>	<b>382</b>	<b>290</b>	<b>1,983</b>
	<b>% Share</b>	<b>5.4</b>	<b>29.6</b>	<b>31.1</b>	<b>19.3</b>	<b>14.6</b>	<b>100</b>

Source: Derived from the Census of Manufacturing Industries, 2001

**Chart 5: Skill-wise Distribution of Labour in Core and Partial CBIs**



Source: Census of Manufacturing Industries, 2001

### 3.5.2 *Employment Distribution within the CBIs*

It has already been noted that the partial copyright industries create the largest employment opportunities from among CBIs. Within the partial core segment, weaving/ handloom, wood and stone carving and furniture constitute the largest employer, as they employ 24.1%, 21.3% and 20.7%, respectively, of the workforce engaged in CBIs. The WRT and TSC sectors are the next biggest employers within the CBIs as shown in Table 18.

**Table 18: Major Employment Share within CBIs in 2008**

Type of CBIs	Industry	Share in CBIs employment (in %)
NDS	Transportation, storage and communication	8.7
NDS	Wholesale and retail trade	7.2
Interdependent	Altogether	2.8
PC	Weaving handloom	24.1
PC	Wood and stone carving/bowl and cups	21.3
PC	Furniture	20.7
PC	Incense	0.1
PC	Handmade paper	0.3
PC	Cultural tourism	2.1
PC	Gold, silver and black smiths and potters	2.2
PC	Bronze casting	0.1
Core	Printing press	2.8
Core	Radio and TV	3.8

Source: Derived from Table 14

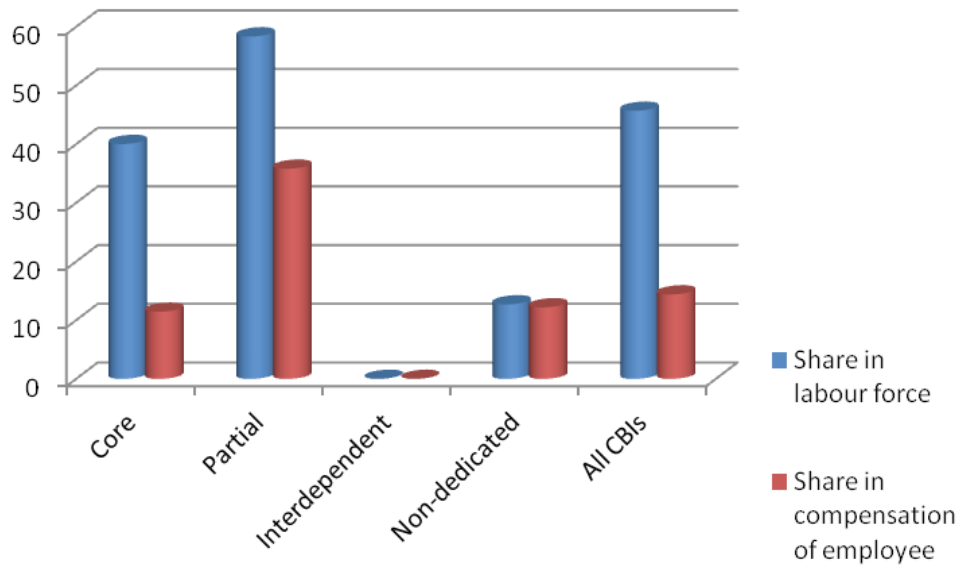
Handloom weaving, wood and stone carving, and furniture together engage about two-thirds of those employed in CBIs. It should also be noted that weaving in Bhutan is primarily carried out under the domain of cottage industries and many rural households are involved in these activities. It is often undertaken as a secondary occupation and not as a primary occupation. In this sense, the share of weaving in employment may be under-estimated.

### 3.5.3 *Female Participation in CBIs*

The sample survey suggests that about 47% of the labour involved in CBIs are females but they receive only 14.5% share in the total compensation of employees. This may be because of a few female employees at higher positions who are better paid. The share of females in the labour force and in the compensation of employees is reflected in Chart 6. The female employees receive a less than proportionate share in the compensation of employees. The difference could be due to the female labour employed in CBIs being less skilled than their male counterparts.



**Chart 6: Share of Women in Labour Force**



Source: Census of Manufacturing Industries 2001

## 4. Performance of CBIs

### 4.1 Introduction

The detailed information on the performance of CBIs is derived from the sample survey undertaken for this study. The information collected from this survey is used to analyse the financial and physical variables relating to their performance. This part of the study will help to identify the industrial health of CBIs and identify areas requiring the immediate attention of entrepreneurs and planners.

### 4.2 Performance Indicators

The book value of installed capital in the sample CBIs is worth Nu. 171.123 million and they have provided employment to 778 persons. For each labour employed, a capital equivalent of Nu. 219,954.00 is invested in CBIs. The plant load factor for CBIs is 59.1%, which implies that CBIs use only 60% of their existing capacity. Thus, there is an excess capacity of about 40% in this class of industries.

Table 19 provides a comparative analysis of the performance indicators of different categories of CBIs in Bhutan. The capital-output ratio (K/O) for the CBIs is 1.5, which means that to produce one unit of output, 1.5 unit of capital is required. The input-output ratio (I/O) is 2.2 implying that for each unit of output, 2.2 unit of input is required by the CBIs in Bhutan.

**Table 19: Performance Indicators of CBIs**

Indicators	All CBIs	Core	Interdependent	Partial	Non-dedicated support
Capital output ratio	1.5	1.7	0.4	1.3	1.6
Input-output ratio	2.2	2.6	0.1	1.4	3.8
Plant load factor	59.1%	52.6%	37.9%	74.2%	18.0%
Total sales to total capital	2.8	2.8	2.1	2.1	4.7
NVA/sales	35.1%	37.4%	80.4%	36.9%	18.1%
Rate of depreciation	11.5%	14%	12.2%	4.5%	12.2%
Gross Profit/NVA	40%	32.2%	37.4%	54.9%	11.3%
Gross profit/sales	12.6%	12.3%	30.1%	20.3%	2.1%
Net exports/NVA	-75.9%	-89.3%	-2.9%	-24.4%	-84.5%

Source: Consultant's sample survey

The interdependent and partial copyright industries are the most profitable firms, as their profitability ratios are higher than others. Net exports to net value added ratio is negative for all the CBIs and is highest for the core and NDS copyright industries. The overall picture is mixed and it is not easy to identify one group as the poorest performer. The NDS industries are the worst performers in terms of capacity utilisation as they have excess capacity of about 82%. They also have the lowest profitability ratio and are among the highest net importers. They can therefore arguably be the weakest performer.

It is evident from the above that substantial under-utilisation of the scarce capital exists in Bhutanese CBIs and the resource use efficiency is very low. Improvement in the operational efficiency would definitely strengthen the financial viability and prospects of CBIs. Though the identification of the causes of such inefficiency is beyond the scope of the study, an attempt is made to analyse this aspect briefly. However, the findings from the sample survey on operational efficiency of the CBIs should be used with caution. The identification of the causes of operative inefficiency should be taken up separately by interested parties.

The findings of the survey as tabulated in Table 20 suggest that only 8.7% of the labour force employed in CBIs are professionally trained, and about half of the labour employed in these industries have received less than a Grade 8 level of school education. Paradoxically, the survey reveals that only a minuscule fraction (less than a per cent) of the total time devoted to work is used for creative work and the CBIs together spend only 3.7% of their total gross profit on research and development (R&D) and training of staff. The CBIs in Bhutan are seemingly caught in a vicious cycle of low skill, low productivity and low spending on R&D. The lower spending in the crucial areas of productivity and competitive advantage explains why the exports originating from CBIs are very meagre, with a high trade deficit.

**Table 20: Education Level of Employees in CBIs**

Level of education	No. of employees	% of total employees
< Grade 8	403	47.5
Grades 8-12	242	28.5
Graduate	99	11.7
Postgraduate	31	3.7
Professionally trained	74	8.7
<b>Total</b>	<b>849</b>	<b>100</b>

Source: Consultant's sample survey

To explain the NVA, a multiple regression model is developed, as given in Annex 7. The NVA tends to have a negative association with the changes in net exports. A possible explanation for this relationship is the overwhelming dependence of Bhutanese industries on imports for acquiring capital goods, skilled manpower and raw materials. The results show that better capacity utilisation, greater percentage of trained manpower and greater expenditure on R&D would enable CBIs to create greater value added.

## 5. Economic Linkages of CBIs

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### 5.1 Introduction

The contribution of any sector to economic growth depends, not only on its direct contribution to output, employment and international trade, but, most importantly, on the linkages that any sector has with the rest of the economy. The greater the linkage effects – both backwards and forwards – the greater the stimulus it creates for the rest of the economy. The magnitude of such linkages is usually calculated by using detailed input-output tables prepared for development planning by the central planning authority. Since a detailed input-output table is either not prepared or not put in the public domain in Bhutan, the following analysis is based on information collected through the sample survey.

### 5.2 Backward and Forward Linkages

The backward and forward linkages are found by preparing a closed input-output table for the CBIs as a whole and for each category of CBIs. The backward linkages depend on the purchases made by any sector from all other sectors. On average, the CBIs buy about 64% of their inputs from abroad, 19% from the agriculture sector, 15% from service sector and only 2% from the industrial sector<sup>16</sup>. The greater benefits of the growth of CBIs therefore percolate to the rest of the world. The input-output coefficient for the CBIs is 2.2. The input coefficients are calculated for each category of CBIs to determine the magnitude of backward linkages.

It is evident from Annex 8 that only the partial copyright industries have the highest backward linkages with the domestic market, while the others have predominant backward linkages with the rest of the world. The partial copyright industries have the greatest linkages with the agriculture sector and thus they can play a more dominant role in rural development and poverty alleviation. The equations also suggest that the CBIs and all their components have very negligible backward linkage with the industrial sector. This is because the manufacturing sector is still relatively undeveloped and the required manufactured goods, both capital goods and raw materials, have to be imported. This explains the overwhelming dependence of CBIs on the rest of the world. The development of the manufacturing sector would thus help to retain domestically the benefits associated with backward linkages.

The forward linkages of the CBIs suggest that 90-100% of the sales of different categories of CBIs are made to the service sector. The most probable explanation lies in the hospitality sector (tourism), which is the main buyer of copyright products, given the small population base and low purchasing power of the people.

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<sup>16</sup>This part of the study is based on the data collected from the sample survey.

## 6. Contribution of CBIs to International Trade

### 6.1 Introduction

The analysis of the contribution of CBIs to international trade is divided into two categories: share in exports and imports.

### 6.2 Share of CBIs in International Trade

In 2008, the total volume of international trade was Nu. 46,085.72 million, of which Nu 2,517.2 million was from the CBIs (Table 21). In other words, the CBIs contributed 5.46% to the total trade of Bhutan. The contribution of CBIs to exports was 4.04% and their contribution to imports was 6.9 per cent.

The international trade of CBIs constituted 103.8% of the combined GVA of the CBIs. This was slightly more than the overall trade intensity of Bhutan. In 2008, international trade contributed 85.1% to GDP. The partial copyright industries constituted 4.1% of total trade in 2008, while their contribution to the trade generated by the CBIs was about 75 per cent.

**Table 21: Share of CBIs in International Trade (in million Nu.) in 2008**

Category of CBIs	Industry group	Exports	% share in exports by CBIs	% share in total exports	Imports	% share in imports by CBIs	% share in total imports
Core	Printing press	10.7	1.2	0.05	277.8	17.3	1.2
Core	Audio-visual & video movies	0.1	0.0	0.0005	177.6	11.1	0.8
<b>Total core</b>		<b>10.8</b>	<b>1.2</b>	<b>0.05</b>	<b>456.4</b>	<b>28.4</b>	<b>2.0</b>
Partial	Weaving handloom, <i>Martha</i> , carpet and handicrafts	441.4	48.4	1.95	20.6	1.3	0.1
Partial	Gold and silver smith				1.0	0.1	0.004
Partial	Furniture	454.4	49.8	2.01	970.6	60.5	4.1
Partial	Handmade paper	5.6	0.6	0.02	0.8	0.01	0.004
Total partial		901.4	98.8	3.99	992	61.8	4.2
Non-dedicated	WRT	0.0	0.0	0.0	66.8	1.5	0.3
Non-dedicated	TSC	0.0	0.0	0.0	89.6	2	0.4
Total NDS		0	0	0	1,56.4	3.5	0.7
	<b>Total of CBIs</b>	<b>912.4</b>	<b>100</b>	<b>4.04</b>	<b>1,604.8</b>	<b>100</b>	<b>6.9</b>
	<b>Total for Bhutan</b>	<b>22,590.6</b>			<b>23,495.1</b>		

Source: Trade Statistics 2005 and 2008, DRC, MoF

Further analysis of data in Table 21 reveals that CBIs are net importers and consequently record trade deficits. In 2008, the collective trade deficit of CBIs was Nu.692.4 million. The largest trade deficit among the CBIs is recorded by the core copyright industries, which at contribute about 64% of the combined trade deficit of CBIs in Bhutan. The trade deficit of CBIs was relatively larger than the total trade deficit in 2008. The weaving and handmade paper industries are the only net exporters among the CBIs and thus the only net foreign exchange earners.

The CBI exports are estimated at 4.04% of total exports. However, the export by each CBI is extremely lopsided. The partial copyright industries contribute an overwhelming 98.8% of the total exports generated by CBIs, amounting to Nu 901.4 million.

Bhutan's export structure is highly skewed towards a few commodities. For instance, the top 10 export commodities<sup>17</sup> accounted for 81% of the total value of exports in 2008. Hence, the share of core copyright industries in total exports is just 0.05%, while its share in total imports is 1.9%. Partial copyright industries contribute 4.22% to total imports and 3.99% to total exports.

### 6.3 Inter-temporal Changes in Trade Contribution of CBIs

Inter-temporal changes in the contribution of the CBIs to trade show that exports from CBIs declined by 4.4% between 2005 and 2008, while the imports of CBIs increased by 9.1% during this period (Table 22). Meanwhile, exports increased at 25.6%, which was greater than the growth rate of imports at 18.2%. The higher growth rate of exports meant that the trade balance improved during the period 2005-2008. But, despite the higher growth rate of international trade, the share of CBIs to international trade declined in 2008 as compared to 2005. In 2005, their share was 7.05%, which declined to 5.46% in 2008. This is because the growth rate of international trade generated by CBIs increased at a lower rate than that of the economy as a whole.

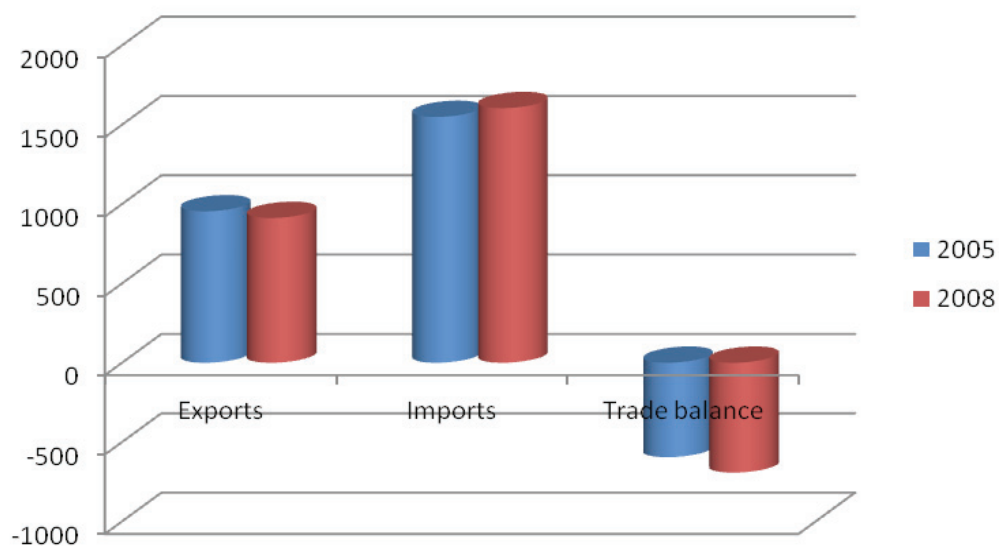
**Table 22: Inter-temporal Changes in International Trade of CBIs**

		Export (in Nu. millions) 2005	Imports (In Nu. millions) 2005	Growth of exports in 2008 over 2005 (In %)	Growth of imports in 2008 over 2005 (In %)
Core	Printing press	4.6	296.3	134.5	-6.2
Core	Audio-visual and video movies	0.01	270.6	188.7	-34.4
<b>Total core</b>		<b>4.61</b>	<b>566.9</b>	<b>134.3</b>	<b>-19.5</b>
PC	Gold and silver smith	0.0	59.1	-100.0	-98.4
PC	Weaving handloom	617.0	21.4	-28.4	-3.8
PC	Furniture	329.1	761.6	38.1	27.4
PC	Handmade paper	3.5	1.2	59.3	-32.0
<b>Total PC</b>		<b>949.6</b>	<b>843.3</b>	<b>-5.06</b>	<b>17.6</b>
NDS	WRT	0.0	92.6	0.0	-27.9
NDS	TSC	0.0	46.5	0.0	92.6
<b>Total NDS</b>		<b>0</b>	<b>139.1</b>	<b>0</b>	<b>12.4</b>
<b>Total CBIs</b>		<b>954.2</b>	<b>1,549.3</b>	<b>-4.4</b>	<b>9.1</b>
<b>Total for Bhutan</b>		<b>17,990</b>	<b>19,875</b>	<b>25.6</b>	<b>18.2</b>

Source: Trade Statistics 2005, DRC, MoF

<sup>17</sup>The top commodities of exports are electrical energy (60%), ferro-silicon (15%), carbides (4.64), copper wire (4%), manganese, cement, vegetable fats and free cutting steel. The top commodities of imports are light oil and preparations (26%), vehicles (19%), motor spirit (10%), rice (10%), manganese ore (8%), coal (8%), edible oil (6%) and wood charcoal (6%).

**Chart 7: International Trade of CBIs (in million Nu.)**



Source: Derived from Tables 22 and 23

Despite the expansion in output, export from CBIs has declined. Within the CBIs, the inter-industry differences are quite high, as can be seen from Table 23. The export of audio-visual and movies in 2008 increased by a whopping 188.7%, largely due to their very low base in 2005. Printing press and handmade paper registered the second and third highest growth in exports in 2008, i.e. by 134.5% and 59.3% respectively.

The core CBI group recorded the highest growth. This is a positive trend, even though the base for the core group in 2005 was small. This trend suggests that the core CBIs have the potential to export their products abroad if appropriate policies are designed and implemented. The decline in exports from weaving is a cause for concern, as this industry accounted for the largest share of the total exports from the CBIs. The positive trend was mainly due to the rise in the export from the furniture-based industries

As shown in Table 23, the trade balance of CBIs deteriorated further in 2008 by 16.3%, from Nu. 595 million in 2005 to Nu. 692 million in 2008. However, for printing press, audio-visual movies and handmade paper, the trade balance improved in 2008. Only two industries within the CBIs, i.e. weaving and handmade paper, have registered a trade surplus. This is because these industries draw most of their raw materials domestically.

**Table 23: Trade Balance of CBIs (in Nu. millions)**

Industrial Group	2005	2008
Printing press	-291.8	-267.1
Audio-visual and video movies	-270.5	-177.5
Gold and silver smith	-59.1	-1.0
Weaving and handloom	595.5	420.9
Furniture	-432.4	-516.1
Handmade paper	2.3	4.8
Wholesale and retail trade	-92.6	-66.8
Transport, storage and communications	-46.5	-89.6
<b>Total for CBIs</b>	<b>-595.1</b>	<b>-692.4</b>

Source: Trade Statistics, DRC, MoF

## 7. A Comparative Country Analysis of CBI contribution

In this section, a comparative country analysis is carried out to see how Bhutan's CBIs perform *vis-à-vis* other countries. Existing research shows that the size of CBIs has been growing at a faster rate than the overall economy, thereby increasing their role in the growth and development of the economies. Table 24 shows the comparative growth of CBIs in selected countries.

**Table 24: Average Annual Growth Rate of Value-Added of CBIs in Selected Countries**

Country	Period	Rate of growth of gross value added by CBIs (in %)	Rate of growth of GDP (in %)
USA	1977-2001	7.0	3.0
Australia	1996-2001	5.7	4.9
Netherlands	1994-1998	5.6	3.2
Bhutan	1997-2001	13.3	6.3
	2001-2005	31.6	7.8
	2005-2008	15.0	9.5

Source: [http://www.wipo.int/copyright/en/publications/pdf/copyright\\_pub\\_893.pdf](http://www.wipo.int/copyright/en/publications/pdf/copyright_pub_893.pdf) para. 5.3

The data in Table 24 reflect that GVA growth of CBIs exceeded the overall growth of GDP in all countries. Except for the Netherlands, GVA grew at almost twice the growth rate of GDP. As a result, their share in GDP has also been rising.

Table 25 shows the relative size of total CBIs and the core CBIs in terms of GDP.

**Table 25: Cross-sectional Study on the Relative Size of CBIs**

Country	Period	Percentage share of CBIs in GDP	Percentage share of core copyright industries in GDP
Latvia	2000	4.0	2.9
Jamaica	2005	4.8	1.7
USA	2001	12.0	4.9
Singapore	2001	5.7	2.9
Philippines	1999	4.8	2.6
Mexico	2003	8.1	2.6
Malaysia	2005	5.8	2.9
Bhutan	2001	2.87	0.05
	2008	5.46	1.85

Source: Copyright industries publications of different countries

The relative size of CBIs to GDP varies from as low as 4% in Latvia to as high as 12% in USA, and Bhutan's CBI share in GDP, at about 5.46%, is in the middle. Though Bhutan's total CBI share is relatively high, its core copyright industries' contribution is relatively low at 1.85%. This dichotomy arises because the relative size of the NDS industries in Bhutan is very high as compared to other countries. The explanation is embedded in the structure of the Bhutanese economy, which is different from others in terms of the level of development as well as the disproportionate size of the trade and communications sectors. The share of wholesale and retail trade, and transportation, storage and communication is about 15% of the GDP, which is much higher than in other countries.



A comparative study of the share of the core CBIs in international trade in different countries is shown in Table 26. For Bhutan, the share of core CBIs to merchandise exports is the lowest and is about a tenth of that in the countries covered in this study. Given the differences in the IP regime among the countries covered, the differences in the share of core copyright industries in total merchandise exports and imports is justifiable. However, due to the relatively high import intensity of the Bhutanese economy, the share of core CBIs in total merchandise imports is higher.

**Table 26: Cross-country Comparisons on the Share of Core CBIs in Total Trade**

Country	Percentage share in merchandise exports	Percentage share in merchandise imports
India (1989)	0.1	0.4
Republic of Korea (1989)	1.3	0.2
Brazil (1989)	0.1	0.7
Spain (1989)	0.6	0.6
Australia (1996-97)	0.5	2.2
Bhutan (2008)	0.05	1.9

Source: [http://www.wipo.int/copyright/en/publications/pdf/copyright\\_pub\\_893.pdf](http://www.wipo.int/copyright/en/publications/pdf/copyright_pub_893.pdf) para. 5.3, except for Bhutan

The share of CBIs in total employment is a crucial index of the economic contribution of CBIs. Table 27 shows the comparative contribution of CBIs to total employment in Bhutan, Jamaica and Latvia. The CBIs in Jamaica have a very limited share in total employment in the economy at just 3%, whereas the CBIs in Latvia contribute about a third to the total employment. However, the CBIs in Bhutan contribute about 10.13% to total employment in the country. As expected, the share of the core CBIs in total employment in Bhutan is the lowest at 1.03%; whereas the Jamaican core CBIs contribute about 1.8% of to total employment. In countries like the Philippines, Malaysia and USA, the core CBIs contribute more than 4% of total employment. In fact, in the Philippines, core CBIs contribute 8.8% of total employment.

**Table 27: Cross-sectional Study on Share of CBIs in Total Employment, 2008**

Country	Percentage share of CBIs in total employment	Percentage share of core copyright industries in the total employment
Latvia	5.59	3.7
Jamaica	3.03	1.8
Bhutan	10.13	1.03

Source: Copyright industries publications of Jamaica and Latvia, WIPO

## 8. Policy Recommendations

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### 8.1 Introduction

Experience suggests that appropriate policy support is necessary at all stages of the value chain from inputs, production, marketing, distribution and consumption. The major policy measures for cultural industries identified by UNESCO that can also be applied in CBIs in Bhutan are given in Annex 9 (cited in UNIDO 2005).

In line with proposals for the development of cultural industries, it is recommended that supporting policies, such as advocacy and strategy development as well as cultural asset management, be implemented for CBIs. Preparing a comprehensive policy and strategy is the first step in their development along with human resource (HR), technology and infrastructure development. These must be accompanied by clear responsibilities for coordination, follow-up and implementation.

The HR and technological development are crucial for generating new ideas and ushering creativity. The government has prioritised HRD, with each relevant agency having its own programme for implementation, though such programmes are not clearly targeted at CBIs. Technological development, on the other hand, has received little attention so far. This is not surprising, as investment in R&D is negligible in both the public and private sectors. The roles of R&D and skills are central in this respect along with policy and infrastructure.

The 10<sup>th</sup> Five-Year Plan outlines a new approach for creative industries to be promoted in clusters in different parts of the country for income generation and poverty reduction. This means that efforts need to focus at national and local levels. Most of these industries fall in the cottage, small and medium scales, requiring strong support for growth. A strong institutional organisation is therefore necessary to lead the sector. The establishment of a separate Department for Cottage and Small Industries in MoEA in 2010, to focus exclusively on the development of this sector, followed by the creation of APIC, to be overseen by a multi-sectoral managerial Board in 2011, are steps in the right direction. The past interventions made through the entrepreneurship and rural enterprise development programmes and initiatives can yield better results with greater coordination of efforts within the government and with sustained partnership between the government and private sector. The APIC should enable and facilitate better synergies among copyright, creative and cultural industries as well as the handicrafts sector as a whole and provide the needed thrust for their expansion and accelerated growth.

In the light of the above, the following measures are suggested:

### 8.2 Improve Data Collection and Dissemination

One of the major problems is the lack of comprehensive data on CBIs, as highlighted in the Baseline Study for cultural industries. There is a strong tendency for each organisation to conduct such studies on its own to meet its specific needs, but these fail to meet national statistical standards. With Bhutan assuming the leadership role within BIMSTEC for the promotion of cooperation in cultural industries, it is imperative that the cultural, copyright and creative industries be built up.

As many cultural industries fall in the creative or copyright-based industries category, it makes sense for coordination amongst the five ministries of Home and Cultural Affairs, Economic Affairs, Labour and Human Resources, Information and Communication and Finance, as well as the National Statistics Bureau. As the NSB is the clearing house for national data, it has to be involved in checking the quality of data, for which its involvement in the statistical surveys and studies is invariably required.

The government should provide a specific and legal mandate to an agency like the proposed Cultural Commission or DCSI/APIC for such cooperation, taking into account the need for generation and transparency of data for measuring the contribution of CBIs and associate industries to GDP, employment and trade. The mandate of this body would include, *inter alia*: (a) clarification and delineation of responsibilities for maintaining and developing data on CBIs, creative and cultural industries with the separation of each of these; (b) cooperation in carrying out any statistical surveys, including agreement on their terms of reference so that a study can serve the need of more than one agency and meet NSB's qualitative requirements; (c) measuring

trade flows of these industries in more detail; and (d) cooperation in policy and programme implementation as well as training and HRD to build national capacity, avoiding duplication of efforts and resources. The IPD should play an active role when it comes to copyright and creative industries, for coordination and direction in cooperation with the lead central agency.

It is strongly felt that national income accounts should be prepared in a more detailed manner so that disaggregated data for various activities are also available to planners and researchers. For a developing economy like Bhutan, where planning still plays an important role, availability of detailed and reliable information is imperative. The NSB has to take a leading role in this regard as well.

### **8.3 Strengthen the Intellectual Property Division**

The IPD has come a long way since it was elevated to the status of a Division in 1997. Its functions and responsibilities as a national organisation on IP have also expanded over time, especially with the enactment of legislation in copyright, patents and trademarks. Its role as an important link both between government agencies and private sector in IP matters has not been fully appreciated, and as such it lacks sufficient recognition and status. Its work in advocacy and creating public awareness, as well as building capacities in the government and private sector on IP matters, must be strengthened.

It must play a more proactive role in disseminating information and knowledge that can translate into creativity and innovation in the long run. Its website has to be more user-friendly, with information, facts and figures that can be easily understood by the reader. In addition, in cooperation with the Royal Bhutan Police and judiciary, it must provide greater support to the private sector in dealing with piracy and other kinds of IP abuses and eventually develop a joint public-private sector strategy to combat this growing problem. A strong culture of IP protection has to develop from the beginning within Bhutanese society so that it can play a positive role in economic development in the future.

An option to vitalise the IPD is to transform it into an autonomous government agency as is the case in Malaysia and other countries. As its activities cut across many public and private institutions, it would function more effectively as an autonomous agency under a board of directors drawn from different professions. It can assume greater flexibility in programme operations and achieve better coordination with other agencies. It is not equipped to play this role at present as a Division within MoEA. If autonomy is not given, it should be elevated to the status of a Department as a minimum requirement. The IPD's existing facilities and staff should be reviewed and strengthened where necessary to enable it to meet the above functions and to elevate its profile within the government.

### **8.4 Foster Public-Private Partnership**

The emphasis on the role of the private sector as an engine of economic growth cannot be overemphasised. In a land-locked and high-cost economy like Bhutan, the private sector finds it difficult to compete in the regional and global markets in exports of both manufactured goods and services. In an age of globalisation where the factors of production move from one country to another to take advantage of the low cost of production, Bhutan does not have an edge. This is only possible if the country focuses on, and builds capacity in, a few niche products, many of which could be within the CBIs, such as quality handicrafts, handloom weaving, eco products and the prospects from ICT and software development as other countries have done. This, however, requires a right mix of policy instruments and entrepreneurial zeal.

The private sector is still young and needs nurturing. This is possible only through an active support of the government. The CBIs therefore are ideal for such collaboration with the government, providing that the right policy and incentives packages for lowering the cost of production exist, and the private sector is willing to take the risk to invest. A cluster for creative industries should therefore be developed, similar to the IT Park, with the encouragement of foreign direct investment (FDI) that can bring new technology, different skills and much-needed capital for investment in collaboration with the Bhutanese private sector. An important area for joint action is R&D, which is completely absent at present. The time is propitious for these initiatives, as a new economic development policy and an FDI policy were adopted in 2010.

## 8.5 Provide adequate Credit

It is extremely important for the government to examine the ways in which financing for SMEs can be made easier, as this is a major problem that comes through in the discussion with the private sector representatives, as well as the World Bank report on *Doing Business: Bhutan 2010*. The main elements of such a facility should include: improved credit information; better project appraisal; removal or at least relaxation of the requirements of collaterals for loans; and improved legal protection for both banks and borrowers. Some of these elements are being addressed by the RMA, but even then a separate window or facility for lending to SMEs is necessary to encourage their growth.

## 8.6 Conduct in-depth Sector-Specific Studies

The study shows some emerging areas with much potential. These include films and music, print and media, handloom weaving, handicrafts, furniture and visual arts. Among these, the first three industries have better prospects. More in-depth sector-specific analysis should be carried out for these industries, to identify issues and challenges facing them and to target policies and programmes accordingly.

## 9. Future Directions

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The outcome of the study is heavily influenced by the quality and consistency of data in estimating the contribution of CBIs to economic growth, employment and trade. While the availability of economic and social data on Bhutan has improved considerably in recent years, there is more to be done in capturing specific data required for a study of this nature. Several government agencies collect data, but such data are not consistent over time, thereby hindering any meaningful trend analysis. Such data should be audited by NSB so that their quality and consistency can be assured. The study has made recommendations regarding the need for better coordination among such agencies and identifying a lead agency amongst them to plan and implement development programmes on CBIs and cultural industries. Together with closer cooperation with NSB, such an effort will help to improve the quality of data. It is suggested that a similar study on CBIs should be undertaken after a few years when the current recommendations have been implemented and as the required data is available. Meanwhile, inasmuch as the findings of this study should be regarded as tentative, the study can be the basis of further work on the subject in the future. It will be of crucial importance to set up a permanent monitoring mechanism to produce new data and monitor trends in the creative sector.

An important finding of the study is that the CBIs suffer from low levels of operative efficiency. The stakeholders should carry out a separate study, not necessarily linked to the one proposed above, to find the reasons for this problem so that corrective measures can be designed and implemented. This will help CBIs and the economy in the long run.

Notwithstanding the above, the government is on the right track in protecting and optimising the benefits of IPRs in a growing economy. The knowledge economy that started at the end of the 20<sup>th</sup> century will dominate the 21<sup>st</sup> century. The potential for creating new goods and services is infinite when knowledge is applied in combination with information and communications technology. While this promises new opportunities for production, manufacturing, trade and employment, it also brings new challenges in protecting the IP of those who make this possible. Bhutan will be required to play its part in creating such an environment to benefit from the emerging knowledge economies for improving the quality of life of its people. It would also have to protect the creativity of individuals, without which the society will not benefit from their creations. This will require appropriate policies and legislation as well as a strong institutional mechanism for their application and enforcement. Such an institution is possible through cooperation of all stakeholders in intellectual property and copyright-based industries.

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## Annex 1: ISIC Codes For Bhutan

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Description of copyright and copyright-based industries (CBIs)

### Core copyright industries

#### *Press and literature*

- 2211 Publishing of books, brochures and other publications
- 2212 Publishing of newspapers, journals and periodicals
- 2219 Other publishing (cards, maps, directories and other published material)
- 2221 Printing (pre-press, printing, and post-press of books, magazines, newspapers, advertising materials)
- 2222 Service activities relating to printing (pre- and post-press as 2221) – supply of printing materials
- 5239 Other retail sale in specialised shops (retail of press and literature)
- 9214 Dramatic arts, music and other activities (authors, writers, translators)

#### *Music, theatrical production, operas*

- 2213 Printing and publishing of music
- 2230 Reproduction of recorded media (production and manufacturing of recorded music)
- 5233 Retail sale of household appliances, articles and equipment (incl. rental of recorded music)
- 9214 Dramatic arts, music and other arts activities

#### *Motion picture and video*

- 2230 Reproduction of recorded media
- 9211 Motion picture and video production and distribution (incl. rental and sale)
- 9212 Motion picture projection (and exhibition)
- 9214 Dramatic arts, music and other arts activities (writers, directors, actors)

#### *Radio and TV*

- 6420 Telecommunications (cable and satellite TV)
- 7499 Other business activities (independent producers)
- 9213 Radio and TV activities (national, private and allied activities)

#### *Photography*

- 2222 Service activities relating to printing (photo agencies and libraries)
- 7494 Photographic activities (studio and commercial photography)

#### *Software and databases*

- 5151 Wholesale of computers, computer peripheral equipment and software (pre-packaged software – business, educational and video games)
- 7229 Other software consultancy and supply (as in 7221)



### ***Visual and graphic arts***

- 7494 Photographic activities (picture framing and other allied services)
- 7499 Other business activities (graphic design) including the following:
  - Wall painting
  - Painting (mural, scroll, *Thanka*, house)
  - Masonry (slate and stone carving)
  - Wood carving
  - Metal carving and smithy (gold, silver, iron)
  - Sculpture (statues, masks)
- 9214 Activities by authors, music composers, and other independent artists  
Dramatic arts, music and other activities (art galleries and other wholesale and retail, graphic design)

### ***Advertising services***

- 7430 Advertising (agencies, buying services)

## **Interdependent copyright industries**

### ***Core interdependent***

- 5139 Wholesale of other household goods (electronics, computers, musical instruments)
- 5151 Wholesale of computer, computer peripheral equipment and software
- 5233 Retail sale of household appliances, articles and equipment (electronics, musical instruments)
- 7123 Renting of office machinery and equipment (incl. computers)

### ***Partial interdependent***

- 2101 Manufacture of pulp, paper and paper board
- 5149 Wholesale of other intermediate products, waste and scrap (paper)
- 5152 Wholesale of electronic and telecommunication parts and equipment (blank recording material)
- 5233 Retail sale of household appliances, articles and equipment (blank recording material)
- 5239 Other retail sale in specialised stores (photographic and cinematographic equipment, paper)

## **Partial copyright industries**

- 1711 Preparation and spinning of textile fibres, weaving of textiles
- 1721 Manufacture of made up textiles articles
  - Bhutanese tent making
- 1722 Manufacture of carpets and rugs
- 1730 Manufacture of knitted and crocheted fabrics and articles
- 1810 Manufacture of wearing apparel (*Gho and Kira*)
- 1920 Manufacture of footwear (*Chhog Lham*)
- 2029 Manufacture of other products of wood (household goods)
  - Bamboo and cane products
- 2101 Manufacture of pulp, paper and paper board including Bhutanese handmade paper
- 2109 Manufacture of other articles of paper and paper board
- 2422 Manufacture of natural dyes
- 2423 Manufacture of pharmaceuticals, medicinal, chemical and botanical products including Bhutanese incense
- 2424 Manufacture of perfumes and toilet preparations
- 2693 Manufacture of clay and ceramic products (non-refractory)
- 2696 Cutting, shaping and finishing of stone
- 2899 Manufacture of other fabricated metal products
- 3610 Manufacture of furniture

3691	Manufacture of jewellery and related articles (jewellery, coins)
5139	Wholesale of other household goods (jewellery, coins, furniture)
5232	Retail sale of textiles, clothing, footwear, and leather goods
5233	Retail sale of household appliances, articles and equipment
5239	Other retail sale in specialised stores (jewellery, coins, crafts, household goods, wall coverings and carpets)
7421	Architectural and engineering activities and related technical consultancy
9111	Activities of business and professional organisations Cultural/creative tourism
9199	Activities of other membership organisations Religious activities
9232	Museum activities and preservation of historic sites and buildings

### **Non-dedicated support industries**

6023	Freight transport by road
6210	Scheduled air transport
6301	Cargo handling
6302	Storage and warehousing
6304	Activities of travel agencies and tour operators; tourist assistance activities
6309	Activities of other transport agencies
6411	National post activities
6412	Courier activities
6420	Telecommunications (telephony, Internet)

*Note:* The code also includes items within parenthesis

## Annex 2: Sources of Data and Information

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### Primary

1. Population and Housing Census of Bhutan, 2005, Census Commission
2. Labour Force survey, 2006, Dept. of Labour, MoLHR
3. Establishment Census, 2008, Dept. of Employment, MoLHR
4. *National Revenue Report*, 2006-07, DRC, Ministry of Finance
5. *Bhutan Trade Statistics*, 2008, DRC, Ministry of Finance
6. Bhutan Living Standard survey, 2007, NSB
7. *Statistical Year Book of Bhutan*, 2007, NSB
8. *National Accounts Statistics*, 2000-07, NSB
9. *Annual Report*, 2006-07, RMA
10. UNESCO Baseline Study on Culture Industry in Bhutan, 2009

### Secondary

1. Bhutan 2020: A vision for peace, prosperity and happiness, Planning Commission, 1999
2. Economic Policy, 2010, Ministry of Economic Affairs (MoEA)
3. Foreign Direct Investment Policy, 2010, MoEA

### Brief description of sources

#### *Population and Housing Census*

The 2005 Census gives information about employment by different economic sectors, major occupations, and main source of income that would be relevant for the Study.

#### *Labour Force Survey*

The survey provides occupational data on Bhutan. Of particular relevance to the Study is the number of persons engaged in crafts and related trades, by sex, economic activity and level of education.

#### *Establishment Census*

This document provides information on employees by major occupations including in crafts and related trades.

#### *National Revenue Report*

The Report is brought out annually. It gives summary of revenues by tax (direct and indirect) and non-tax for a financial year (July-June). In particular, it has information on sales tax on cable TV and cinema, and revenue from Bhutan Telecom.

#### *Bhutan Trade Statistics*

This is an annual report and contains trade statistics as per Bhutan Trade Classification (Harmonised System Code) at eight-digit level. While the trade data is sufficiently detailed, segregation for the study is a major challenge.

#### *Bhutan Living Standard survey*

This survey gives some information on distribution of employment by major sectors and by employment status (regular, casual, unpaid family worker, self-employed and other unspecified).

***The National Accounts Statistics and the Statistical Yearbook of Bhutan***

These are standard annual publications of NSB and need no elaboration. The data is compiled from all available national sources.

***RMA Annual Report***

This is particularly useful for monetary and trade data. It is published by RMA.

***UNESCO Report on data of culture Industries***

This is perhaps one of the best references for the study. As the report suggests, there are extensive data gaps.

The study was coordinated by the NSB on behalf of the Ministry of Home & Cultural Affairs and international agencies (UNDP, UNESCO UNIDO and WIPO) involved.

## Annex 3: Questionnaire

### For the assessment of Copyright-based (CBIs) Industries in Bhutan

Type of the unit surveyed: Circle the appropriate type, i.e., A, B, C or D

Date and time of interview:

Place:

Name of the surveyor:

Sample code: A=Core; B=Interdependent; C=Partial and D=Non-Dedicated

Q1. What is your annual production capacity? (How much output you can produce every year if you have sufficient demand? (In quantity)

Q2. What is the book value of installed capital? (The value of the machinery and equipment purchased – in Nu.)

Q3. What is your annual production? (i.e., output last year – in quantity) \_\_\_\_\_

Q4. Please provide the following details (for last financial/ annual calendar):

Value of sales	In Nu.
Value of raw materials purchased	
Wages paid	
Salary paid	
Rent paid	
Interest paid	
Indirect taxes paid (such as BIT, excise duty, import duty)	
Depreciation	
Gross profit (i.e., profit before tax)	

Q5. Please provide following details about the raw materials purchased by your firm in the last year:

Raw materials purchased from	Value of raw materials (in Nu.)
Domestic Agriculture Sector	
Domestic Industrial Sector	
Domestic Service Sector	
Rest of the world (Imports)	

Q6. Please provide information about sales made by your organisation.

Sales made to	Value of sales (in Nu.)
Domestic Agriculture Sector	
Domestic Industrial Sector	
Domestic Service Sector	
Rest of the world (Exports)	

Q7. Please provide following information about the employees hired by your firm.

Education level of employee	No. of employees
Grade 0-8	
Grade 8-12	
Graduates	
Postgraduates	
Professionally trained	

Q8. How many of your employees are expatriates (Non-Bhutanese)?

Q9. What is the total payment made to the expatriates? \_\_\_\_\_

Q10. How many of your employees are female? \_\_\_\_\_

Q11. What is the total payment made to the female employees? \_\_\_\_\_

Q12. How much money did you spent last year on training your staff? \_\_\_\_\_

Q13. How much foreign exchange did you earn last year? \_\_\_\_\_

Q14. How much money did you spend last year on Research and Development activities?  
\_\_\_\_\_

## Annex 4: Meetings and Group Discussions

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### Meetings

1. Mr Kuenga Tshering, NSB
2. Mr Dechen Wangdi, NSB
3. Mr Cheda Jamtsho, NSB
4. Mr Pema Wangda, Director-General, Department of Employment
5. Mr Subarna Lama, Director, IPD, MoEA
6. Mr Loknath Chapagai, Department of Industry, MoEA
7. Mr Dhanraj Subba, DoI, MoEA
8. Mr Kinley Wangchuk, Director, BICMA
9. Ms Pema Choden, Managing Director, Bhutan Broadcasting Service (BBS)
10. Mr Tashi Dorji, BBS
11. Mr Sherab Gyeltshen, General Secretary, Motion Picture Association of Bhutan (MPAB), Thimphu
12. Mr Tshering Gyeltshen, MPAB
13. Ms Tshering Lham, President, Handicrafts Association of Bhutan (HAB), Thimphu
14. Mr Rinzin Dorji, President, IT Association of Bhutan (ITAB), Thimphu
15. Mr Tenzin Rigden, Managing Director, Bhutan Times, Thimphu
16. Mr Chenchho Dorji, Managing Director, Kuensel Corporation
17. Mr Mani Dorji, Proprietor, KMT Printing, Thimphu
18. Ms Dago Bida, Managing Director, Etho Metho Tours & Travels, Thimphu
19. Mr Shyam Basnet, Bhutan International, Thimphu
20. Mr Mani Pradhan, Digital Shangrila, Thimphu
21. Ms Lhamo Dukpa, Singer/Producer, Thimphu
22. Mr Joseph Lo, UNDP, Thimphu
23. Mr Jigme Dukpa, Aa-Yang Music School, Thimphu.
24. Mr Rinzin Penjor, Principal, Royal Academy of Performing Arts, Thimphu.
25. Mr Norbu Tenzin, Jungshi Handmade Paper, Thimphu.

### Group Discussions

1. Department of Industry
2. National Statistics Bureau
3. Handicrafts Association of Bhutan
4. Motion Pictures Association of Bhutan
5. IT Association of Bhutan

## Annex 5: Core CBIs used for Estimating their Contribution to GDP

(June 2011)

Type	ISIC Code
Publishing of books, brochures and others	2211
Newspaper publishing	2212
Production of music	2213
Printing and publishing	2219/ 2221
Recording of visual (film production)	2230
Retail sale of video and audio production	5233
Retail sale books/stationery	5239
Cable and satellite TV	6420
Data processing, software consultancy, and data publishing	5151/7229
Publicity/advertising agency	7430
Photo studio and photo frame	7494
Graphic design	7499
Industrial property agent	9112
Audio video production and distribution	9211
Cinema	9212
Music and other activities/writers, directors, actors	9214



## Annex 6: Formula on Copyright Factor

---

The copyright factor is measured on a scale of 0 to 1, where 0, at one extreme, means copyright related aspects are absent and 1, at the other, means the entire value added is created by the copyright related issues. Empirical evidence suggests that as the economy develops the intellectual property increasingly becomes significant and consequently the copyright factor approaches 1. In developing countries, traditional knowledge plays a more significant role in the production processes. The traditional knowledge falls in the public domain and consequently is not adequately protected by copyright law in general thus leading in underestimation of the copyright factor in traditional societies and less developed countries.

The ratio of the sum of royalty paid and expenditure on R&D made by a firm to its net value added at factor cost is defined as the copyright factor.

$$Cf = \frac{r + rd}{nva} \quad Cf = \frac{r + rd}{nva}$$

Where,

- $C_f$  = copyright factor
- $r$  = royalty paid
- $rd$  = expenditure on research and development
- $nva$  = net value added at factor cost

## Annex 7: Calculations of Net Value Added

In order to find the main explanatory factors to the NVA created by CBIs, a multiple regression model<sup>18</sup> is prepared that includes the following variables as explanatory variables: percentage of trained employees (PTE), expenditure on research and development (RD), plant load factor (PLF) and net exports (NX) and net value added (NVA) as the dependent variable. Findings of the study are shown in Tables A, B and C.

**Table A: Model Summary**

Model	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R <sup>2</sup> Change	F Change	df1	df2	Sig. F Change
1	.683(a)	.467	.443	1917639.681	.467	19.727	4	90	.000

a Predictors: (Constant), PTE, RD, PLF, NX

b Dependent Variable: NVA

**Table B: ANOVA (b)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	290171178116376	4	72542794529094.00	19.727	.000(a)
	Residual	330960775330909	90	3677341948121.219		
	Total	621131953447285	94			

a Predictors: (Constant), PTE, RD, PLF, NX

b Dependent Variable: NVA

**Table C: Coefficients (a)**

Model		Un-standardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	741231.455	265644.747		2.790	.002
	NX	-.278	.033	-.667	-8.371	.000
	PLF	321.459	2633.319	.009	.122	.003
	RD	-2.400	4.138	-.045	-.580	.003
	PTE	93160.010	169621.988	.044	.549	.000

a: Dependent Variable: NVA

Since the calculated f value (19.7) far exceeds the p value (0), the explanatory variables together are effective to explain the changes in the dependent variables. As the Table for coefficients reflects that the t value for each of the explanatory variable exceeds the p value, each of the explanatory variables explains the changes in the dependent variable. Value of r square is 0.467, meaning 1% standard deviation change in the explanatory variables causes 0.467% standard deviation change in dependent variable.

<sup>18</sup>Regression output is derived using SPSS 11.5

## Annex 8: Equations Reflecting The Input-Output Coefficients For CBIs

---

Total CBI

$$X_{\text{cbi}} = 0.40 I_{\text{ag}} + 0.039 I_{\text{ind}} + 0.33 I_{\text{srv}} + 1.41 I_{\text{m}}$$

Core

$$X_{\text{core}} = 0.02 I_{\text{ag}} + 0.04 I_{\text{ind}} + 0.558 I_{\text{srv}} + 2.16 I_{\text{m}}$$

Interdependent

$$X_{\text{intdp}} = 0 I_{\text{ag}} + 0.004 I_{\text{ind}} + 0.0474 I_{\text{srv}} + 0.28 I_{\text{m}}$$

Partial

$$X_{\text{part}} = 1.11 I_{\text{ag}} + 0.42 I_{\text{ind}} + 0.15 I_{\text{srv}} + 0.24 I_{\text{m}}$$

Non-dedicated Support

$$X_{\text{nds}} = 0 I_{\text{ag}} + 0 I_{\text{ind}} + 0 I_{\text{srv}} + 3.81 I_{\text{m}}$$

Notes: X= one unit output and subscripts cbi, core, intdp, part and nds stand for CBIs and its each category (cbi= all CBIs, core= core copyright, intdp=interdependent, part=partial copyright and nds= non dedicated support)

I= input required and subscripts ag, srv, ind and m stand for different sectors

(ag=agriculture, ind= industry, srv= services and m= imports from rest of the world.

## Annex 9: Supporting Policy Development for Cultural Industries

Step in the process	Examples of Activities
1. Advocacy and Strategy Development	1. Elaboration of a long-term Plan of Action.
a. Mapping the Sector	Surveys, baseline data, need assessment, SWOT analysis, and stakeholder's consultations.
b. Identification of Policy Issues	Objectives and priorities, strategy, MSE development, marketing strategy.
c. Drivers	Formulation of sub-sector specific priorities, targets and programmes.
2. Human Resource Development	2. Institutionalisation of innovative and traditional training opportunities related to cultural industries. Strengthening training in entrepreneurship, management, business development and skills development.
3. Cultural Assets Management	3. Strengthening archiving and research, promotion of international conventions.
4. Technological Development	4. A national plan for access of information, support for research and innovation in products and marketing, support cluster development, promotion of e-commerce.
5. Infrastructure	
a. Legislative Infrastructure	IPR, business law for MSEs ICT legislation, copyright, etc.
b. Institutional Infrastructure	Develop institutional capacity to ensure enforcement, strengthen professional organisations and knowledge sharing through ICT.
c. Financial Infrastructure	Mechanisms to encourage MSEs cultural industries. Import-export regulation and taxation.
d. Physical Infrastructure	Easy access to affordable, efficient transport and distribution of cultural industries products and services.
e. Inter-sectoral Coordination and Cooperation	Sector-wide approach to planning and implementation; information sharing among private and public enterprises using ICT; identification of external and national funding options; instruments for coordination and mobilisation of resources.
f. Financing	Consolidated plan and instrument for mobilisation of resources; stakeholders consultations.
g. Programme Monitoring and Evaluation	Integrated plan and schedule; coordination; integration of training activities in the subjects; benchmarking.

Source: UNESCO 2005, quoted in UNIDO 2005 as Annex 2, p.105.

# The Economic Contribution of Copyright-Based Industries in Brunei Darussalam



**BRUNEI DARUSSALAM**  
Attorney General's Chambers  
Registry Division\*

and

**PRIME MINISTER'S OFFICE**  
Department of Economic Planning and Development

\* The Registry Division has since been restructured and a new unit, Intellectual Property Division, was formed on 5th July 2011.

August 2011



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## Executive Summary

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At the request of the Brunei government, WIPO commissioned a consultant to undertake a study on the economic contribution of Brunei copyright-based industries to the economy. The study was jointly conducted with the Registry Division in the Attorney General's Office and the Department of Economic Planning and Development in the Prime Minister's Office.

The study adopts WIPO's classification of copyright and related rights-based industries to estimate their share in:

- (a) value added or GDP;
- (b) national employment; and
- (c) share in foreign trade.

WIPO has categorized the industries into four groups. A brief definition and an industry example for each group are as follows:

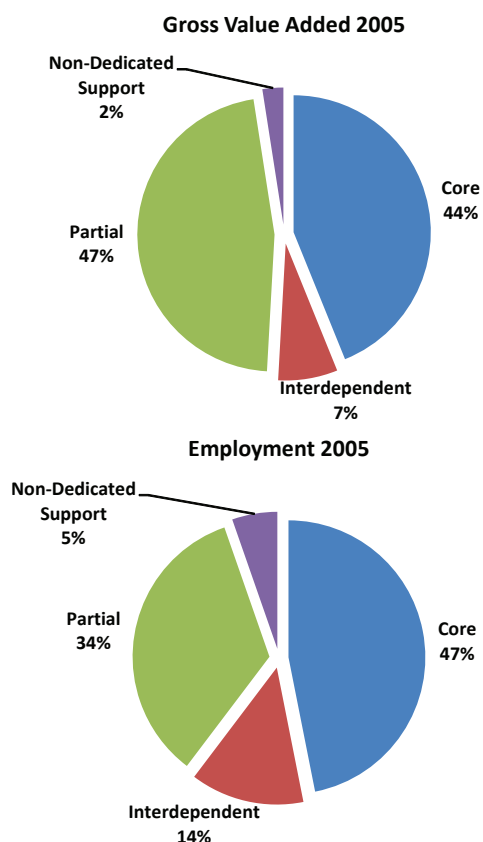
- (i) Core copyright industries are fully engaged in copyright works that are protected under the country's copyright law, e.g. press and literature.
- (ii) Interdependent copyright industries support the core copyright industries by supplying manufacturing and sale of equipment that are required in the production and dissemination of copyright works, e.g. TV sets.
- (iii) Partial copyright industries have activities that are partly associated with copyright works, e.g. museums.
- (iv) Non-dedicated support industries have a portion of their activities involved in facilitating the dissemination of copyright works, e.g. general wholesale and retail trade.

A total of 77 industries in the Economic Census 2006 were identified and grouped into 23 copyright-based industries. Census data on the copyright industries and trade data on copyright items were extracted for the reference years 2005 and 2006. A survey was conducted on a sample of partial copyright industries for estimation of the copyright factors, as only a portion of the activities are copyright-related.

On the whole, the copyright-based industries in Brunei Darussalam accounted for:

- 2.0% of GDP in 2005 and 1.6% in 2006;
- 3.3% of total employed workers in 2005 and 3.2% in 2006;
- 0.8% of total retained imports in 2005 and almost 0.7% in 2006.

Of the 2% contribution to GDP as measured by Gross Value Added in 2005, the largest share was from the partial copyright industries, accounting for almost half (47%) of copyright GDP. Following closely in second place was the group of core copyright industries (44%). The remaining portions were from the interdependent copyright industries (7%) and the non-dedicated support industries (2%). The employment shares of the four copyright groups differed considerably from those of the GDP shares. While the employment share of partial copyright industries was smaller than the GDP share, that of the other three copyright groups was larger, implying that the partial copyright industries were more productive as indicated by value added per worker.



In 2005, the group of copyright industries was comparable in size to the construction industry in terms of GDP share (2.6% vs copyright's 2%). However, the latter was a much larger employer (16.6% vs copyright's 3.3%). The workforce in the copyright group was comparable to that in transport and communication (3.2%), which had a higher share in GDP (2.9%). The implication is that productivity (as measured by value added per worker) in copyright industries was higher than that in construction, but lower than that in transport and communication. On a national basis, four copyright industries posted higher productivity than the national value added per worker of BND 97,927 in 2005. These four industries are:

- software and databases and radio and television in the core copyright group;
- architecture, engineering and surveying in the partial copyright group; and
- telephony and Internet telecoms in the non-dedicated support group.

An international comparison of the economic contributions of 12 countries with that of Brunei Darussalam was attempted from WIPO studies in the past years. Some of the observations were:

- Brunei's total copyright share in GDP of 2% in 2005 was almost the same as Bulgaria's share of 2.1% in 2003. Bulgaria's total copyright share rose to 2.8% in 2005. The United States' total copyright share of 11.1% in 2005 was the highest, followed by Hungary's 6.7% in 2002 and China's 6.4% in 2006.
- Brunei's total copyright employment of 3.3% in 2005 was slightly higher than Jamaica's 3.0% in the same year. In comparison, the United States' total copyright employment share was 8.5% and those of Hungary and China were 7.1% and 6.8% respectively.
- The contribution of copyright industries to GDP and employment tends to rise over time. There is also a tendency for the core copyright industries to become larger than the non-core copyright industries. Moreover, there is a consistent pattern of the copyright industries having a greater impact on employment than on GDP, as reflected in the larger employment share over that of GDP.

There is thus a potential for the core copyright industries in Brunei Darussalam to grow over time and provide another channel for the diversification of the economy. The core copyright industries comprise, in descending order of value added in 2005:

1. Radio and Television
2. Software and Databases
3. Press and Literature
4. Advertising Services
5. Visual and Graphic Arts
6. Music, Theatrical Production and Operas
7. Photography
8. Motion Picture and Video.

Based on the comments and suggestions from the survey on partial copyright industries, the recommendations for promoting copyright industries are to:

- (i) explore avenues to help enterprises to tap into other sources of design activities, to obtain exposure to new developments in design, and to market innovative designs;
- (ii) promote creativity through competitions and exhibitions, and encourage the use of local resources in creative activities;
- (iii) protect architectural designs and drawings as copyright works belonging to the respective company or firm that produced them, and educate the public on the need to obtain permission for use of copyright works;
- (iv) liberalise the architecture industry in the employment of foreign professionals;
- (v) enhance the demand for Brunei copyright works through marketing activities overseas and to tourists.

Moreover, the study findings suggest that certain copyright-based industries could be developed further for a more balanced economic structure and a larger creative and knowledge-based sector. The study has identified copyright-based industries which are above the national average in productivity and worker earnings or possess the potential for growth. However, in-depth research is needed to examine and determine copyright-based industries which best meet the country's development priorities. Given Brunei's small population, the development of selected copyright-based industries may need to consider overseas markets as well as niche areas. One way to maximize resources is to endorse and support international collaborations in copyright-based industries and develop joint projects with interested countries in promoting copyright activities, such as the development of more talents and professional approaches.

This study is the first in Brunei Darussalam, similar to many of the WIPO studies in other countries. The findings could be considered as an initial attempt at measuring the size of the copyright industries and their economic contribution to the country. It would be useful to track the development of the copyright industries, as knowledge-based and creative activities are being promoted in an increasingly competitive world. For the follow-up to this study, the following is proposed:

- (a) To disseminate the findings to top management of copyright industries and interested parties through, for instance, a seminar. The seminar can be used as a channel for feedback and policy inputs. It can also raise support for efforts to promote copyright activities in the country.
- (b) To update the estimates on the copyright industries' contribution to the economy when the 2010 Economic Census data become available.
- (c) To include estimates on the multiplying effects of copyright industries when the input-output table, which is being compiled presently, is completed. The multipliers of copyright industries will provide another dimension for policy formulation.

## 1. Introduction

---

Upon the request of the government of Brunei Darussalam for a study to estimate the economic size of the copyright sector, an exploratory mission was made in late February 2008 to Bandar Seri Begawan by Dimiter Gantchev of WIPO and Singapore IPA research fellow Chow Kit Boey. The mission team met with representatives from several government organisations, coordinated by staff of the Registry Division under the Attorney General's Chambers. A briefing on studies based on WIPO's framework (*Guide on Surveying the Economic Contribution of the Copyright-Based Industries*) and an outline of the Singapore study were presented by the mission team. Some information and data on the Brunei economy were provided to the mission team to assist in determining the scope and methodology for the requested study.

In consideration of the manpower constraint in Brunei Darussalam, WIPO commissioned Ms Chow to undertake the study as its principal researcher. The study team comprised staff from the Attorney General's Chambers, and the Department of Economic Planning and Development in the Prime Minister's Office of Brunei Darussalam. A technology transfer element was incorporated in the study report to facilitate future updating of the study's estimates for monitoring the development of copyright activities in Brunei Darussalam. The aim and scope of the study are detailed below, together with the structure of the final report.

### 1.1 Objective

The study aims to quantify the economic contribution of copyright-based industries in Brunei Darussalam in terms of:

- (i) share in value added or GDP;
- (ii) share in national employment; and
- (iii) share in foreign trade.

### 1.2 Scope

The study covers almost all the industries in the four categories of the WIPO's Guide.<sup>1</sup> Government copyright activities parallel to WIPO copyright industries are also included. Unpublished data using the four-digit Brunei Darussalam Standard Industrial Classification (BDSIC) 2007 are obtained from the 2006 Economic Census, which also provides data for 2005. Trade data on copyright products are extracted for imports, domestic exports and re-exports.

A survey of the group of partial copyright industries was conducted in order to determine the copyright factors. Owing to the small number of firms in many industries, a hybrid sampling method was adopted. A target of 150 returns was set, based on the total number and composition of firms in the partial copyright industries. Indicators of the intensity of copyright and intellectual property content in each industry were obtained. The factors were determined partly from a comparison of copyright factors in eight of the studies published under WIPO's Creative Industries Series, and two recent country reports.<sup>2</sup>

The shares of Brunei copyright industries to the national economy were estimated for operating revenue, gross value added, employee compensation, employment and number of businesses in 2005 and 2006. An international comparison of the contribution of Brunei copyright industries to GDP and employment was compiled mainly from WIPO's Creative Industries Series.

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<sup>1</sup>World Intellectual Property Organization, *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*, Geneva: 2003, WIPO Publication No. 893(E).

<sup>2</sup>World Intellectual Property Organization, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries*, Creative Industries Series No.1, Geneva: 2006, WIPO Publication No. 624e, and Creative Industries Series No.2, WIPO Publication No. 1009E.

### 1.3 Project Team

The team was led by WIPO consultant Chow Kit Boey. Representatives from the government of Brunei Darussalam were:

- (i) Attorney General's Chambers
  - (a) Dayang Naimah Md Ali, Assistant Solicitor General
  - (b) Nur Al-Ain Dr Haji Abdullah, Counsel, Registry Division
  - (c) Amiriah Haji Ali, Legal Officer, Registry Division.
- (ii) Department of Economic Planning and Development, Prime Minister's Office
  - (a) Hajah Mariah Haji Yahya, Acting Director, Department of Statistics
  - (b) Hajah Norhaslina Tamin, Acting Senior Officer, Department of Statistics
  - (c) Titisutinah Hj Mohd. Diah, Statistics Officer, Department of Statistics
  - (d) Hajah Sharipah Juriah Haji Wan Junaidi, Statistics Officer, Department of Statistics
  - (e) Aslina Abdulkhan, Assistant Statistics Officer, Department of Statistics
  - (f) Halimah Haji Abdul Rahman, Assistant Statistics Officer, Department of Statistics
  - (g) Hairol Nizam bin Haji Abd Hamid, Senior Economic Officer, Department of Planning
  - (h) Siti Maisarah Haji Majid, Economic Officer, Department of Policy and Coordination.

The allocation of tasks and responsibilities in the project was as follows:

- (i) Attorney General's Chambers:
  - (a) formation of study team;
  - (b) coordination of meetings;
  - (c) response to enquiries from surveyed firms;
  - (d) preparation of report section on copyright system in Brunei Darussalam.
- (ii) Department of Economic Planning and Development, Prime Minister's Office:
  - (a) extraction of Economic Census data on copyright industries for 2005 and 2006;
  - (b) extraction of trade data on copyright goods;
  - (c) conduct survey;
  - (d) survey data input.
- (iii) WIPO consultant:
  - (a) identification of Brunei copyright industries;
  - (b) survey questionnaire design and sampling recommendation;
  - (c) analysis of survey returns and estimation of partial copyright factors;
  - (d) estimation of copyright shares in national economy;
  - (e) preparation of report;
  - (f) presentation of findings.

### 1.4 Structure of Study

The study encompasses an executive summary and the following chapters:

1. Introduction – project background, objective, scope, team composition.
2. Brunei – special characteristics of the country.
3. Overview of the copyright system in Brunei Darussalam.
4. Methodology – data collection and survey of partial copyright industries.
5. Estimation of copyright factors for partial copyright industries.
6. Estimation of economic contribution of copyright-based industries.
7. International comparison of copyright-based industries.
8. Conclusions and Recommendations.



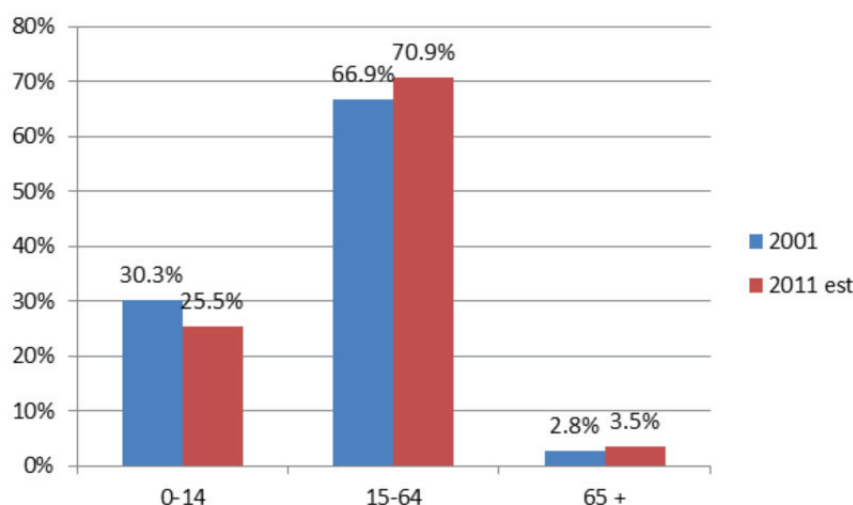
## 2. Brunei in Brief

With the world's 9th highest per capita GDP in 2010 (estimated at BND 40,703), Brunei Darussalam has also been ranked second among South East Asian countries in the Human Development Index.<sup>3</sup> Its full name in Malay is Negara Brunei Darussalam ("Negara" means State in Malay, and "Darussalam" means "Abode of Peace" in Arabic). Brunei is heavily dependent on crude oil and natural gas. It is Southeast Asia's third largest oil producer and the world's fourth largest exporter of liquefied natural gas. Economic growth has become much slower since 2005, but the country commands the highest rate of macroeconomic stability in Asia. It has been noted that Brunei escaped partially from the fallout of the global financial crisis in 2008-2009, owing primarily to its conservative economic policies. This chapter looks at a few aspects of the country for a better understanding of the role of copyright industries in the economy.

### 2.1 People

Brunei Darussalam has a relatively young population (Chart 2.1). Seven in every ten of its people are in the age group of 15-64 years.<sup>4</sup> A decade ago, the proportion was two-thirds. Those aged above 65 years constitute only 3.5%. Hence the dependency ratio is low, unlike in many neighbouring countries.

**Chart 2.1: Population by Age Group 2011 versus 2001**



The majority (66%) of the population (estimated at 406,200 in 2009) are Malays. Chinese constitute slightly over one tenth (11%) and the rest (23%) includes the indigenous group. The literacy rate (among those aged nine years and above) has been rising, from 80.3% in 1981 to 89.2% in 1991 and 93.7% in the latest census year of 2001.

More than half of the work force (188,800 in 2008) consists of foreign temporary residents (estimated at 100,000). The unemployment rate is relatively low at 4.0% in 2006, 3.4% in 2007 and 3.7% in 2008. The people enjoy free medical services and free education to university level. Rice and housing are subsidized and there is no personal income tax.

### 2.2 Gross Domestic Product

GDP increased rapidly from 2002 to 2006, largely due to rising prices in crude oil and natural gas (Chart 2.2). Real GDP expanded at a much slower pace, and was just 58% of the current values in 2008 (constant BND 11,754 million versus current BND 20,398 million).

<sup>3</sup>Estimated in CIA, *The World Factbook*, updated 16th March 2011.

<sup>4</sup>Figures for 2011 are from the above source.

**Chart 2.2: Gross Domestic Product, 2002-2008 (BND million)**

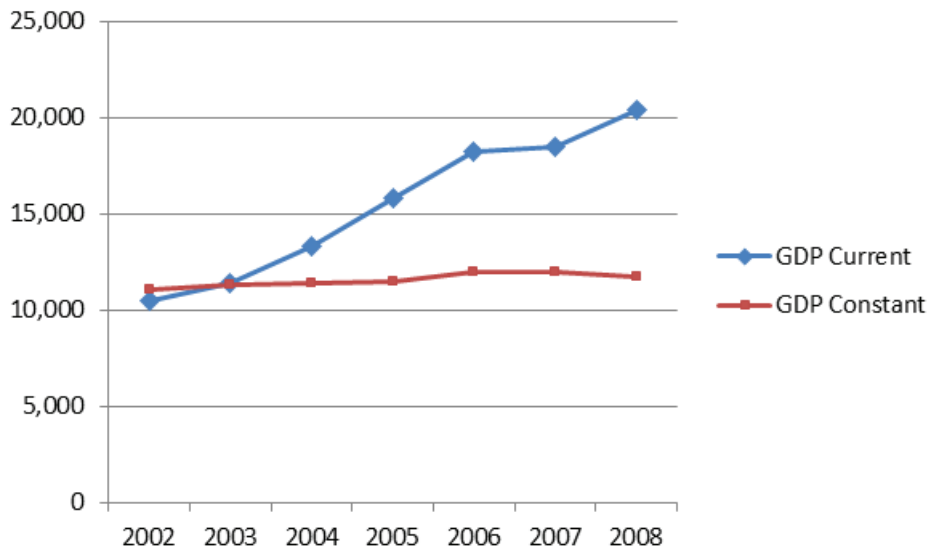
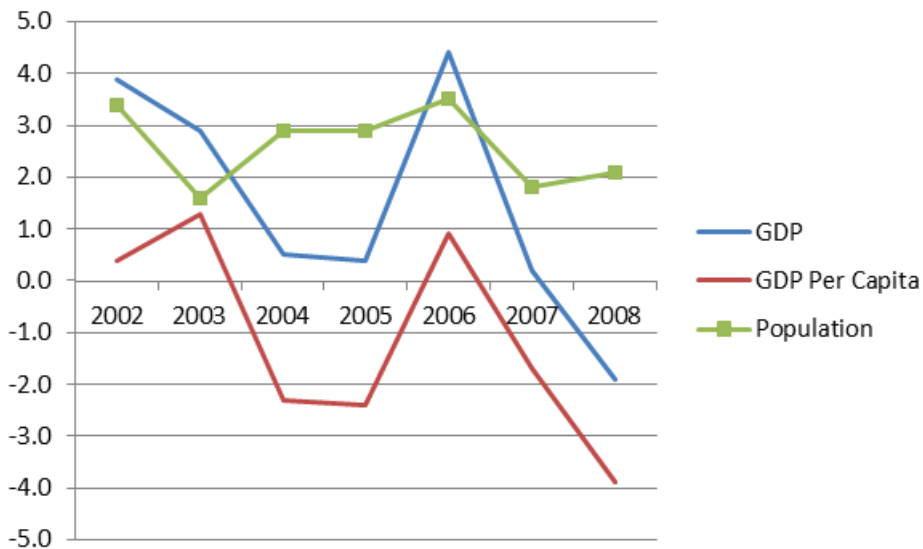


Chart 2.3 traces the growth rates of real GDP and per capita real GDP and population. The years 2002, 2003 and 2006 were good growth years for real GDP and per capita GDP. Real GDP grew above population growth and hence per capita GDP rose. But in the other years, population grew at a faster rate than that of real GDP, resulting in lower per capita GDP (negative growth rates). The year 2008 is the worst performing one with real GDP falling by 1.9% compared to the previous year, and per capita real GDP declining by 3.9% while population increased by 2.1%.

**Chart 2.3: Growth Rates, 2002-2008 (%)**



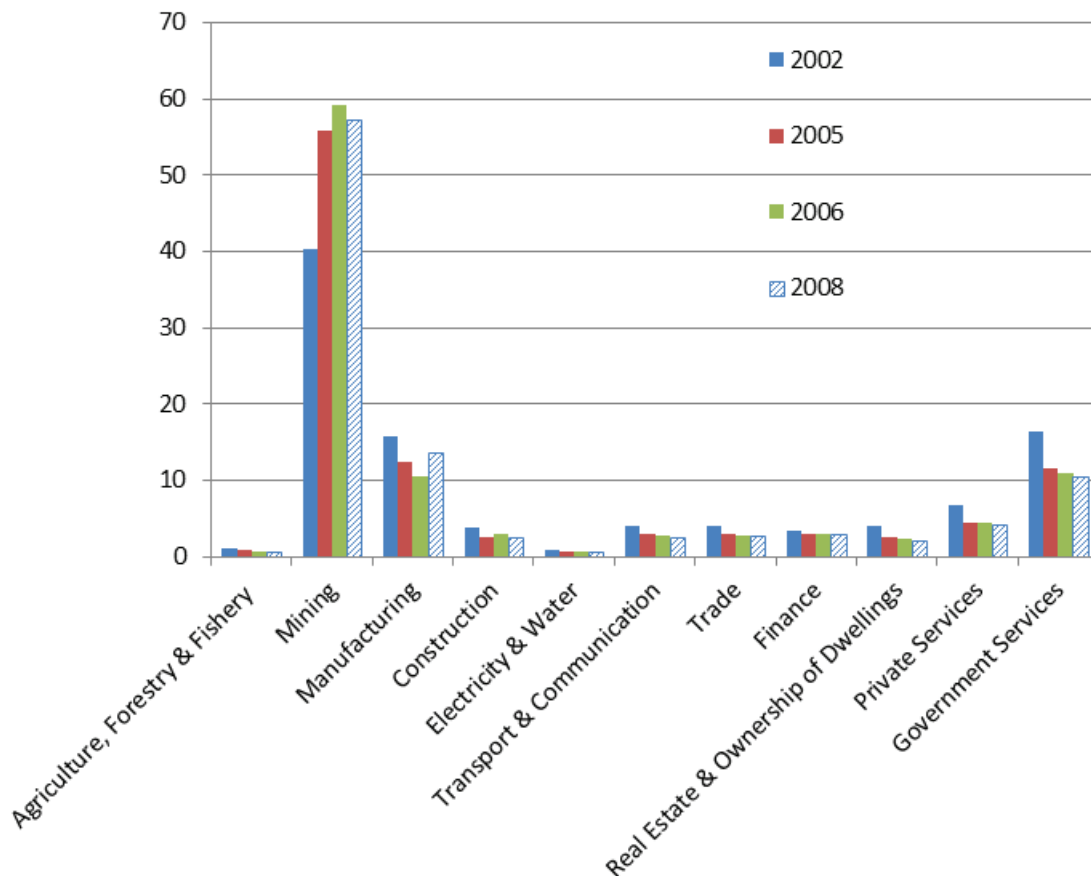
The primary cause of the near stagnation in real GDP in 2007 and contraction in 2008 can be seen in Table 2.1, which presents the price and production levels of oil and LNG in 2006-2008. While the price of oil rose by 45% from US\$69.59 per barrel in 2006 to US\$100.99 per barrel in 2008, production has fallen by 20% from a daily 219,000 barrels to 175,000 barrels over the same period. Similarly, the price of LNG doubled in the same period – the increase occurred mostly in 2008. Production of LNG, however, declined by 5%. This pattern of change explains the divergence between current and constant prices of GDP (in Chart 2.2).

**Table 2.1: Price and Production of Oil and LNG**

	2006	2007	2008
<b>Price</b>			
Oil (US dollars/barrel)	69.59	79.09	100.99
LNG (US dollars/MMBtu)	5.9131	6.2954	12.9262
<b>Production</b>			
Oil (thousand barrels/day)	219	194	175
Gas (MMscf/day)	1,250	1,215	1,182

Apart from oil, what is the relative size of the other sectors? Chart 2.4 displays the composition of GDP (in current prices) by sectors in 2002, 2005, 2006 and 2008. The two years 2005 and 2006 correspond to the copyright estimation period. Mining (the oil sector) captured 40% of GDP in 2002, expanded to 59.1% in 2006 and diminished slightly to 57.2% in 2008. The other sectors, thus, had their highest share in 2002. The government services sector captured the second largest share in 2002 at 16.3%, but was overtaken by manufacturing in 2008. Manufacturing is the only sector that expanded in 2008. It grew to 13.7% of GDP from 10.6% in 2006. The shares of the other sectors remained constant with less than half of one per cent change between the years 2005, 2006 and 2008.

**Chart 2.4: Distribution of GDP by Economic Activity (% in Current Prices)0**



Brunei’s oil proved reserves, estimated in January 2010 at 1.1 billion barrels, have been ranked the world’s 40<sup>th</sup> largest, and its natural gas proved reserves, estimated at 390.8 billion cubic metres, the world’s 36<sup>th</sup> largest. The oil reserves are expected to last 25 years and natural gas reserves 40 years. In view of this, the government has embarked on an economic diversification programme in the past 10 years. Another available

indication of the development of sectors is the real growth rates. Charts 2.5a and 2.5b show the real growth rates in 2004-2008 for the nine major economic sectors against real GDP growth.

In Chart 2.5a, the growth rates of the mining sector and GDP exhibit the same pattern. The rates coincided in 2006; otherwise the growth rates in mining are lower than that of GDP. The manufacturing sector displays a similar pattern as GDP until 2008, when it grew much faster whereas GDP contracted. The transport and communication sector expanded at higher rates than GDP, except in 2004 and 2006. In 2007, its growth surpassed 10%. The construction sector grew in a similar pattern as transport and communication and increased slightly above 10% in 2007.

**Chart 2.5a: Real Growth Rates of Sectors, 2004-2008 (%)**

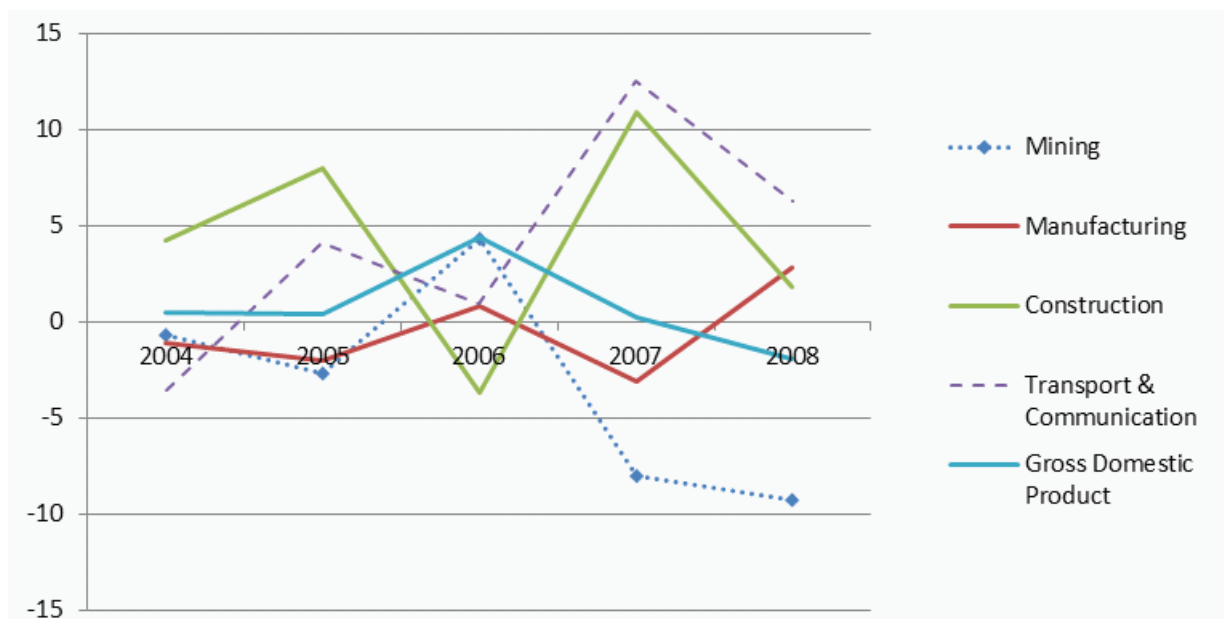


Chart 2.5b covers five sectors that did not contract in the five-year period. An anti-cyclical behaviour in the real estate and ownership of dwellings sector is detected. The government services sector started to grow faster in 2006, reached a peak growth at 11.6% in 2007, and fell to 2.7% in 2008. The growth rate in the trade sector stagnated in 2004-2006, escalated to 12% in 2007 and plunged to 0.5% in 2008. Private services expanded at a faster rate each year, reaching 11% in 2006, and slowed down to 2% in 2008, displaying a symmetrical pattern in growth rates. Among the nine sectors, finance was the fastest growing sector in 2004-2006 reaching a peak rate of 16%. Its growth plummeted to 3.7% in 2007 and 2.5% in 2008.

In real terms, the economy has become more diversified in 2008 compared to 2004. While other sectors grew more slowly in 2008, the manufacturing sector grew faster compared to the previous year. In 2008, when the finance sector was impacted by the worldwide crisis, transport and communication became the fastest growth sector at a creditable rate of 6.3%. With the exception of 2006, mining has become increasingly smaller, contracting by 9.3% in 2008.

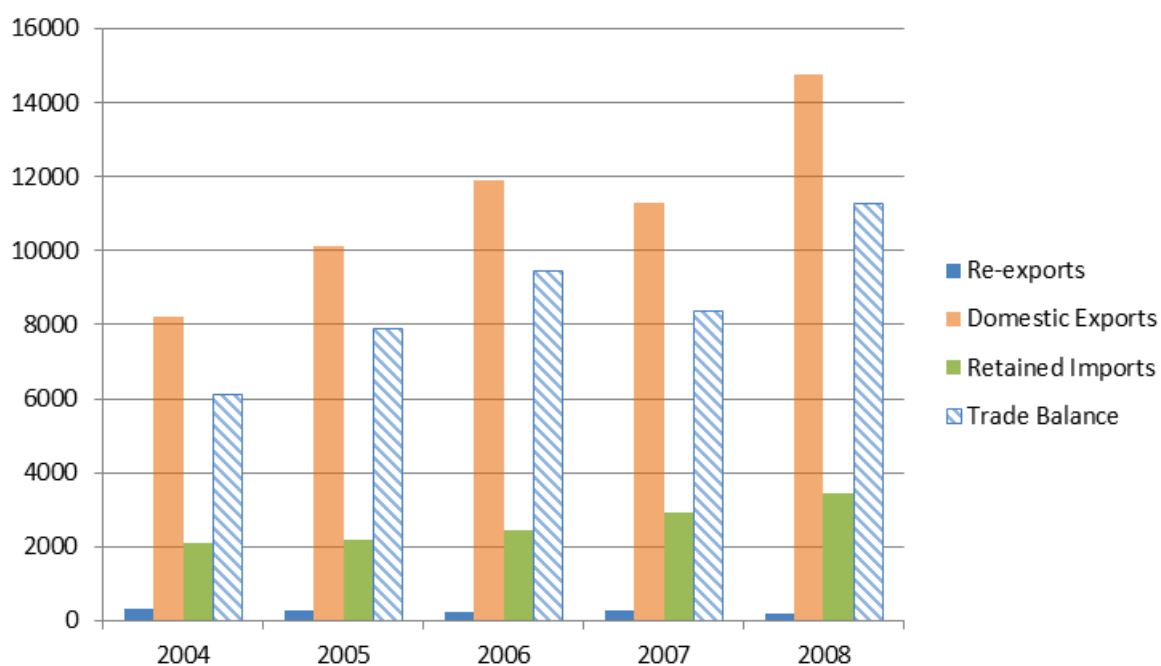
**Chart 2.5b: Real Growth Rates of Sectors, 2004-2008 (%)**



### 2.3 Trade

Brunei has a trade ratio (exports and imports to GDP) of 83% in 2004 and 91% in 2008. Its re-exports constitute a small portion of total exports, 3.8% in 2004 decreasing to 1.3% in 2008. As expected, domestic exports exceed retained imports (imports less re-exports) by a large margin (reflected in Chart 2.6). Due to the small population, retained imports are low, only equivalent to around one quarter of domestic exports. Retained imports have been rising each year over the five-year period. Domestic exports also have been increasing, except in 2007. Hence, the trade balance shows the same direction of change as domestic exports.

**Chart 2.6: Trade. 2004-2008 (BND million)**



**Table 2.2: Domestic Exports by Major Item and Country, 2008 (BND million)**

	2008	Share
<b>Domestic Exports</b>	<b>14,743.38</b>	<b>100%</b>
Crude petroleum	7,948.50	53.9%
<i>Indonesia</i>	2,985.30	37.6%
<i>Australia</i>	1,545.20	19.4%
<i>Rep. of Korea</i>	1,519.40	19.1%
Natural gas	6,666.80	45.2%
<i>Japan</i>	5,975.20	89.6%
<i>Rep. of Korea</i>	691.6	10.4%
Garments	121.1	0.8%
<i>USA</i>	91.2	75.3%
<i>Singapore</i>	28.6	23.6%
Others	6.98	0.05%

The three major export items are crude petroleum, natural gas and garments. Their combined share in total domestic exports was 95% in 2008, with crude petroleum accounting for 54% and natural gas 45% (Table 2.2). The major destination countries of crude petroleum are Indonesia, Australia and the Republic of Korea; for natural gas, they are Japan and the Republic of Korea. Hence the top four countries for Brunei's domestic exports are, in descending order, Japan, Indonesia, the Republic of Korea and Australia. Garment exports constituted less than 1% of domestic exports in 2008. The garment industry has been negatively affected by the termination of the United States quota system in 2004. The United States, nevertheless, remains the largest market, absorbing 75% of the garment exports in 2008, while Singapore took 24%.

Machinery and transport equipment are the largest import items, accounting for over two-fifths (44%) of total imports in 2008. The second largest is manufactured goods with slightly over one-fifth (22%) share. Food items form the third largest group of imports at 12%. The major country sources of imports are Singapore, Malaysia, Japan, the United States and China. Japan is also a top market for Brunei's exports.

**Table 2.3: Composition of Imports, 2008 (BND million)**

	2008	Share
<b>Imports</b>	<b>3,647.30</b>	<b>100%</b>
Food	449.8	12.3%
Chemicals	262.8	7.2%
Manufactured goods	801.1	22.0%
Machinery & transport equipment	1,598.70	43.8%
Miscellaneous manufactured articles	303.3	8.3%
Others	231.6	6.3%

## 2.4 Mass Media

There are three daily local newspapers. Two of them are commercial newspapers in English (*Borneo Bulletin* and *Brunei Times*) and one is in Malay (*Media Permata*). A weekly newspaper in Malay (*Pelita Brunei*) is published by the government and distributed gratis to the public. The English newspapers had a circulation averaging 24,000 copies per issue during 2004-2008 (Table 2.4). This circulation volume was stable during the five-year period except for a spike to 27,000 in 2005. The Malay newspapers had a wider and increasing average circulation at 25,000 copies per issue in 2004, rising to 42,000 in 2007-2008.

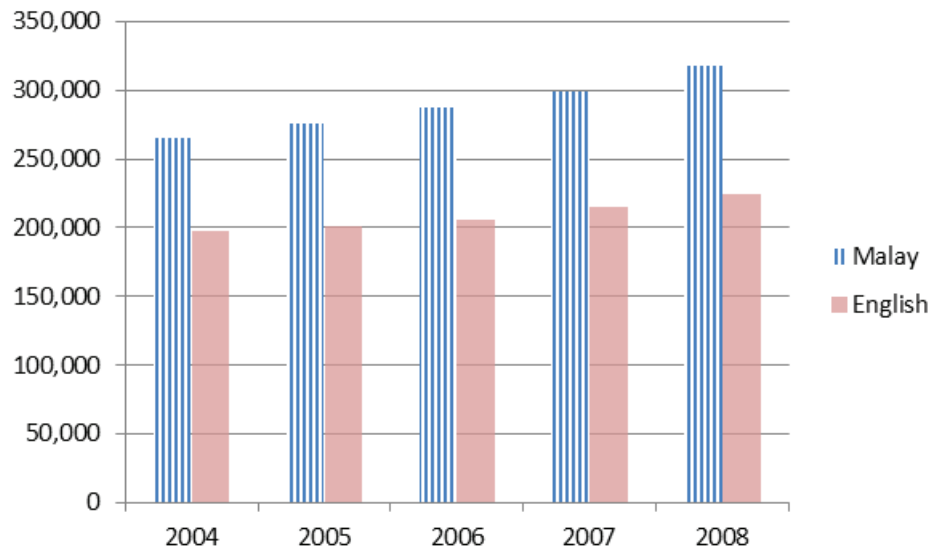
**Table 2.4: Circulation of Local Newspapers**

Language	Total Circulation per issue ( '000)				
	2004	2005	2006	2007	2008
Malay	25	25	33.5	42	42
English	24	27	24	24	24

Besides newspapers, the government is also engaged in broadcasting and telecasting activities. It owns and operates one television channel and three radio stations. One other radio station and cable television service is provided by a private company.

An indication of activity in the press and literature field (a copyright industry) is the changes in book volumes in libraries. Available published data pertain to the book volumes at the Language and Literature Bureau under the Ministry of Culture, Youth and Sports. Chart 2.7 shows the volume of books in Malay and English at the Language and Literature Bureau. The volume of Malay books has been growing; at 4% in 2005-2007, and at a faster rate of 6% in 2008. That of English books has increased at lower rates; from almost 2% in 2005 to 4% in 2007-2008. The total volume, including books in other languages, has been enlarged by 17% over the five-year period.

**Chart 2.7: Volume of Books at the Language and Literature Bureau**





## 3. An Overview of Copyright Laws and Institutions in Brunei Darussalam<sup>5</sup>

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### 3.1 Introduction

Brunei Darussalam's copyright legislation is quite new, as it was only on 1st May 2000 that the Emergency (Copyright) Order 1999 came into force. Before commencement, the copyright legislation in Brunei Darussalam was referred to the English Copyright Act 1911, by virtue of the Application of Laws Act 1951, which came into force on 25 April 1951.

Section 2 of this Act states:

"Subject to the provisions of this Act and save in so far as other provision has been or may hereafter be made by any written law in force in Brunei Darussalam, the common law of England and the doctrines of equity, together with statutes of general application, as administered or in force in England at the commencement of this Act, shall be in force in Brunei Darussalam.

Provided that the said common law, doctrines of equity and statutes of general application shall be in force in Brunei Darussalam so far only as the circumstances of Brunei Darussalam and of its inhabitants permit and subject to such qualifications as local circumstances and customs render necessary."

As Brunei Darussalam was a British protected state until she gained her independence in 1984, Brunei Darussalam inherited the British legal system. In fact, the Emergency (Copyright) Order 1999 was modelled on the English Copyright, Designs and Patents Act 1988. The decision to enact her own copyright legislation stemmed from Brunei Darussalam's membership of the World Trade Organisation in 1995, as well as the realisation of the importance of copyright and intellectual property.

### 3.2 Protection of Copyrights

Copyright protection is automatic and thus there is no registration system. However, for the work to be protected, the work must:

- (i) be reduced to writing or some other material form;
- (ii) be original;
- (iii) be subject to the conditions for subsistence under the Copyright Order; and
- (iv) be qualified for protection under Brunei legislation.

#### *Copyright Works*

The works in which copyright can subsist under the Copyright Order, subject to the conditions for subsistence being met, are described in section 3(1) of the Order as follows:

- (a) dramatic work, including a work of dance or mime;
- (b) literary work, meaning any work other than a dramatic or musical work, including a table or compilation and a computer program;
- (c) musical work;
- (d) artistic work;
- (e) sound recordings;
- (f) films;
- (g) broadcasts;
- (h) cable programmes; and
- (i) typographical arrangement of published editions.

Works of these descriptions in which copyright subsists are referred to as copyright works.

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<sup>5</sup>This chapter is prepared by Nur Al-Ain Dr HjJ Abdullah, Legal Counsel/Deputy Registrar, Registry Division, Attorney General's Chambers, Brunei Darussalam.

### *Qualification for Copyright Protection*

Copyright does not subsist in a work unless the requirements set out in Part I of the Order with respect to qualification for copyright protection are met. The Order provides two bases on which copyright protection may be obtained:

(a) **Qualifying person**

A qualifying person is defined as: a citizen of Brunei Darussalam; a person domiciled or resident in Brunei Darussalam or another country to which the relevant provisions of Part I extend; or a body corporate incorporated under the laws of Brunei Darussalam or of another country to which the relevant provisions of Part I have been applied.

(b) **Qualification by reference to country of first publication**

A literary, dramatic, musical or artistic work, a sound recording or film, or the typographical arrangement of a published edition qualifies for copyright protection if it is first published in Brunei Darussalam, or in another country to which the relevant provisions of the Order have been applied.

In the case of broadcasts and cable programmes, it will be the country from which the broadcast was made or the cable programme was sent. A broadcast qualifies for copyright protection if it was made from, and a cable programme qualifies for copyright protection if it was sent from Brunei Darussalam; or a country to which the relevant provisions of Part I have been applied.

### *Copyrights belonging to the government and Legislative Council*

Where work is made by His Majesty the Sultan and Yang Di-Pertuan or by a public officer in the course of his duties, or is made by under the direction or control of the Legislative Council, then the work qualifies for copyright protection whether or not the general qualifying conditions by reference to the author, the place of publication or in the case of broadcasts and cable programmes, the place of transmission, are satisfied.

### *Application of other works in the Copyright Order*

The Order applies to a work that is eligible for protection in Brunei Darussalam by virtue of an international convention or other international agreement to which Brunei Darussalam is a party.

Brunei Darussalam is a signatory to the Berne Copyright Convention and the TRIPs Agreement. As a result, if a work is first published in or transmitted from a Berne or TRIPs country, or if the author of the work is a citizen of or is domiciled in a Berne or TRIPs country, the owner will be able to take action for infringement in Brunei Darussalam. Similarly, works first published or transmitted in Brunei Darussalam, or having an author who is a Brunei citizen or is domiciled in Brunei Darussalam, will be protected in all other Berne or TRIPs countries.

### *Scope and Duration of Protection*

(i) **Literary, dramatic, musical and artistic work**

Copyright will expire at the end of the period of 50 years from the end of the year in which the author dies.

#### *Unknown Authorship*

Copyright will expire at the end of the period of 50 years from the date on which the work was either made, first made available to the public or first published, whichever date is the latest, provided that the author's identity is revealed or is no longer in doubt before the expiration of that period.

(ii) **Computer-generated Works**

Copyright will expire at the end of the period of 50 years from the end of the year in which it was made.

(iii) **Sound Recordings and Films**

Copyright expires at the end of the period of 50 years from the end of the year in which it was made; or if it was released before the end of that period, 50 years from the end of the year in which it was released.

A sound recording or film is released when it is first published, broadcast or included in a cable programme service; or in the case of a film or film soundtrack, the film is first shown in public, provided that in each case no account is to be taken of any unauthorised act.

(iv) **Broadcast and Cable Programme**

Copyright expires at the end of the period of 50 years from the end of the calendar year in which the broadcast was made or the programme was included in a cable programme service.

Copyright in a repeat broadcast or cable programme expires at the same time as the copyright in the original broadcast or cable programme.

(v) **Typographical Arrangement of Published Editions**

Copyright expires at the end of the period of 25 years from the end of the calendar year in which the edition was first published.

(vi) **Government and Legislative Council**

***Government***

The maximum period of copyright protection for all literary, dramatic, musical and artistic works, if they remain unpublished, will be 125 years from the end of the calendar year in which they were made.

In the case of any such works which are published commercially before the end of the period of 75 years from the end of the calendar year in which they were made, then such works continue to enjoy copyright protection for a further period of 50 years from the end of the year in which they were first published.

***Legislative Council***

Copyright in a literary, dramatic, musical or artistic work subsists until the end of the period of 50 years from the end of the year in which it was made.

### 3.3 Infringement of Copyrights and Remedies

***Infringement***

Copyright infringement has two categories: Primary (direct infringement) and Secondary (indirect infringement).

(i) **Primary Infringement**

Copyright in a work is infringed by a person who, without the licence of the copyright owner, does, or authorises another to do, any of the acts which are designated as being 'acts restricted by the copyright'. Such acts, which are the acts which the owner of the copyright has the exclusive right to in Brunei Darussalam, are as follows:

- (a) in relation to all categories of works, to copy the work;
- (b) in relation to all categories of works, to issue copies of the work to the public;
- (c) in relation to literary, dramatic and musical works, to perform the work in public, and, in relation to sound recordings, films, broadcasts and cable programmes, to play or show the work in public;
- (d) in relation to literary, dramatic, musical and artistic works, sound recordings, films, broadcasts and cable programmes, to broadcast the work or include it in a cable programme service;
- (e) in relation to literary, dramatic and musical works, to make an adaptation of the work, or to do any of the acts specified in the previous paragraphs in relation to an adaptation of the work.

The Order specifically provides that the doing of any such act is restricted, whether done in relation to the work as a whole or as a substantial part of it, or whether done directly or indirectly.

(ii) Secondary Infringement

The copyright of a work is infringed by any person who, without the licence of the copyright owner:

- (a) possesses in the course of a business;
- (b) sells or lets for hire, or offers or exposes for sale or hire;
- (c) in the course of a business exhibits in public or distributes; or
- (d) distributes otherwise than in the course of a business to such an extent as to prejudicially affect the owner of the copyright,

an article which is, and which he knows or has reason to believe is, an infringing copy of the work.

The copyright in a work is also infringed by any person who, without the licence of the copyright owner, imports into Brunei Darussalam, otherwise than for his private and domestic use, an article which is, and which he knows or has reason to believe is, an infringing copy of the work.

The Order also provides that copyright will be infringed by a person who, without the licence of the copyright owner:

- (a) makes;
- (b) imports into Brunei Darussalam;
- (c) possesses in the course of a business; or

sells or lets for hire, or offers or exposes for sale or hire;

an article specifically designed or adapted for making copies of that work, knowing or having reason to believe that it is to be used to make infringing copies.

It is an infringement if the manufacture or importation for sale or rental of any device or means:

- (a) is specifically designed or adapted to circumvent any device or means intended to prevent or restrict reproduction of a work, sound recording or broadcast, or to impair the quality of any copy thereof; and/or
- (b) is susceptible to enable or assist the reception of an encrypted programme broadcast or otherwise communicated to the public, including by satellite, by any person not entitled to receive that programme.

It is also an infringement if the removal or alteration of any electronic rights management information without authority as well as any distribution, importation for distribution, broadcasting communication or making available to the public, without the authority, of a work, performance, sound recording or broadcast, by any person knowing or having reason to believe that electronic rights management information has been removed or altered without authority.

(iii) Other Infringement

The Order also imposes criminal liability for making, dealing with or using illicit recordings in relation to performances and empowers the court in criminal proceedings to make delivery up and disposal orders.

**Remedies**

The remedies available are civil remedies and criminal penalties.

(i) **Civil Remedies**

Any infringement is actionable by the copyright owner. However, an exclusive licensee has, except as against the copyright owner, the same rights and remedies as the copyright owner, which run concurrent with those of the owner. Nevertheless, an exclusive licensee will be able to take action only if the infringement concerns the subject matter of the licence agreement.

The civil remedies available for copyright infringement are: damages, injunctions, account (of profits), additional damages (i.e. punitive damages) and delivery up.

(ii) **Criminal Penalties**

Aside from the usual penalties, which are imprisonment and fines, the order also provides search warrants and delivery up.

Search warrants can be obtained by a police officer from a magistrate, authorising the police officer to enter and search premises, using such reasonable force as necessary. The warrant remains in force for 28 days from the date of its issue.

The Order also provides for delivery up where the order may be made by the court before which proceedings are brought against a person for an offence under Section 205 of the Order (i.e. criminal liability for making illicit recordings etc.).

***Border Enforcement Measures***

These measures allow copyright owners and licensees to request the detention of suspected pirated goods while they are subject to the control of the Royal Customs and Excise. Border enforcement measures do not, however, apply to goods imported by a person for their private and domestic use.

Right holders can request the assistance of the Royal Brunei Customs and Excise, lodging notices of their goods subject to copyright protection. When a notice has been lodged, Customs is able to detain unauthorised copies of goods subject to copyright protection.

Customs can detain goods subject to a notice for a period of ten working days. Notices are valid for either five years, after which they are renewable, or until the period of copyright protection expires. If Customs becomes aware that suspected infringing goods have been imported and an applicable notice is not in place, it can advise the right holder (if known) of the importation and advise them to lodge a notice with Customs.

Where goods are detained, Customs notifies right holders so that they can determine whether the goods are pirated. During this detention period, right holders must also decide whether they will pursue proceedings to prove that the goods infringe their rights. Suspected goods will be detained by Customs pending the decision of the court. If a right holder does not commence proceedings within the 10-day period, Customs is required to release the goods to the importer.

To help prevent the importation of unauthorised copies of goods, the copyright owner can give a notice to Customs requesting the detention of the goods.

When lodging a notice with Customs, the copyright owner must also deposit a sum of money that, in the opinion of Customs, is sufficient to reimburse the government of Brunei Darussalam for any liability or expense it is likely to incur as a result of the detention of the copies.

**3.4 Institutional Framework for Copyright Protection**

The institutions that are responsible for upholding the copyright legislation and to ensure adequate copyright protection in Brunei Darussalam are:

- (a) Attorney General’s Chambers
- (b) The Royal Brunei Police
- (c) The Royal Customs and Excise.

However, there are other government bodies and a statutory board that assist in protecting copyright works. Examples are:

- (a) Radio Television Brunei
- (b) Ministry of Culture, Youth and Sports
- (c) Brunei Economic Development Board
- (d) University of Brunei Darussalam.

The Copyright Order has provisions for a Copyright Tribunal and Collective Management Organisation. However, so far, there are none established in Brunei Darussalam.

## 4. Methodology

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To estimate the economic contribution of copyright activities, the following tasks need to be carried out first:

- (i) Identify Brunei Copyright Industries;
- (ii) Extract Unpublished Data from the Economic Census 2006;
- (iii) Identify Copyright Items in Foreign Trade;
- (iv) Extract Unpublished Data on Tradable Copyright Products;
- (v) Conduct Survey on Partial Copyright Industries;
- (vi) Estimate Partial Copyright Factors.

### 4.1 Copyright Industries in Brunei Darussalam

This study adopts WIPO's classification of copyright industries.<sup>6</sup> WIPO's four categories of copyright industries reflect the degree of copyright activities. They are:

- (i) **Core Copyright Industries**  
These are industries engaged fully in copyright works protected under the country's copyright law. Activities of the core copyright industries cover:
  - (a) creation, production and manufacturing (i.e. producing);
  - (b) performance, communication and exhibition (intangible forms of disseminating); and
  - (c) distribution, sales and services (distribution or intangible dissemination)" of copyright works.<sup>7</sup>

- (ii) **Interdependent Copyright Industries**  
These are industries that support the core copyright industries by supplying (manufacturing and sale of) equipment that is required in the production and dissemination of copyright works. The equipment could be essential or primarily employed in the creation, production or use (consumption) of copyright works. Some examples of such equipment are TV sets, radios, VCRs, CD/DVD players, computers, and musical instruments. Equipment that is not primarily required by the core copyright industries includes photographic and cinematographic instruments, photocopiers, blank recording material and paper.

- (iii) **Partial Copyright Industries**  
Part of the activities of partial copyright industries are associated with copyright works. As there are numerous industries partially related to copyright, WIPO has listed 10 major industries under this group. Copyright factors need to be estimated to capture the copyright content in the output of these industries, and subsequently the contribution of copyright to the economy.

WIPO stated that, "Some partial copyright industries have significant service components, which are not necessarily about production of works protected by copyright and have to be separated. For architecture, for example, various studies take between 65% to 75% of the architectural industry as having a copyright component and 25% to 35% as being related services."<sup>8</sup>

- (iv) **Non-Dedicated Support Industries**  
A portion of the activities of this group of industries are "related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter".<sup>9</sup> These are general industries and do not specifically serve the three groups of copyright industries. Therefore copyright factors are needed to reflect the proportion of activities of non-dedicated industries that are associated with copyright.

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<sup>6</sup>WIPO, *Guide*, op. cit.

<sup>7</sup>*Ibid*, p29.

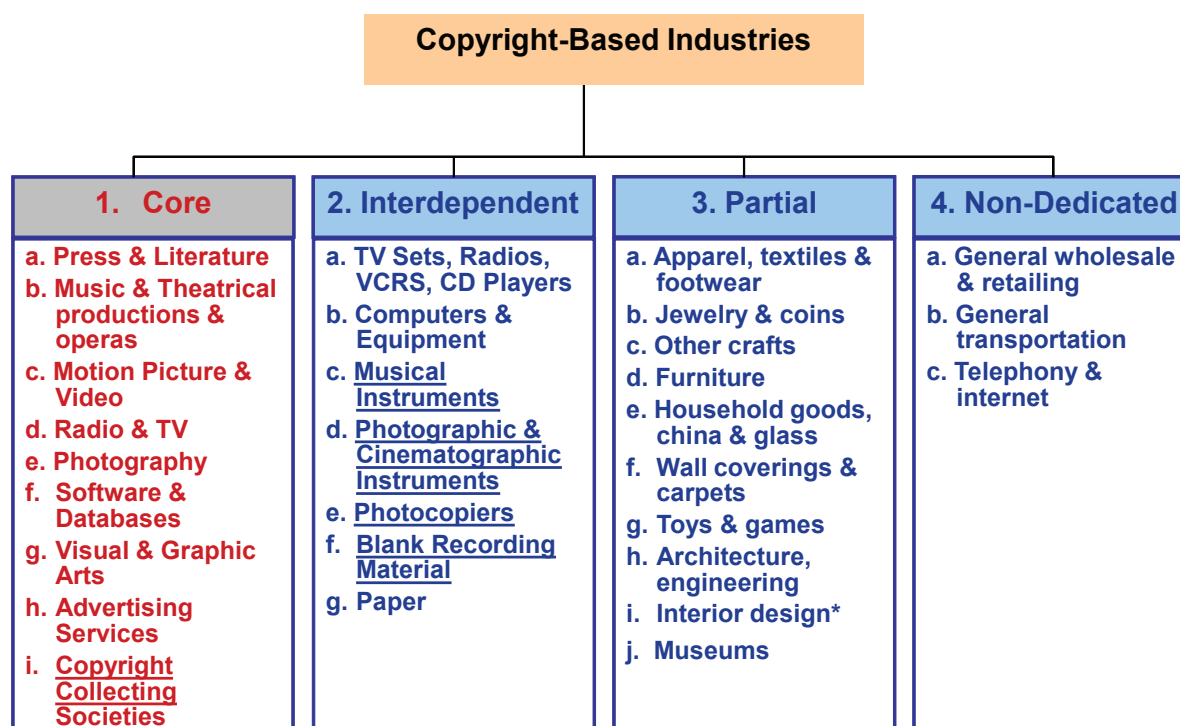
<sup>8</sup>*Ibid*, p34.

<sup>9</sup>*Ibid*, p35.

Chart 4.1 shows the composition of WIPO's four categories of copyright industries. As at the time of the study, one of the nine core copyright industries – namely, copyright collecting societies – is absent in Brunei Darussalam.<sup>10</sup> According to the country's Economic Census 2006 and based on Brunei Darussalam Standard Industrial Classification (BDSIC) 2007 at the four-digit level, three of the seven interdependent copyright industries are found, namely TV sets, radios, VCRs, CD players, etc.; computers and equipment; and paper. Of the 10 partial copyright industries, data are available for nine (interior design is excluded). All three non-dedicated support industries are represented in the study. The copyright industries not covered in the study are underlined in the chart.

Appendix Table 1 provides details on the coverage of each copyright industry at BDSIC four-digit classification. Table 4.1 gives a summary of the number of four-digit BDSIC industries under each WIPO copyright industry. It shows that data for 77 BDSIC industries are needed for each of the reference years of the study.

**Chart 4.1: WIPO Classification**



Note: Underlined industries are excluded in Brunei study.

\* Interior design is renamed specialized design activities in ISIC Rev.4 and has been reclassified under Core Copyright visual & graphic arts,

<sup>10</sup> However, since 2010, there are two collective management organizations. One is called BeAt Berhad, which represents authors and composers while the other is called BruCop Sdn Bhd, which represents sound recording.

**Table 4.1: Composition of Brunei Copyright Industries at 4-Digit BDSIC Level**

WIPO Category and Main Group		No. of four-digit BDSIC2007 Industries	WIPO Category and Main Group		No. of four-digit BDSIC2007 Industries
<b>Core (8)</b>		<b>(19)</b>	<b>Partial (9)</b>		<b>(26)</b>
1	Press and Literature	7	12	Apparel, Textiles and Footwear	8
2	Music, Theatrical Productions, Operas	1	13	Jewellery and Coins	2
3	Motion Picture and Video	3	14	Other Crafts	2
4	Radio and Television	2	15	Furniture	3
5	Photography	1	16	Household Goods, China and Glass	8
6	Software and Databases	3	17	Wall Coverings and Carpets	1
7	Visual and Graphic Arts	1	18	Toys and Games	1
8	Advertising	1	19	Architecture, Engineering, Surveying	1
<b>Interdependent (3)</b>		<b>(6)</b>	20	Museums*	-
9	TV Sets, Radios, VCRs, CD Players, etc.	3	<b>Non-Dedicated (3)</b>		<b>(26)</b>
10	Computers and Equipment	2	21	General Wholesale and Retailing	10
11	Paper	1	22	General Transportation	12
			23	Telephony & Internet	4
			* Not covered in Economic Survey.		

## 4.2 Data Collection for Copyright Industries

Data on Brunei copyright industries are extracted from the 2006 Economic Census for the years 2005 and 2006 by the Department of Statistics. The variables needed for the study are operating revenue, gross value added, employee compensation, employment and number of businesses. Out of a total of 214 industries covered in the survey at BDSIC four-digit classification, 77 pertain to copyright and related industries.

A report on the 2002 Economic Census has been published. From it, some comparative data with that extracted from the 2006 Economic Census are obtained in Table 4.2 below. Among the four years, 2001 recorded the highest number of businesses and total employment. But operating revenue, value added and employee compensation were lower than that in 2000. In 2006, the number of businesses has remained the same as in the previous year. However, operating revenue and total employment have increased, whereas employee compensation has declined. This implies that 2006 obtained, on a per business basis, higher operating revenue and employment, but the average salary fell.

**Table 4.2: Selected Census Data on Total Businesses**

	Operating Revenues (BND'000)	Compensation of Employees (BND'000)	Number of Businesses	Total Employment	Gross Value Added (BDN'000)
2000	13,620,041	1,115,389	3,319	63,266	7,751,362
2001	12,833,895	1,115,051	3,438	66,128	6,878,767
2005	20,684,023	1,689,586	3,345	59,242	
2006	23,839,861	1,241,533	3,345	63,719	

An attempt is made to include the copyright activities in the public sector. Brunei Darussalam Statistical Yearbook 2008 contains a section on government, in which Table 7.5 provides expenditure by ministry. Five public units with copyright activities are identified. They are Government Printing and Radio Television Brunei in the Prime Minister's Office; and Language and Literature Bureau, History Centre and Museums in the Ministry of Culture, Youth and Sports. The classification of these units is as follows:



**Core Copyright**

- a. Press and Literature
  - Government Printing
  - Language and Literature Bureau
  - History Centre
- d. Radio and Television
  - Radio Television Brunei

**Partial Copyright**

- j. Museums

### 4.3 Copyright Items in International Trade

Based on the United Nations Standard International Trade Classification Revision3 (SITC Rev 3), 20 items at the seven-digit level are selected for collection of copyright trade (Table 4.3). The trade series contain imports, exports, domestic exports and re-exports for the four years 2000, 2001, 2005 and 2006. The data are extracted by the Department of Statistics. The source of the trade information is the customs clearing forms required by the Royal Customs and Excise Department, Ministry of Finance.

**Table 4.3: Copyright Items**

SITC	Description
*8921200	Children's Picture, Drawing or Colouring Books
*8921300	Maps, Hydrographic & Similar Charts
*8921600	Printed Books
*8921900	Brochures, Leaflets & Similar Printed Matter
*8922100	Newspapers, Journals & Periodicals
*8924100	Transfers (Decalcomanias)
*8924200	Picture Postcards & Greeting Cards
*8928100	Labels of Paper or Paperboard
*8928200	Industrial Plans & Drawings
*8928400	Calendars of Any Kind Incl. Calendar Blocks
*8928500	Music, Printed or in Manuscript
*8928600	Advertising Material, Commercial Catalogues etc.
*8928900	Other Printed Matter Incl. Pictures & Photographs
*8986110	Video Tapes, Discs, Recorded
*8986120	Tapes, Discs, Packs, etc. For Computers, Recorded
*8986130	Discs for Reproducing Sound & Other Media for Laser Reading Systems, Recorded
*8986190	Other Recorded Media
*8987100	Gramophone Records
883	Cinematographic Film
896	Works of Art

### 4.4 Survey on Partial Copyright Industries

As partial copyright industries are not totally engaged in copyright works, estimation of the proportion of copyright activities in each of these industries is needed. A special survey is conducted to obtain indicators on the extent of copyright involvement in the partial copyright industries. The indicators are:

- (i) Importance of Copyright In Daily Operations of the Business;
- (ii) Per cent of Total Annual Expenditure on Royalties, Patents or Other Licensing Fees;
- (iii) Per cent of Annual Turnover Attributable to Copyright or Creative Activities;
- (iv) Number of Workers Involved in Creative Activities (full and part time).

The survey questionnaire also covers the primary activity of the business, turnover/sales in 2008, employment in 2008 and suggestions on enhancing creativity. The section on copyright questions includes a short paragraph on copyright and examples of copyright work. The questionnaire is bilingual (Malay and English).

The cover letter is signed by the Director of Statistics, PG HJ Osman, for the Director General, Department of Economic Planning and Development (JPKE), Prime Minister's Office, Brunei Darussalam. A copy of the survey letter and questionnaire is attached in the appendix.

From the industry description of BDSIC 2007 codes (which is virtually the same as ISIC Rev.4, the latest revision of the UN International Standards of Industrial Classification), 22 industries are selected as belonging to the partial copyright group (excluding the distribution industries). All industries with a small number of firms are included in the survey. A sample is taken of any industry with more than 50 businesses. The sample covers proportionately more large firms. A target return of 150 fully completed questionnaires is set. A mail survey is conducted, followed by telephone calls. At the close of the survey, there are 147 responses because of duplicates. As the responses represent an acceptable portion of the population, no attempt is made to obtain three more responses. The list of 22 identified partial industries, the number of businesses and the response rates are given in Table 4.4 below. With nine industries non-existing and one under the public sector, the survey returns cover 12 partial copyright industries in Brunei Darussalam.

**Table 4.4: Selected Partial Copyright Industries for Survey**

BDSIC 2007	Industry	No. of Companies	Sample Returns	
			Number	Response Rate
1322	Manufacture of made-up textile articles, except apparel	17	9	53%
1323	Manufacture of carpets and rugs	0	0	
1411	Manufacturing of wearing apparel, except fur apparel	14	5	36%
1412	Custom tailoring & dressmaking*	274	84	61%
1420	Manufacture of articles of fur	0	0	
1430	Manufacture of knitted and crocheted apparel	0	0	
1512	Manufacture of luggage, handbags and the like, saddlery and harness	0	0	
1520	Manufacture of footwear	1	1	100%
2310	Manufacture of glass and glass products	3	1	33%
2391	Manufacture of refractory products	2	2	100%
2393	Manufacture of other porcelain and ceramic products	0	0	
2396	Cutting, shaping and finishing of stone	1	1	100%
2399	Manufacture of other non-metallic mineral products n.e.c.	0	0	
2593	Manufacture of cutlery, hand tools and general hardware	0	0	
2599	Manufacture of other fabricated metal products n.e.c.	5	4	80%
3100	Manufacture of furniture	16	10	63%
3211	Manufacture of jewellery and related articles	0	0	
3212	Manufacture of imitation jewellery and related articles	1	1	100%
3240	Manufacture of games and toys	0	0	
3290	Other manufacturing n.e.c.	2	3	100%
7111	Architectural and land surveying activities	39	26	67%
9102	Museum activities and operation of historical sites and buildings	0	0	
	<b>Total**</b>	<b>375</b>	<b>147</b>	<b>62%</b>

\* Sample of 138 companies surveyed. \*\* Total sample size is 239 companies.

The overall response rate stands at 62% with 147 returns from 239 companies in the survey sample. Among industries with more than five companies, architecture captured the highest response rate of 67%, followed by furniture at 63%, and custom tailoring and dressmaking at 61%. As expected, the Industry with the largest number of returns is custom, tailoring and dressmaking. Given that the total number of businesses in the partial copyright group in 2008 is 375, the 147 returns is equivalent to 39.2%, i.e. four out of every 10 businesses in the population participated in the survey.

Some data are obtained from the 2006 Economic Census on the partial copyright industries in 2006. Table 4.5 reveals that the surveyed partial copyright industries have expanded between 2006 and 2008 in terms of number of businesses, except for four industries (manufacture of footwear; manufacture of refractory products; cutting, shaping and finishing of stone; and manufacture of imitation jewellery and related articles).

**Table 4.5: Partial Copyright Industries, 2006**

BDSIC 2007	Survey List	Census 2006			
	No. of Companies	Operating Revenues	Compensation of Employees	Number of Businesses	Total Employment
1322	17	5,088,840	1,422,734	15	107
1411	14	75,911,765	10,746,983	10	1,944
1412	274	18,768,965	7,559,874	255	1,526
1520	1	51,619	24,481	1	4
2310	3	396,417	147,467	1	8
2391	2	237,868	148,182	2	28
2396	1	203,920	103,774	1	16
2599	5	1,833,507	444,276	4	44
3100	16	15,791,852	3,197,692	14	311
3211/3212	1	131,000	36,000	1	3
3290	3	-	-	-	-
7111	39	445,000,000	7,444,227	36	290
Total	375	563,415,753	31,275,690	340	4,281

Shaded rows are industries that registered lower number of businesses in 2006 compared to 2005.

An attempt is made to detect changes between the Census data of 2006 and the survey data of 2008. Two indicators are computed: operating revenue or sales per firm, and employment per firm. Since the sales question in the survey asks for 2008 turnover/sales in ten 10 brackets of values, the computation of sales using the mid-value (except for the lowest and highest brackets) may tend to give underestimates. For the less sensitive employment variable, the unstructured answers provide specific values and thus more accurate estimates.

Table 4.6 indicates that at least two partial copyright industries have expanded between 2006 and 2008 in sales and employment. They are custom tailoring and dressmaking and manufacture of jewellery and related articles. The average size of firms in these two industries is bigger, as measured by sales value and number of employees, in 2008 than in 2006. While the number of firms in custom tailoring and dressmaking increased, that in imitation jewellery has stayed constant. The single firm in imitation jewellery has recorded phenomenal growth in two years. By contrast, two industries have diminished workforce in 2008, namely manufacture of footwear and manufacture of other fabricated metal products. The fabricated metal products industry, however, has strong growth in sales. This could well imply productivity growth in the industry.

**Table 4.6: Census versus Sample**

BDSIC 2007	Industry	Operating Revenue/Sales Per Firm			Employment Per Firm		
		Census 2006	Sample 2008	Sample vs Census	Census 2006	Sample 2008	Sample vs Census
1322	Textiles articles	339,256	336,667	0.992	7.1	11.2	1.573
1411	Wearing apparel	7,591,177	1,617,000	0.213	194.4	376.6	1.937
1412	Custom tailoring	73,604	119,702	1.626	6.0	10.7	1.794
1520	Footwear	51,619	15,000	0.291	4.0	3.0	0.750
2310	Glass	396,417	350,000	0.883	8.0	10.0	1.250
2391	Refractory pdts	118,934	192,500	1.619	14.0	14.0	1.000
2396	Stone	203,920	150,000	0.736	16.0	19.0	1.188
2599	Fabricated metal pdts	458,377	1,375,000	3.000	11.0	9.0	0.818
3100	Furniture	1,127,989	1,126,000	0.998	22.2	29.3	1.319
3211/2	Imitation jewellery	131,000	5,000,000	38.168	3.0	47.0	15.667
3290	Other manufacturing*		620,000			8.7	
7111	Architectural	12,361,111	585,577	0.047	8.1	9.4	1.170
	<b>Total</b>	<b>1,657,105</b>	<b>414,388</b>	<b>0.250</b>	<b>12.6</b>	<b>24.4</b>	<b>1.941</b>

Shaded cell denotes a higher sample value than that of census.

\* Industry absent in 2006 Economic Census.

Overall, the survey sample of firms reflects well the partial copyright industries in Brunei Darussalam. An analysis of the surveyed firms' responses to copyright indicators is carried out next to derive partial copyright factors for estimating the contribution of copyright to the economy.

## 5. Derivation of Partial Copyright Factors

The survey indicators on copyright – importance of copyright in daily operations, IP payment or revenue, employees engaged in creative activity – are analysed for the intensity of copyright in the industry. Partial copyright factors are then derived from the survey findings supplemented by a reference to factors adopted in similar studies published or conducted by WIPO.

### 5.1 Significance of Copyright

The survey question is reproduced below:

**B1. How important is copyright in the daily operations of your business?**

- |                            |                  |                            |                      |
|----------------------------|------------------|----------------------------|----------------------|
| <input type="checkbox"/> 1 | Very significant | <input type="checkbox"/> 3 | Slightly significant |
| <input type="checkbox"/> 2 | Significant      | <input type="checkbox"/> 4 | Insignificant        |

Preliminary scores given to the answers as follows:

$$1 = 0.9 \quad 2 = 0.6 \quad 3 = 0.3 \quad 4 = 0$$

Some statistics are computed from the responses and presented in Table 5.1: the proportion of firms with answers 1 to 3, the average of all answers, the most common answer, and the score for the answers based on the above preliminary values assigned to the answers.

**Table 5.1: Significance of Copyright**

BDSIC 2007	Industry	Survey	Importance of Copyright in Daily Operations			
		Number of Firms	% Important*	Average	Mode	Factor
1322	Textiles articles	9	56%	2.38	2	0.49
1411	Wearing apparel	5	80%	2.60	2	0.42
1412	Custom tailoring	84	74%	2.46	2	0.44
1520	Footwear	1	100%	2.00	-	0.60
2310	Glass	1	100%	1.00	-	0.90
2391	Refractory pdts	2	100%	2.50	-	0.45
2396	Stone	1	100%	1.00	-	0.90
2599	Fabricated metal pdts	4	50%	3.00	4	0.30
3100	Furniture	10	60%	2.75	4	0.38
3212	Imitation jewellery	1	100%	1.00	-	0.90
3290	Other manufacturing*	3	100%	2.00	-	0.60
7111	Architectural	26	88%	1.85	1	0.66
	<b>Total</b>	<b>147</b>	<b>76%</b>	<b>2.33</b>	<b>2</b>	<b>0.50</b>

\* % Impt = % of firms answering 1 – 3 (very significant – slightly significant)

Average = arithmetic average of all answers

Mode = largest group of answers

Three quarters of the firms (76%) indicated that copyright is important in the daily operations of their business. Apart from the four single-response/firm industries with 100% holding important copyright views (footwear, glass, stone, jewellery), two other industries have high responses (other manufacturing 100% and architecture 88%). The average rating on the scale from 1 – 4 is the highest for four industries: glass, stone, jewellery and architecture are rated above the significant level of 2. Additionally, architecture registers a mode of 1, i.e. the largest group of firms in the industry viewing copyright as very significant. This gives a preliminary factor of 0.66, which is the highest, except for single-response industries (glass, stone and jewellery).

## 5.2 IP Payment and Revenue

The survey covers expenditure on and revenue from intellectual rights. The questions are phrased as follows:

**B2.** Does your business receive or pay any form of payments for the use of intellectual rights in the form of royalties, patents or other licensing fees?

1 Yes  2 No Please proceed to B.5

(%)

**B3.** On average, what percentage of the annual total expenditure does your business spend on royalties, patents or other licensing fees?

(%)

**B4.** In your opinion, what percentage of turnover in your business is attributable to copyright or creative activities? (For example, design fees).

Table 5.2 captures firms that pay for or receive revenue from IP. These firms are grouped under IP payments only, IP revenue only and both IP payments and revenue. Almost a quarter (24%) of the surveyed firms are involved in IP payments and/or receipts. Two fifths (15 firms or 43%) of those who are involved have both IP payments and receipts. There are slightly more firms receiving IP revenue only than those making only IP payments. The proportions of IP spending in total expenditure, and that of IP revenue in total revenue in firms that are engaged in both, tend to be lower than the respective proportions in firms that undertake only one form of IP transaction. This is an observation from the returns in two industries, namely custom tailoring and dressmaking, and architecture. Architecture has a higher proportion of firms (58%) involved in IP spending/revenue than custom tailoring and dressmaking (15%). It also has more firms with IP revenue, whereas custom tailoring and dressmaking has more firms making IP payments. Across industries with expenditure on IP, the spending share in total expenditure ranges from 1% (fabricated metal products) to 80% (custom tailoring and dressmaking). The range for IP revenue in total revenue is 1% (fabricated metal products) to 100% (architecture).

**Table 5.2: IP Payment/Revenue**

BDSIC 2007	Industry	Survey	Expenditure/ Revenue on IP	IP Spending in TE	IP Revenue In TR	IP Spending and Revenue	
		% of Firms	# Firms (%)	# Firms (Range)	# Firms (Range)	# Firms	Range (TE) (TR)
1322	Textiles articles	9	0 (0%)	0 (0%)	0 (0%)	0	-
1411	Wearing apparel	5	1 (20%)	1 (4%)	0 (0%)	0	-
1412	Custom tailoring	84	13 (15%)	4 (4 – 80%)	1 (80%)	8	(2-75%) (2-75%)
1520	Footwear	1	0 (0%)	0 (0%)	0 (0%)	0	-
2310	Glass	1	0 (0%)	0 (0%)	0 (0%)	0	-
2391	Refractory pdts	2	1 (50%)	0 (0%)	1 (20%)	0	-
2396	Stone	1	1 (100%)	1 (70%)	0 (0%)	0	-
2599	Fabricated metal pdts	4	2 (50%)	1 (1%)	1 (1%)	0	-
3100	Furniture	10	1 (10%)	1 (30%)	1 (20%)	0	-
3212	Imitation jewellery	1	0 (0%)	0 (0%)	0 (0%)	0	-
3290	Other manufacturing*	3	1 (33%)	0 (0%)	1 (5%)	0	-
7111	Architectural *	26	15 (58%)	1 (15%)	6 (25-100%)	7	(1-25%) (12-100%)
	<b>Total</b>	<b>147</b>	<b>35 (24%)</b>	<b>9</b>	<b>11</b>	<b>15</b>	

TE = Total Expenditure

TR = Total Revenue

\* One firm did not respond to the magnitude of IP payment/revenue.

### 5.3 Employees in Creative Activity

Another indicator of copyright intensity is the employment of creative persons. The question pertaining to this is:

**B5.** *How many of the workforce in your business are involved in creative activities? Creative activities include product/service creation and development, for example "A jewellery craftsman drawing the designs for his jewellery".*

**Full-time personnel in creative activities** \_\_\_\_\_ **persons**

**Part-time personnel in creative activities** \_\_\_\_\_ **persons**

Table 5.3 indicates that one tenth (9%) of the workforce in the surveyed firms are engaged in creative activity. The largest proportion of creative employees in the workforce is in glass manufacturing, followed by custom tailoring and dressmaking and architecture. Part-time creative employment is used extensively in the textile articles and imitation jewellery industries where more than half of the part-time workers are involved in creative activity. On the whole, almost four in ten part-time workers are employed in creative work. In total, a majority of firms (56%) employ creative workers on a full-time basis and one-tenth on part-time. Only one industry (stone cutting, shaping and finishing) does not employ creative workers either full time or part time. Three quarters (77%) of architecture firms have creative workers in full-time employment and almost one quarter (23%) of firms have part-time creative workers. This is the largest concentration of firms with creative employment apart from small industries with less than three firms.

**Table 5.3: Persons in Creative Activity**

BDSIC 2007	Industry	Creative Persons in Workforce		Firms with Creative Employment in Industry	
		Full Time	Part Time	Full Time	Part Time
1322	Textiles articles	9%	100%	44%	22%
1411	Wearing apparel	0%	40%	20%	20%
1412	Custom tailoring	23%	47%	57%	5%
1520	Footwear	33%	0%	100%	0%
2310	Glass	56%	0%	100%	0%
2391	Refractory pdts	18%	0%	100%	0%
2396	Stone	0%	0%	0%	0%
2599	Fabricated metal pdts	6%	0%	25%	0%
3100	Furniture	1%	0%	20%	0%
3212	Imitation jewellery	2%	67%	100%	100%
3290	Other manufacturing*	16%	0%	33%	0%
7111	Architectural *	33%	28%	77%	23%
	<b>Total</b>	<b>9%</b>	<b>37%</b>	<b>56%</b>	<b>10%</b>

### 5.4 Partial Copyright Factors

Firstly the copyright indicators are ranked for an overall perspective of the relative copyright intensity among the surveyed industries. The copyright scale is assigned scores with reference to the copyright factors in eight other studies under WIPO series. The copyright factors for Brunei partial copyright industries are then finalised for estimating the contribution to the economy.

Table 5.3 presents the ranking of selected indicators obtained from the survey. An additional indicator is added. It is the average copyright significance, weighted by the firm size as represented by its turnover/sales in 2008. The seven indicators are chosen to minimize the possible effect of bias in ranking owing to single-firm or single-response industries. The ranks for each industry across the indicators are added up. A final ranking of the total ranks is done. Accordingly, the manufacture of imitation jewellery industry possesses the most intensive copyright content, followed by architecture and the manufacture of glass. Two observations are noted. Firstly, the rank order of total ranks is close to that of average copyright significance or its weighted

counterpart. Secondly, architecture is ranked higher in total ranks than in copyright significance due to its greater involvement in IP payment/revenue and its employment of creative workers.

**Table 5.4: Ranking of Selected Copyright Indicators**

BDSIC 2007	Industry	Copyright Significance		Firms with IP Payment/ Revenue	% Workforce in Creative Work		% Firms with Creative Workers		Ranks	
		Av	Wt Av*	%Yes	FT	PT	FT	PT	Total	Ranking
1322	Textile articles	7	9	9	7	1	7	3	43	8
1411	Wearing apparel	10	8	6	11	4	10	4	53	10
1412	Tailoring	8	6	7	4	3	6	5	39	5
1520	Footwear	5	4	9	2	6	1	6	33	4
2310	Glass	1	1	9	1	6	1	6	25	2
2391	Refractory	9	12	3	5	6	1	6	42	7
2396	Stone	1	1	1	12	6	12	6	39	5
2599	Fabricated metal	12	11	3	8	6	9	6	55	11
3100	Furniture	11	10	8	10	6	10	6	61	12
3212	Jewellery	1	1	9	9	2	1	1	24	1
3290	Other mfg	5	7	5	6	6	8	6	43	8
7111	Architecture	4	5	2	2	5	5	2	25	2

Av = Average

Wt Av = Significance level weighted by size of firm as measured by turnover/sales in 2008.

Shaded cells indicate single firm or response industry.

Given the finding that the copyright significance indicator provides a good representation of the relative copyright intensity among the industries, an attempt is made to assign scores to the indicator to derive partial copyright factors. A reference is made to partial copyright factors adopted in other WIPO studies. A tabulation containing the factors of eight countries is produced in Table 5.5 below. The average of the factors for each industry is calculated and ranked. The top five copyright-intensive industries, in descending order, are:

1. Toys and games
2. Museums
3. Other crafts
4. Jewellery and coins
5. Architecture.

Coincidentally, the survey ranking for imitation jewellery and architecture is in line with that of the eight-country average since the survey does not cover the top three industries.



**Table 5.5: Copyright Factors of Selected Countries**

	Singapore	Latvia*	Hungary	Jamaica	Bulgaria	Lebanon	Malaysia	China	Average Factor	Rank
Apparel, textiles & footwear	0.4%	0.4%	0.5%	0.5%	0.6%	2.0%	15.0%	0.40%	2.48%	9
Jewellery & coins	25.2%	8.69%	25.0%	25.0%	20.0%	25.0%		8.00%	19.55%	4
Other crafts	42.0%		40.0%		40.0%		26.7%	40.00%	37.74%	3
Furniture	5.0%	41.00%	5.0%	5.0%	5.0%	5.0%	35.0%	5.0%	13.25%	6
Household goods, china & glass	0.6%		0.5%	0.5%	0.5%	2.5%	0.4%	0.3%	0.75%	11
Wall coverings & carpets	1.7%	1.65%	2.0%	0.5%	0.4%	2.5%	1.08%	2.0%	1.48%	10
Toys & games	42.0%	45.50%	50.0%	50.0%	40.0%	50.0%	26.7%	40.0%	43.03%	1
Architecture	8.3%		10.0%	50.0%	10.0%	10.0%	5.3%	6.0%	14.23%	5
Interior design	8.3%			2.0%			5.28%	5.0%	5.15%	8
Museums			50.0%	50.0%	50.0%	50.0%		0.5%	40.10%	2
Miscellaneous manufacturing		45.50%								
Wholesale & retail of partial copyright industries			5.0%	5.0%		6.0%			5.33%	7

\* Average of Singapore and USA factors.  
 The Philippine study adopted Singapore's factors.  
 Mexico used the average of USA and Hungary factors.  
 Shaded cell denotes highest value in each industry.

The next step is to assign scores to the significance scale of 1 – 4 in the first question on copyright in the survey questionnaire. The highest factor of 50% in the eight-countries is adopted for the very significant answer 1. The copyright significance answers are given scores as shown in Table 5.6, and the weighted average answer for each industry is converted according to column 3 in the table.

**Table 5.6: Copyright Significance Scores**

Level of Significance	Significance Score	Score Range
1	50%	1 – <2 = 50% – > 30%
2	30%	2 – <3 = 30% – > 10%
3	10%	3 – <4 = 10% – > 1%
4	1%	4 = 1%

Using the score range, the weighted average significance values are converted to factors. This is presented in Table 5.7, which includes the significance values obtained from the survey responses. The factors in single-firm/response industries are adjusted based on a comparison of those in the eight countries and observations on IP involvement (in the last column of the table). They are adjusted downwards each with the highest value from the eight countries. For the imitation jewellery industry, the factor of Singapore's costume jewellery is taken. The factor for museums also adopts the highest factor of the eight countries.

**Table 5.7: Conversion of Copyright Significance to Factor**

BDSIC 2007	Industry	Significance	Factor	Adjusted Factor	Survey
		Average Weighted*	%	%	Observations on IP
1322	Textiles articles	2.30	24.00	24.00	No IP payment, moderate in-house IP work
1411	Wearing apparel	2.20	26.00	26.00	IP payment, high in-house IP work
1412	Custom tailoring	2.06	24.00	24.00	IP payment, high in-house IP work
1520	Footwear	2.00	30.00	15.00	No payment for IP, moderate in-house IP work
2310	Glass	1.00	50.00	2.50	No payment for IP, high in-house IP work
2391	Refractory pdts	3.73	2.70	2.70	No IP payment, moderate in-house IP work
2396	Stone	1.00	50.00	42.00	Payment for IP, no in-house IP work
2599	Fabricated metal pdts	3.42	5.80	5.80	IP payment, in-house IP work
3100	Furniture	2.41	21.80	21.80	IP payment, in-house IP work for medium firm
3212	Imitation jewellery	1.00	50.00	42.00	No IP payment, high in-house IP work
3290	Other manufacturing*	2.18	14.00	14.00	No IP payment, some in-house IP work
7111	Architectural *	2.04	29.20	29.20	IP payment, in-house IP work
Govt	Museums			50.00	

Govt = government

\* Weighted by size of turnover/sales in 2008.

Industries with adjusted factors are shaded in blue.

Footwear, glass (household), stone (other craft), museums = highest in eight countries.

Jewellery = Singapore's costume jewellery in Appendix C.

The last step is to combine, where applicable, the four-digit BDSIC industries to WIPO partial copyright industries as listed in Appendix A. For two industries – wall coverings and carpets and toys and games – which do not have manufacturing activity in Brunei Darussalam, but specialized retail exists, the eight countries' highest value in each industry is used. The final set of partial copyright factors is presented in Table 5.8.

**Table 5.8: Brunei Partial Copyright Factors**

Partial Copyright Industries	Factor (%)
a. Apparel, textiles & footwear	22.3
b Jewellery & coins	42.0
c. Other crafts	42.0
d. Furniture	21.8
e. Household goods, china & glass	3.7
f. Wall coverings & carpets*	2.5
g. Toys & games*	50.0
h. Architecture, engineering, surveying	29.0
i. Museums	50.0

\* Specialised retail only.

## 6. Economic Contribution of Copyright-Based Industries

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After compiling BDSIC data at the four-digit industry level from the 2006 Economic Census and deriving the factors for the partial copyright industries, a few more tasks are needed for estimation of the economic contribution of copyright-based industries to Brunei Darussalam. Firstly, the four-digit industries data are grouped into copyright industries and WIPO categories based on the correspondence table in Appendix A. Secondly, government units engaged primarily in copyright activities are added. Thirdly, the partial copyright factors are applied to the partial copyright industries to obtain the portions that are involved in copyright work. Fourthly, the factors for the non-dedicated support industries are calculated using the combined share of core, interdependent and partial copyright industries in the economy.

### 6.1 Core Copyright Industries

From *Brunei Darussalam Statistical Yearbook 2006* Table 7.5 titled Government Expenditure by Department, the expenditures of three core copyright and one partial copyright activity are obtained. The financial data are converted to calendar year using simple proportions. The expenditure values are used as a proxy for revenue, a practice conventionally used for public units. For the other variables (value added, employee compensation and employment), the assumption of similar operations in the private sector is taken. The government units are:

- Government Printing (core)
- Language and Literature Bureau (core)
- History Centre (core)
- Radio Television Brunei (core)
- Museums (partial).

Table 6.1 shows the press and literature and radio and television core copyright industries augmented by the four government units. With the incorporation of government activity, press and literature becomes larger by half in 2005 and by almost half in 2006. Likewise, radio and television is expanded by three times in 2005 and by almost three times in 2006.

Tables 6.2 and 6.3 present the core copyright values for 2005 and 2006 respectively. The core copyright group of industries accounted for:

- 1% of Census total operating revenue in 2005 and 0.9% in 2006;
- 0.8% of GDP in 2005 and 0.7% in 2006;
- 501.6% of total employed workers in 2005 and 1.5% in 2006;
- 3.0% of Census employee compensation in 2005 and 3.2% in 2006;
- 5% of Census total number of businesses in both years as the firms are required to provide data for the two years.<sup>11</sup>

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<sup>11</sup>There is little difference (less than 0.1%) in the percentages when government values are added to the Census data.

**Table 6.1: Government in Core Copyright Category**

BND '000 and Number

Core Copyright	Operating Revenues	Gross Value Added	Employee Compensation	Number of Businesses	Total Employment
<b>2005</b>					
a. Press & Literature	44,532	15,967	11,038	67	744
Government Printing	9,883	3,543	2,450	1	165
Language and Literature Bureau	10,648	3,818	2,639	1	178
History Centre	3,535	1,267	876	1	59
d. Radio & Television	14,821	12,546	1,356	2	90
Radio Television Brunei	47,730	40,405	4,367	1	290
<b>2006</b>					
a. Press & Literature	50,742	19,581	13,423	67	831
Government Printing	9,913	3,825	2,622	1	162
Language and Literature Bureau	11,020	4,253	2,915	1	180
History Centre	3,718	1,435	983	1	61
d. Radio & Television	16,004	13,440	1,483	2	53
Radio Television Brunei	48,108	40,401	4,458	1	159

**Table 6.2: Core Copyright Industries, 2005**

BND '000 and Number

	Operating Revenues 2005	Gross Value Added 2005	Employee Compensation 2005	Number of Businesses 2005	Total Employment 2005
<b>Core Copyright (8)</b>					
a. Press & Literature	68,597	24,595	17,003	70	1,146
b. Music, Theatrical Production & Operas	11,797	3,624	2,022	19	246
c. Motion Picture & Video	3,151	711	670	3	58
d. Radio & Television	62,551	52,951	5,723	3	380
e. Photography	7,202	2,338	1,515	22	127
f. Software & Databases	23,265	27,873	3,347	16	126
g. Visual & Graphic Arts	11,718	5,871	2,807	17	239
h. Advertising Services	16,002	16,503	3,225	18	220
<b>Subtotal</b>	<b>204,282</b>	<b>134,466</b>	<b>36,312</b>	<b>168</b>	<b>2,542</b>
<b>% of National Total*</b>	<b>1.0%</b>	<b>0.8%</b>	<b>3.0%</b>	<b>5.0%</b>	<b>1.6%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment.

**Table 6.3: Core Copyright Industries, 2006**

BND '000 and Number

	Operating Revenues 2006	Gross Value Added 2006	Employee Compensation 2006	Number of Businesses 2006	Total Employment 2006
<b>Core Copyright (8)</b>					
a. Press & Literature	75,392	29,094	19,943	70	1,235
b. Music, Theatrical Production & Operas	13,216	3,804	1,892	19	257
c. Motion Picture & Video	2,930	813	563	3	53
d. Radio & Television	64,111	53,842	5,941	3	212
e. Photography	6,586	2,657	1,371	22	123
f. Software & Databases	21,681	9,411	3,723	16	148
g. Visual & Graphic Arts	13,593	4,122	2,682	17	244
h. Advertising Services	17,136	21,242	3,415	18	275
<b>Subtotal</b>	<b>214,646</b>	<b>124,983</b>	<b>39,530</b>	<b>168</b>	<b>2,547</b>
<b>% of National Total</b>	<b>0.9%</b>	<b>0.7%</b>	<b>3.2%</b>	<b>5.0%</b>	<b>1.5%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment. Shaded cells denote lower values than in 2005.

Despite higher absolute operating revenue in 2006, the core copyright industries expanded more slowly than the average rate for the economy. The three core copyright industries with lower operating revenue in 2006 were motion picture and video, photography, and software and databases (which fell the most by BND 1.5 million). The smaller contribution of core copyright industries to GDP in 2006 is due to lower gross value added in visual and graphic art and software and databases (which declined by BND 18 million). The proportion of core copyright compensation to employees grew by 3.2% in 2006, up by 1.1% points from that in 2005. But four core copyright industries paid out less to employees, of which two also employed fewer workers in 2006. The two core copyright industries which registered higher values in the four variables (operating revenue, gross value added, employee compensation and employment) in 2006 were press and literature and architecture services.

There is market concentration in the core copyright group of industries. The three largest industries accounted for around 70% of the group's operating revenue, gross value added, employee compensation, employment and number of businesses (Table 6.4). The dominant industry is press and literature, which is among the top three in all variables except employee compensation. Four in 10 (42%) of the group's businesses are in the press and literature industry, which generated a third (25%) of the group's operating revenue, one fifth (23%) of gross value added and one tenth (11%) of jobs in 2006. The radio and television industry is almost as large as press and literature in terms of operating revenue and is in the top three in employee compensation. Software and databases is the third largest in operating revenue. Advertising services is another major industry, with the largest shares in gross value added (43% in 2006), employee compensation (50%) and employment (48%), reflective of a human capital-intensive industry. Motion picture and video overtook music, theatrical production and operas in the top three position in 2006 in gross value added, and is the third largest employer in both years. The latter is the second largest payroll master with the third largest number of businesses.

**Table 6.4: Top Three Core Copyright Industries**

2006			2005		
<b>Operating Revenue</b>					
1	Press & Literature	35%	Press & Literature		34%
2	Radio & Television	30%	Radio & Television		31%
3	Software & Databases	10%	Software & Databases		11%
<b>Gross Value Added</b>					
1	Advertising Services	43%	Advertising Services		39%
2	Press & Literature	23%	Music, Theatrical Production & Operas		21%
3	Motion Picture & Video	17%	Press & Literature		18%
<b>Employee Compensation</b>					
1	Advertising Services	50%	Advertising Services		47%
2	Music, Theatrical Production & Operas	15%	Music, Theatrical Production & Operas		16%
3	Radio & Television	9%	Radio & Television		9%
<b>Total Employment</b>					
1	Advertising Services	48%	Advertising Services		45%
2	Press & Literature	11%	Press & Literature		15%
3	Motion Picture & Video	10%	Motion Picture & Video		10%
<b>Number of Businesses</b>					
1	Press & Literature	42%			
2	Photography	13%			
3	Music, Theatrical Production & Operas	11%			

## 6.2 Interdependent Copyright Industries

Of the three interdependent copyright industries, paper is the only manufacturing industry in the group. The other two – TV sets, radios, VCRs, CD players, etc. and computers and equipment – consist solely of wholesale and retail trade. The copyright factor adopted for the interdependent copyright industries is one following the practice of recent WIPO studies.

Tables 6.5 and 6.6 present the interdependent copyright values for 2005 and 2006 respectively and the group's contributions to the economy. The estimates suggest that the interdependent copyright industries accounted for:

- 0.7% and 0.6% of Census total operating revenue in 2005 and 2006 respectively;
- 0.1% of GDP in both 2005 and 2006;
- 0.4% of total employed workers in 2005 and in 2006;
- 0.9% of Census employee compensation in 2005 and 1.0% in 2006;
- 2.3% of Census total number of businesses in both years as the firms are required to provide data for the two years.

**Table 6.5: Interdependent Copyright Industries, 2005**

BND '000 and Number

	Operating Revenues 2005	Gross Value Added 2005	Employee Compensation 2005	Number of Businesses 2005	Total Employment 2005
<b>Interdependent Copyright (3)</b>					
a. TV sets, Radios, VCRs, CD Players, etc.	21,835	11,798	2,584	18	123
b. Computers & Equipment	115,751	8,981	8,515	58	578
c. Paper	2,284	535	356	1	20
<b>Subtotal</b>	<b>139,869</b>	<b>21,314</b>	<b>11,455</b>	<b>77</b>	<b>721</b>
<b>% of National Total</b>	<b>0.7%</b>	<b>0.1%</b>	<b>0.9%</b>	<b>2.3%</b>	<b>0.4%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment.

**Table 6.6: Interdependent Copyright Industries, 2006**

BND '000 and Number

	Operating Revenues 2006	Gross Value Added 2006	Employee Compensation 2006	Number of Businesses 2006	Total Employment 2006
<b>Interdependent Copyright (3)</b>					
a. TV sets, Radios, VCRs, CD Players, etc.	32,908	16,619	2,956	18	128
b. Computers & Equipment	107,613	7,362	9,316	58	623
c. Paper	3,214	536	359	1	19
<b>Subtotal</b>	<b>143,735</b>	<b>24,517</b>	<b>12,631</b>	<b>77</b>	<b>770</b>
<b>% of National Total</b>	<b>0.6%</b>	<b>0.1%</b>	<b>1.0%</b>	<b>2.3%</b>	<b>0.4%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment. Shaded cells denote lower values than in 2005.

All the values of the three interdependent copyright industries are higher in 2006 than in 2005, except for the operating revenue and gross value added of computers and equipment. The decline of BND 8.1 million in operating revenue of the computers and equipment industry reduced the group's share in operating revenue by 0.1% point. The smaller gross value added of computers and equipment, however, did not offset the increase in the other two interdependent copyright industries and thus the group's share in gross value added remained constant.

Computers and equipment predominates in the interdependent copyright group of industries. It contributes the lion's share in operating revenue (83% in 2005 and 75% in 2006); employee compensation (74% in both years); total employment (80%); and number of businesses (75%). The industry with the largest share of gross value added is TV sets, radios, VCRs, CD players, etc., capturing over half of the group's total (55% in 2005 and 68% in 2006). This implies that the operating surplus margin in computers and equipment is lower than in the audio and visual equipment industry. The paper industry is the smallest in the group across all indicators, reflecting the small manufacturing base in Brunei Darussalam.

**Table 6.7: Ranking of Interdependent Copyright Industries**

2006			2005	
<b>Operating Revenue</b>				
1	Computers & Equipment	75%	Computers & Equipment	83%
2	TV sets, Radios, VCRs, CD Players, etc.	23%	TV sets, Radios, VCRs, CD Players, etc.	16%
3	Paper	2%	Paper	2%
<b>Gross Value Added</b>				
1	TV sets, Radios, VCRs, CD Players, etc.	68%	TV sets, Radios, VCRs, CD Players, etc.	55%
2	Computers & Equipment	30%	Computers & Equipment	42%
3	Paper	2%	Paper	3%
<b>Employee Compensation</b>				
1	Computers & Equipment	74%	Computers & Equipment	74%
2	TV sets, Radios, VCRs, CD Players, etc.	23%	TV sets, Radios, VCRs, CD Players, etc.	23%
3	Paper	3%	Paper	3%
<b>Total Employment</b>				
1	Computers & Equipment	81%	Computers & Equipment	80%
2	TV sets, Radios, VCRs, CD Players, etc.	17%	TV sets, Radios, VCRs, CD Players, etc.	17%
3	Paper	2%	Paper	3%
<b>Number of Businesses</b>				
1	Computers & Equipment	75%		
2	TV sets, Radios, VCRs, CD Players, etc.	23%		
3	Paper	1%		

### 6.3 Partial Copyright Industries

The copyright factors derived in Section 5 of this report are applied to the data on partial copyright industries compiled from the 2006 Economic Census and the government financial statement. Of the nine partial copyright industries, two – wall coverings and carpets and toys and games – are in retail trade only and can be expected to be small industries.

Tables 6.8 and 6.9 present the estimates for the partial copyright industries in 2005 and 2006 respectively. As a group, the partial copyright industries accounted for:

- 1.2% of Census total operating revenue in 2005 and 1.0% in 2006;
- 0.9% of GDP in 2005 and 0.7% in 2006;
- 1.1% of total employed workers in each of the two years;
- 1.4% of Census employee compensation in 2005 and 1.5% in 2006;
- 5.3% of Census total number of businesses in both years as the firms are required to provide data for the two years.



**Table 6.8: Partial Copyright Industries, 2005**

BND '000 and Number

	Operating Revenues 2005	Gross Value Added 2005	Employee Compensation 2005	Number of Businesses 2005	Total Employment 2005
<b>Partial Copyright (9)</b>					
a. Apparel, textiles & footwear	41,461	11,302	6,206	81	960
b Jewellery & coins	10,866	3,071	1,692	24	131
c. Other crafts	20,500	5,657	2,761	34	288
d. Furniture	20,080	4,276	2,582	16	196
e. Household goods, china & glass	11,428	2,366	919	6	59
f. Wall coverings & carpets	62	38	14	0	2
g. Toys & games	1,791	597	392	5	33
h. Architecture, engineering, surveying	146,876	112,712	1,495	11	85
i. Museums	5,149	1,846	1,276	1	86
<b>Subtotal</b>	<b>258,212</b>	<b>141,865</b>	<b>17,336</b>	<b>176</b>	<b>1,838</b>
<b>% of National Total</b>	<b>1.2%</b>	<b>0.9%</b>	<b>1.4%</b>	<b>5.3%</b>	<b>1.1%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment.

The combined operating revenue, gross value added and total employment of the partial copyright industries are lower in 2006 compared to those in 2005. The weaker performance is due mainly to architecture, engineering and surveying and apparel, textiles and footwear. The decline in operating revenue in 2006 is largely attributable to the fall of BND 18.9 million in architecture, engineering and surveying and of BND 9.1 million in apparel, textiles and footwear. The two partial copyright industries also encountered lower gross value added of BND 17.2 million and BND 1.5 million respectively. The slight decrease in total employment in 2006 is due primarily to a smaller workforce in apparel, textiles and footwear. In contrast, three industries expanded or did not contract in 2006. They are jewellery and coins, furniture and museums.

**Table 6.9: Partial Copyright Industries, 2006**

BND '000 and Number

	Operating Revenues 2006	Gross Value Added 2006	Employee Compensation 2006	Number of Businesses 2006	Total Employment 2006
<b>Partial Copyright (9)</b>					
a. Apparel, textiles & footwear	32,368	9,770	5,491	81	929
b Jewellery & coins	11,417	4,074	1,806	24	136
c. Other crafts	19,329	6,136	2,557	34	281
d. Furniture	21,753	4,708	3,336	16	207
e. Household goods, china & glass	13,724	2,904	891	6	64
f. Wall coverings & carpets	60	41	13	0	2
g. Toys & games	1,709	544	383	5	35
h. Architecture, engineering, surveying	129,940	95,484	2,174	11	85
i. Museums	5,216	2,013	1,380	1	85
<b>Subtotal</b>	<b>235,516</b>	<b>125,674</b>	<b>18,030</b>	<b>176</b>	<b>1,824</b>
<b>% of National Total</b>	<b>1.0%</b>	<b>0.7%</b>	<b>1.5%</b>	<b>5.3%</b>	<b>1.1%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment. Shaded cells denote lower values than in 2005.

**Table 6.10: Top Three Partial Copyright Industries**

2006			2005		
<b>Operating Revenue</b>					
1	Architecture, engineering, surveying	55%	Architecture, engineering, surveying	57%	
2	Apparel, textiles & footwear	14%	Apparel, textiles & footwear	16%	
3	Furniture	9%	Other crafts	8%	
<b>Gross Value Added</b>					
1	Architecture, engineering, surveying	76%	Architecture, engineering, surveying	79%	
2	Apparel, textiles & footwear	8%	Apparel, textiles & footwear	8%	
3	Other crafts	5%	Other crafts	4%	
<b>Employee Compensation</b>					
1	Apparel, textiles & footwear	30%	Apparel, textiles & footwear	36%	
2	Furniture	19%	Other crafts	16%	
3	Other crafts	14%	Furniture	15%	
<b>Total Employment</b>					
1	Apparel, textiles & footwear	51%	Apparel, textiles & footwear	52%	
2	Other crafts	15%	Other crafts	16%	
3	Furniture	11%	Furniture		
<b>Number of Businesses</b>					
1	Apparel, textiles & footwear	46%			68%
2	Other crafts	19%			
3	Jewellery & coins	13%			

Architecture, engineering and surveying is the largest partial copyright industry in terms of operating revenue and gross value added (Table 6.10). It accounts for half of the group's operating revenue and three-quarters of the value added. However, it is much smaller in employee compensation, total employment and number of businesses. Apparel, textiles and footwear ranks second in operating revenue and gross value added, albeit much smaller than architecture, engineering and surveying. It is, however, the largest in the other three indicators for which architecture, engineering and surveying is not among the top three industries. Its payroll is around one-third of the group's employee compensation, while its workforce is half of the group's employment and it constitutes almost half of the number of businesses in the group. Furniture has become a more important industry as reflected in its ranking in operating revenue, employee compensation and employment.

#### 6.4 Non-Dedicated Support Industries

As with other WIPO studies, there are three non-dedicated support industries. The copyright factors are based on the magnitude of the combined core, interdependent and partial industries in the economy. The assumption is that the broad non-dedicated support industries serve the copyright industries and other non-copyright industries in the same ratio as their respective size in the economy. Table 6.11 reproduces the data and the estimated factors. The factors for 2006 operating revenue, gross value added and total employment are lower than that for 2005. The lower gross value added factor was due to lower value added in the core and partial copyright groups, and that for operating revenue was due to the partial copyright group; whereas the lower total employment factor was due mainly to a large increase in national employment.

**Table 6.11: Non-Dedicated Support Copyright Factors**

BND and Number

	Operating Revenues	Gross Value Added	Compensation of Employees	Number of Businesses	Total Employment
<b>2005</b>					
National Total	20,684,023,351	15,864,100,000	1,228,786,290	3,345	162,000
Core, Interdependent, Partial	602,363,559	297,645,152	65,103,209	421	5,101
NDS Factor 2005	0.029122166	0.018762183	0.052981718	0.125993333	0.031488786
<b>2006</b>					
National Total	23,839,861,289	18,370,200,000	1,241,533,176	3,345	173,100
Core, Interdependent, Partial	593,896,704	275,174,934	70,191,502	421	5,141
NDS Factor 2006	0.024911919	0.01497942	0.056536147	0.125991629	0.02969886

\* National values are those of Economic Census except for GVA and Employment, which are from Statistical Yearbook 2006.

Tables 6.12 and 6.13 present the estimated values for the non-dedicated support industries for 2005 and 2006 respectively. The non-dedicated support industries accounted for:

- 0.3% of Census total operating revenue in 2005 and in 2006;
- 0.1% of GDP in 2005 and 0.08% in 2006;
- 0.2% of total employed workers in 2005 and in 2006;
- 0.8% of Census employee compensation in 2005 and 0.9% in 2006;
- 1.5% of Census total number of businesses in both years as the firms are required to provide data for the two years.

**Table 6.12: Non-Dedicated Support Industries, 2005**

BND '000 and Number

	Operating Revenues 2005	Gross Value Added 2005	Employee Compensation 2005	Number of Businesses 2005	Total Employment 2005
<b>Non-Dedicated Support (3)</b>					
a. General Wholesale & Retailing	39,131	8,589	3,603	38	159
b. General Transportation	19,300	2,492	4,945	10	115
c. Telephony & Internet Telecomm	10,141	610	884	2	14
<b>Subtotal</b>	<b>68,573</b>	<b>17,152</b>	<b>9,432</b>	<b>51</b>	<b>288</b>
<b>% of National Total</b>	<b>0.3%</b>	<b>0.11%</b>	<b>0.8%</b>	<b>1.5%</b>	<b>0.2%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment.

**Table 6.13: Non-Dedicated Support Industries, 2006**

BND '000 and Number

	Operating Revenues 2006	Gross Value Added 2006	Employee Compensation 2006	Number of Businesses 2006	Total Employment 2006
<b>Non-Dedicated Support (3)</b>					
a. General Wholesale & Retailing	37,429	7,284	4,148	38	163
b. General Transportation	17,675	2,752	5,731	10	114
c. Telephony & Internet Telecomm	11,775	4,792	1,605	2	38
<b>Subtotal</b>	<b>66,879</b>	<b>14,828</b>	<b>11,486</b>	<b>51</b>	<b>315</b>
<b>% of National Total</b>	<b>0.3%</b>	<b>0.08%</b>	<b>0.9%</b>	<b>1.5%</b>	<b>0.2%</b>

\* Economic Census total for operating revenue, employee compensation and number of businesses, and GDP and total number of employed for gross value added and total employment. Shaded cells denote lower values than in 2005.

The operating revenue and gross value added of general wholesale and retailing, the largest industry in the group, fell in 2006 whereas employee compensation rose with a slight increase in the workforce. The decline in the group's gross value added is also attributable to a lower gross value added in the telephony and internet communication industry. The increase in operating revenue of telephony and internet communications is more than offset by the decrease in the other two industries, resulting in a lower overall operating revenue in 2006.

General wholesale and retailing dominates in all the indicators except employee compensation (Table 6.14). General transportation has the largest payroll, constituting half of the group's compensation to employees in both years but employs about four in 10 of the group's workers.

**Table 6.14: Ranking of Non-Dedicated Support Industries**

2006			2005	
<b>Operating Revenue</b>				
1	General Wholesale & Retailing	56%	General Wholesale & Retailing	57%
2	General Transportation	26%	General Transportation	28%
3	Telephony & Internet Telecomm	18%	Telephony & Internet Telecomm	15%
<b>Gross Value Added</b>				
1	General Wholesale & Retailing	49%	General Wholesale & Retailing	50%
2	Telephony & Internet Telecomm	32%	Telephony & Internet Telecomm	35%
3	General Transportation	19%	General Transportation	15%
<b>Employee Compensation</b>				
1	General Transportation	50%	General Transportation	52%
2	General Wholesale & Retailing	36%	General Wholesale & Retailing	38%
3	Telephony & Internet Telecomm	14%	Telephony & Internet Telecomm	9%
<b>Total Employment</b>				
1	General Wholesale & Retailing	52%	General Wholesale & Retailing	55%
2	General Transportation	36%	General Transportation	40%
3	Telephony & Internet Telecomm	12%	Telephony & Internet Telecomm	5%
<b>Number of Businesses</b>				
1	General Wholesale & Retailing	76%		
2	General Transportation	21%		
3	Telephony & Internet Telecomm	3%		

## 6.5 Overall Copyright-Based Industries

Table 6.15 gives an overview of the contribution of each category of copyright-based industries to the economy together with their combined total shares in the five indicators. Overall, the copyright industries in Brunei Darussalam captured:

- 3.2% of Census total operating revenue in 2005 and 2.8% in 2006;
- 2.0% of GDP in 2005 and 1.6% in 2006;
- 3.3% of total employed workers in 2005 and 3.2% in 2006;
- 6.1% of Census employee compensation in 2005 and 6.6% in 2006;
- 14.1% of Census total number of businesses.

**Table 6.15: Economic Contribution of Copyright Industries**

BND '000 and Number

	Operating Revenue	Gross Value Added	Employee Compensation	Number of Businesses	Total Employment
<b>Core Copyright 2005</b>	<b>204,282</b>	<b>134,466</b>	<b>36,312</b>	<b>168</b>	<b>2,542</b>
<i>% of National Total</i>	1.0%	0.8%	3.0%	5.0%	1.6%
<b>Core Copyright 2006</b>	<b>214,646</b>	<b>124,983</b>	<b>39,530</b>	<b>168</b>	<b>2,547</b>
<i>% of National Total</i>	0.9%	0.7%	3.2%	5.0%	1.5%
<b>Interdependent Copyright 2005</b>	<b>139,869</b>	<b>21,314</b>	<b>11,455</b>	<b>77</b>	<b>721</b>
<i>% of National Total</i>	0.7%	0.1%	0.9%	2.3%	0.4%
<b>Interdependent Copyright 2006</b>	<b>143,735</b>	<b>24,517</b>	<b>12,631</b>	<b>77</b>	<b>770</b>
<i>% of National Total</i>	0.6%	0.1%	1.0%	2.3%	0.4%
<b>Partial Copyright 2005</b>	<b>258,212</b>	<b>141,865</b>	<b>17,336</b>	<b>176</b>	<b>1,838</b>
<i>% of National Total</i>	1.2%	0.9%	1.4%	5.3%	1.1%
<b>Partial Copyright 2006</b>	<b>235,516</b>	<b>125,674</b>	<b>18,030</b>	<b>176</b>	<b>1,824</b>
<i>% of National Total</i>	1.0%	0.7%	1.5%	5.3%	1.1%
<b>Non-Dedicated Support 2005</b>	<b>68,573</b>	<b>17,152</b>	<b>9,432</b>	<b>51</b>	<b>288</b>
<i>% of National Total</i>	0.3%	0.1%	0.8%	1.5%	0.2%
<b>Non-Dedicated Support 2006</b>	<b>66,879</b>	<b>14,828</b>	<b>11,486</b>	<b>51</b>	<b>315</b>
<i>% of National Total</i>	0.3%	0.08%	0.9%	1.5%	0.2%
<b>Total Copyright 2005</b>	<b>670,937</b>	<b>314,798</b>	<b>74,535</b>	<b>472</b>	<b>5,389</b>
<i>% of National Total</i>	3.2%	2.0%	6.1%	14.1%	3.3%
<b>Total Copyright 2006</b>	<b>660,775</b>	<b>290,003</b>	<b>81,675</b>	<b>472</b>	<b>5,456</b>
<i>% of National Total</i>	2.8%	1.6%	6.6%	14.1%	3.2%
<b>National Total* 2005</b>	<b>20,684,023</b>	<b>15,864,100</b>	<b>1,228,786</b>	<b>3,345</b>	<b>162,000</b>
<b>National Total* 2006</b>	<b>23,839,861</b>	<b>18,370,200</b>	<b>1,241,533</b>	<b>3,345</b>	<b>173,100</b>

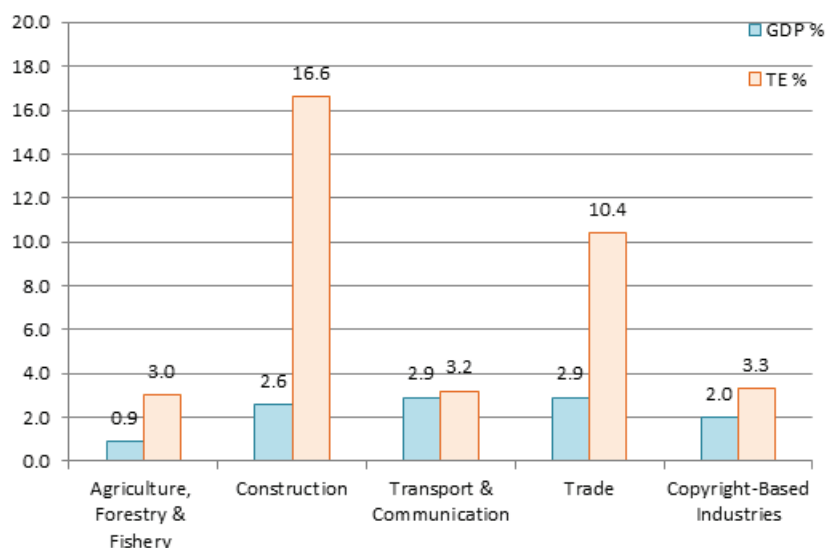
\* National values are those of Economic Census except for GVA and Employment, which, are from Statistical Yearbook 2006.

The lower share in operating revenue in 2006 is primarily due to smaller operating revenue among the partial copyright industries. Gross value added in three of the four groups of copyright industries fell in 2006, resulting in a decline in the combined share of 0.4% points. Only the interdependent copyright group of industries performed better in gross value added in 2006. Employee compensation rose across the four groups of copyright industries, lifting the total share in the economy by 0.3% points. Total employment in copyright industries rose slightly, whereas national employment expanded by almost 7% in 2006.

The largest contributor to operating revenue and GDP is the partial copyright industries, which as a group is slightly larger than the core copyright industries group. The partial copyright group also accounts for a slightly larger share of the number of businesses than the core copyright group. The core copyright industries are, however, the largest employer and payroll master. The smallest group, across all indicators, is the non-dedicated support industries.

A comparison is made between the copyright-based industries with other sectors or industries in the Brunei economy. The industries are selected based on their proximity in size to the copyright industries and the availability of published data. In terms of GDP contribution to the economy, the group of copyright-based industries is closest in size to the construction industry in 2005 (Chart 6.1). However, the latter is a much larger employer. The workforce in the copyright group is slightly larger than that in transport and communication, which in turn is slightly higher than the employment in the agriculture, forestry and fishery sector. The trade industry is relatively labour-intensive given its GDP share in the economy, compared to the copyright industries.

**Chart 6.1: Relative Size of Copyright-Based Industries, 2005**



## 6.6 Per Worker Performance

From the Economic Census data, further insights to the copyright industries are obtained. The variables computed are per worker operating revenue, gross value added and employee compensation. The corresponding data for the whole economy are calculated and used as a benchmark. Charts 6.2 and 6.3 display the copyright industries, which are above or close to the national average for operating revenue in 2005 and 2006 respectively.

Of the 23 copyright industries in the study, nine registered per worker operating revenue above the Census average of BND 127,679 in 2005, and 10 above the Census average of BND 137,723 in 2006. The industry that obtained above-average operating revenue in 2006 is paper. The nine industries that attained above-average operating receipts in both years comprise:

- two core copyright industries (software and databases and radio and TV);
- two interdependent copyright (computers and equipment, and TV sets, radios, VCRs, CD players, etc.);
- two partial copyright (architecture, engineering and surveying, and household goods, china and glass); and
- all three non-dedicated support industries.

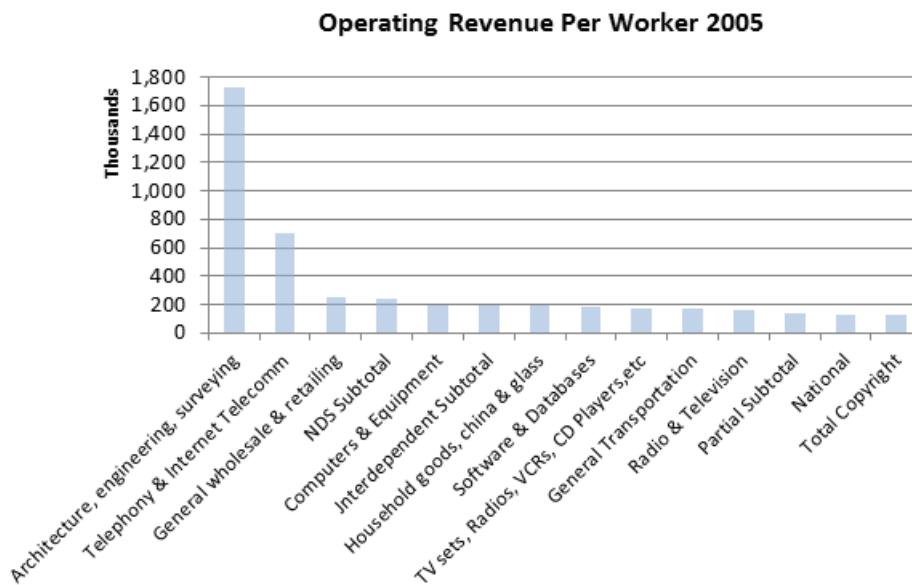
Architecture, engineering and surveying and telephony and internet telecoms are the two industries with respectively the highest and second highest operating revenue in both years.

A smaller number of copyright industries – four in both years – are above the national value added per worker of BND 97,927 in 2005 and 106,125 in 2006 (Charts 6.4 and 6.5). They are:

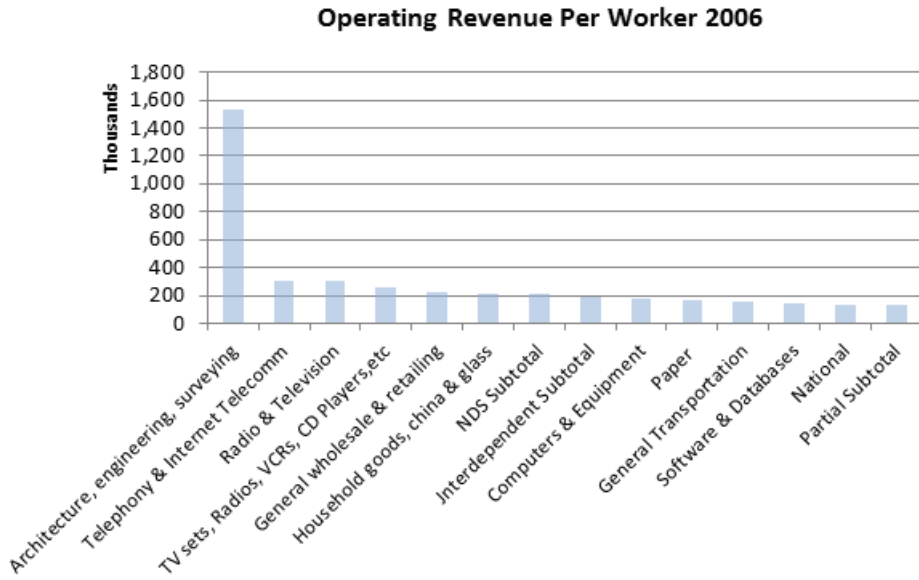
- two core copyright (software and databases, and radio and television) in 2005, and one (radio and television) in 2006;
- one partial copyright (architecture, engineering and surveying) in 2005 and 2006;
- one interdependent copyright (TV sets, radios, VCRs, CD players, etc.) in 2006; and
- one non-dedicated support (telephony and internet telecoms) in both years.

Three industries, which have higher value added per worker than the average for the total copyright group, are ranked higher in 2006, namely radio and television, TV sets, radios, VCRs, CD players, etc. and advertising. As in the case of operating revenue per worker, architecture, engineering and surveying attains the top position in value added per worker in both years. Its per worker operating revenue and value added in 2005 are almost 14-fold higher than the national average, while that in 2006 are about 11-fold higher. On the other hand, the total copyright operating revenue per worker is 98% of the national average in 2005 and 88% in 2006, while value added per worker is 60% and 50% of the national average respectively.

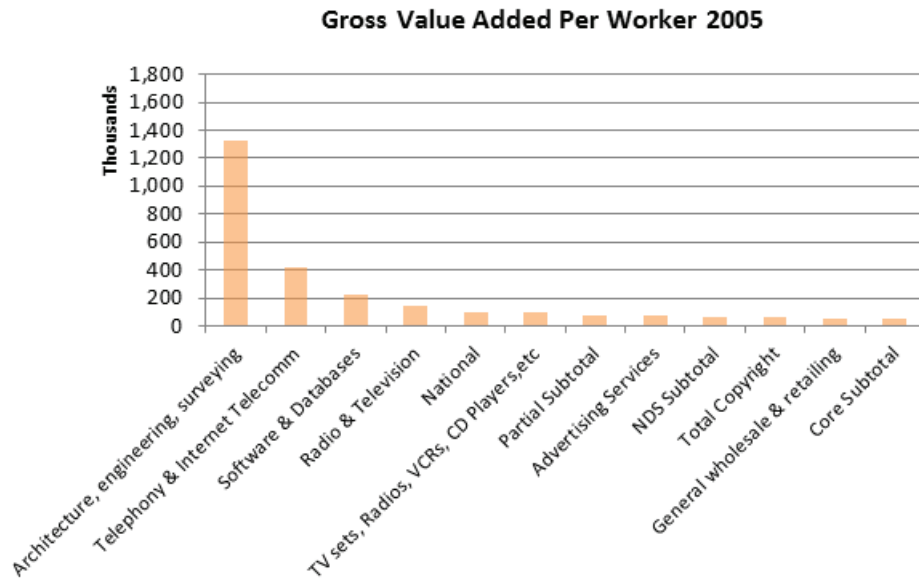
**Chart 6.2: Copyright Industries with High Operating Revenue Per Worker, 2005**



**Chart 6.3: Copyright Industries with High Operating Revenue Per Worker, 2006**

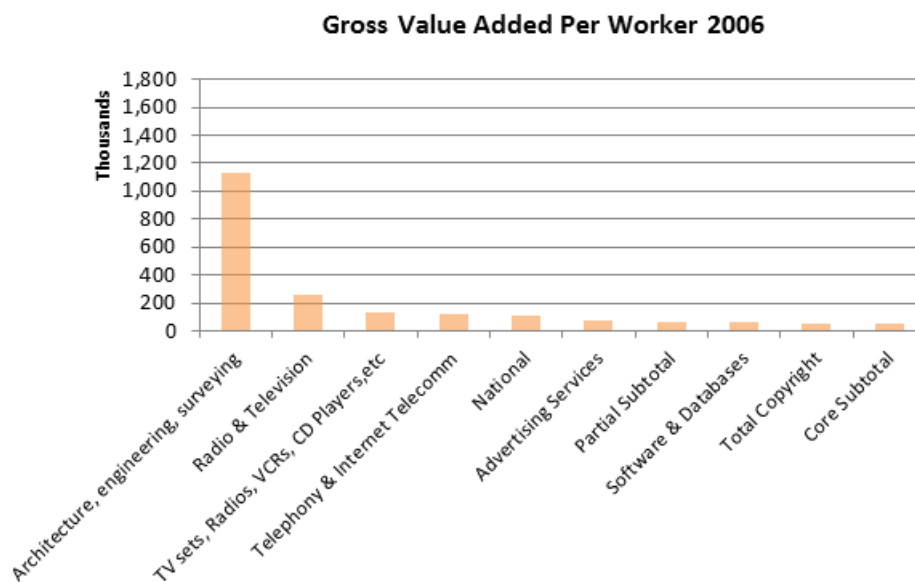


**Chart 6.4: Copyright Industries with High Value Added Per Worker, 2005**



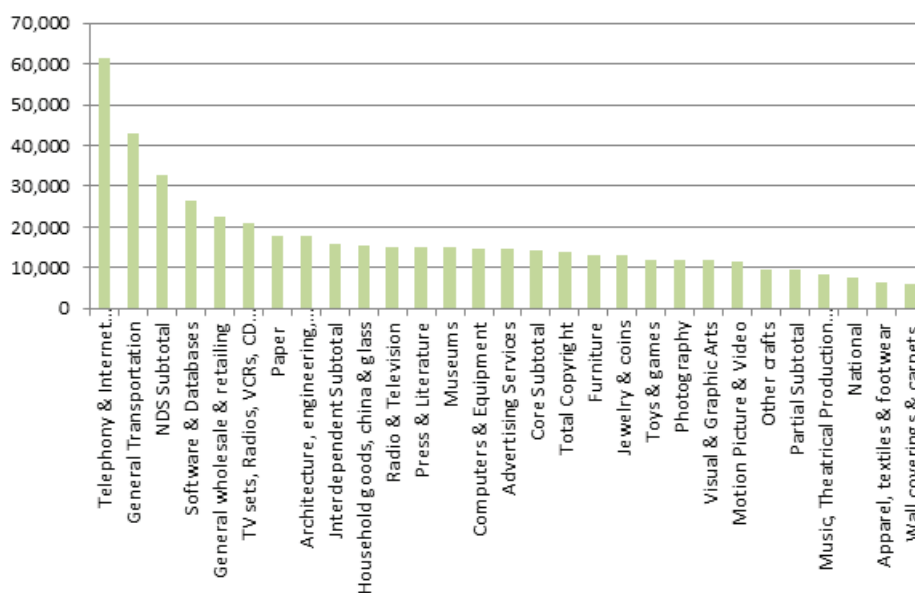


**Chart 6.5: Copyright Industries with High Value Added Per Worker, 2006**

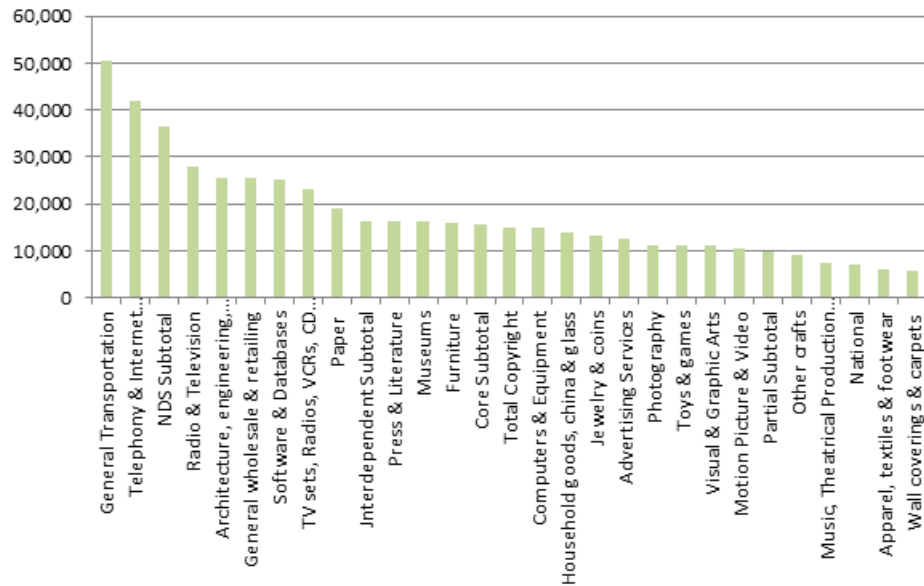


In contrast to the previous two measurements of worker performance, employee compensation per worker in almost all copyright industries is above the Census (or national) average (Charts 6.6 and 6.7). The two exceptions are the partial copyright industries of apparel, textiles and footwear and wall coverings and carpets in both years. The average levels of employee compensation per worker for total copyright industries are respectively 1.8 times and 2.1 times higher than the national values of BND 7,585 in 2005 and 7,172 in 2006. The non-dedicated support industries are high paymasters. In particular, telephony and internet telecoms and general transportation are the two highest paying industries. Table 6.11 provides the estimates on per worker performance.

**Chart 6.6: Copyright Industries by Employee Compensation Per Worker, 2005**



**Chart 6.7: Copyright Industries by Employee Compensation Per Worker, 2006**



**Table 6.16: Per Worker Performance**

	Operating Revenue Per Worker 2006	Gross Value Added Per Worker 2006	Employee Compensation Per Worker 2006	Operating Revenue Per Worker 2005	Gross Value Added Per Worker 2005	Employee Compensation Per Worker 2005
<b>Core Copyright (8)</b>						
a. Press & Literature	61,061	23,564	16,153	59,854	21,461	14,836
b. Music, Theatrical Production & Operas	51,424	14,803	7,363	47,955	14,733	8,218
c. Motion Picture & Video	55,283	15,332	10,618	54,321	12,259	11,552
d. Radio & Television	301,960	253,591	27,982	164,673	139,402	15,067
e. Photography	53,543	21,600	11,147	56,705	18,406	11,929
f. Software & Databases	146,496	63,586	25,155	184,647	221,217	26,565
g. Visual & Graphic Arts	55,709	16,893	10,992	49,028	24,563	11,743
h. Advertising Services	62,315	77,242	12,419	72,737	75,014	14,659
<b>Subtotal</b>	<b>84,274</b>	<b>49,071</b>	<b>15,520</b>	<b>80,366</b>	<b>52,900</b>	<b>14,285</b>
<b>Interdependent Copyright (3)</b>						
a. TV Sets, Radios, VCRs, CD Players, etc.	257,093	129,834	23,096	177,519	95,919	21,005
b. Computers & Equipment	172,734	11,817	14,953	200,261	15,538	14,732
c. Paper	169,135	28,230	18,877	114,188	26,758	17,812
<b>Subtotal</b>	<b>186,668</b>	<b>31,840</b>	<b>16,403</b>	<b>193,994</b>	<b>29,562</b>	<b>15,888</b>
<b>Partial Copyright (9)</b>						
a. Apparel, Textiles & Footwear	34,853	10,520	5,913	43,205	11,777	6,467
b Jewellery & Coins	83,902	29,936	13,269	83,185	23,508	12,954
c. Other Crafts	68,790	21,839	9,100	71,253	19,662	9,596
d. Furniture	105,035	22,731	16,108	102,687	21,868	13,203
e. Household Goods, China & Glass	214,002	45,290	13,889	192,569	39,864	15,481
f. Wall Coverings & Carpets	26,615	18,209	5,827	27,775	17,227	6,158
g. Toys & Games	49,550	15,773	11,114	55,122	18,368	12,050

**Table 6.16: Per Worker Performance (Continued)**

h. Architecture, Engineering, Surveying	1,534,483	1,127,586	25,670	1,734,483	1,331,034	17,655
i. Museums	61,061	23,564	16,153	59,854	21,461	14,836
<b>Subtotal</b>	<b>129,131</b>	<b>68,906</b>	<b>9,886</b>	<b>140,464</b>	<b>77,173</b>	<b>9,431</b>
<b>Non-Dedicated Support (3)</b>						
a. General Wholesale & Retailing	229,101	44,588	25,388	246,226	54,047	22,674
b. General Transportation	155,670	24,236	50,472	168,018	21,692	43,046
c. Telephony & Internet Telecomm	308,307	125,467	42,032	704,741	421,896	61,441
<b>Subtotal</b>	<b>212,243</b>	<b>47,058</b>	<b>36,443</b>	<b>237,948</b>	<b>59,519</b>	<b>32,730</b>
<b>TOTAL COPYRIGHT</b>	<b>121,110</b>	<b>53,153</b>	<b>14,970</b>	<b>124,493</b>	<b>58,411</b>	<b>13,830</b>
<b>NATIONAL</b>	<b>137,723</b>	<b>106,125</b>	<b>7,172</b>	<b>127,679</b>	<b>97,927</b>	<b>7,585</b>

## 6.7 International Trade

The list of copyright items identified for extraction of trade data consists of 17 items at SITC seven-digit level and two items at three-digit level (Table 6.12). Four of the seven-digit items (highlighted in yellow) are combined in the trade statistics and one item (highlighted in pink) is not traded. The trade variables are imports, exports, domestic exports and re-exports. To compute the trade balance, retained imports are estimated by subtracting re-exports from imports. The trade balance is the difference between domestic exports and retained imports.

**Table 6.17: Copyright Trade Items**

SITC	Description
*8921200	Children's Picture Drawing or Colouring Books
*8921300	Maps, Hydrographical & Similar Charts
*8921600	Printed Books
*8921900	Brochures, Leaflets & Similar Printed Matter
*8922100	Newspapers, Journals & Periodicals
*8924100	Transfers (Decalcomanias)
*8924200	Picture Postcards & Greeting Cards
*8928100	Labels of Paper or Paperboard
*8928200	Industrial Plans & Drawings
*8928400	Calendars of Any Kind Incl. Calendar Blocks
*8928500	Music, Printed or In Manuscript
*8928600	Advertising Material, Commercial Catalogues etc.
*8928900	Other Printed Matter Incl. Pictures & Photographs
*8986110	Video Tapes, Discs, Recorded
*8986120	Tapes, Discs, Packs etc. for Computers, Recorded
*8986130	Discs For Reproducing Sound & Other Media for Laser Reading Systems, Recorded
*8986190	Other Recorded Media
*8987100	Gramophone Records
883	Cinematographic Film
896	Works of Art

Note

8986100 Magnetic Tapes Recorded of a Width not Exceeding 4mm

None

Appendix E contains the trade data as well as the estimates for retained imports, trade balances and the shares of copyright items in total trade in 2005 and 2006. Table 6.13 summarizes the results. Expectedly, copyright trade is a very small proportion of total trade. It is less than 1% of imports, exports and re-exports. Retained imports of copyright items account for 0.8% of total retained imports in 2005. This share drops to almost 0.7% in 2006, owing to a fall in copyright retained imports while total retained imports rose. The trade balance in copyright goods is close to or the same as retained imports, as domestic exports of copyright items are low or nil (as in 2006). Due to a rise in total trade balance in 2006, the share of copyright trade balance is lower at -0.17% compared to -0.23% in 2006.

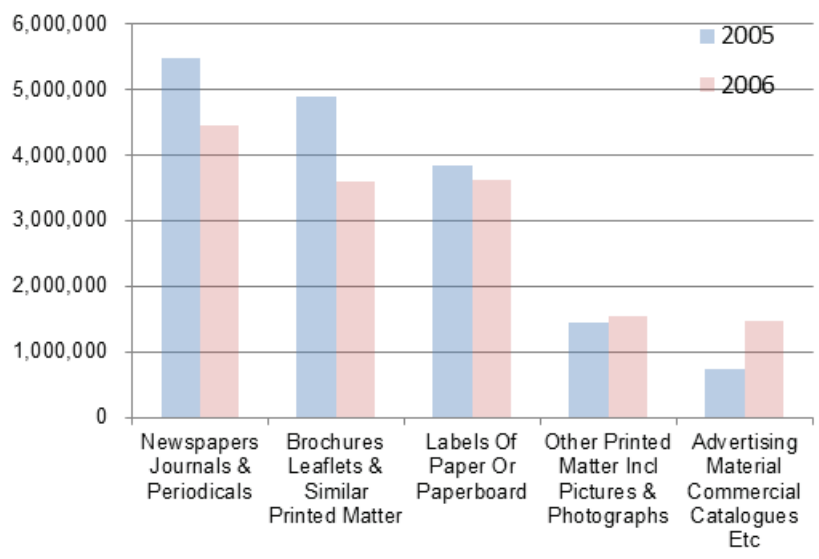
**Table 6.18: Share of Copyright Trade in Total Trade**

	Copyright BND '000	National BND '000	Copyright Share %
<b>2005</b>			
Imports	18,519	2,480,990	0.75%
Exports	324	10,397,680	0.00%
Domestic Exports	26	10,105,000	0.00%
Re-Exports	297	292,680	0.10%
Retained Imports	18,222	2,188,310	0.83%
Trade Balance	-18,196	7,916,690	-0.23%
<b>2006</b>			
Imports	16,955	2,658,500	0.64%
Exports	555	12,117,120	0.00%
Domestic Exports	0	11,888,280	0.00%
Re-Exports	555	228,840	0.24%
Retained Imports	16,399	2,429,660	0.67%
Trade Balance	-16,399	9,458,620	-0.17%

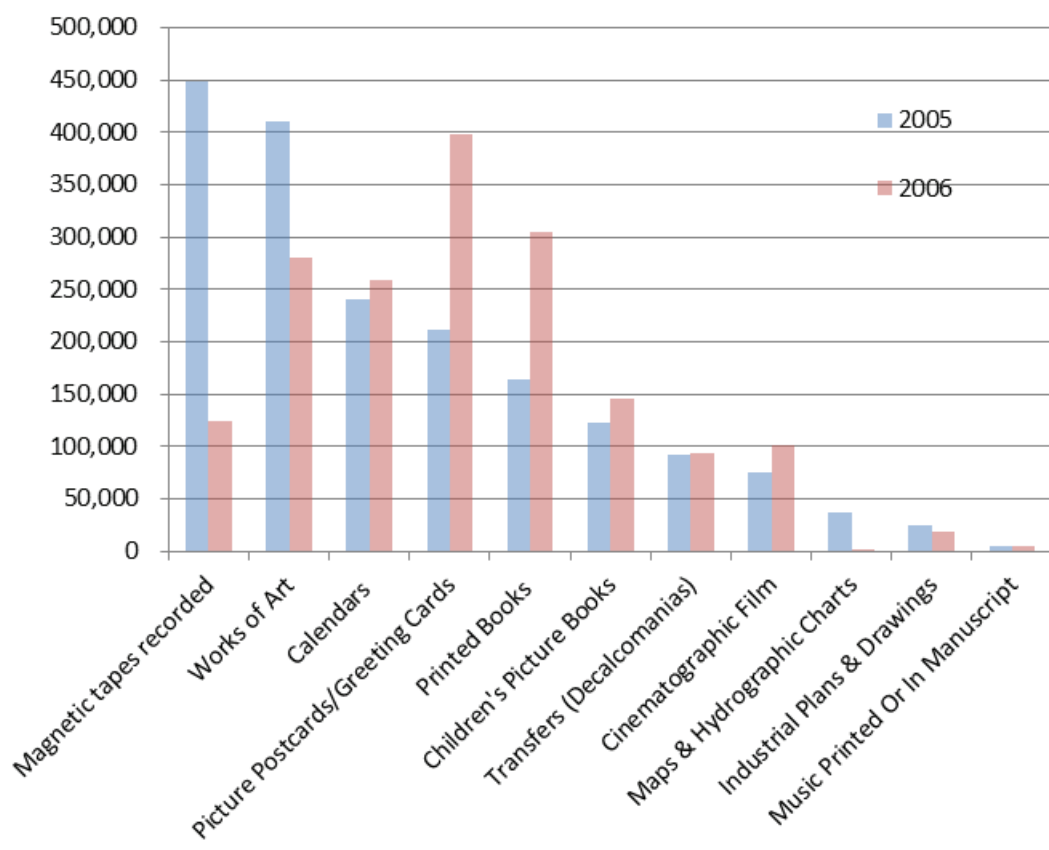
Chart 6.8 shows the top five copyright items in retained imports in 2005 and 2006. Around three-quarters of copyright-retained imports comprise newspapers, journals and periodicals (30% in 2005), brochures, leaflets and similar printed matter (27%), and labels of paper or paperboard (27%). The fourth and fifth largest copyright trade items are other printed matter, including pictures and photographs (8%) and advertising material, commercial catalogues, etc. (4%). Unlike the three largest traded copyright items, which encountered lower retained imports in 2006, advertising materials recorded almost a doubling of retained imports, closely reaching the same value as other printed materials in 2006.

The other copyright trade items are covered in Chart 6.9, which shows five other copyright items with considerably higher retained imports in 2006. These are calendars, picture postcards and greeting cards, printed books, children's picture drawing or colouring books and cinematographic film. However, the combined expansion in retained imports is not sufficient to offset the contraction in other copyright items especially that of the two largest copyright trade items (newspapers, journals and periodicals and brochures and leaflets).

**Chart 6.8: Top Copyright Retained Imports**



**Chart 6.9: Other Copyright Retained Imports**



## 7. International Comparison

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The WIPO studies provide comparative estimates on the contribution of copyright industries to the respective economy. Twelve country studies are available for a comparative analysis at the core and total copyright level for GDP and employment.<sup>12</sup> The aim of this comparison effort is to identify the relative position of the copyright industries in Brunei Darussalam vis-à-vis other countries and at a specific period. Additionally, time series of three countries are included to gain insights into the development of copyright activities with respect to GDP and employment growth. Appendix F contains the extracted data from the WIPO studies.

### 7.1 Contribution to GDP

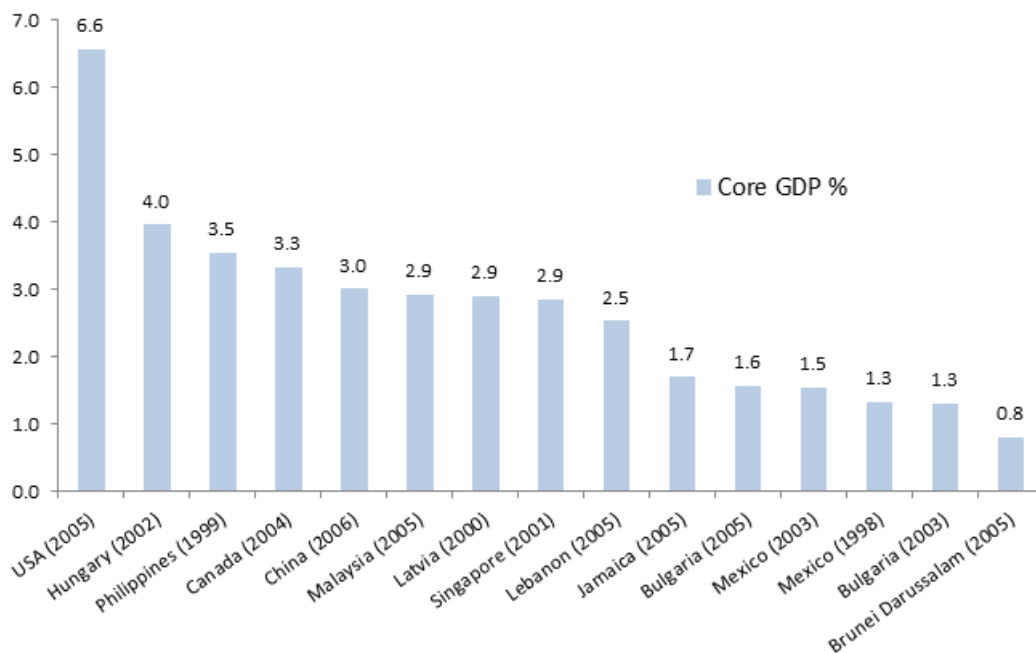
Chart 7.1 on the share of core copyright in GDP shows that Brunei core copyright share of 0.8% in 2005 is smaller than that (1.3%) of Bulgaria (in 2003) and Mexico (in 1998). Mexico's core copyright contribution to GDP rose to 1.5% in 2003, while that of Bulgaria rose to 1.6% in 2005. One other country – Jamaica – has a share of below 2% in 2005. The highest contribution is that of the United States at 6.6% in 2005. The remaining countries' shares range from 2.5% (Lebanon in 2005) to 4% (Hungary in 2002).

The contribution of total copyright to GDP is depicted in Chart 7.2 in which the countries are in the same sequence as in Chart 6.10; that is, the countries are arranged in descending order of core copyright share. The United States and Hungary remain the largest and second largest in total copyright share in GDP. Their non-core copyright shares are respectively 4.6% and 2.7% of GDP. Apart from the United States, countries with relatively large non-core copyright portions are Mexico, China and Jamaica with between 3.1% and 3.8%. Brunei Darussalam's non-core copyright share is 1.1%, close to that of Canada and Bulgaria (2005). Bulgaria has in 2003, however, a smaller non-core copyright segment (0.8%) than that of Brunei Darussalam. As a result of a larger non-core share in GDP, Brunei Darussalam's total copyright share in GDP of 2% in 2005 is almost the same as Bulgaria's share of 2.1% in 2003. Bulgaria's total copyright share rose to 2.8% in 2005. The United States' total copyright share of 11.1% is much larger than Hungary's 6.7% followed closely by China's 6.4%. The remaining nine countries have shares ranging from 4.5% (Canada) to 5.8% (Malaysia). Among them are four countries with equal shares of 4.8% (the Philippines, Lebanon, Jamaica and Mexico).

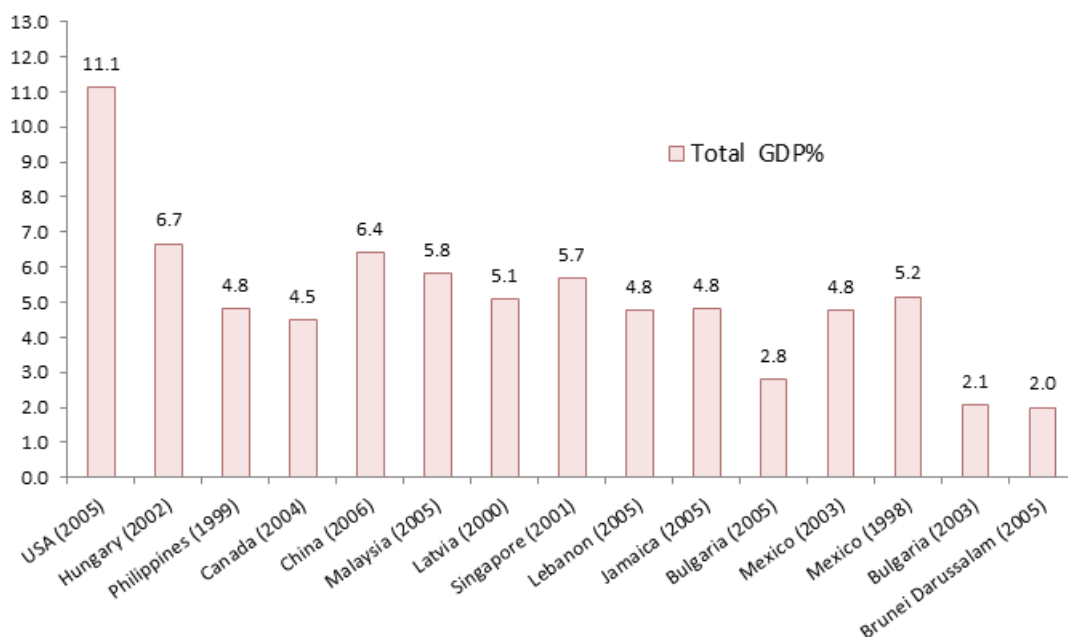
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<sup>12</sup>All the WIPO studies follow the same framework and thus allow for a more comparative analysis than previously possible.

**Chart 7.1: Share of Core Copyright in GDP**



**Chart 7.2: Share of Total Copyright in GDP**

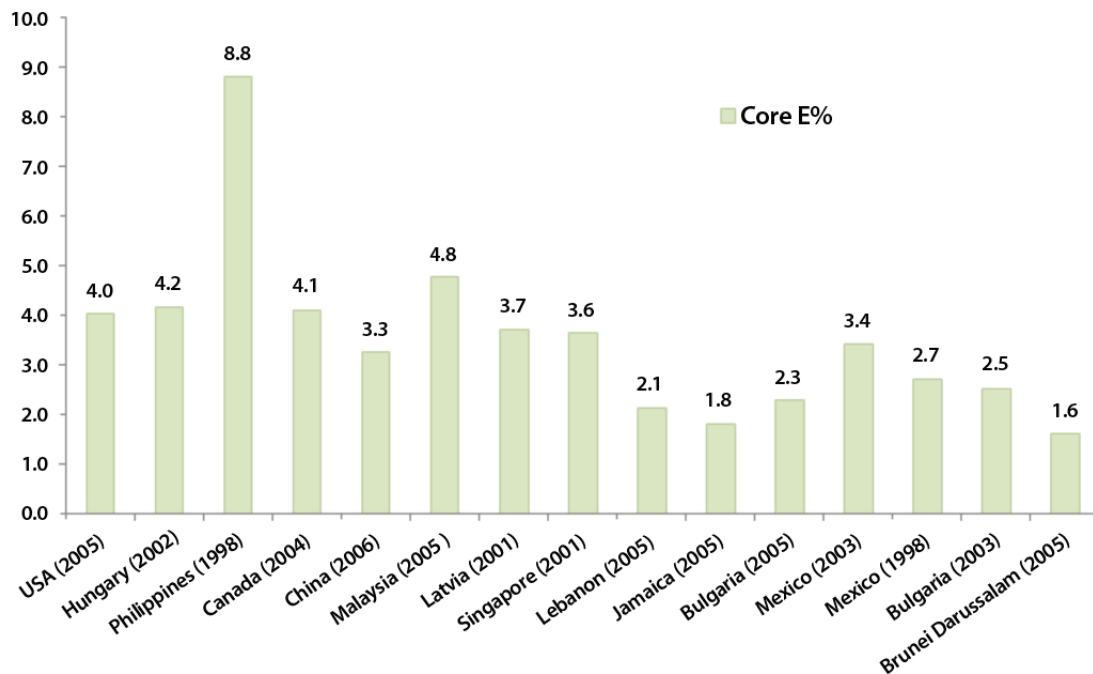


Note: Latvia's total copyright share in GDP is calculated by Chow Kit Boey from data in the country report.

## 7.2 Contribution to Employment

The shares of core copyright workforce in total employment, shown in Chart 7.3, reveal that the core copyright sector in the Philippines in 1999 is the most labour-intensive among the group of 12 countries in the comparison analysis. Its share of 8.8% of Philippine total employment is 4% higher than the second highest core copyright employment share of Malaysia. Three other countries, besides Malaysia, have core copyright employment shares of 4% – the United States, Hungary and Canada. In comparison, Brunei’s core copyright employment stands at 1.6%, which is slightly lower than Jamaica’s 1.8%.

**Chart 7.3: Share of Core Copyright in Employment**

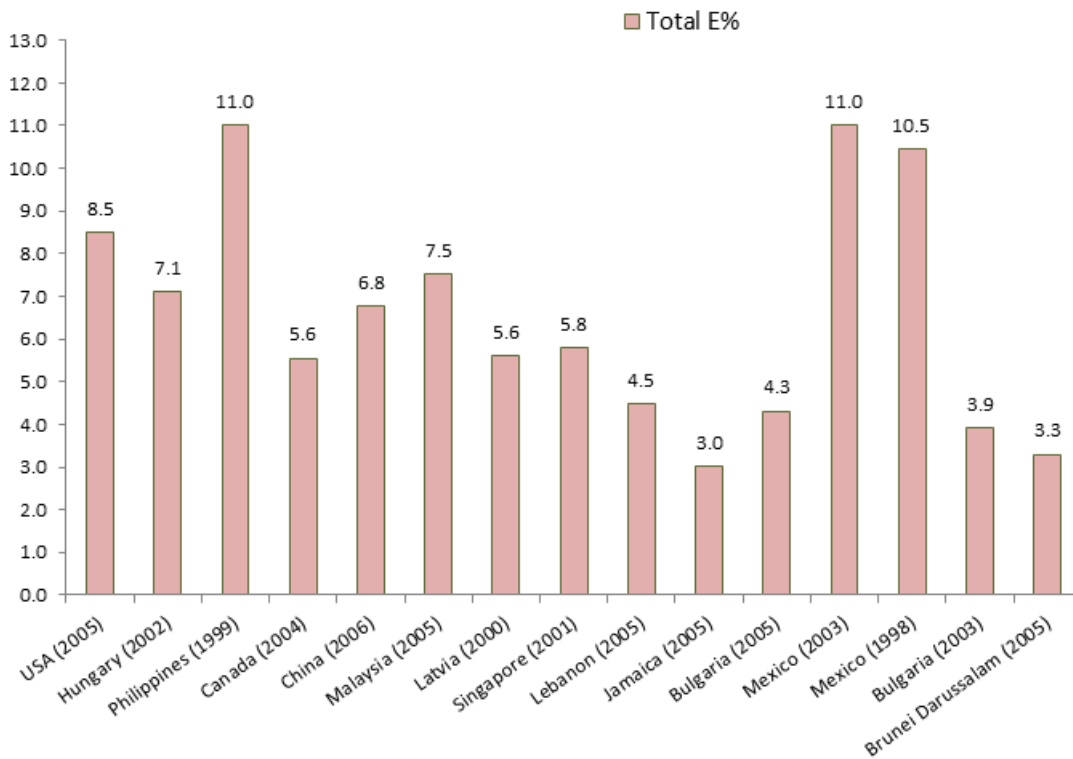


The shares of total copyright industries in employment show a very different pattern from that of core copyright employment and total copyright GDP (Chart 7.4). Total copyright employment accounts for 10% – 11% of the country’s workforce in Mexico and the Philippines. In other words, Mexico’s non-core copyright industries provide employment to 7.6% of the workforce; the highest among the group of 12 countries. The Philippine non-core employment, however, accounts for 2.2% of the country’s employment, much smaller than the core employment share of 8.8%.

The United States’ total copyright employment share is 8.5%, with the non-core component being slightly higher than the core. Other countries with slightly higher non-core copyright employment shares are China, Lebanon and Brunei Darussalam. Brunei’s total copyright employment of 3.3% is slightly higher than that of Jamaica’s 3.0% because of a larger non-core copyright employment share. Brunei’s non-core copyright employment share (1.7%) is larger than that of Jamaica (1.2%), Bulgaria (1.4%) and Canada (1.4%), and close to that of Latvia (1.9%).



**Chart 7.4: Share of Total Copyright in Employment**

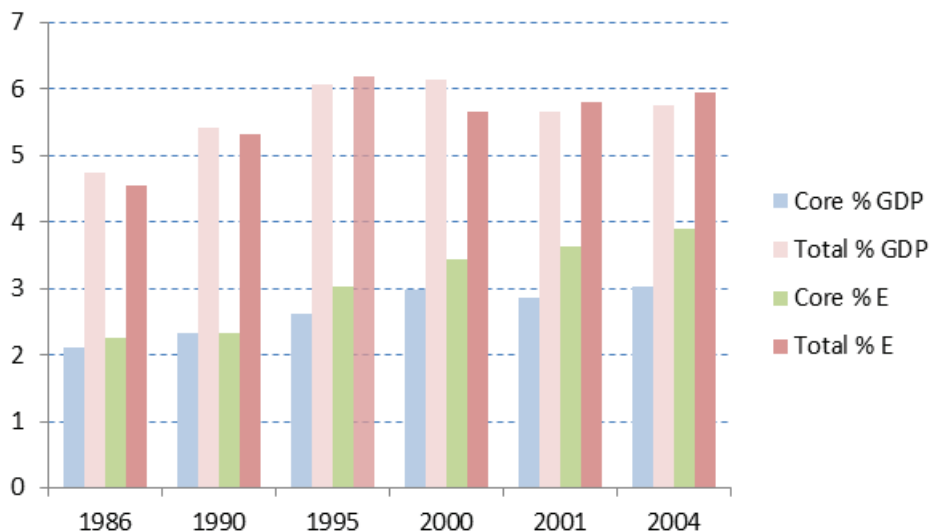


Note: Latvia's total copyright share in employment is calculated by Chow Kit Boey from data in the country report.

### 7.3 Copyright Contribution Over Time

Estimates of the contribution of copyright-based industries over a period of time are reproduced in the charts below for any identifiable pattern of change. Singapore's copyright estimates are shown in Chart 7.5, covering six specific years from 1986 to 2004. The core copyright contribution to GDP is lower than that of non-core in the first four periods (1986, 1990, 1995 and 2000). Similarly, core copyright employment share is lower than that of non-core in the first four years. Except in 2001, both core and total copyright shares in GDP are increasing, respectively from 2.1% to 3% and from 4.7% to 5.8%. Correspondingly, core copyright employment share rises from 2.3% to 3.9%, whereas total copyright employment contribution reaches a peak in 1995 at 6.2% and is at 5.9% in 2004, against 4.6% in 1986. Interestingly, both core and total employment shares are not lower when the GDP shares decline in 2001.

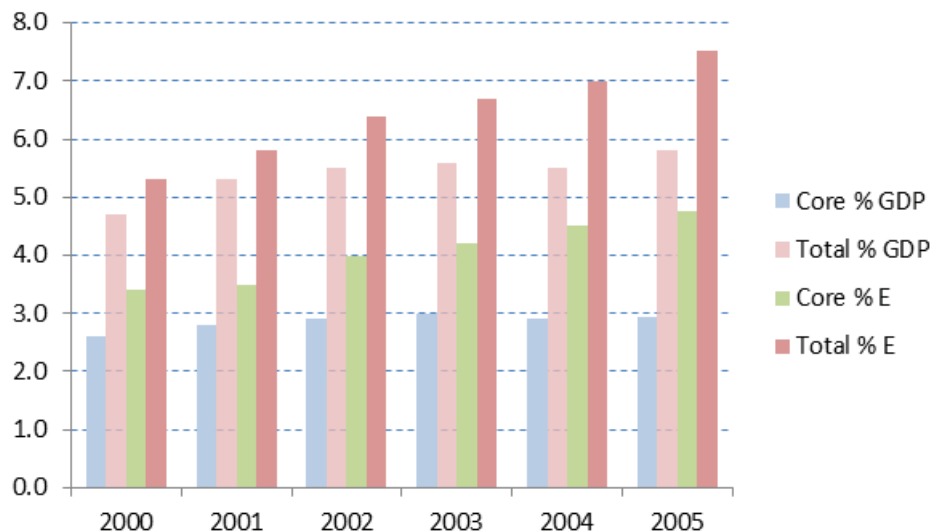
**Chart 7.5: Share of Singapore Copyright in the Economy**



Unlike Singapore, Malaysia's estimates cover a six-year period (2000 – 2005) with data for each year. Throughout the period, the core copyright GDP and employment shares are larger than the non-core copyright shares (Chart 7.6). And the employment shares (both core and total) are larger than the GDP shares. Except for the GDP shares of core and total copyright in 2004 (which dropped slightly), all other contributions to the economy have been rising each year. The shares of core and total copyright in GDP are 3% and 5.8% respectively in 2005, compared to 2.6% and 4.7% in 2000. The core and total copyright shares in employment are 4.8% and 7.5% respectively in 2005, upped from 3.4% and 5.3% in 2000.

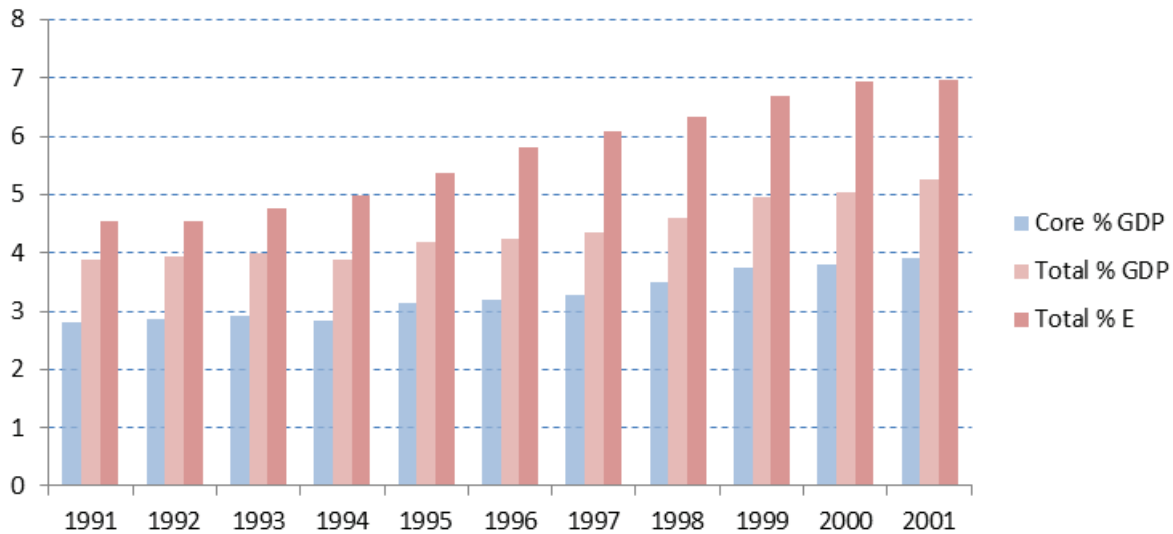
Canada's time series on copyright shares (core and total GDP and total employment) range from 1991 to 2001.<sup>13</sup> Non-core copyright GDP shares are smaller than that of core copyright throughout the whole period (Chart 7.7). The shares of total copyright in employment are larger than that in GDP. Except for a break in 1994 for GDP shares, all the shares have been rising each year. The core and total copyright shares in GDP and total copyright share in employment have increased respectively to 3.9%, 5.3% and 7% in 2001 from 2.8%, 3.9% and 4.5% in 1991.

**Chart 7.6: Share of Malaysia Copyright in the Economy**



<sup>13</sup> 2002 estimates are not included, as employment shares are missing.

**Chart 7.7: Share of Canada Copyright in the Economy**



From the three cases, it is seen that there is an upward trend in the relative size of the copyright-based industries as measured by their contribution to the country's GDP and employment. There is also a tendency for the core copyright industries to become larger than the non-core copyright industries. There is also a consistent pattern of the copyright-based industries having a greater impact on employment than on the country's GDP as reflected in the larger employment share over that of GDP.

## 8. Conclusions and Recommendations

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Given the dominance of the mining sector in the Brunei economy, the relative size of the copyright industries as a share in GDP and employment is expected to be small. The copyright industries in 2005 were, however, comparable in size to the construction industry in value added and to the transport and communication industry in employment. Productivity (as measured by value added per worker) in copyright industries was thus higher than that in construction, but lower than that in transport and communication. Moreover, four copyright industries posted higher productivity than the national value added per worker of BND 97,927 in 2005. These four industries are:

- software and databases and radio and television in the core copyright group;
- architecture, engineering and surveying in the partial copyright group; and
- telephony and internet telecoms in the non-dedicated support group.

Employees in the copyright industries are well paid. In both years of 2005 and 2006, almost all (21 out of 23) copyright industries recorded per worker employee compensation above the national average. The average employee compensation per worker in copyright industries has been estimated at 1.8 and 2.1 times higher than the national values of BND 7,585 in 2005 and BND 7,172 in 2006 respectively.

In comparison with 12 other countries, the copyright industries in Brunei Darussalam are not particularly small in terms of contribution to GDP and employment. Brunei copyright share in GDP of 2% in 2005 is almost the same as Bulgaria's 2.1% in 2003, and its share in employment of 3.3% in 2005 is slightly higher than Jamaica's 3.0% in the same year. Furthermore, time series on copyright industries in several countries reveal increasing contributions of copyright industries to GDP and employment and a tendency for the core copyright industries to become larger than the non-core copyright industries. There is also a consistent pattern of the copyright industries generating a greater impact on employment than on GDP. The implication is that there is potential for the core copyright industries in Brunei Darussalam to grow over time, thus providing another channel for the diversification of the economy.

The survey on partial copyright industries also obtained some feedback from the respondents. Based on the comments and suggestions, the recommendations for promoting copyright industries are:

- (i) to explore avenues to help enterprises, especially those where only the owners are doing creative designs, to tap into other sources of design activities, to obtain exposure to new developments in design, and to market innovative designs;
- (ii) to promote creativity through competitions and exhibitions, and to encourage the use of local resources in creative activities;
- (iii) to protect architectural designs and drawings as copyright works belonging to the respective company or firm that produced them, and to educate the public on the granting of permission for use of copyright works;
- (iv) to liberalise the architecture industry in the employment of foreign professionals;
- (v) to enhance the demand for Brunei copyright works through marketing activities overseas and to tourists.

The study findings suggest that certain copyright-based industries could be developed further for a more balanced economic structure and a larger creative and knowledge-based sector. The study has identified copyright-based industries that are above the national average in productivity and worker earnings or have the potential for growth. However, in-depth research is needed to examine and determine copyright-based industries that best meet the country's development priorities. Given Brunei's small population, the development of selected copyright-based industries may need to consider overseas markets as well as niche areas. And one way to maximize resources is to endorse and support international collaborations in copyright-based industries and develop joint projects with interested countries in promoting copyright activities, such as the development of more talents and professional approaches.

This study is the first in Brunei Darussalam, similar to many of the WIPO studies in other countries. The findings could be considered as an initial attempt at measuring the size of the copyright industries and their economic contribution to the country. It would be useful to track the development of the copyright industries

as knowledge-based and creative activities are promoted in an increasingly competitive world. For the follow-up to this study, the following are proposed:

- (a) To disseminate the findings to top management of copyright industries and interested parties through, for instance, a seminar. The seminar can be used as a channel for feedback and policy inputs. It can also raise support for efforts to promote copyright activities in the country.
- (b) To update the estimates on the copyright industries' contribution to the economy when the Economic Census 2011 data become available.
- (c) To include estimates on the multiplying effects of copyright industries when the input-output table, which is being compiled presently, is completed. The multipliers of copyright industries will provide another dimension for policy formulation.

## Appendix A

**Table A.1: Brunei Darussalam: Copyright-Based Industries by WIPO Classification**

	WIPO Category and Main Group	BDSIC2007	Industry
<b>1</b>	<b>Core</b>		
	Press and Literature	1811	Printing
		1812	Service activities related to printing
		4761	Retail sale of books, newspapers and stationery in specialised stores
		5812	Publishing of directories and mailing lists
		5813	Publishing of newspapers, journals and periodicals
		5819	Other publishing activities
		7490	Other professional, scientific and technical activities n.e.c.
<b>2</b>	<b>Core</b>		
	Music, Theatrical Productions, Operas	4762	Retail sale of music and video recordings in specialised stores
<b>3</b>	<b>Core</b>		
	Motion Picture and Video	5911	Motion picture, video and television programme production and distribution activities
		5912	Motion picture projection activities
		7722	Renting of video tapes and disks
<b>4</b>	<b>Core</b>		
	Radio and Television	6010	Radio broadcasting
		6022	Cable, satellite and other subscription programming
<b>5</b>	<b>Core</b>		
	Photography	7420	Photographic activities
<b>6</b>	<b>Core</b>		
	Software and Databases	6202	Computer consultancy and computer facilities management activities
		6209	Other information technology and computer service activities
		6312	Web portals
<b>7</b>	<b>Core</b>		
	Visual and Graphic Arts	7410	Specialised design activities
<b>8</b>	<b>Core</b>		
	Advertising	7310	Advertising
	WIPO Category and Main Group	BDSIC2007	Industry

**Table A.1: Brunei Darussalam: Copyright-Based Industries by WIPO Classification (Continued)**

<b>9</b>	<b>Interdependent</b>		
	TV Sets, Radios, VCRs, CD Players, etc.	4652	Wholesale of electronic and telecommunications equipment and parts
		9512	Repair of communication equipment
		9521	Repair of consumer electronics
<b>10</b>	<b>Interdependent</b>		
	Computers and Equipment	4651	Wholesale of computers, computer peripheral equipment and software
		4741	Retail sale of computers, peripheral units, software and telecommunication equipment in specialised stores
<b>11</b>	<b>Interdependent</b>		
	Paper	1709	Manufacture of other articles of paper and paperboard
<b>12</b>	<b>Partial</b>		
	Apparel, textiles and footwear	1322	Manufacture of made up textile articles, except apparel
		1411	Manufacturing of wearing apparel, except fur apparel
		1412	Custom tailoring and dressmaking
		1520	Manufacture of footwear
		4641	Wholesale of textiles, clothing and footwear
		4751	Retail sale of household textiles in specialised stores
		4771	Retail sale of clothing and clothing materials in specialised stores
		4772	Retail sale of footwear and leather articles in specialised stores
<b>13</b>	<b>Partial</b>		
	Jewellery and coins	3211	Manufacture of jewellery and related articles
		4774	Retail sale of jewellery, clocks and watches in specialised stores
<b>14</b>	<b>Partial</b>		
	Other crafts	2396	Cutting, shaping and finishing of stone
		4779	Retail sale of other goods in specialised stores n.e.c.
<b>15</b>	<b>Partial</b>		
	Furniture	3100	Manufacture of furniture
		4754	Retail sale of furniture
		4755	Retail sale of electrical household appliances and lighting equipment in specialised stores
<b>16</b>	<b>Partial</b>		
	Household goods, china and glass	2310	Manufacture of glass and glass products
	WIPO Category and Main Group	BDSIC2007	Industry
		2391	Manufacture of refractory products
		2599	Manufacture of other fabricated metal products n.e.c.
		4649	Wholesale of other household goods
		4752	Retail sale of hardware, paints and glass in specialised stores
		4759	Retail sale of other household articles in specialised stores

**Table A.1: Brunei Darussalam: Copyright-Based Industries by WIPO Classification (Continued)**

		9522	Repair of household appliances and home and garden equipment
		7729	Renting and leasing of other personal and household goods n.e.c.
<b>17</b>	<b>Partial</b>		
	Wall coverings and carpets	4753	Retail sale of carpets, rugs, wall and floor coverings in specialised stores
<b>18</b>	<b>Partial</b>		
	Toys and games	4764	Retail sale of games and toys in specialised stores
<b>19</b>	<b>Partial</b>		
	Architecture, engineering, surveying	7111	Architectural and land surveying activities
<b>20</b>	<b>Non-Dedicated</b>		
	General wholesale and retailing	4610	Wholesale on fee or contract basis
		4661	Wholesale of solid, liquid and gaseous fuels and related products
		4662	Wholesale of metals and metal ores
		4663	Wholesale of construction materials, builders hardware, plumbing and heating equipment and supplies
		4669	Wholesale of waste and scrap and other products n.e.c.
		4711	Retail sale in non-specialised stores with food, beverages or tobacco predominating
		4719	Other retail sale in non-specialised stores
		4789	Retail sale via stalls and markets of other goods
		4791	Retail sale via mail order houses or via Internet
		4799	Other retail sale not in stores, stalls or markets
<b>21</b>	<b>Non-Dedicated</b>		
	General transportation	4920	Transport via buses
		4931	Passenger land transport
		4932	Freight transport by road
		5010	Sea and coastal water transport
		5110	Passenger air transport
		5120	Freight air transport
		5221	Service activities incidental to land transportation
	WIPO Category and Main Group	BDSIC2007	Industry
		5222	Service activities incidental to water transportation
		5223	Service activities incidental to air transportation
		5224	Cargo handling
		5229	Other transportation support activities
		5320	Courier activities
<b>22</b>	<b>Non-Dedicated</b>		
	Telephony & Internet	6110	Wired telecommunication activities
		6120	Wireless telecommunication activities
		6191	Internet or cyber cafes
		6199	Other telecommunication activities



1 February 2010

### KAJIAN SUMBANGAN INDUSTRI BERASASKAN HAKCIPTA KEPADA EKONOMI DI NEGARA BRUNEI DARUSSALAM

#### Survey on the Economic Contribution of Copyright-based Industries in Brunei Darussalam

Yang Mulia	<p><u>Tarikh tutup (Closing date) :</u> 28 February 2010</p> <p><u>Pertanyaan (Enquiries) :</u> Dyg. Nur Al-Ain binti Dr. Hj Abdullah (Jabatan Peguam Negara)</p> <p>Tel: 2231200 (AGC) 2230250 (JPKE)</p> <p>E-mail: nuralain.abdullah@gmail.com</p> <p>Fax : 2230236</p>
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4. Kerajaan Kebawah Duli Yang Maha Mulia Paduka Seri Baginda Sultan dan Yang DiPertuan Negara Brunei Darussalam melalui Jabatan Peguam Negara sedang melaksanakan projek **Sumbangan Industri Berasaskan Hakcipta kepada Ekonomi di Negara Brunei Darussalam** dengan bantuan *World Intellectual Property Organization* (WIPO). Sebagai sebahagian daripada aktiviti projek, Jabatan Perancangan dan Kemajuan Ekonomi (JPKE) bekerjasama dengan Jabatan Peguam Negara untuk mengendalikan kajian bagi projek tersebut.

*The government of His Majesty The Sultan and Yang DiPertuan of Brunei Darussalam through the Attorney General's Chambers is currently implementing the project "Economic Contribution of Copyright-based Industries in Brunei Darussalam" with the assistance of World Intellectual Property Organization (WIPO). As part of the project activities, Department of Economic Planning and Development (JPKE) is collaborating with the Attorney General's Chambers in conducting a survey for the project.*

5. **Kajian Sumbangan Industri Berasaskan Hakcipta kepada Ekonomi di Negara Brunei Darussalam** ini meliputi syarikat/perusahaan terpilih yang bergiat atau mempunyai kaitan dengan kerja-kerja hakcipta. Penerangan ringkas mengenai hakcipta adalah seperti dalam borangtanya.

*The Survey on the Economic Contribution of Copyright-Based Industries in Brunei Darussalam covers selected companies/businesses that are involved or related to copyright works. A brief explanation of copyright is provided in the questionnaire.*

6. Sehubungan dengan ini, syarikat/perusahaan Tuan/Puan adalah dipohonkan untuk membekalkan maklumat seperti dalam borangtanya kajian yang disertakan. Sukacita dipohonkan agar pihak Tuan/Puan akan dapat mengembalikan borangtanya yang telah lengkap diisikan ke JPKE pada atau sebelum **28 Februari 2010**.

*In this context, you are kindly requested to provide the information as in the enclosed questionnaire. Please submit your completed questionnaire to JPKE on or before **28 February 2010**.*

7. Kajian ini dijalankan di bawah **AKTA PERANGKAAN**, Penggal 81 dari Undang-Undang Negara Brunei Darussalam. Segala keterangan yang diberikan akan dirahsiakan dan akan digunakan untuk keperluan perangkaan sahaja.

This survey is conducted under the **STATISTICS ACT**, Chapter 81 from the Laws of Brunei Darussalam. All the information given will be treated as confidential and will be used for statistical purposes only.

8. Sokongan dan kerjasama dari pihak Tuan/Puan dalam membekalkan maklumat yang diperlukan adalah amat dihargai.

Your support and cooperation in providing the required information is very much appreciated.

Dengan hormat,  
Yours sincerely,

**PG HJ OSMAN HASHIM**

Pengarah Perangkaan  
b.p. Ketua Pengarah

Director of Statistics  
for Director General

s.k. Jabatan Peguam Negara

**KAJIAN SUMBANGAN INDUSTRI BERASASKAN HAKCIPTA KEPADA EKONOMI  
DI NEGRA BRUNEI DARUSSALAM**

**Survey on the Economic Contribution of Copyright-based Industries  
in Brunei Darussalam**

Segala maklumat yang diberikan akan dirahsiakan. Sila isikan di ruang yang disediakan atau tandakan () di dalam petak yang disediakan, di mana bersesuaian.

Please be assured that all information provided will be kept confidential. Please fill in the spaces provided or tick () in the boxes provided, where applicable.

Bahagian A : Keterangan Syarikat

Part A : Company Particulars

**A.1 Aktiviti utama perusahaan:**

Primary business activity:

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**A.2 Pendapatan dalam tahun 2008**

Turnover/Sales in 2008

- |  |               |
|--|---------------|
| 1. Kurang dari/Less than               | BND 10,000    |
| 2. BND 10,000 hingga/to                | BND 19,999    |
| 3. BND 20,000 hingga/to                | BND 49,999    |
| 4. BND 50,000 hingga/to                | BND 99,999    |
| 5. BND 100,000 hingga/to               | BND 199,999   |
| 6. BND 200,000 hingga/to               | BND 499,999   |
| 7. BND 500,000 hingga/to               | BND 999,999   |
| 8. BND 1,000,000 hingga/to             | BND 1,999,999 |
| 9. BND 2,000,000 hingga/to             | BND 4,999,999 |
| 10. BND 5,000,000 dan ke atas/and over |               |

### A.3 Jumlah pekerja (termasuk pengurusan) dalam tahun 2008 (atau pada masa ini)

Total workforce (including management) in 2008 (or currently)

Pekerja tetap

Full-time personnel \_\_\_\_\_ orang/persons

Pekerja

Part-time personnel \_\_\_\_\_ orang/persons

sementara

Bahagian B : Anggaran Aktiviti Hakcipta

Part B : Estimation of Copyright Activities

Copyright belongs to creative, intellectual, scientific, or artistic forms, or “works” which include literary products (e.g. poems, theses, plays), movies, dances, musical compositions, audio recordings, paintings, drawings, sculptures, photographs, software, radio & television, and broadcasts. A copyright exists when an idea is put in a tangible form, such as a drawing, sheet music, photograph, a videotape, or a computer file. The copyright holder can produce copies of the work and sell them, and to sell or assign the copyright of the work to others.

### B.1 Bagaimanakah kepentingan hakcipta dalam operasi harian perusahaan Tuan/Puan?

How important is copyright in the daily operations of your business?

1 Sangat penting/Very significant

3 Sedikit penting/Slightly significant

2 Penting/Significant

4 Tidak penting/Insignificant

### B.2 Adakah perusahaan Tuan/Puan menerima atau membuat sebarang pembayaran bagi penggunaan hak intelektual dalam bentuk royalti, paten atau lain-lain bayaran perlesenan?

Does your business receive or pay any form of payments for the use of intellectual rights in the form of royalties, patents or other licensing fees?

1 Ya/Yes

2 Tidak/No Sila terus ke B.5/Please proceed to B.5

### B.3 Secara purata, berapa peratuskah dari jumlah perbelanjaan tahunan perniagaan digunakan untuk pembayaran royalti, paten dan lain-lain bayaran perlesenan? (%)

On average, what percentage of the annual total expenditure does your business spend on royalties, patents or other licensing fees?

### B.4 Pada pandangan Tuan/Puan, berapa peratuskah dari jumlah pendapatan syarikat Tuan/Puan disumbangkan oleh aktiviti hakcipta atau kreatif? (Contoh: bayaran rekabentuk). (%)

In your opinion, what percentage of turnover in your business is attributable to copyright or creative activities? (For example, design fees).

### B.5 Berapa orang dari jumlah pekerja syarikat yang terbabit dalam aktiviti kreatif? Aktiviti kreatif termasuk produk/perkhidmatan pembuatan dan pembangunan, contohnya “Pereka barang-barang kemas membuat rekabentuk barang kemas”.

How many of the workforce in your business is involved in creative activities? Creative activities include product/service creation and development, for example “A jewellery craftsman drawing the designs for his jewellery”.

Pekerja tetap dalam aktiviti kreatif  
*Full-time personnel in creative activities* \_\_\_\_\_ orang/persons

Pekerja sementara dalam aktiviti kreatif  
*Part-time personnel in creative activities* \_\_\_\_\_ orang/persons

Bahagian C : Cadangan Bagi Memajukan Aktiviti Kreatif

Part C : Suggestion on Enhancing Creative Activities

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Sukacita dipohonkan kad perniagaan Tuan/Puan.  
*May we request your business card please.*

Cop rasmi (Official stamp) :

Tarikh/Date :

**TERIMA KASIH ATAS KERJASAMA TUAN/PUAN MELENGKAPKAN BORANGTANYA INI**

**Thank you for your cooperation in completing this questionnaire**

**Table C.1: Partial Copyright Factors of Eight Countries**

	Singapore	Latvia *	Hungary	Jamaica	Bulgaria	Lebanon	Malaysia	China	Average	Rank
1	0.4%	0.43%	0.5%	0.5%	0.6%	2.0%	15.0%	0.4%	2.48%	9
		0.42%								
		0.46%								
		0.42%								
2	25.2%	8.69%	25.0%	25.0%	20.0%	25.0%		8.0%	19.55%	4
	8.3%	9.13%	25.0%	25.0%		25.0%		8.0%		
	42.0%									
		8.25%								
3	42.0%		40.0%		40.0%		26.7%	40.0%	37.74%	3
4	5.0%	41.0%	5.0%	5.0%	5.0%	5.0%	35.0%	5.0%	13.25%	6
	8.3%									
	1.7%									
5	0.6%		0.5%	0.5%	0.5%	2.5%	0.38%	0.3%	0.75%	11
6	1.7%	1.65%	2.0%	0.5%	0.4%	2.5%	1.1%	2.0%	1.48%	10
7	42.0%	45.5%	50.0%	50.0%	40.0%	50.0%	26.7%	40.0%	43.03%	1
8	8.3%		10.0%	50.0%	10.0%	10.0%	5.28%	6.0%	14.23%	5
9	8.3%			2.0%			5.28%	5.0%	5.15%	8
10			50.0%	50.0%	50.0%	50.0%		0.5%	40.10%	2
11		45.5%								
12			5.0%	5.0%		6.0%			5.33%	7

Cells shaded in blue denote the highest value in each industry.

\* Average of Singapore and USA factors.

Philippines adopted Singapore's factors.

Mexico used average of USA and Hungary factors.

## Appendix D

**Table D.1: Brunei Darussalam: Copyright-Based Industries Data**

2006	Operating Revenues 2006	Gross Value Added 2006	Employee Compensation 2006	Number of Businesses 2006	Total Employment 2006
<b>Core Copyright (8)</b>					
a. Press & Literature	75,391,843	29,093,776	19,943,412	70	1,235
b. Music, Theatrical Production & Operas	13,216,029	3,804,282	1,892,165	19	257
c. Motion Picture & Video	2,929,975	812,590	562,759	3	53
d. Radio & Television	64,111,363	53,841,784	5,941,024	3	212
e. Photography	6,585,771	2,656,847	1,371,029	22	123
f. Software & Databases	21,681,337	9,410,654	3,722,873	16	148
g. Visual & Graphic Arts	13,592,921	4,121,865	2,682,057	17	244
h. Advertising Services	17,136,496	21,241,591	3,415,137	18	275
<b>Subtotal</b>	<b>214,645,735</b>	<b>124,983,388</b>	<b>39,530,456</b>	<b>168</b>	<b>2,547</b>
<b>Interdependent Copyright (3)</b>					
a. TV Sets, Radios, VCRs, CD Players, etc.	32,907,856	16,618,761	2,956,300	18	128
b. Computers & Equipment	107,613,083	7,361,797	9,315,603	58	623
c. Paper	3,213,566	536,369	358,671	1	19
<b>Subtotal</b>	<b>143,734,505</b>	<b>24,516,927</b>	<b>12,630,574</b>	<b>77</b>	<b>770</b>
<b>Partial Copyright (10)</b>					
a. Apparel, Textiles & Footwear	32,368,164	9,770,195	5,491,148	81	929
b Jewellery & Coins	11,417,349	4,073,743	1,805,700	24	136
c. Other Crafts	19,328,658	6,136,446	2,556,834	34	281
d. Furniture	21,752,756	4,707,673	3,335,966	16	207
e. Household Goods, China & Glass	13,723,928	2,904,476	890,694	6	64
f. Wall Coverings & Carpets	59,883	40,970	13,112	0	2
g. Toys & Games	1,709,476	544,160	383,448	5	35
h. Architecture, Engineering, Surveying	129,940,000	95,484,000	2,173,714	11	85
i. Museums	5,216,250	2,012,955	1,379,855	1	85
<b>Subtotal</b>	<b>235,516,464</b>	<b>125,674,619</b>	<b>18,030,472</b>	<b>176</b>	<b>1,824</b>
<b>Non-Dedicated Support (3)</b>					
a. General Wholesale & Retailing	37,400,432	83,955	4,142,477	38	163
b. General Transportation	17,661,061	1,231,490	5,723,357	10	113
c. Telephony & Internet Telecomm	11,766,075	6,390,164	1,603,315	2	38
<b>Subtotal</b>	<b>66,827,569</b>	<b>7,705,609</b>	<b>11,469,148</b>	<b>51</b>	<b>315</b>
<b>TOTAL</b>	<b>660,724,272</b>	<b>282,880,543</b>	<b>81,660,651</b>	<b>472</b>	<b>5,456</b>

**Table D.1: Brunei Darussalam: Copyright-Based Industries Data (Continued)**

2005	Operating Revenues 2005	Gross Value Added 2005	Compensation of Employees 2005	Number of Businesses 2005	Total Employment 2005
<b>Core Copyright (8)</b>					
a. Press & Literature	68,596,730	24,595,381	17,003,215	70	1,146
b. Music, Theatrical Production & Operas	11,796,989	3,624,338	2,021,703	19	246
c. Motion Picture & Video	3,150,635	711,046	670,030	3	58
d. Radio & Television	62,550,611	52,951,151	5,723,141	3	380
e. Photography	7,201,557	2,337,562	1,514,960	22	127
f. Software & Databases	23,265,462	27,873,335	3,347,138	16	126
g. Visual & Graphic Arts	11,717,747	5,870,550	2,806,560	17	239
h. Advertising Services	16,002,094	16,503,133	3,224,897	18	220
<b>Subtotal</b>	<b>204,281,825</b>	<b>134,466,496</b>	<b>36,311,644</b>	<b>168</b>	<b>2,542</b>
<b>Interdependent Copyright (3)</b>					
a. TV Sets, Radios, VCRs, CD Players, etc.	21,834,889	11,797,986	2,583,642	18	123
b. Computers & Equipment	115,750,781	8,980,918	8,515,306	58	578
c. Paper	2,283,762	535,164	356,235	1	20
<b>Subtotal</b>	<b>139,869,432</b>	<b>21,314,068</b>	<b>11,455,183</b>	<b>77</b>	<b>721</b>
<b>Partial Copyright (9)</b>					
a. Apparel, Textiles & Footwear	41,461,133	11,301,889	6,206,337	81	960
b. Jewellery & Coins	10,865,629	3,070,675	1,692,087	24	131
c. Other Crafts	20,499,627	5,656,810	2,760,869	34	288
d. Furniture	20,080,086	4,276,152	2,581,807	16	196
e. Household Goods, China & Glass	11,427,810	2,365,680	918,688	6	59
f. Wall Coverings & Carpets	61,800	38,331	13,701	0	2
g. Toys & Games	1,791,466	596,964	391,621	5	33
h. Architecture, Engineering, Surveying	146,876,000	112,712,000	1,495,040	11	85
i. Museums	5,148,750	1,846,086	1,276,231	1	86
<b>Subtotal</b>	<b>258,212,302</b>	<b>141,864,588</b>	<b>17,336,382</b>	<b>176</b>	<b>1,838</b>
<b>Non-Dedicated Support (3)</b>					
a. General Wholesale & Retailing	39,018,897	78,629	2,607,013	38	158
b. General Transportation	19,245,062	1,345,279	3,577,382	10	114
c. Telephony & Internet Telecomm	10,112,381	6,052,918	639,669	2	14
<b>Subtotal</b>	<b>68,376,341</b>	<b>7,476,826</b>	<b>6,824,064</b>	<b>51</b>	<b>287</b>
<b>TOTAL</b>	<b>670,739,899</b>	<b>305,121,978</b>	<b>71,927,272</b>	<b>472</b>	<b>5,388</b>

## Appendix E

**Table E.1: Brunei Darussalam: Trade in Copyright Items**

2005							BND
SITC	Description	Imports	Exports	Domestic Exports	Re-Exports	Retained Imports	Trade Balance
*8921200	Children's Picture, Drawing or Colouring Books	123,326	44		44	123,282	-123,282
*8921300	Maps, Hydrographical & Similar Charts	37,508				37,508	-37,508
*8921600	Printed Books	188,646	24,730		24,730	163,916	-163,916
*8921900	Brochures, Leaflets & Similar Printed Matter	5,010,664	121,384	7,728	113,656	4,897,008	-4,889,280
*8922100	Newspapers, Journals & Periodicals	5,475,115	255		255	5,474,860	-5,474,860
*8924100	Transfers (Decalcomanias)	92,755	35		35	92,720	-92,720
*8924200	Picture Postcards & Greeting Cards	211,960	162		162	211,798	-211,798
*8928100	Labels of Paper or Paperboard	3,836,776	9,206		9,206	3,827,570	-3,827,570
*8928200	Industrial Plans & Drawings	28,119	3,110		3,110	25,009	-25,009
*8928400	Calendars of Any Kind Incl. Calendar Blocks	241,813	9,341	7,855	1,486	240,327	-232,472
*8928500	Music, Printed or in Manuscript	4,587				4,587	-4,587
*8928600	Advertising Material, Commercial Catalogues etc.	796,240	58,490	4,281	54,209	742,031	-737,750
*8928900	Other Printed Matter Incl. Pictures & Photographs	1,478,568	33,634	193	33,441	1,445,127	-1,444,934
8986100	Magnetic Tapes Recorded of a Width not Exceeding 4mm	465,982	16,628		16,628	449,354	-449,354
883	Cinematographic Film	76,650	631		631	76,019	-76,019
896	Works of Art	450,541	45,882	6,278	39,604	410,937	-404,659
	<b>Total</b>	<b>18,519,250</b>	<b>323,532</b>	<b>26,335</b>	<b>297,197</b>	<b>18,222,053</b>	<b>-18,195,718</b>
	<b>Total Trade</b>	<b>2,480,990,000</b>	<b>10,397,680,000</b>	<b>10,105,000,000</b>	<b>292,680,000</b>	<b>2,188,310,000</b>	<b>7,916,690,000</b>
	<b>Share of Copyright items</b>	<b>0.75%</b>	<b>0.003%</b>	<b>0.00026%</b>	<b>0.10%</b>	<b>0.83%</b>	<b>-0.23%</b>



**Table E.1: Brunei Darussalam: Trade in Copyright Items (Continued)**

2006							BND
SITC	Description	Imports	Exports	Domestic Exports	Re-Exports	Retained Imports	Trade Balance
*8921200	Children's Picture, Drawing or Colouring Books	146,123	154		154	145,969	-145,969
*8921300	Maps, Hydrographical & Similar Charts	3,198	1,034		1,034	2,164	-2,164
*8921600	Printed Books	362,655	57,207		57,207	305,448	-305,448
*8921900	Brochures, Leaflets & Similar Printed Matter	3,670,822	89,518		89,518	3,581,304	-3,581,304
*8922100	Newspapers, Journals & Periodicals	4,442,422	10		10	4,442,412	-4,442,412
*8924100	Transfers (Decalcomanias)	94,541	176		176	94,365	-94,365
*8924200	Picture Postcards & Greeting Cards	398,401	383		383	398,018	-398,018
*8928100	Labels of Paper or Paperboard	3,662,895	34,515		34,515	3,628,380	-3,628,380
*8928200	Industrial Plans & Drawings	18,752	15		15	18,737	-18,737
*8928400	Calendars of Any Kind Incl. Calendar Blocks	265,275	6,591		6,591	258,684	-258,684
*8928500	Music. Printed or in Manuscript	5,059				5,059	-5,059
*8928600	Advertising Material, Commercial Catalogues etc.	1,560,661	85,389		85,389	1,475,272	-1,475,272
*8928900	Other Printed Matter Incl. Pictures & Photographs	1,588,683	50,562		50,562	1,538,121	-1,538,121
8986100	Magnetic Tapes Recorded of a Width not Exceeding 4mm	124,956	1,356		1,356	123,600	-123,600
883	Cinematographic Film	106,054	4,063		4,063	101,991	-101,991
896	Works of Art	504,061	224,232		224,232	279,829	-279,829
	<b>Total</b>	<b>16,954,558</b>	<b>555,205</b>	<b>0</b>	<b>555,205</b>	<b>16,399,353</b>	<b>-16,399,353</b>
	<b>Total Trade</b>	<b>2,658,500,000</b>	<b>12,117,120,000</b>	<b>11,888,280,000</b>	<b>228,840,000</b>	<b>2,429,660,000</b>	<b>9,458,620,000</b>
	<b>Share of Copyright items</b>	<b>0.64%</b>	<b>0.005%</b>	<b>0%</b>	<b>0.24%</b>	<b>0.67%</b>	<b>-0.17%</b>

## Appendix F

**Table F.1: Relative Size of Copyright-Based Industries from WIPO Studies**

Country	Year	Share in GDP		Share in Employment		Core Share in Trade		Share in Census Value Added	
		Core %	Total %	Core %	Total %	Exports %	Imports %	Core %	Total %
Philippines (1999)	1999	3.54	4.826	8.81	11.01	0.06	0.31		
Mexico (1998)	1998	1.328	5.15	2.72	10.45			2.47	9.58
Mexico (2003)	2003	1.548	4.77	3.41	11.01			2.62	8.07
Jamaica	2005	1.7	4.8	1.8	3.03				
Bulgaria	2003	1.3	2.08	2.5	3.93				
Bulgaria	2005	1.57	2.81	2.29	4.31			1.91	3.42
Lebanon	2005	2.53	4.75	2.11	4.48				
Latvia	2000	2.9	4.0+	3.7	4.4+				
Latvia **	2000	2.9	5.1	3.7	5.6				
Hungary	2002	3.961	6.668	4.154	7.102				
Singapore	1986	2.1	4.74	2.26	4.56				
Singapore	1990	2.33	5.43	2.34	5.32				
Singapore	1995	2.62	6.07	3.03	6.2				
Singapore	2000	2.97	6.14	3.45	5.65	3.27*			
Singapore	2001	2.85	5.67	3.64	5.80	3.58*			
Singapore	2003	3.5		4.0					
Singapore	2004	3.04	5.75	3.9	5.94				
USA	2002	5.98	11.97	4.02	8.41				
USA	2005	6.56	11.12	4.03	8.49				
Canada	2004	3.33	4.50	4.11	5.55				

**Table F.1: Relative Size of Copyright-Based Industries from WIPO Studies (Continued)**

Country	Year	Share in GDP		Share in Employment		Core Share in Trade		Share in Census Value Added	
		Core %	Total %	Core %	Total %	Exports %	Imports %	Core %	Total %
Malaysia	2000	2.6	4.7	3.4	5.3	0.4	0.4		
Malaysia	2001	2.8	5.3	3.5	5.8				
Malaysia	2002	2.9	5.5	4.0	6.4				
Malaysia	2003	3.0	5.6	4.2	6.7				
Malaysia	2004	2.9	5.5	4.5	7.0	1.1	0.5		
Malaysia	2005	2.93	5.81	4.77	7.51				
China	2004	2.08	5.15	2.82	5.8	0.26			
China	2006	3.01	6.41	3.25	6.78	0.26			
Canada	1991	2.81	3.87		4.53				
Canada	1992	2.85	3.93		4.55				
Canada	1993	2.93	3.98		4.76				
Canada	1994	2.84	3.88		4.99				
Canada	1995	3.15	4.19		5.36				
Canada	1996	3.18	4.25		5.81				
Canada	1997	3.27	4.35		6.08				
Canada	1998	3.5	4.61		6.34				
Canada	1999	3.74	4.95		6.69				
Canada	2000	3.79	5.04		6.95				
Canada	2001	3.92	5.27		6.96				
Canada	2002	3.99	5.38		-				

\* Share in non-oil domestic exports

\*\*Total copyright figures estimated by consultant.

+ Covers core and intermediate copyright industries only.

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# The Economic Contribution of Copyright-Based Industries in the Republic of Korea



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## EXECUTIVE SUMMARY

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The knowledge-based industry is the engine of economic growth of the 21<sup>st</sup> century, and the creation of knowledge relies heavily upon the protection of copyrights. Copyright laws are essential to a nation's economic development, since they protect copyright owners who wish to obtain economic gains through their creation of knowledge.

This study was commissioned by World Intellectual Property Organization (WIPO) in July 2011. The purpose of the study was to prepare statistics on the Republic of Korea's (ROK) copyright-based industries in accordance with the WIPO Guide (2003), and to analyse their contribution to the ROK economy on the basis of these statistics.

The study initially estimated the ROK copyright-based industries' output, value added, employment and external transactions during the period 2005-2009; and then generated multipliers regarding their incentive to production, value-added inducement, and job creation through an input-output analysis approach. In addition, this study describes the current status, vulnerabilities and growth potential of the ROK copyright-based industries in comparison with other countries, including the USA and Australia.

The study found that copyright-based industries are among the most important contributors to Republic of Korea's economic growth. Firstly, the ROK copyright industries grew much faster than the rest of the economy in real terms. Secondly, the number of workers in the copyright-based industries showed an average growth rate during the period 2006-2009 that was about 2.5 times higher than all industries. Thirdly, the economic impacts of the copyright-based industries are bigger than the rest of all industries in terms of output multipliers, value-added multipliers and employment multipliers respectively.

In 2009 the ROK copyright-based industries registered 105.4 trillion Korean won (KRW) in nominal value added, accounting for 9.89% of the country's GDP. Employment in this industry was reported at 1,467,000 or 6.24% of the national workforce. In terms of annual trends, the value added by the copyright-based industries steadily increased from 8.79% of the ROK's GDP in 2005 to 9.89% in 2009. The employment in this industry also exhibited a steady rise, increasing from 5.97% of the national workforce in 2005 to 6.24% in 2009.

During the period 2006-2009, the copyright-based industries' real value added recorded an average annual increase rate of 7.3%, a level much higher than that of the real GDP (3.2%). In addition, the number of employees in this industry grew at an annual average rate of 1.8%; about 2.5 times higher than that of all industries (0.7%).

As for the size of the copyright-based industries, their contribution to GDP as recorded in 2009 was similar to the size of the general government (9.8%), but much higher than construction (6.3%), wholesale and retail trade (7.6%), financial intermediation (6.1%), information and communication (3.9%) and health and social work (4.0%).

The contribution of the core copyright industries to the national economy (nominal value added by the core copyright industries/nominal GDP) grew from 3.39% in 2005 to 3.51% in 2009. The contribution to total employment (number of employees of the core copyright industries/total number of employees nationwide) steadily rose from 2.66% in 2005 to 2.85% in 2009.

Regarding the distribution of the core copyright industries, in terms of value added in 2009, software and databases accounted for 52.9% of the entire core copyright industries, followed by press and literature (16.7%), radio and television (10.1%), and advertising services (8.0%). The real value added of the core copyright industries between 2006 and 2009 increased an average of 4.2% per annum. The highest growth was recorded by the copyright collecting societies showing an increase of 12.6%. Next in line were the visual and graphic arts (9.7%), software and databases (7.5%), and photography (5.2%) industries. On the other hand, press and literature, motion picture and video, and advertising services experienced a decrease in the average annual growth rate during the same period.

The Republic of Korea is a net importing country of copyright-related goods and services. The trade deficit continued to increase to 6.0 billion US dollars in 2009, up 78.9% from 3.4 billion US dollars in 2005. The trade deficit was generated mainly by press and literature, and advertising services.

Comparing the level of contribution to GDP by the copyright-based industries of 29 countries, including the USA, Canada, and Australia, the Republic of Korea recorded 9.89%, behind the USA (11.05%) and Australia (10.30%). The Republic of Korea is followed by Hungary (6.66%) and China (6.37%). Contribution to employment is 6.24%, slightly above the average of the 29 countries (5.99%).

Contribution to GDP by the ROK core copyright industries stands at 3.51%, hovering just above the average of the 29 countries (3.03%). Australia topped this category with 7.30%, followed by the USA (6.44%), Panama (5.40%), and the Netherlands (4.00%). On the other hand, contribution to employment by the ROK core copyright industries is placed at 2.85%, which falls behind the average of the 29 countries (3.19%).

In 2009, the output multiplier of the core copyright industries was 2.0021, which was almost the same level as manufacturing (2.0810). It was higher than agriculture, forestry and fishing (0.8173), total services (1.7282), and all industries (1.9545). The value added multiplier stood at 0.8317, which surpassed those of agriculture, forestry and fishing (0.8173), manufacturing (0.5891), construction (0.7494), and total services (0.8286). On the other hand, the employment multiplier (final demand of KRW 1 billion) was estimated at 16.8, which was higher than those of manufacturing (10.0), construction (14.2), and transportation (12.7).

Based on the findings of the analysis of the copyright-based industries' economic contribution to the Republic of Korea's economy, the following implications may be inferred:

The ROK core copyright industries' contribution to GDP (3.51%) is far lower than those of the USA (6.44%) and Australia (7.30%). This implies that a strategy to galvanize these industries is required. In particular, the music industry, theatrical production and opera, and the motion picture and video production, among the core copyright industries, are of a relatively small size and burdened by a low growth rate. Therefore, it is deemed urgently necessary to implement a strategy to nurture these vulnerable sectors.

The annual average growth rate of the copyright-based industries between 2006 and 2009 was 7.3%, which was much higher than that of the GDP (3.2%). This phenomenon takes a more definite form in 2008 and 2009 when the GDP growth rates were relatively low. Accordingly, it is imperative to foster the copyright-based industries as a buffer during times of economic downturn.

As of 2009, the share of value added of the copyright-based industries was 9.89% of GDP, which was almost the same size as the general government (9.8%). It was much higher than those of construction (6.3%), wholesale and retail trade (7.6%), financial intermediation (6.1%), information and communication (3.9%), and health and social work (4.0%). Considering the size of the copyright-based industries, more emphasis must be put on developing the copyright industries as a key engine of future economic growth of the Republic of Korea.

In terms of the output multipliers, the value added multipliers and the employment multipliers, the core copyright industries showed higher multipliers than those of the total services and all industries. This means that the core copyright industries had a bigger impact on incentive to production, value added, and employment generation. Based on these findings, we surmise that fostering the core copyright industries will translate into higher rates of economic growth and employment.

The Republic of Korea was a net importing country of copyright-related goods and services during the period 2005-2009. The trade deficit in the copyright-related goods and services continued to increase to 6.0 billion US dollars in 2009 from 3.4 billion US dollars in 2005. Since the trade deficit was generated mainly by the goods and services of press and literature, and advertisement, it has been necessary to devise economic policies to boost the international competitiveness in these sectors.



# 1. INTRODUCTION

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## 1.1 Background

The knowledge-based industries are frequently articulated as the driving engine of the economy of the 21<sup>st</sup> century. The creation of knowledge relies heavily upon the protection of copyrights. Copyright laws safeguarding the respect of copyrights enable the rights holders to retain the economic benefits rightfully earned through the creation of knowledge. As the economic benefits accrued from software and multimedia have recently multiplied thanks to the rapid advancement of digital technology, their copyrights have been widely recognized, thereby broadening the scope of works subject to copyright protection.

For the purpose of assuring the importance of the copyright-based industries in the Republic of Korea, the Korean Copyright Commission conducted two *Statistical Surveys on the Size of the Domestic Copyright-Based Industries* in 2009 and 2010, respectively. These surveys were designed to identify the status of copyright-based industries and establish relevant policies by compiling systematic data on the copyright-based industries.

The study was initiated under the direction of the World Intellectual Property Organization (WIPO) in July 2011. By compiling statistics of the Republic of Korea's copyright industries according to the WIPO Guide (2003), it was possible to obtain internationally comparable data and analyse the economic contribution of the copyright-based industries to the national economy.

## 1.2 Objectives

The primary objective of the study was to estimate the size of major economic variables of the copyright-based industries, such as output, value added, employment and foreign trade, and measure the industries' economic contribution to national economy. Furthermore, it is anticipated that the study will facilitate the regular production of statistics of the copyright-based industries that is currently under way.

In particular, the study was intended to further analyse some selected industries of interest among the core copyright industries in respect of their market structure, value chain, supply and demand, labour market, and the role of copyright collecting societies. This was done to help define areas for improvement, areas experiencing growth, and areas with potential for growth in the copyright-based industries.

Furthermore, in this study, the copyright-based industries' multiplying effects on output, employment and foreign trade were compared to those of other industries. As a result, the comparative advantages of the copyright-based industries were identified, which could be used when establishing policies to promote growth and advancement of the copyright-based industries and making more efficient strategic choices.

## 1.3 Scope

WIPO has classified the copyright-based industries into four categories by degree of dependence on copyright. These are the 'core copyright industries', the 'interdependent copyright industries', the 'partial copyright industries', and the 'non-dedicated support industries'.

### *Core Copyright Industries*

According to the WIPO Guide (2003), the core copyright industries are 'Industries that are wholly engaged in creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter.'

### *Interdependent Copyright Industries*

The interdependent copyright industries are 'Industries that are engaged in production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production or use of works and other protected subject matter.'

### *Partial Copyright Industries*

The partial copyright industries are 'Industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales.' To evaluate the economic contribution of the copyright-based industries, only the portion related to works and other protected subject matter is included.

### *Non-Dedicated Support Industries*

The non-dedicated support industries are 'Industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries.'

The WIPO classification of the copyright-based industries has been adopted by most countries, including the USA, in generating statistics related to the size of their copyright-based industries. This study also applied the WIPO classification and estimated the size of output, value added, employment and foreign trade of the copyright-based industries over the period of 2005-2009. Based upon the data, the industries' multiplying effects on output and employment in the Republic of Korea were computed. Moreover, current status, areas for improvement, and areas with growth potential in the copyright-based industries in the Republic of Korea were identified by comparing them with other countries such as Australia and the USA.

## **1.4 Methodology of the Study**

### **1.4.1 Data Collection**

In this study, the source data for estimating output, value added and employment from 2005 to 2009 were the official statistics provided by Statistics Korea. The source data for manufacturing industries were obtained from the Republic of Korea's *Mining and Manufacturing Survey*; and the source data for service industries were collected from the Republic of Korea's *Service Industry Census*, *Service Industry Survey*, *Wholesale and Retail Trade Survey* and *Transportation Industry Survey*. The *Mining and Manufacturing Survey* provides the output, value added and employment of each industry. The *Service Industry Census*, *Service Industry Survey*, *Wholesale and Retail Trade Survey* and *Transportation Industry Survey* supply the amount of sales and numbers of employment; they do not provide data on value added generated by each industry.

For this study, the data of the output for manufacturing industries were obtained directly from the 'gross output' in *Mining and Manufacturing Survey*, and the data for service industries were collected from the 'annual sales' in the relevant Surveys. For the wholesale and retail industries, the source data for the output were calculated by subtracting cost of sales from annual sales (annual sales – cost of sales).

The value-added data for manufacturing industries were supplied in *Mining and Manufacturing Survey*. As for the service industries, they were not available directly from *Service Industry Census*, *Service Industry Survey*, and *Wholesale and Retail Trade Survey*. Hence, they were estimated by multiplying the output by value-added ratio of each industry. This study used value-added ratio data obtained from the *Financial Statement Analysis* published by the Bank of Korea.

The employment data for both the manufacturing and service industries were supplied by each relevant *Survey*.

The totals of output, value added and employment of copyright-based industries were calculated by summing up the data of the sub-group industries: core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated support industries. The data on each copyright industry was estimated by applying the copyright factor of each industry.

To estimate real output and value added of copyright-based industries, the relevant price indexes were sourced. The 'producer price index' publicly announced by the Bank of Korea was used to calculate the real sales and value added for the copyright industries.

### 1.4.2 Convergence of Classifications

The Guide provides the convergence table between the WIPO's copyright industry classification and the International Standard Industrial Classification (ISIC)<sup>1</sup>. To make a convergence table between WIPO Classification and Korea Standard Industry Classification (KSIC), it is essential to understand the linkage between the ISIC and KSIC. As the KSIC is based on the ISIC, the definitions of industries in KSIC are identical to the ISIC. Considering uniqueness of Korean industries, a few industries were classified differently from the ISIC.

The Guide shows the convergence of classifications based on the ISIC Rev.3.1 published in 2003. After the new ISIC Rev.4 was published in 2006, the new convergence of classification was provided by WIPO. The KSIC Rev. 9 was published by Statistics Korea in December 2007. As a result, the data of the manufacturing industries are obtainable based on the KSIC Rev.9 for the period 2005-2009. On the other hand, the data of the service industries are provided based on the KSIC Rev.8 for the period 2005-2006, and the KSIC Rev.9 for the period 2007-2009. Thus, part of the data on the service industries during the period 2005-2006 were estimated to make them consistent with those of the period 2007-2009.

In the KSIC, the main industrial activities of establishments are systematically classified depending on their similarity. Its structure and codes are as follows.<sup>2</sup> The hierarchy of classification consists of the top-level (alphabetic letters/Sections), second level (2-digit numbers/Divisions), third level (3-digit numbers/Groups), the fourth level (4-digit numbers/Classes), and the fifth level (5-digit numbers/Sub-Classes).

This study is based on the official industry classification, 'Korean Copyright Industry Classification', which was established by law in November in 2011. In consideration of the fact that using high-level classification results in the duplication of many industries, the most detailed classification (5-digit level) system was used in the Korean Copyright Industry Classification (refer to Appendix III for more details).

## 1.5 Structure of the Study

The rest of the study is organized as follows:

Section 2 describes copyright law in the Republic of Korea, with its recent trends and developments. It also explains the structure of copyright law and infrastructure for copyright usage in the Republic of Korea.

Section 3 covers the methods of estimating the size of copyright-based industries, and calculation methods of output, value added and number of employees. It also describes copyright factors of the Republic of Korea and their survey methods.

Section 4 contains the economic contribution of copyright-based industries to national economy. It deals with the economic contribution of output, value added, employment, and foreign trade, and compares them with other countries.

Section 5 explains the economic impact (direct and indirect) of core copyright industries and the multipliers through input-output methodology.

Section 6 deals with recent trends of key core copyright industries in the Republic of Korea such as press, music, film, broadcasting, software and databases, and advertisement, etc.

Section 7 provides summary and policy implications on the copyright-based industries in the Republic of Korea.

<sup>1</sup>See the *Korean Standard Statistical Classification* at the Statistics Korea web page.

<sup>2</sup>In this study, 'workers' includes workers such as employers, self-employed and family workers.

## 2. TRENDS AND DEVELOPMENT OF COPYRIGHT LAW

### 2.1 Milestones in the Development of Copyright Law

Since the first copyright law was enacted in the Republic of Korea in 1957, the law, which is governed by the Copyright Act, has been amended on 18 occasions as of 2009. On the one hand, prior to the 8<sup>th</sup> amendment in 1995, most amendments adopted were largely due to the need to correspond to amendments of other laws. After the 8<sup>th</sup> amendment, on the other hand, amendments were brought in to advance the Copyright Act by keeping it updated and up to date as technological developments have exploded thanks to the digital and Internet technologies, and as a result the affected scope significantly expanded.

**Table 2.1: History of Enactment and Amendment of the Republic of Korea's Copyright Law**

	Descriptions	Promulgated on
Enactment	New Enactment	Jan. 28, 1957
1st	An internationally recognized system introduced to join international treaties such as the Universal Copyright Convention	Dec. 31, 1986
2nd	Relevant provisions adjusted due to the amendment of the 'Government Organization Act'	Dec. 30, 1989
3rd	Relevant provisions adjusted due to the amendment of the 'Government Organization Act'	Dec. 27, 1990
4th	Title of relevant laws revised due to enactment of the 'Libraries Promotion Act'	Mar. 8, 1991
5th	Relevant provisions adjusted due to amendment of the 'Government Organization Act'	Mar. 6, 1993
6th	Protection period of neighbouring rights extended; penal provisions toughened	Jan. 7, 1994
7th	Title of relevant laws revised due to amendment of the 'Libraries and Reading Promotion Act'	Mar. 24, 1994.
8th	Copyright protection adjusted to conform to global standards to reflect the WTO TRIPS and to join the Berne Convention, etc.	Dec. 6, 1995
9th	System of conducting hearings introduced for revocation of permits for copyright trust management business, etc.	Dec. 13, 1997
10th	Right of transmission introduced; scope of immunity of libraries expanded; penal provisions toughened, etc.	Jan. 12, 2000
11th	Database producers protected; scope of liability of OSP clarified, etc.	July 10, 2003
12th	Right of transmission conferred on performers and phonogram producers	Oct. 16, 2004
13th	Titles of relevant laws revised due to the enactment of the 'Libraries Promotion Act'	Oct. 4, 2006
14th	Concepts of public transmission and digital sound transmission introduced; order for collection, destruction, deletion, and suspension of illegal copies introduced	Dec. 28, 2006
15th	Relevant provisions adjusted due to the amendment of the 'Government Organization Act'	Feb. 29, 2008
16th	Immunity of the National Library of Korea in the collection of online materials for archiving; scope of recording methods exclusively used for the visually impaired clarified; right to claim compensation for unauthorized performance introduced for performers and phonogram producers	Mar. 25, 2009
17th	The 'Copyright Act' and the 'Computer Program Protection Act' integrated; measures against illegal copying of online copyrighted works toughened	Apr. 22, 2009
18th	Title of relevant laws revised due to the amendment of the 'Act on the Promotion of Newspapers, etc.'	July 31, 2009

Source: *Copyright Yearbook 2009*, Korea Copyright Commission (2010)

The 8<sup>th</sup> amendment promulgated in 1995 signifies the transition of the Republic of Korea's copyright system to the global copyright law regime. Furthermore, the scope of the Copyright Act was substantially broadened to accommodate the newly emerging on-line realm by introducing the right of transmission in the 10<sup>th</sup> amendment; clarifying the scope of liability of online service providers (OSP) in the 11<sup>th</sup> amendment; according the right of transmission to performers and phonogram producers in the 12<sup>th</sup> amendment; introducing the concepts of public transmission and digital sound transmission in the 14<sup>th</sup> amendment; and

seeking measures to prevent illegal copying of on-line copyrighted works in the 17<sup>th</sup> amendment. Moreover, in the 17<sup>th</sup> amendment, the purpose provision included the clause 'improvement and advancement of the industry' and the Copyright Act and the Computer Program Protection Act were integrated, thereby further clarifying the expanding scope of the Copyright Act.

## **2.2 Copyright Law and the System in the Republic of Korea**

### **2.2.1 Overview**

In the 17<sup>th</sup> amendment, the Copyright Act encompassed a wide array of industries beyond the categories of creation and protection of rights by redefining the purpose of the Copyright Act and was reborn as a law governing all types of intangible digital property rights, through integration with the existing Computer Program Protection Act.

Copyright comprises the author's property rights, author's moral rights and neighbouring rights. The author's property rights include the reproduction right, public performance right, public transmission right, public presentation right, distribution right, rental right and right to make derivative works. The author's moral rights consist of the right of publication, right to the name and right of integrity. In addition, neighbouring rights are granted to performers, phonogram producers and broadcasting organizations who are creative contributors of the public transmission of copyrighted works.

As for the approach to acquiring copyrights, the Republic of Korea adopts the principle of automatic protection, whereby copyright is secured automatically upon creation of works. Authors' property rights can be transferred or assigned in whole or in part, whereas authors' moral rights cannot be assigned or passed on to others on the basis of the rule of inalienability.

With respect to the limitation of a copyright, which is an exclusive right, some rights are restricted for the purpose of cultural advancement or public interests in accordance with applicable laws. In the Republic of Korea, to provide the legal basis for the limitations on copyrights regarding general copyrighted works, there are 14 provisions pertaining to the reproduction for judicial proceedings, use for the purpose of school education, reproduction for private use, etc. For program works, one provision is stipulated.

### **2.2.2 Protection of Copyrights and International Activities**

An author's property rights to a work continue to subsist during the lifetime of an author and for a period of 50 years after his or her death. Neighbouring rights also continue for 50 years from the date of performance, publishing of phonograms and broadcasting. Civil claims for damages need to be exercised within ten years of the occurrence of the transgression or within three years of gaining knowledge of the damage or the identity of the offender; or otherwise, the rights to damages lapse by negative prescription.

With regards to remedies to criminal activities, in principle, an offence is subject to complaint by the victim. However, habitual infringements of others' copyrights for profit-making purposes are not considered to be an offence subject to prosecution on complaint. In cases where a person deals commercially with copies of programs in the knowledge that the copies were an infringement at the time, such act is regarded as an offence that will not be prosecuted in the absence of a specific claim in this regard.

In protecting copyrights, not only control and regulation but also awareness about the breadth of the protection of copyrights is vital. To that end, education on copyright continues to be provided mainly by the Korean Copyright Commission. The cumulative number of people who have undergone training or education on copyrights between 2006 and 2009 totalled about 140,000.

**Table 2.2: Number of People Who Have Undergone Copyright Education and Training**

(Persons)

Year	2006	2007	2008	2009
Headcount	4,900	11,763	17,996	109,772

Source: Korea Copyright Commission

Rules and regulations on copyright tend to conform to global standards. Starting with the admission into the WIPO in 1979, the Republic of Korea became a member of eight international treaties relating to copyright as of 2009.

**Table 2.3: Republic of Korea's Affiliation with International Treaties on Copyright**

Treaty	Joined on	Remarks
Convention Establishing the WIPO	Mar. 1, 1979	Rules for establishing the WIPO
Universal Copyright Convention	Oct. 1, 1987	Principle of registration applied for protection of copyrights
Phonograms Convention	Oct. 10, 1987	Rules on prevention of unauthorized reproduction and distribution of phonograms
TRIPS	Jan. 1, 1995	Comprehensive rules on copyrights and neighbouring rights
Berne Convention	Aug. 21, 1996	Basic convention on copyrights
WCT	June 24, 2004	
Rome Convention	Dec. 18, 2008	
WPPT	Dec. 18, 2008	

### 2.2.3 Copyright Infringement and Remedies

#### Copyright Infringement

The extent of the copyright infringements occurring due to illegal reproductions in 2009 is shown in Table 2.4 below:

The figures show that the highest infringement amount was found in cinematographic works accounting for KRW 660 billion or 29.5% of all cases of infringement. It was followed by music works accounting for about 24.7% and press works accounting for 18.8%.

**Table 2.4: The extent of Copyright Infringements in Major Markets**

(Million won, %)

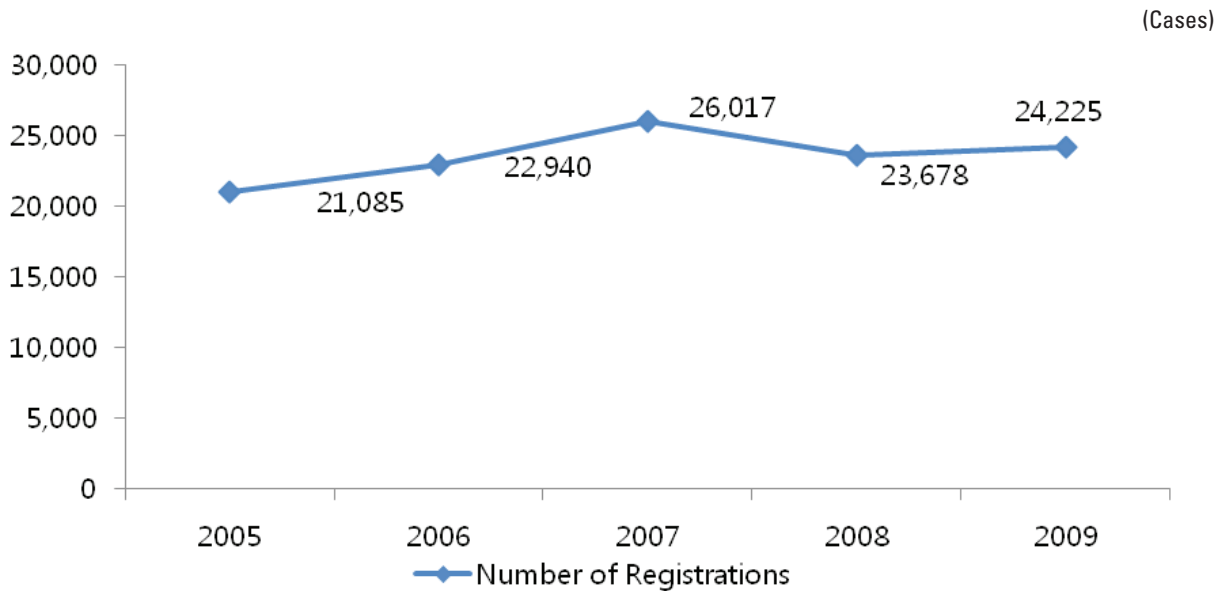
Classification	2008		2009	
	Amount	Share	Amount	Share
Music works	589,322	24.3	556,407	24.7
Cinematographic works	710,707	29.3	663,065	29.5
Broadcast works	262,230	10.8	220,339	9.8
Published works	447,144	18.5	423,719	18.8
Online games	414,062	17.1	386,209	17.2
Total	2,423,465	100.0	2,249,739	100.0

Source: 2010 Annual Report on Copyright Protection

**Defences**

In the Republic of Korea, copyrights are acquired on the basis of the principle of automatic protection, whereby created works are protected without registration. Registration of copyrights, however, provides more persuasive protection of rights in the event of disputes since the holder of the right would satisfy the prerequisites for counteraction and obtain the presumption of authorship. The number of copyright registrations is shown in Chart 2.1. Registrations of copyrights reached a peak of 26,017 in 2007. After undergoing a brief downward trend in 2008, they have since been on a steady rise. As of 2009, about 260,000 works including software have been registered on a cumulative basis.

**Chart 2.1: Registrations of Works**



Source: Korea Copyright Commission

Works made under the ‘for hire’ doctrine are works published under the name of non-natural persons such as an organization or a company. Their author’s property rights are protected for 50 years from the date of being made public. The number of registrations of works made ‘for hire’ is shown in Table 2.5 below. The registrations of general works reached a peak of 11,443 cases in 2007 and have been diminishing since. As for software, however, registrations increased after a slight decline in 2007. In 2009, the number of registered software totalled 9,157.

**Table 2.5: Registration of Works Made for Hire**

Year	2005	2006	2007	2008	2009	
Number of registrations	General	7,295	8,897	11,443	8,153	6,807
	Software	7,998	8,352	8,074	8,957	9,157
	Total	15,293	17,249	19,517	17,110	15,964

**Remedies**

As the distribution and exploitation of works online become increasingly active, issues related to illegal reproductions have become more serious and widespread. The Copyright Protection Center attached to the Korean Federation of Copyright Organizations, which is an organization dedicated to the protection of holders’ rights, has clamped down on illegal online copies. The status of the detection of online copyright

infringements is shown in Table 2.6. In 2009, the highest number of infringement cases was detected in cinematographic works with about 150,000 cases, and the highest number of pieces of infringing works was found in published works with 14,387 thousand pieces.

**Table 2.6: Detection of Online Copyright Infringements**

Classification	2008		2009	
	Cases	Pieces	Cases	Pieces
Music	24,380	12,874,262	4,802	1,011,707
Cinematographic works	67,063	3,101,990	150,355	4,413,577
Published works	7,049	1,215,6342	5,553	14,387,822
Online games	1,461	17,030	16,991	101,724
Animations	-	-	2,327	7,179,732
Total	99,953	28,149,624	180,028	27,09,562

Source: 2010 Annual Report for Copyright Protection

In order to eradicate illegal distribution of online works, the Republic of Korea started to enforce corrective orders and recommendations in 2009. Furthermore, 29 judicial police officers were appointed to counter copyright infringement. To effectuate more reasonable and longer-term resolutions to acts of copyright infringement by juveniles, a system of suspension of prosecution on the condition that they undergo educational programmes has been introduced and operated.

The most extreme and aggressive remedy to restore infringed rights is settlement through court actions. Lawsuits instituted in relation to copyright infringement were handled as shown in Table 2.7. The number of complaints filed against violations of the Copyright Act has steadily increased, skyrocketing in 2008. In 2009, about 89,000 defendants were sued in accordance with the Copyright Act.

**Table 2.7: Accusations of Violations of the Copyright Act by Year**

(Persons)

Year	2006	2007	2008	2009
Headcount	18,903	25,079	91,015	89,206

Source: 2009 Copyright Yearbook

## 2.3 Infrastructure of Copyright Use

### 2.3.1 Works for Free Use

In the Republic of Korea, as part of the efforts to expand the positive use of pieces of work, the works that can be shared, such as those for which the right has expired, are maintained in a database which is made available through a free website. As illustrated in Table 2.8, the database comprised about 27,000 literary works as well as artistic works, musical works and photographic works in 2009. In addition, a database of about 8.6 million types of open source software code was established.



**Table 2.8: Database for Free Use Website**

(Cases)

Classification	2006	2007	2008	2009	Total
Literary works	17,300	3,843	235	5,992	27,370
Artistic works	30	752	1,111	3,175	5,068
Musical works	1	216	556	21	794
Photographic works		280	182	2,388	2,850
Open source SW code				8,600,000	8,600,000

Source: Korea Copyright Commission

### 2.3.2 Distribution of Copyrighted Works

Actual rights to products of copyrighted works have become highly complicated as their convergence has rapidly accelerated. In the Republic of Korea, copyright trust services are rendered on the basis of categories and rights. Such separate administration and management of rights have caused a wide range of difficulties on the side of users with respect to transactional or tracking costs. As such, the 'Information Management System for Integrated Copyrights' was established in a bid to improve the efficiency of copyright management. Copyrighted works managed through this system are assigned a control number called an Integrated Copyrights Number (ICN). As many as 1.29 million pieces of copyright information were managed through this system in 2009.

**Table 2.9: Integrated Copyright Meta-Database**

(Cases)

Classification		2008	2009	Total
Musical works	Domestic	370,000	15,000	385,000
	Foreign		100,000	100,000
Literary works		400,000	400,000	800,000
Broadcast works			11,000	11,000
Total		770,000	526,000	1,296,000

Source: Korea Copyright Commission

Moreover, the Copyright License Management System (CLMS), which is a one-stop online transaction system for copyrighted works based on the ICN information, has been established and operated. The CLMS carried out 750 transactions in 2009, of which 353 transactions were contracted, indicating a ratio of approximately 47% successful contracts.

**Table 2.10: Usage of the CLMS**

(Cases, %)

Year	Contracts Requested	Contracts Signed	Successful Contract Ratio
2008	407	147	37
2009	750	353	47

## 3. METHODOLOGY OF ESTIMATING THE ECONOMIC CONTRIBUTION OF COPYRIGHT INDUSTRIES

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### 3.1 Methods of Estimation

#### 3.1.1 Method of Estimating Output

The data on the output of the copyright-based industries were estimated, based on their revenue statistics obtained from the *Mining and Manufacturing Survey*, *Service Industry Census*, *Service Industry Survey*, and *Wholesale and Retail Trade Survey*. The data on output of the manufacturing industries were collected directly from gross output data in the *Mining and Manufacturing Survey*. The data on the output of service industries were obtained from sales amount data in the *Service Industry Census* and the *Service Industry Survey*. However, the data on the output of wholesale and retail trade industry were calculated by subtracting cost of sales from sales amount in the *Wholesale and Retail Trade Survey*.

#### 3.1.2 Method of Estimating Value Added

The data on value added of the manufacturing industries were provided in the *Mining and Manufacturing Survey*, and therefore they were collected directly from the Survey. But the data on value added of service industries were not available directly from the *Service Industry Census and Service Industry Survey*. Accordingly, they had to be estimated using the data on value added ratio (value added/output) by industry. In this study the data on value added ratios were obtained from the Financial Statements Analysis published by the Bank of Korea. Value added of service industries was calculated by multiplying output by value added ratio.

#### 3.1.3 Method of Estimating Employment

The data on the number of workers were obtained from the *Mining and Manufacturing Survey*, *Service Industry Census*, *Service Industry Survey* and *Wholesale and Retail Trade Survey*. Workers include employees and proprietors.

#### 3.1.4 Method of Estimating Real Value

Real values of output and value added of the copyright-based industries were estimated by using the Producers Price Index published by the Bank of Korea. The reason for preparing the real values of the copyright-based industries is that such values, which exclude the impact of price changes, are needed to calculate the growth rates of the copyright-based industries, compare the figures with the growth rate of the GDP, and estimate the level of contribution to the growth rate of GDP.

### 3.2 Method of Estimation by Sector

#### 3.2.1 Estimates of the Core Copyright Industries

The core copyright industries consist of the press, newspapers, printing and reproduction using other blank recording materials, terrestrial broadcasting, software and databases, advertising, motion pictures and videos, theatrical production, photography, visual and graphic arts, and so forth.

According to the Guide, '1' was used as the copyright factor (weight) of the core copyright industries. In other words, when calculating the copyright industries' contribution to the national economy, a 100% weighting was applied. Accordingly, the core copyright industries' output, value added, and number of employees were calculated by multiplying the original data of the industries by the copyright factor (weight=1.0).

Size of the core copyright industries = output, value added, and number of employees of the core copyright industries × 1.0

### 3.2.2 *Estimates of the Interdependent Copyright Industries*

The interdependent copyright industries encompass TV sets, CD players, electronic game equipment, computers and peripheral equipment, acoustic apparatus and musical instruments, cameras and projectors, blank recording materials, paper, etc. In some studies, weighting was applied to the interdependent copyright industries. As in the case of the USA, this study used '1' as the copyright factor for all interdependent copyright-related economic activities.

Size of the interdependent copyright industries = output, value added, and number of employees of the interdependent copyright industries  $\times$  1.0

### 3.2.3 *Estimates of the Partial Copyright Industries*

The partial copyright industries comprise various industries including the manufacturing industries related to textiles, apparel, coins, furniture, household glass and china, carpets, toys and games, architecture and engineering-related services, interior design, and museums. The copyright activities of partial copyright industries were calculated by multiplying their sizes by their copyright factors (weights). Each country has a different copyright factor with regard to the same industry, since its industrial structure and stage of economic development varies considerably. Each country calculates its own copyright factors by conducting an independent copyright factor survey.

Size of the partial copyright industries = output, value added, and number of employees of the partial copyright industries  $\times$  copyright factor

### 3.2.4 *Estimates of the Non-Dedicated Support Industries*

The copyright factor (weight) of the non-dedicated support industries is essential in estimating the level of the copyright activity. This study utilizes the methodology presented in the WIPO Guide (2003). It is assumed that the copyright factor of the non-dedicated support industries is identical to the share ( $\alpha$ ) of the value added of the core, interdependent and partial copyright industries to the GDP, except the value added of the non-dedicated support industries. The copyright factor of the non-dedicated support industries is calculated as follows:

Copyright factor ( $\alpha$ ) of the non-dedicated support copyright industries =  
 Value added (of the core, interdependent, and partial copyright industries)  
 GDP – Value added of the non-dedicated support industries

Size of the non-dedicated support industries = output, value added, and the number of employees of the non-dedicated support industries  $\times$   $\alpha$

## 3.3 Survey of Copyright Factors

### 3.3.1 *Overview of Copyright Factors*

In order to evaluate the economic contribution by the copyright-based industries, it is necessary to extract and add together only those economic activities arising from works protected by copyrights. A copyright factor represents a weight designed to extract pure copyright activities from all copyright-based industries.

It is generally accepted that the copyright factors for the core and interdependent copyright industries are placed at 1. As for the partial copyright industries, copyright factors are obtained from a sample survey based on the WIPO questionnaire. In addition, the copyright factors of the non-dedicated support industries are measured on the basis of the WIPO Guide.

## 3.4 Copyright Factor Survey of the Republic of Korea

### 3.4.1 Overview of the Survey

The survey covered all industries that belonged to the partial copyright industries. Respondents were the presidents of companies or responsible officers at the general affairs departments/management supervision departments. The methodology adopted comprised telephone interviews using a preset questionnaire based on the WIPO Guide (see Appendix II). In addition, proportional quota sampling was conducted based on ratios by region/company size. A total of 351 effective samples were obtained.

**Table 3.1: Overview of the Survey**

Description	Copyright Factor Survey for the Korean Copyright Industries
Scope of the survey	Producers/distributors of apparel, textiles, footwear, etc.; Furniture manufacturers; Producers/ distributors of household goods, china and glass, etc.; Producers/distributors of wall covering and carpets ; Producers/ distributors of toys and games; Companies related to architecture, engineering and surveying; Companies related to interior design; Companies related to museums
Processors/distributors of jewellery and coins; respondents	Presidents of companies and responsible officers at the general affairs departments/ management supervision departments
Survey Method	Telephone interview using a structured questionnaire
Sampling method	Proportional quota sampling based on ratios by region/company size
Effective samples	351 companies
Research agency	World Research Corporation

### 3.4.2 Survey Items

Items of the survey included basic company information, major products, level of importance assumed by copyrights, existence of any income and expenditure arising from the use of copyrights, ratio of employees performing 'creative activities', etc. These survey elements represented key items put forward in the WIPO Guide.

The definition of creative activities in this survey is taken from the WIPO Guide. Creative activities include product/service creation and development, for example a craftsman drawing the designs for his jewellery.

Among the four survey items, the ratio of employees performing creative activities was utilized as a main variable of copyright factor for the following reasons: First, the other three survey items (importance of copyrights, portion of royalties and licence fees in total expenditures, and portion of turnover/sales attributable to copyright or creative activities) are highly likely to be answered based on "perceptions" rather than concrete figures. Accordingly, the ratio of employees performing creative activities is assumed to be a far more accurate variable. Second, the ratio of employees performing creative activities would correspond to the ratio of copyright-related turnover/sales assuming that the number of employees and the turnover/sales are proportionate to each other.

**Table 3.2: Survey Items**

Description	Survey Items
Basic company information	<ul style="list-style-type: none"> <li>Company name, telephone number, industrial classification, turnover/sales, number of employees</li> </ul>
Company products	<ul style="list-style-type: none"> <li>Major products</li> </ul>
Information on copyrights	<ul style="list-style-type: none"> <li>Importance of copyrights (existence of any income or expenditure arising from the use of copyrights)</li> <li>Portion of royalties and licence fees in total expenditures</li> <li>Portion of turnover/sales attributable to copyright or creative activities</li> <li>Ratio of employees performing creative activities</li> </ul>

### 3.4.3 Population

With regard to a survey, it is most desirable to use companies which are listed in 'The Census on Establishments' provided by Statistics Korea as the population. However, such data were not available because the copyright factor survey did not show statistics approved by Statistics Korea. Under these circumstances, the population used was obtained from those companies listed in the National Comprehensive Survey on Companies 2010 by the Korean Chamber of Commerce and Industry.

### 3.4.4 Copyright Factors of the Republic of Korea

The table below presents the copyright factors of the copyright-based industries. The copyright factors for the ROK core and interdependent copyright industries were placed at '1.0', which was generally accepted internationally. This means that all output, value added, and employees are considered as copyright industries.

Survey results regarding the ratio of employees performing creative activities were used in order to calculate the copyright factors of the partial copyright industries. These results provided relatively accurate figures, and the copyright industries' output, revenues and value added are determined in proportion to the number of employees deployed.

In this study, copyright factors were obtained from the result of the survey conducted in 2011. Only one copyright factor related to the architecture, engineering and surveying industries was modified, since the original figure appeared to be relatively high. A new factor was estimated by monitoring architecture and engineering firms together with their industry association.

**Table 3.3: Copyright Factors of the Republic of Korea**

Copyright-Based Industries	Copyright Factor				
<b>1. Core copyright industries</b>	Copyright Factor				
	1.0				
<b>2. Interdependent copyright industries</b>					
	1.0				
<b>3. Partial copyright industries</b>					
Apparel, textiles and footwear					0.115
Jewellery and coins					0.214
Other crafts					0.214
Furniture					0.099
Household goods, china and glass					0.089
Wall covering and carpets					0.215
Toys and games					0.150
Architecture, engineering and surveying					0.325
Interior design					0.723
Museums					0.108
<b>4. Non-dedicated support industries</b>	2005	2006	2007	2008	2009
	0.093	0.095	0.095	0.104	0.107

## 4. ECONOMIC CONTRIBUTION OF THE COPYRIGHT-BASED INDUSTRIES

### 4.1 A. Copyright-Based Industries

#### 4.1.1 Overview

The Republic of Korea's copyright-based industries made significant contributions to the national economy in 2009 as follows:

KRW 247.4 trillion output in nominal terms

KRW 105.4 trillion value added in nominal terms (9.89% of GDP)

1,467 thousand employees (6.24% of nation-wide employment).

In short, 9.89% of the ROK's GDP was generated by the copyright-based industries, and 6.24% of the workforce in the Republic of Korea was employed by the copyright-based industries.

**Table 4.1: Summary of Copyright-Based Industries in 2009**

Industry	Output (billion won)	Value Added (billion won)	GDP Shares (%)	Employees (1,000 persons)	Employment Shares (%)
1.Core copyright	86,074	37,434	3.51	670	2.85
2.Interdependent copyright	120,538	50,629	4.75	374	1.59
3.Partial copyright	14,775	6,988	0.66	158	0.67
4.Non-dedicated support	25,967	10,319	0.97	264	1.12
Copyright-based industries	247,354	105,370	9.89	1,467	6.24
ROK economy	N/A	10,264,518	100.00	23,506	100.00

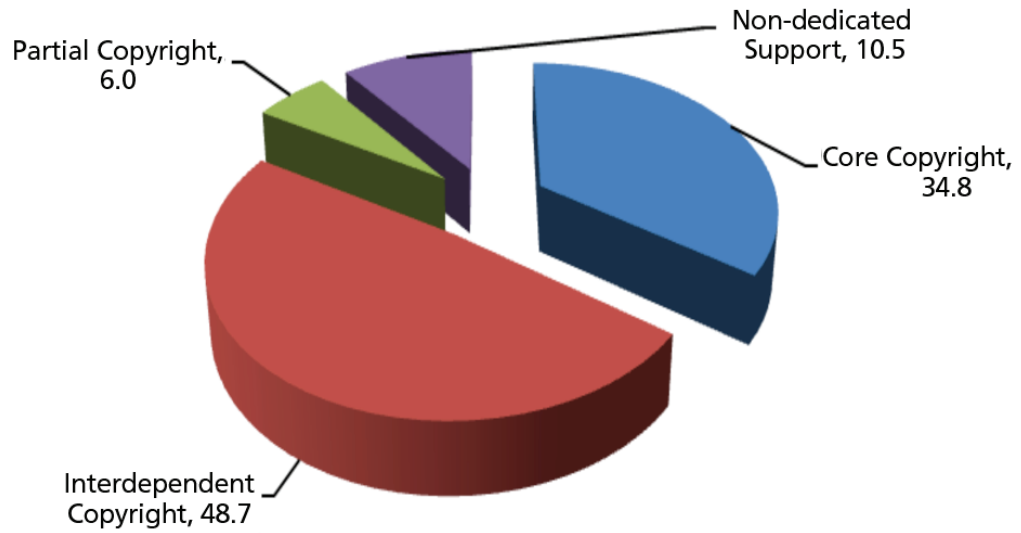
#### 4.1.2 Distribution of Copyright-Based Industries

##### (1) Output 2009

The largest group within the copyright-based industries in terms of output was the interdependent copyright industries. The output of interdependent copyright industries amounted to KRW 120.5 trillion, or 48.7% of the total copyright-based industries. The output of core copyright industries stood at KRW 86.1 trillion, or 34.8% of the total copyright-based industries. It is noteworthy that the Republic of Korea recorded the highest share of interdependent copyright industries, while most countries showed the highest share of core copyright industries. This was mainly because the output of the TV and mobile phone industry in the Republic of Korea was much bigger compared to other countries. The aggregate output of the interdependent and core copyright industries accounted for 83.5% of the total copyright-based industries.

**Chart 4.1: Share of Output in the Copyright-Based Industries in 2009**

(%)

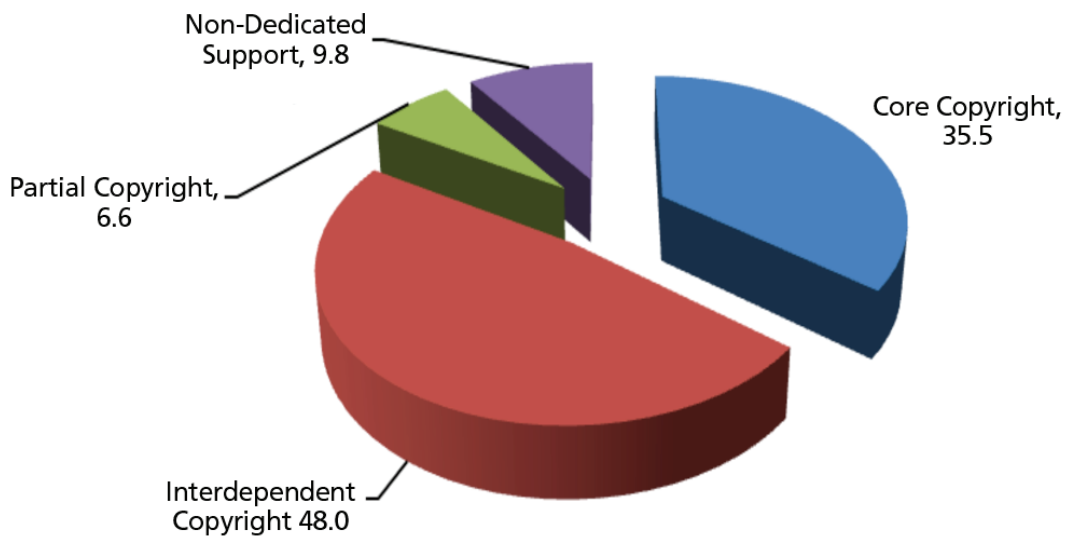


*(2) Value Added 2009*

As in the output, the largest groups in terms of value added were the interdependent copyright industries and core copyright industries. The value added of the interdependent copyright industries amounted to KRW 50.6 trillion, or 48.0% of the copyright-based industries. The value added of the core copyright industries was KRW 37.4 trillion, or 35.5% of the total copyright-based industries. The combined value added of these two industries accounted for 83.5% of the copyright-based industries.

**Chart 4.2: Share of Value Added in the Copyright-Based Industries in 2009**

(%)

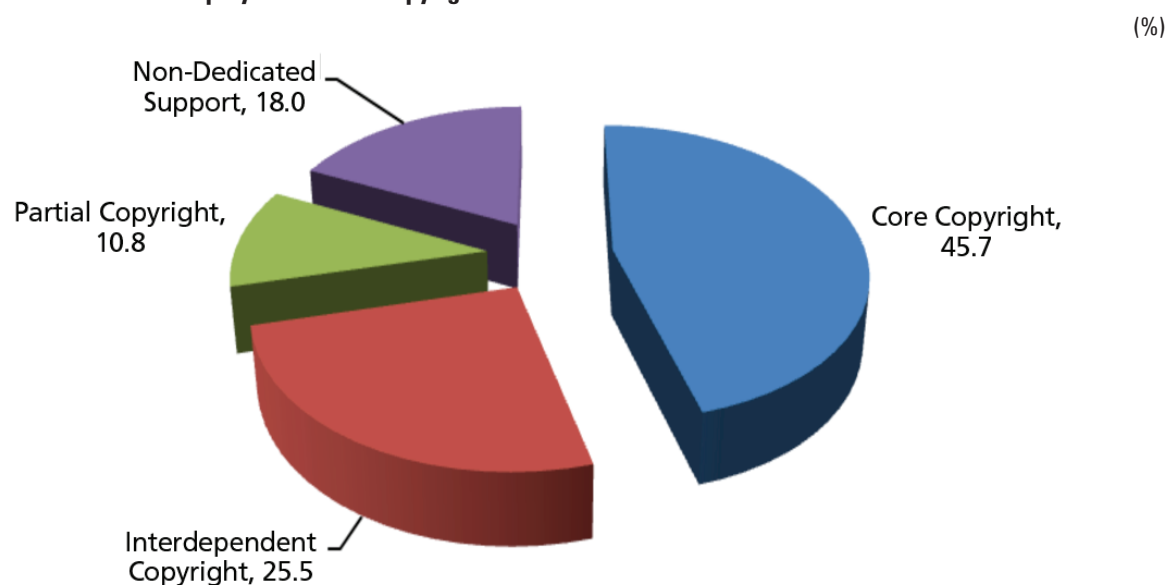




### (3) Employment 2009

In terms of employment, the core copyright industries were the largest contributor, generating 45.7% of the total copyright-based industries. An estimated 374 thousand workers (25.5%) were employed by the interdependent copyright industries. With respect to output and value added, the share of the interdependent copyright industries was higher than that of the core copyright industries; however, in terms of employment, the share of the interdependent copyright industries was lower. This indicated that the interdependent copyright industries are more capital-intensive than the core copyright industries. Meanwhile, the non-dedicated support industries absorbed 264 thousand workers, accounting for 18.0% of the employment of copyright-based industries.

**Chart 4.3: Share of Employment in the Copyright-Based Industries 2009**



**Table 4.2: Components of Copyright-Based Industries 2009**

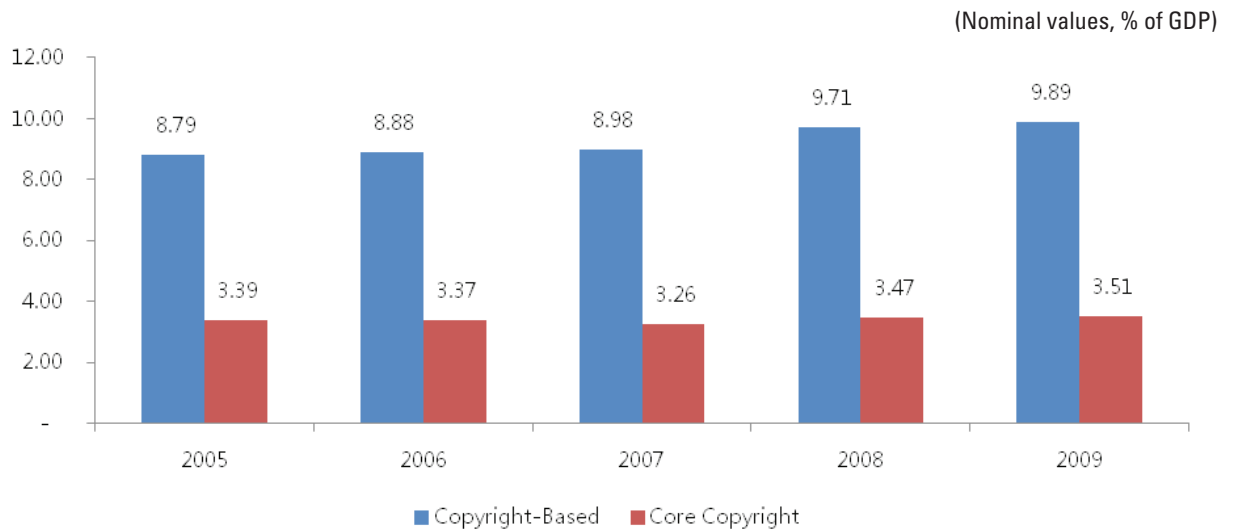
Industry	Output (nominal)		Value Added (nominal)		Employees (persons)	
	Billion won	Ratio (%)	Billion won	Ratio (%)	Thousand	Ratio (%)
1. Core copyright	86,074	34.8	37,434	35.5	670	45.7
2. Interdependent copyright	120,538	48.7	50,629	48.0	374	25.5
3. Partial copyright	14,775	6.0	6,988	6.6	158	10.8
4. Non-dedicated support	25,967	10.5	10,319	9.8	264	18.0
Total copyright industries	247,354	100.0	105,370	100.0	1,467	100.0

#### 4.1.3 Trends of Copyright-Based Industries

##### (1) Trends in Value Added

In terms of contribution to the GDP (nominal), the share of the copyright-based industries increased continuously from 8.79% in 2005 to 9.89% in 2009. On the other hand, the share of the core copyright industries increased slightly from 3.39% in 2005 to 3.51% of GDP in 2009.

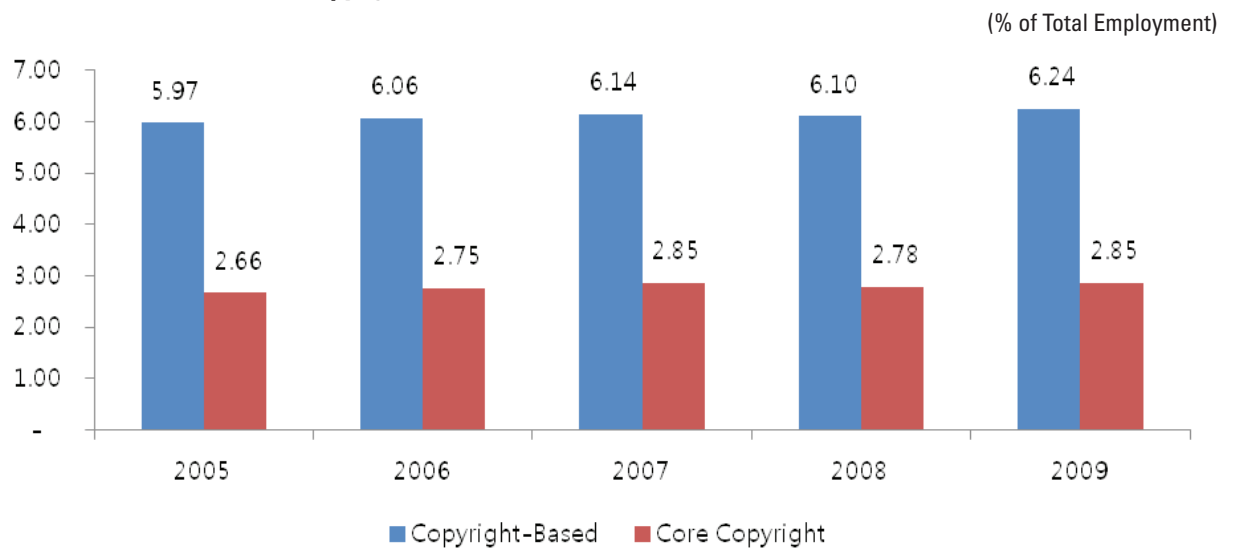
**Chart 4.4: Relative Size of Copyright Industries**



**(2) Trends in Employment**

The contribution of the copyright-based industries to nationwide employment increased slightly from 5.97% in 2005 to 6.24% in 2009. The employment contribution of the core copyright industries also rose slightly from 2.66% in 2005 to 2.85% in 2009.

**Chart 4.5: Relative Size of Copyright Industries**



**4.1.4 Growth of the Copyright-Based Industries 2006-2009**

Output, value added and employment of the copyright-based industries in the Republic of Korea grew, in real terms, as follows:

Output of the copyright-based industries increased at an average rate of 6.9% per annum in real terms over the period 2006-2009, while value added grew in real terms at an average of 7.3% per annum. Both outperformed the nation's average real GDP growth (3.2%).

The number of employees engaged in the copyright-based industries for the period 2006-2009 rose at an average rate of 1.8% per annum, topping the employment growth in all industries by 0.7%.

**Table 4.3: Growth Rate of Copyright-Based Industries**

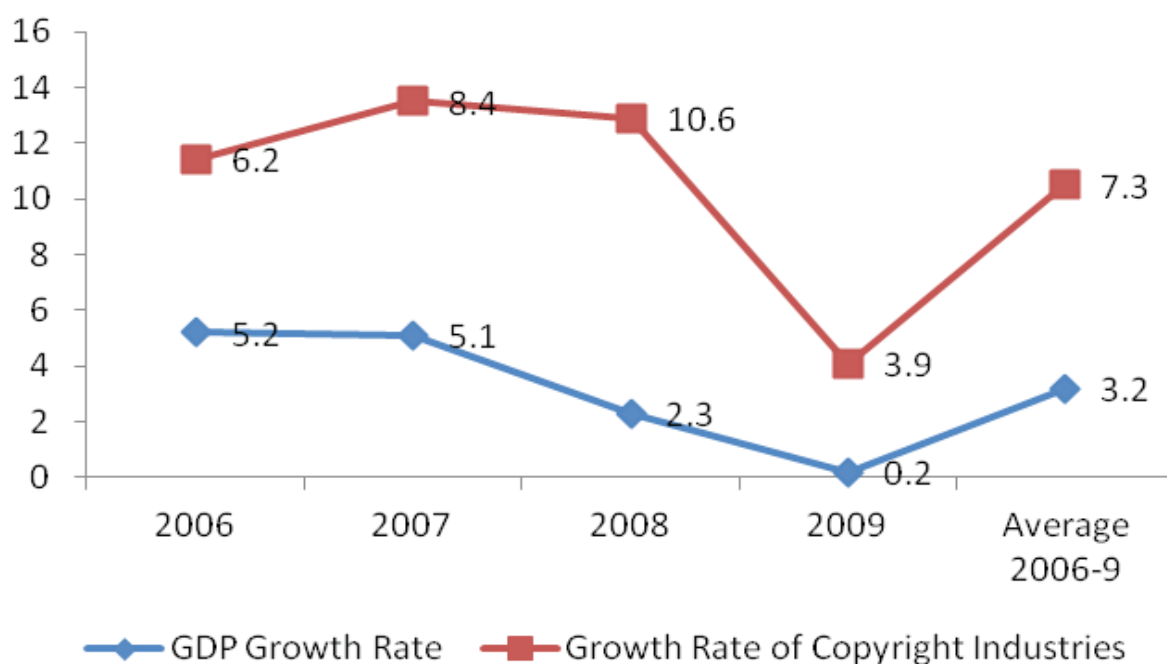
(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
Output	6.6	5.5	10.4	5.2	6.9
Value added	6.2	8.4	10.6	3.9	7.3
Employment	2.8	2.6	-0.02	1.9	1.8
GDP	5.2	5.1	2.3	0.3	3.2
Total number of employees	1.3	1.2	0.6	-0.3	0.7

The growth rates of the real value added of the copyright-based industries and the Republic of Korea's real GDP are presented in Chart 4.6 below. Considering the annual average growth rate of the copyright-based industries between 2006 and 2009, the growth rate of real value added of the copyright-based industries was much higher than that of the GDP. This phenomenon takes a more definite form in 2008 and 2009 when the GDP growth rates were relatively low.

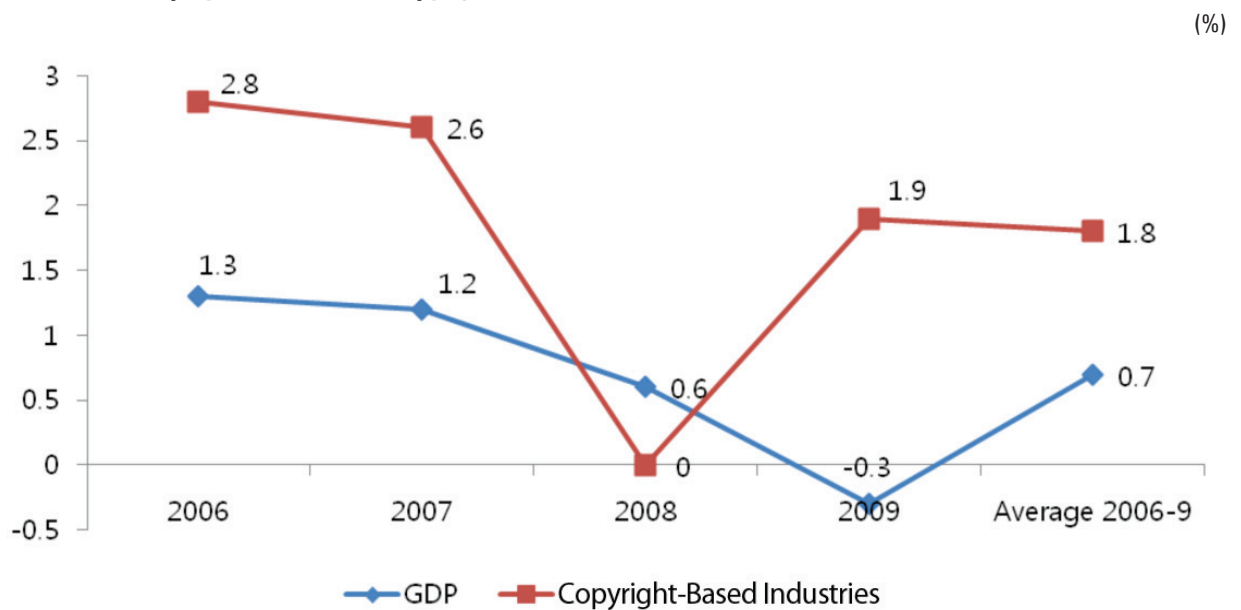
**Chart 4.6: Growth in Value Added of Copyright Industries**

(2005 Prices, %)



Employment in the copyright industries in the Republic of Korea between 2006 and 2009 grew at an average rate of 1.8% per annum, which was about 2.5 times higher than that of all industries (0.7%). In 2009, the number of employees of all the industries in the Republic of Korea declined by 0.3% from the previous year whereas that of the copyright-based industries rose by 1.9%.

**Chart 4.7: Employment Growth of Copyright-Based Industries**



#### 4.1.5 Comparison with Other Industries

The value added generated by the copyright-based industries was KRW 105.4 trillion, 9.9% of GDP. The size of the copyright-based industries was almost the same size of general government (9.8%), and was much bigger than those of construction (6.3%), wholesale and retail trade (7.6%), financial intermediation (6.1%), information and communication (3.9%), and health and social work (4.0%).

**Table 4.4: Value Added of Selected Industries**

	2005		2009	
	Billion won	% of GDP	Billion won	% of GDP
Copyright-based industries	76,051	8.8	105,370	9.9
(Core copyright industries)	(29,345)	(3.4)	(37,434)	(3.5)
General government	78,929	9.1	104,696	9.8
Manufacturing	213,646	24.7	266,578	25.0
Construction	59,285	6.9	66,577	6.3
Wholesale and retail trade	64,193.9	7.4	80,757.0	7.6
Financial intermediation	53,395	6.2	65,036	6.1
Information and communication	36,256	3.9	41,225	3.9
Health and social work	28,558	3.3	43,092	4.0
GDP	865,241	100.0	1,065,037	100.0

## 4.2 Core Copyright Industries

The core copyright industries are those that are wholly engaged in the 'creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter' (WIPO Guide, p.29). These industries have a substantial level of involvement in copyright activities and their direct economic contribution to output, value added, and employment is taken at full value. The core copyright industries encompass the following industries:

- Press and literature
- Music, theatrical productions and operas
- Motion picture and video
- Radio and television
- Photography
- Software and databases
- Visual and graphic arts
- Advertising services
- Copyright collecting societies

### 4.2.1 Overview

Trends in the core copyright industries in the Republic of Korea during the period 2005-2009 are as follows:

The nominal output of the core copyright industries totalled KRW 86.1 trillion in 2009, up 34.3% from KRW 64.1 trillion in 2005, while their real output increased 23.8% during the period 2005-2009 (an average annual increase of 5.5%).

The nominal value added of the core copyright industries amounted to KRW 37.4 trillion in 2009, up 27.6% from KRW 29.3 trillion in 2005, while their real value added increased 17.6% over the period 2005-2009 (an average annual increase of 4.1%).

The number of persons employed by the core copyright industries was 670 thousand persons in 2009, up 10.1% from 609 thousand persons in 2005 (an average annual increase of 2.4%)

**Table 4.5: Summary of the Core Copyright Industries**

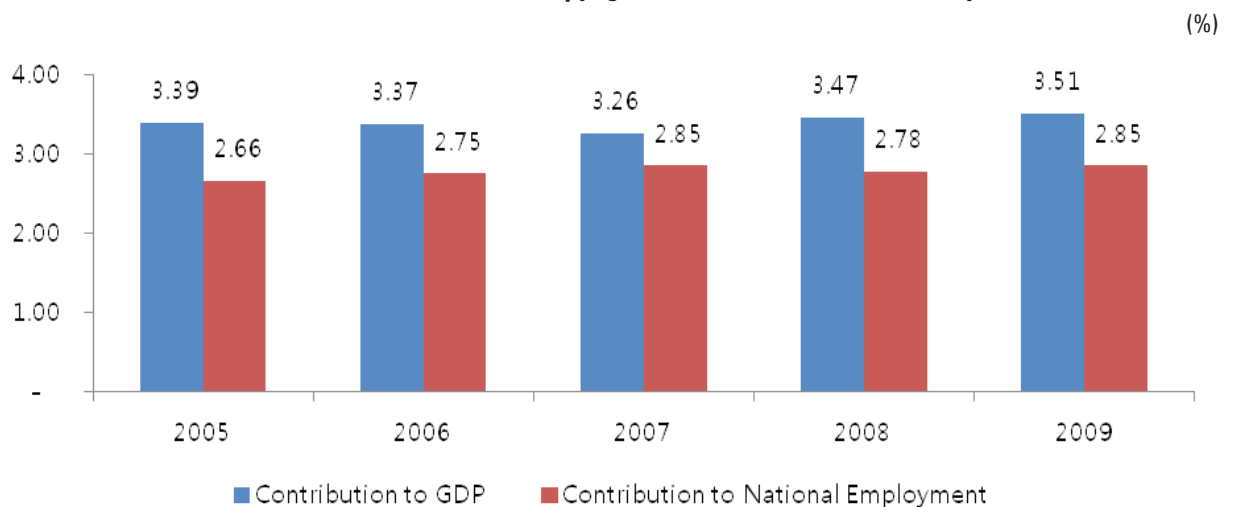
(Billion won; thousand persons; % )

		2005	2006	2007	2008	2009	2009/2005
Output	Nominal (change)	64,090 (-)	70,276 (9.7)	73,072 (4.0)	79,631 (9.0)	86,074 (8.1)	- (34.3)
	Real (change)	64,090 (-)	69,406 (8.3)	70,454 (1.50)	74,710 (6.0)	79,313 (6.2)	- (23.8)
Value added	Nominal (change)	29,346 (-)	30,645 (9.7)	31,812 (4.0)	35,574 (9.0)	37,434 (8.1)	- (27.6)
	Real (change)	29,346 (-)	30,257 (3.1)	30,667 (1.3)	33,376 (8.8)	34,523 (3.4)	- (17.6)
Employment	Number of employees (change)	609 (-)	637 (4.6)	668 (4.9)	655 (-2.0)	670 (2.3)	- (10.1)

The contribution of the core copyright industries to the national economy (nominal value added by the core copyright industries/nominal GDP) grew from 3.39% in 2005 to 3.51% in 2009. The contribution of the core copyright industries to total employment (number of employees of the core copyright industries/total number of employees nationwide) steadily rose from 2.66% in 2005 to 2.85% in 2009.

The contribution of the core copyright industries to GDP is higher than its contribution to total employment. This indicates that the employees in the core copyright industries receive, on average, higher wages than those in all the other industries.

**Chart 4.8: Trends in the Contribution of the Core Copyright Industries to the ROK Economy**



#### 4.2.2 Output

##### (1) Nominal Output by Sector

The nominal output of the core copyright industries totalled KRW 86.1 trillion in 2009, up 34.3% from KRW 64.1 trillion in 2005. As regards the growth ratio for each sector between 2005 and 2009, the copyright collecting societies industry showed the highest increase rate of 72.1%, followed by the visual and graphic arts (68.5%), software and databases (55.3%), and photography (41.5%).

**Table 4.6: Output of Core Copyright Industries by Sector**

(Nominal values, billion won; %)

	2005(A)		2009(B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. Press and literature	13,373	20.9	15,090	17.5	12.8
2. Music, theatrical productions and operas	3,221	4.8	4,049	4.7	25.7
3. Motion picture and video	1,908	3.0	1,96	2.3	4.1
4. Radio and television	8,136	12.7	10,286	12.0	26.4
5. Photography	1,399	2.2	1,979	2.3	41.5
6. Software and databases	27,953	43.7	43,420	50.4	55.3
7. Visual and graphic arts	911	1.4	1,535	1.8	68.5
8. Advertising services	7,177	11.2	7,706	9.0	7.4
9. Copyright collecting societies	13	0.02	23	0.03	72.1
<b>Total</b>	<b>64,090</b>	<b>100.0</b>	<b>86,074</b>	<b>100.0</b>	<b>34.3</b>

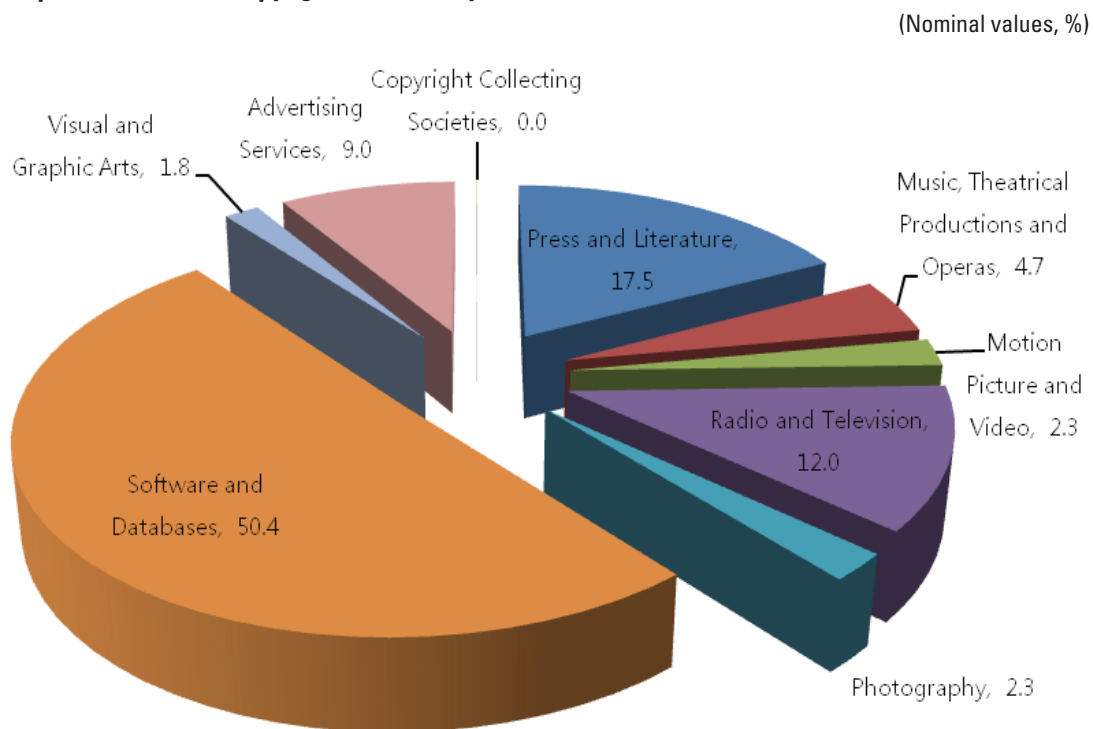
The five major industries in terms of size as of 2009 were:

1. Software and databases
2. Press and literature
3. Radio and television
4. Advertising services
5. Music, theatrical productions and operas.

These industries constituted KRW 80.6 trillion, accounting for 93.6% of the total copyright industries in terms of output. The software and databases accounted for the largest share of 50.4% of the total. The output of the press and literature stood at KRW 15.1 trillion, or 17.5% of the total core copyright industries; the radio and television at KRW 10.3 trillion, or 12.0%; the advertising services at KRW 7.7 trillion, or 9.0%; and the music, theatrical productions and operas at KRW 4.0 trillion, or 4.7%.

The four remaining sectors, namely, photography, motion picture and video, visual and graphic arts, and copyright collecting societies contributed KRW 5.5 trillion, or 6.4% of output from the core copyright industries.

**Chart 4.9: Output Share of Core Copyright Industries by Sector**



### **(2) Growth Rate of Real Output**

The annual increase of real output of the core copyright industries during 2006-2009 averaged 5.5%. Among the core copyright industries, the copyright collecting societies experienced the strongest growth at an average rate of 12.0% per annum for the period 2006 to 2009, followed by visual and graphic arts (11.2%), software and databases (9.9%), and photography (6.2%) in said order. The press and literature, motion picture and video, and advertising services, however, showed a negative average annual growth during the period.

**Table 4.7: Output Growth of Core Copyright Industries by Sector**

(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
1. Press and literature	-1.2	6.8	-0.1	-5.4	-0.1
2. Music, theatrical productions and operas	5.9	9.6	-0.6	-0.3	3.6
3. Motion picture and video	5.6	-8.2	-9.1	9.9	-0.8
4. Radio and television	15.5	-3.1	3.7	1.3	4.1
5. Photography	6.2	8.1	4.2	6.4	6.2
6. Software and databases	12.3	-1.9	15.9	14.4	9.9
7. Visual and graphic arts	11.1	14.7	7.5	11.4	11.2
8. Advertising services	4.1	8.2	-11.6	-4.0	-1.1
9. Copyright collecting societies	7.1	33.2	-2.9	13.6	12.0
<b>Total</b>	<b>8.3</b>	<b>1.5</b>	<b>6.0</b>	<b>6.2</b>	<b>5.5</b>

#### 4.2.3 Value Added

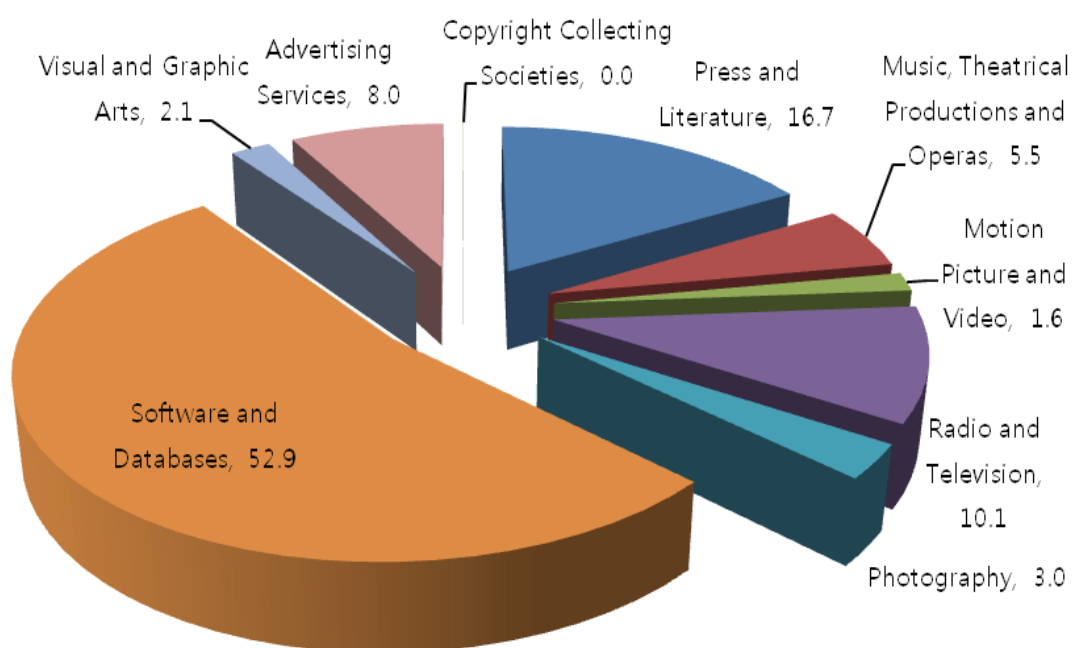
##### (1) Nominal Value Added and Component Ratio

In 2009, the core copyright industries generated nominal value added of KRW 37.4 trillion, up 27.6% compared to 2005. Between 2005 and 2009, in particular, the copyright collecting societies recorded the highest growth rate of 75.5%. Next in line were the visual and graphic arts (59.7%), software and databases (42.1%), and photography (36.0%).

In 2009, each sector of the core copyright industries showed the following component ratio: in terms of value added, the software and databases accounted for 52.9% of the entire core copyright industries, followed by press and literature (16.7%), radio and television (10.1%), and advertising services (8.0%).

**Chart 4.10: Value Added Share of Core Copyright Industries in 2009**

(Nominal values, %)





**Table 4.8: Value Added of Core Copyright Industries by Sector**

(Nominal values, billion won, %)

	2005(A)		2009(B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. Press and literature	5,721.2	19.5	6,243.9	16.7	9.1
2. Music, theatrical productions and operas	1,6593.0	5.7	2,059.6	5.5	24.2
3. Motion picture and video	662.9	2.3	612.4	1.6	-7.6
4. Radio and television	2,983.4	10.2	3,770.4	10.1	26.4
5. Photography	827.2	2.8	1,124.7	3.0	36.0
6. Software and databases	13,945.8	47.5	19,816.7	52.9	42.1
7. Visual and graphic arts	489.0	1.7	781.0	2.1	59.7
8. Advertising services	3,050.1	10.4	3,013.2	8.0	-1.2
9. Copyright collecting societies	6.8	0.02	11.9	0.03	75.5
<b>Total</b>	<b>29,345.5</b>	<b>100.0</b>	<b>37,434.0</b>	<b>100.0</b>	<b>27.6</b>

**(2) Growth Rate of Real Value Added**

The real value added of the core copyright industries between 2006 and 2009 increased by an average of 4.2% per annum. The highest growth was recorded by the copyright collecting societies showing an increase of 12.6%. Next in line were the visual and graphic arts (9.7%), software and databases (7.5%), and photography (5.2%) industries. On the other hand, press and literature, motion picture and video, and advertising services experienced a decrease in the average annual growth rate during the same period.

**Table 4.9: Value Added Growth Rate of Core Copyright Industries**

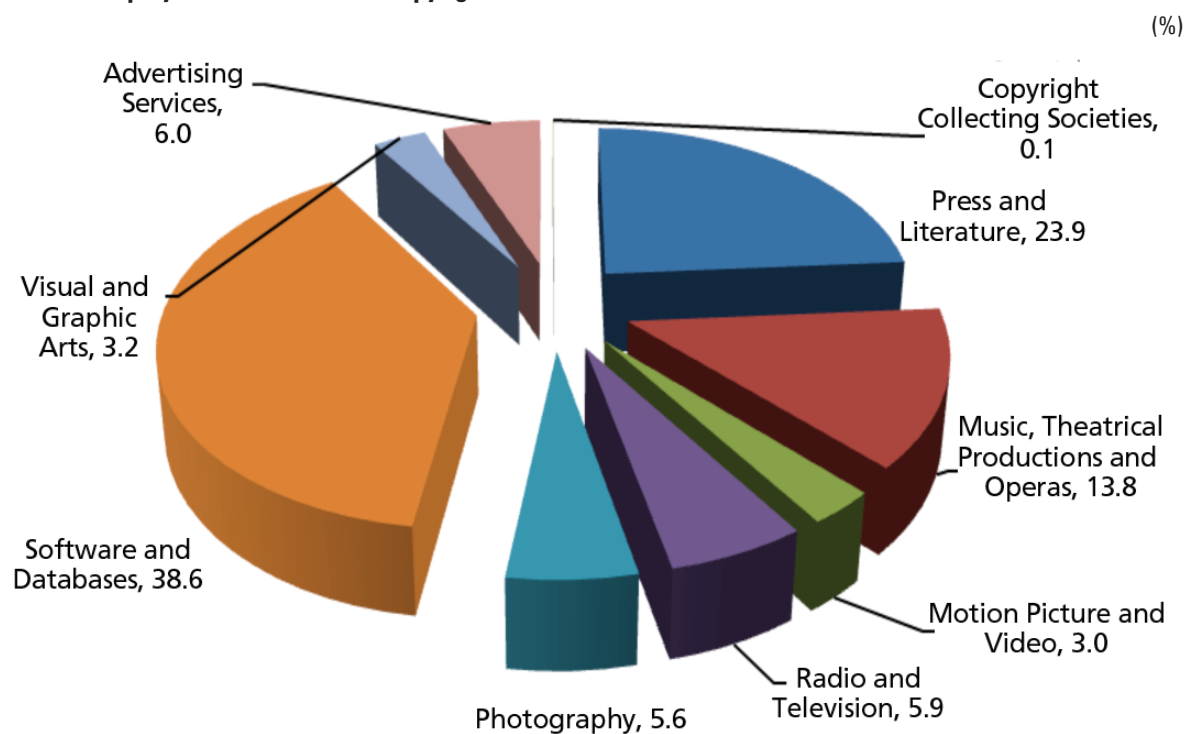
(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
1. Press and literature	-2.9	8.1	-2.3	-6.0	-0.9
2. Music, theatrical productions and operas	1.1	13.8	-2.5	1.2	3.2
3. Motion picture and video	11.7	-15.3	-2.7	-6.6	-3.7
4. Radio and television	18.3	-5.0	4.9	-0.3	4.1
5. Photography	5.1	-4.1	2.8	18.4	5.2
6. Software and databases	1.7	-1.7	20.9	10.5	7.5
7. Visual and graphic arts	8.1	0.8	4.6	27.0	9.7
8. Advertising services	3.8	8.8	-6.2	-17.1	-3.2
9. Copyright collecting societies	1.8	41.4	-4.4	16.7	12.6
<b>Total</b>	<b>3.1</b>	<b>1.4</b>	<b>8.8</b>	<b>3.4</b>	<b>4.2</b>

**4.2.4 Number of Employees****(1) Employment Size and Share**

The core copyright industries employed 670,244 workers in 2009, up 10.1% compared to 2005. In terms of the number and share of the employees of each sector of the core copyright industries, the software and databases was the largest employer with 258,426 workers, accounting for 38.6% of the total workforce of the core copyright industries; followed by press and literature with 159,918 workers (23.9%); music, theatrical production and operas with 92,714 workers (13.8%); advertising services with 40,134 workers (6.0%); and radio and television with 39,836 workers (5.9%).

**Chart 4.11: Employment Share of Core Copyright Industries in 2009**



**Table 4.10: Number of Employees of Core Copyright Industries**

(Persons, %)

	2005(A)		2009(B)		B/A
	Number of Employees	Ratio	Number of Employees	Ratio	% Change
1. Press and literature	157,967	26.0	159,918	23.9	1.2
2. Music, theatrical productions and operas	91,973	15.1	92,714	13.8	0.8
3. Motion picture and video	23,669	3.9	19,884	3.0	-16.0
4. Radio and television	38,366	6.3	39,836	5.9	3.8
5. Photography	33,891	5.6	37,320	5.6	10.1
6. Software and databases	209,912	34.5	258,426	38.6	23.1
7. Visual and graphic arts	18,061	3.0	21,626	3.2	19.7
8. Advertising services	34,589	5.7	40,134	6.0	16.0
9. Copyright collecting societies	207	0.03	386	0.06	86.5
<b>Total</b>	<b>608,635</b>	<b>100.0</b>	<b>670,244</b>	<b>100.0</b>	<b>10.1</b>

**(2) Growth Rate of Employment**

The number of employees of the core copyright industries showed an average increase of 2.4% per annum between 2006 and 2009. The copyright collecting societies industry achieved the strongest growth of 16.9% per annum, followed by the industries of software and databases (5.3%), visual and graphic arts (4.6%), and advertising services (3.8%). The motion picture and video industry recorded a decrease in the average annual growth rate during the same period.

**Table 4.11: Employment Growth Rate of Core Copyright Industries**

(%)

	2006	2007	2008	2009	Average 2006-2009
1. Press and literature	0.5	4.2	-4.3	1.1	0.3
2. Music, theatrical productions and operas	0.3	11.0	-8.1	-1.5	0.2
3. Motion picture and video	-1.9	-6.3	-9.0	0.5	-4.3
4. Radio and television	-0.8	1.2	5.5	-2.0	0.9
5. Photography	1.7	2.1	3.5	2.4	2.4
6. Software and databases	12.3	5.0	-1.8	6.3	5.3
7. Visual and graphic arts	4.6	3.6	6.4	3.9	4.6
8. Advertising services	2.2	7.1	9.9	-3.5	3.8
9. Copyright collecting societies	19.3	17.8	25.1	6.0	16.9
<b>Total</b>	<b>4.6</b>	<b>5.0</b>	<b>-2.0</b>	<b>2.3</b>	<b>2.4</b>

### 4.3 Interdependent Copyright Industries

The interdependent copyright industries are 'industries that are engaged in the production, manufacture and sale of equipment and whose function is wholly or primarily to facilitate the creation and production or use of works and other protected subject matter' (WIPO Guide p.33). These industries break down into the core interdependent copyright industries and partial interdependent copyright industries, according to their dependency on the core copyright industries. The core interdependent copyright industries include the manufacture and wholesale and retail industries of the following three sectors:

TV sets, radios, VCRs, CD players, DVD players, cassette players, game equipment and other similar equipment

Computers and equipment

Musical instruments.

The partial interdependent copyright industries include the manufacture, wholesale and retail industries of the following four sectors:

Photographic and cinematographic instruments

Photocopiers

Blank recording material

Paper.

#### 4.3.1 Overview

The interdependent copyright industries contributed to the Republic of Korea's economy between 2005 and 2009 as follows:

The nominal output of the interdependent copyright industries was KRW 120.6 trillion in 2009, up 34.4% from KRW 89.7 trillion in 2005, while their real output increased 35.9% over the period 2005 through 2009 (an average annual increase of 8.0%).

The nominal value added of the interdependent copyright industries was KRW 50.6 trillion in 2009, up 49.5% from KRW 33.9 trillion in 2005, while their real output increased 50.7% over the period 2005 through 2009 (an average annual increase of 10.8%).

The number of persons employed by the interdependent copyright industries was 373,564 persons in 2009, down 8.4% from 407,791 in 2005 (an average annual increase of 2.2%).

**Table 4.12: Summary of Interdependent Copyright Industries**

(Billion; persons; %)

		2005	2006	2007	2008	2009	2009/2005
Output	Nominal (change)	89,716 (-)	92,578 (3.2)	97,987 (5.8)	111,695 (14.0)	120,538 (7.9)	- (34.4)
	Real (change)	89,716 (-)	94,729 (5.6)	102,471 (8.2)	115,064 (12.3)	121,955 (6.0)	- (35.9)
Value added	Nominal (change)	33,875 (-)	36,640 (8.2)	41,288 (12.7)	47,074 (14.0)	50,629 (7.6)	- (49.5)
	Real (change)	33,875 (-)	37,355 (10.3)	42,954 (15.0)	48,241 (12.3)	51,065 (5.9)	- (50.7)
Employment	Number of employees (change)	407,791 (-)	400,511 (-1.8)	392,638 (-2.0)	372,358 (-5.2)	373,564 (0.3)	- (-8.4)

The contribution of the interdependent copyright industries to the national economy (nominal value added of interdependent copyright industries / nominal GDP) increased from 3.92% in 2005 to 4.75% in 2009. The contribution of the interdependent copyright industries to employment (number of employees of the interdependent copyright industries / total number of the persons employed) steadily decreased from 1.78% in 2005 to 1.59% in 2009.

The GDP share of the interdependent copyright industries is much higher than its employment share, indicating that the employees in the interdependent copyright industries receive, on average, higher wages than those of other industries.

**Chart 4.12: Contribution of Interdependent Copyright Industries to National Economy**

(%)



#### 4.3.2 Output

##### (1) Nominal Output and Component Ratio

The nominal output of the interdependent copyright industries totalled KRW 120.6 trillion in 2009, up 34.4% compared to 2005. With regards to the growth ratio for each sector between 2005 and 2009, the TV sets, radios and electronic game equipment showed the highest increase rate of 39.6%, followed by computers and equipment (34.6%), photocopiers (33.7%) and paper (24.0%) in that order.

**Table 4.13: Output of Interdependent Copyright Industries**

(Nominal values, billion won, %)

	2005 (A)		2009 (B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. TV sets, radios and electronic game equipment etc.	60,844	67.8	84,958	70.5	39.6
2. Computers and equipment	7,434	8.3	10,008	8.3	34.6
3. Musical instruments	396	0.4	339	0.3	-14.5
4. Photographic and cinematographic instruments	3,878	4.3	3,843	3.2	-0.9
5. Photocopiers	2,026	2.3	2,708	2.2	33.7
6. Blank recording material	1,737	1.9	2,064	1.7	18.8
7. Paper*	13,400	14.9	16,619	13.8	24.0
<b>Total</b>	<b>89,716</b>	<b>100.0</b>	<b>120,538</b>	<b>100.0</b>	<b>34.4</b>

\*Includes only items related to copyright use.

The three major sectors of interdependent copyright industries in terms of output in 2009 were as follows:

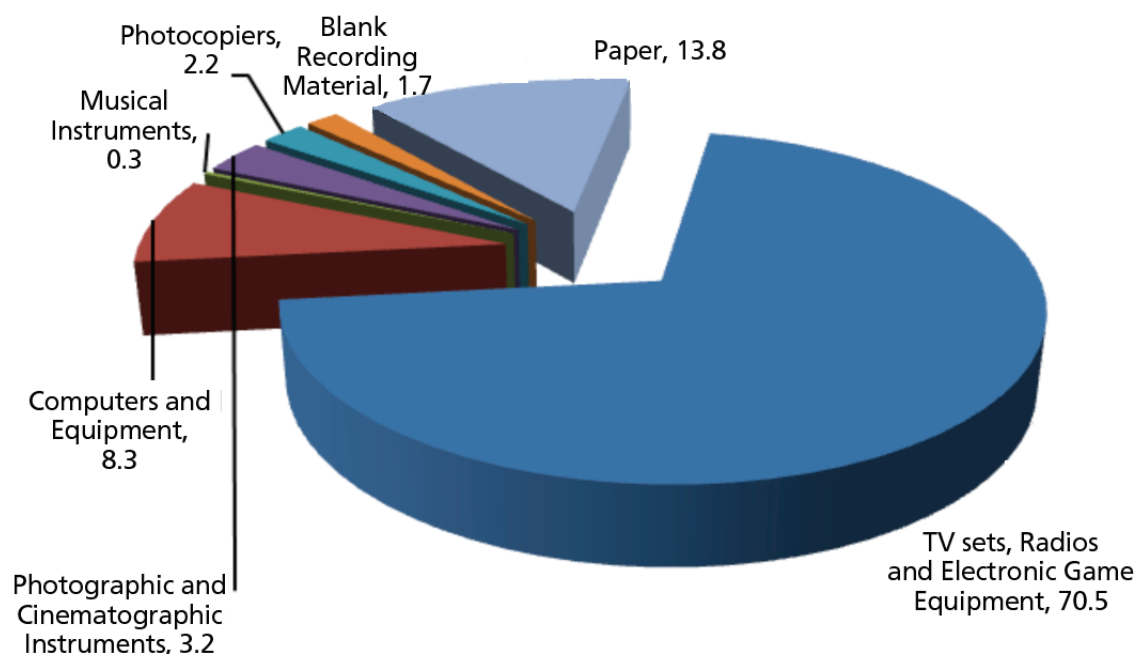
1. TV sets, radios, and electronic game equipment etc.
2. Paper
3. Computers and equipment.

The output of the three sectors above totalled KRW 111.6 trillion, or 92.6% of the interdependent copyright industries. TV sets, radios, electronic game equipment etc. recorded the largest output among this industry, accounting for 70.5% of the entire interdependent copyright industries. Paper produced KRW 16.6 trillion, taking up 13.8%, and computers and equipment produced KRW 10.0 trillion, or 8.3% of the entire interdependent copyright industries.

The remaining four sectors, namely, the musical instruments, photographic and cinematographic instruments, photocopiers and recording material generated a total of KRW 9.0 trillion, accounting for 7.4% of the interdependent copyright industries.

**Chart 4.13: Output Share of Interdependent Copyright Industries in 2009**

(%)



## (2) Growth Rate of Real Output

The average annual increase of real output of the interdependent copyright industries between 2006 and 2009 was 8.0%. Among the interdependent copyright industries, the photocopiers showed the highest growth rate of 18.2% on average between 2006 and 2009, followed by the photographic and cinematographic instruments (12.2%), TV sets, radios, electronic game equipment, etc. (8.9%), and computers and equipment (6.8%). Musical instruments recorded a negative growth rate (-7.0%) per annum during the period 2006-2009.

**Table 4.14: Output Growth Rate of Interdependent Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	Average 2006-009
1. TV sets, radios, electronic game equipment etc.	-0.3	6.9	21.3	8.9	8.9
2. Computers and equipment	35.0	-0.5	-6.1	3.3	6.8
3. Musical instruments	-20.3	5.1	0.9	-11.4	-7.0
4. Photographic and cinematographic instruments	45.1	33.9	-19.3	1.1	12.2
5. Photocopiers	41.6	23.3	-6.7	19.8	18.2
6. Blank recording material	2.5	-0.2	6.7	-0.4	2.1
7. Paper*	0.4	7.6	6.5	-7.3	1.6
<b>Total</b>	<b>5.6</b>	<b>8.2</b>	<b>12.3</b>	<b>6.0</b>	<b>8.0</b>

\*Includes only items related to copyright use.

## 4.3.3 Value Added

### (1) Nominal Value Added and Component Ratio

In 2009, the interdependent copyright industries generated nominal value added of KRW 50.6 trillion, up 49.5% compared to 2005. The highest growth rate within this industry between 2005 and 2009 was found in TV sets, radios, electronic game equipment etc., recording an average growth of 61.2% per annum. The sectors lagging behind were the computers and equipment (49.0%), photocopiers (20.5%), and paper (17.7%).

**Table 4.15: Value Added of Interdependent Copyright Industries**

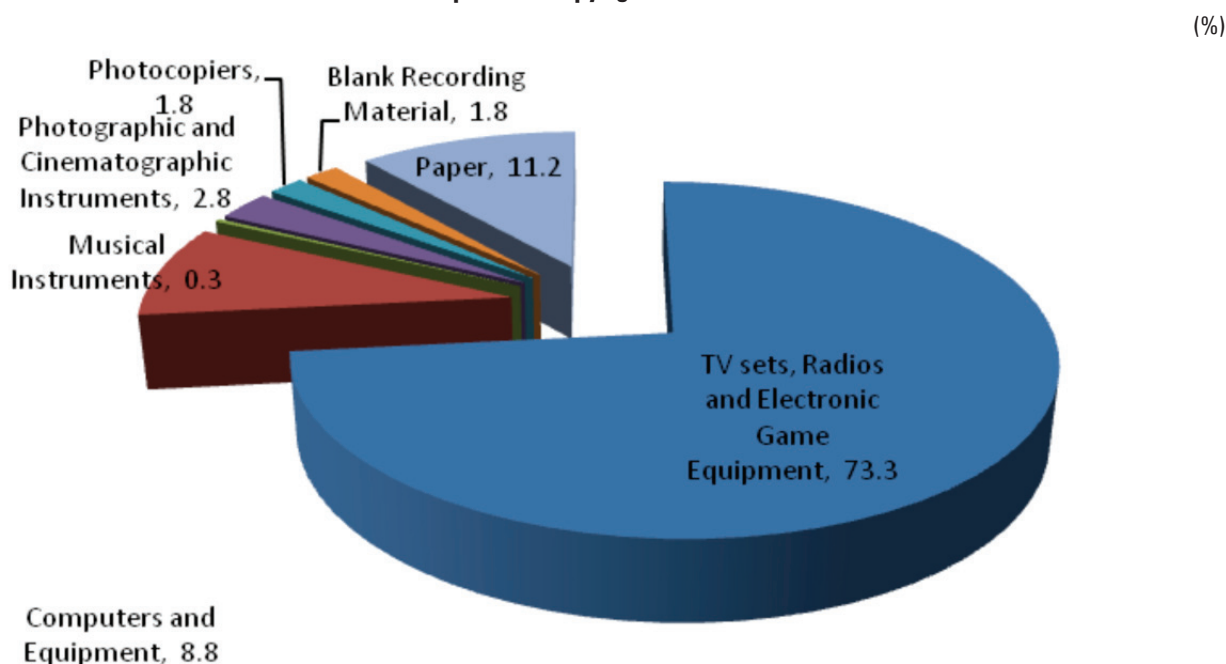
(Billion won,%)

	2005(A)		2009(B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. TV sets, radios, electronic game equipment etc.	23,020.7	68.0	37,120.6	73.3	61.2
2. Computers and equipment	2,997.2	8.8	4,435.7	8.8	49.0
3. Musical instruments	180.7	0.5	149.6	0.3	-17.2
4. Photographic and cinematographic instruments	1,284.5	3.8	1,419.5	2.8	10.5
5. Photocopiers	769.5	2.3	927.5	1.8	20.5
6. Blank recording material	813.4	2.4	890.7	1.8	9.5
7. Paper*	4,829.1	14.3	5,685.3	11.2	17.7
<b>Total</b>	<b>33,875.1</b>	<b>100.0</b>	<b>50,629.0</b>	<b>100.0</b>	<b>49.5</b>

\*Includes only items related to copyright use.

In 2009, each sector of the interdependent copyright industries showed the following component ratio in terms of value added: TV sets, radios, electronic game equipment etc. took up the highest share of 73.3% in the entire industry, followed by paper (11.2%), and computers and equipment (8.8%).

**Chart 4.14: Value Added Share of Interdependent Copyright Industries in 2009**



**(2) Growth Rate of Real Value Added**

The real value added of the interdependent copyright industries between 2006 and 2009 increased by an average of 10.8% per annum. The highest growth was found in photocopiers with 14.9%. Next in line were TV sets, radios, and electronic game equipment etc. (12.9%), and computers and equipment (9.6%). On the other hand, musical instruments recorded a negative average annual rate (-5.4%).

**Table 4.16: Value Added Growth Rate of Interdependent Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
1. TV sets, radios, electronic game equipment etc.	6.8	16.4	18.6	10.3	12.9
2. Computers and equipment	37.0	5.6	-7.2	7.3	9.6
3. Musical instruments	-27.2	4.0	5.1	-8.8	-7.7
4. Photographic and cinematographic instruments	36.1	49.5	-20.9	8.2	14.9
5. Photocopiers	36.9	41.1	-16.8	4.1	13.7
6. Blank recording material	-1.5	-4.6	4.7	1.5	0.0
7. Paper*	2.6	1.6	20.7	-19.5	0.3
<b>Total</b>	<b>10.3</b>	<b>15.1</b>	<b>12.3</b>	<b>5.9</b>	<b>10.8</b>

\*Includes only items related to copyright use.

**4.3.4 Number of Employees**

**(1) Employment Size and Ratio**

The interdependent copyright industries employed a total of 373,564 workers in 2009, down 8.4% compared to 2005. In terms of the number and ratio of the employees of each sector of the interdependent copyright industries, TV sets, radios, electronic game equipment etc. employed 177,931 workers, accounting for 47.6%

of the total workforce of the industry, followed by computers and equipment with 59,984 workers (16.1%), paper with 51,248 workers (13.7%), and recording material with 44,123 workers (11.8%).

**Table 4.17: Number of Employees of Interdependent Copyright Industries**

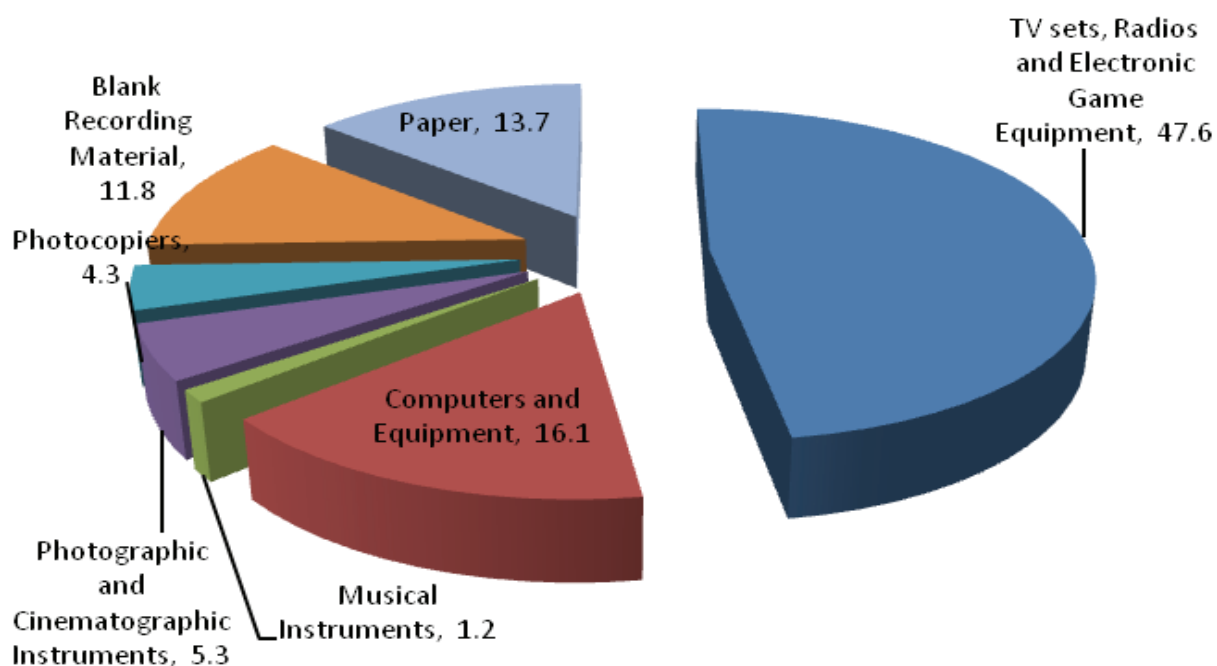
(Persons; %)

	2005 (A)		2009 (B)		B/A
	Number of Employees	Ratio	Number of Employees	Ratio	% Change
1. TV sets, radios, electronic game equipment etc.	180,672	44.3	177,931	47.6	-1.5
2. Computers and equipment	86,898	21.3	59,984	16.1	-31.0
3. Musical instruments	5,316	1.3	4,526	1.2	-14.9
4. Photographic and cinematographic instruments	20,729	5.1	19,802	5.3	-4.5
5. Photocopiers	14,785	3.6	15,950	4.3	7.9
6. Blank recording material	46,066	11.3	44,123	11.8	-4.2
7. Paper*	53,505	13.1	51,248	13.7	-4.2
<b>Total</b>	<b>407,971</b>	<b>100.0</b>	<b>373,564</b>	<b>100.0</b>	<b>-8.4</b>

\*Includes only items related to copyright use.

**Chart 4.15: Value Added Share of Interdependent Copyright Industries in 2009**

(%)



### (2) Growth Rate of Employment

The number of employees of the interdependent copyright industries showed an average annual decrease of 2.2% between 2006 and 2009. In the interdependent copyright industries, the number of employees of computers and equipment marked the largest decrease of 8.9%, followed by musical instruments (-3.9%). The three sectors – photographic and cinematographic instruments, blank recording material, and paper – showed the same decrease rate of -1.1% per annum. On the other hand, photocopiers showed a 1.9% growth rate.



**Table 4.18: Employment Growth Rate of Interdependent Copyright Industries**

(%)

	2006	2007	2008	2009	Average 2006-2009
1. TV sets, radios, electronic game equipment etc.	5.7	-4.9	-3.2	1.3	-0.4
2. Computers and equipment	-19.6	0.5	-14.3	-0.4	-8.9
3. Musical instruments	-7.6	1.0	-6.5	-2.3	-3.9
4. Photographic and cinematographic instruments	3.0	-1.7	-7.1	1.5	-1.1
5. Photocopiers	-1.9	9.2	-4.9	5.9	1.9
6. Blank recording material	1.6	-0.7	-3.8	-1.2	-1.1
7. Paper*	-2.5	0.6	0.0	-2.4	-1.1
<b>Total</b>	<b>-1.8</b>	<b>-2.0</b>	<b>-5.2</b>	<b>0.3</b>	<b>-2.2</b>

\*Includes only items related to copyright use.

#### 4.4 Partial Copyright Industries

The partial copyright industries are 'industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales' (WIPO Guide p.33). The partial copyright industries comprise the following ten industries:

- Apparel, textiles and footwear
- Jewellery and coins
- Other crafts
- Furniture
- Household goods, china and glass
- Wall coverings and carpets
- Toys and games
- Architecture, engineering and surveying
- Interior design
- Museums.

##### 4.4.1 Overview

The partial copyright industries of the Republic of Korea contributed to the national economy between 2005 and 2009 as follows:

In 2009, the partial copyright industries generated an output of KRW 14.8 trillion in nominal terms, up 55.1% from KRW 9.5 trillion in 2005, while its output in real terms increased 30.0% over the period 2005 through 2009 (an average annual increase of 6.8%).

Value added in the partial copyright industries in nominal terms increased to KRW 7.0 trillion in 2009, up 46.6% from KRW 4.8 trillion in 2005, while its value added in real terms increased 21.4% during the same period (an average annual increase of 5.0%).

The workforce employed by the partial copyright industries stood at 158,453 persons in 2009, up 18.4% from 133,863 persons in 2005 (an average annual increase of 4.3%).

**Table 4.19: Summary of Partial Copyright Industries**

(Billion won, persons, %)

		2005	2006	2007	2008	2009	2009/2005
Output	Nominal (change)	9,524.6 (-)	10,905.0 (14.5)	11,203.8 (2.7)	13,270.8 (18.4)	14,775.1 (11.3)	- (55.1)
	Real (change)	9,524.6 (-)	10,700.6 (12.3)	10,705.2 (0.0)	11,571.8 (8.1)	12,377.8 (7.0)	- (30.0)
Value added	Nominal (change)	4,765.8 (-)	5,278.3 (10.8)	5,356.3 (1.5)	6,351.7 (18.6)	6,987.5 (10.0)	- (46.6)
	Real (change)	4,765.8 (-)	5,155.3 (8.2)	5,091.0 (-1.2)	5,466.5 (7.4)	5,784.8 (5.8)	- (21.4)
Employment	Number of employees (change)	133,863 (-)	141,521 (5.7)	145,688 (2.9)	155,072 (6.4)	158,453 (2.2)	- (18.4)

The contribution of the partial copyright industries to the national economy (nominal value added of the partial copyright industries/nominal GDP) increased from 0.55% in 2005 to 0.66% in 2009. The contribution of the partial copyright industries to employment (number of employees of the partial copyright industries/total number of the persons employed) steadily increased from 0.59% in 2005 to 0.67% in 2009.

The employment share of the partial copyright industries was slightly higher than its GDP share, but they became basically alike in 2009.

**Chart 4.16: Economic Contribution of Partial Copyright Industries**

(%)



#### 4.4.2 Output

##### (1) Nominal Output and Component Ratio

The nominal output of the partial copyright industries was KRW 9.5 trillion in 2009, up 32.5% compared to 2005. With regards to the growth ratio for each sector between 2005 and 2009, architecture, engineering and surveying showed the highest increase rate of 95.3%, followed by museums (80.6%), interior design (64.0%), household goods, china and glass (42.3%).

**Table 4.20: Output of Partial Copyright Industries**

(Billion won,%)

	2005 (A)		2009 (B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. Apparel, textiles and footwear	3,058.4	32.1	4,052.4	27.4	32.5
2. Jewellery and coins	326.0	3.4	455.2	3.1	39.6
3. Other crafts	33.0	0.3	35.9	0.2	8.9
4. Furniture	775.4	8.1	1,050.3	7.1	35.5
5. Household goods, china and glass	1,696.1	17.8	2,412.8	16.3	42.3
6. Wall coverings and carpets	221.7	2.3	264.2	1.8	19.2
7. Toys and games	102.0	1.1	113.8	0.8	11.6
8. Architecture, engineering and surveying	3,021.9	31.7	5,901.7	39.9	95.3
9. Interior design	212.7	2.2	348.7	2.4	64.0
10. Museums	77.6	0.8	140.2	0.9	80.6
<b>Total</b>	<b>9,524.6</b>	<b>100.0</b>	<b>14,775.1</b>	<b>100.0</b>	<b>55.1</b>

The four major sectors of partial copyright industries in terms of output in 2009 were:

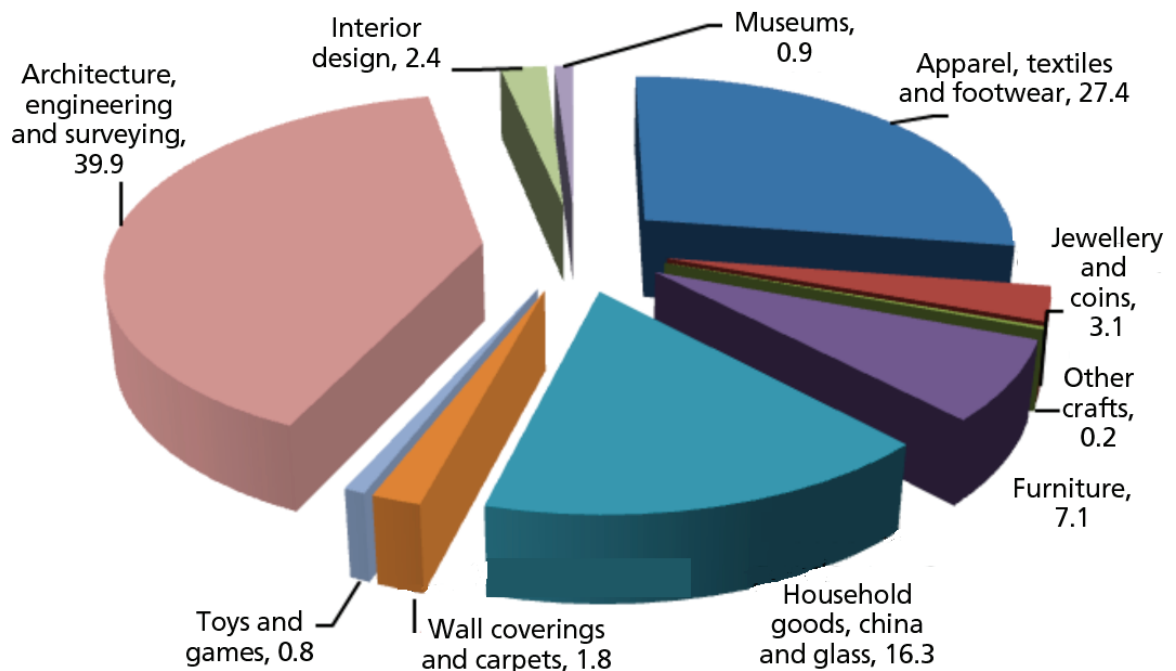
1. Architecture, engineering and surveying
2. Apparel, textiles and footwear
3. Household goods, china and glass
4. Furniture.

The output generated by these industries above totalled KRW 13.4 trillion, accounting for 90.8% in the entire partial copyright industries category. The biggest sector among them was architecture, engineering and surveying, which yielded KRW 5.9 trillion (39.9%), followed by apparel, textiles and footwear with KRW 4.1 trillion (27.4%), household goods, china and glass with KRW 2.4 trillion (16.3%), and furniture with KRW 1.1 trillion (7.1%).

The other six sectors – jewellery and coins, other crafts, wall coverings and carpets, toys and games, interior design and museums – stood for the remaining total output of KRW 1.4 trillion (9.2%) in partial copyright industries.

**Chart 4.17: Output Share of Partial Copyright Industries**

(Nominal values, %)



**(2) Growth Rate of Real Output**

The annual increase of real output of the partial copyright industries for the period 2006 to 2009 averaged 6.8%. During this period, among the partial copyright industries, museums recorded the highest growth rate of 11.0%, followed by interior design (9.1%), architecture, engineering and surveying (8.6%), apparel, textiles and footwear (8.0%), and jewellery and coins (6.2%).

**Table 4.21: Output Growth Rate of Partial Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	average 2006-2009
1. Apparel, textiles and footwear	16.6	-2.6	5.2	6.5	8.0
2. Jewellery and coins	6.2	-12.4	7.0	18.0	6.2
3. Other crafts	9.6	9.4	-6.2	-15.1	4.1
4. Furniture	28.4	-7.3	2.3	3.0	-1.1
5. Household goods, china and glass	8.2	-1.1	2.7	14.4	5.8
6. Wall coverings and carpets	-4.8	6.8	-3.3	8.0	5.9
7. Toys and games	2.8	-18.5	2.7	17.9	1.5
8. Architecture, engineering and surveying	8.9	7.0	14.8	4.1	8.6
9. Interior design	1.9	0.7	32.1	4.5	9.1
10. Museums	24.1	2.9	9.5	8.6	11.0
<b>Total</b>	<b>12.3</b>	<b>0.0</b>	<b>8.1</b>	<b>7.0</b>	<b>6.8</b>

**4.4.3 Value Added**

**(1) Nominal Value Added and Component Ratio**

In 2009, value added by the partial copyright industries totalled KRW 7.0 trillion in nominal terms, up 46.6% compared to 2005. During the period 2005-2009, museums showed the highest growth rate of 85.0%,

followed by architecture, engineering and surveying (61.7%), interior design (53.4%), household goods, china and glass (43.1%), and jewellery and coins (37.2%).

**Table 4.22: Value Added of Partial Copyright Industries**

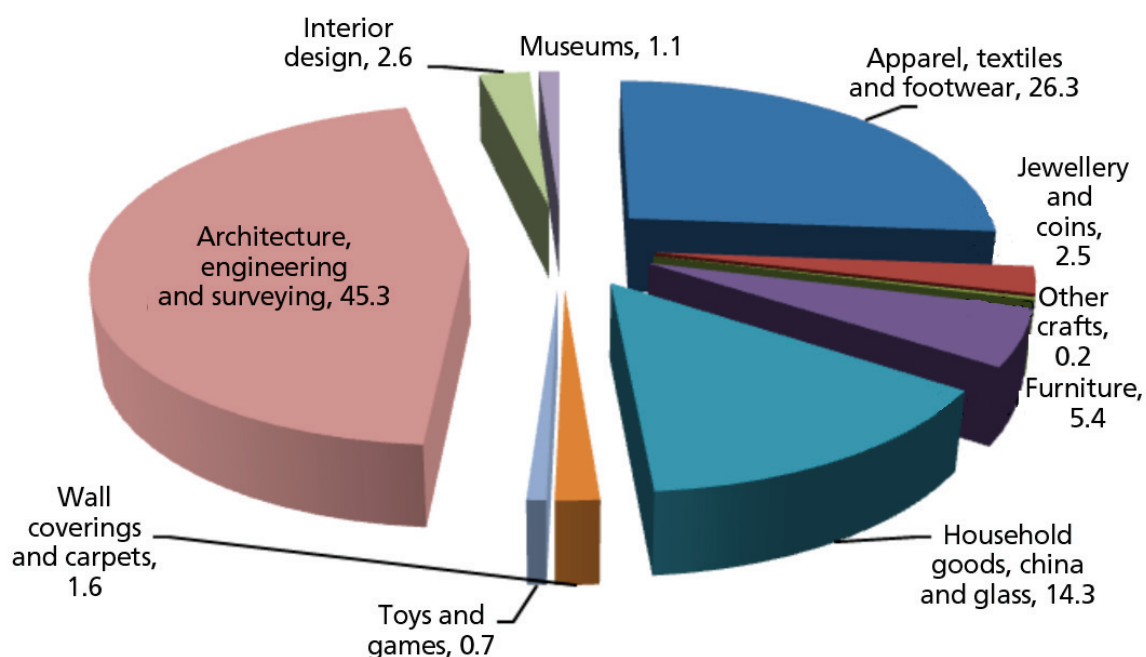
(Nominal values, billion Won, %)

	2005 (A)		2009 (B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. Apparel, textiles and footwear	1,390.4	29.2	1,836.2	26.3	32.1
2. Jewellery and coins	129.4	2.7	176.7	2.5	37.2
3. Other crafts	13.4	0.3	14.9	0.2	15.4
4. Furniture	283.9	6.0	378.0	5.4	33.1
5. Household goods, china and glass	699.8	14.7	1,001.9	14.3	43.1
6. Wall coverings and carpets	90.7	1.9	111.9	1.6	23.1
7. Toys and games	43.5	0.9	49.1	0.7	14.0
8. Architecture, engineering and surveying	1,957.3	41.1	3,164.5	45.3	61.7
9. Interior design	117.5	2.5	180.8	2.6	53.4
10. Museums	39.9	0.8	73.6	1.1	85.0
<b>Total</b>	<b>4,765.8</b>	<b>100.0</b>	<b>6,987.5</b>	<b>100.0</b>	<b>46.6</b>

The component ratio of value added of the partial copyright industries in 2009 is set out below. In the partial copyright industries, the sector that outperformed other sectors was architecture, engineering and surveying, which took up 45.3%. It was followed by the industries of apparel, textiles and footwear (26.3%), household goods, china and glass (14.3%), and furniture (5.4%).

**Chart 4.18: Value Added Share of Partial Copyright Industries**

(Nominal values, %)



## (2) Growth Rate of Real Value Added

Between 2006 and 2009, the value added of the partial copyright industries in real terms increased on average by 5.0% per annum. That of museums increased the most at a rate of 11.5%, followed by interior design (7.4%), apparel, textiles and footwear (6.2%), household goods, china and glass (6.0%), and furniture (5.3%). In contrast, the other crafts experienced a decline in the average annual value added.

**Table 4.23: Growth Rate of Value Added of Partial Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
1. Apparel, textiles and footwear	12.6	0.8	5.5	6.1	6.2
2. Jewellery and coins	2.8	-3.0	-3.0	20.0	3.8
3. Other crafts	9.0	19.8	-7.4	-19.2	-0.6
4. Furniture	27.4	-7.8	3.4	1.5	5.3
5. Household goods, china and glass	4.8	5.3	-0.9	15.6	6.0
6. Wall coverings and carpets	-8.7	8.5	-7.5	20.6	2.5
7. Toys and games	2.3	-12.0	-0.9	15.2	0.7
8. Architecture, engineering and surveying	5.0	-3.6	13.3	0.5	3.6
9. Interior design	-0.6	-15.3	28.0	23.3	7.4
10. Museums	17.9	9.3	7.8	11.5	11.5
<b>Total</b>	<b>8.2</b>	<b>-1.2</b>	<b>7.4</b>	<b>5.8</b>	<b>5.0</b>

### 4.4.4 Number of Employees

#### (1) Employment Size and Ratio

In 2009, the partial copyright industries employed a total of 158,453 workers, up 18.4% from 2005. The largest employers in this industry were the architecture, engineering and surveying industries, employing 56,245 workers, or 35.5% of the total industries; followed by apparel, textiles and footwear with 48,385 workers (30.5%); household goods, china and glass with 25,818 workers (16.3%); and furniture with 7,253 workers (4.6%).

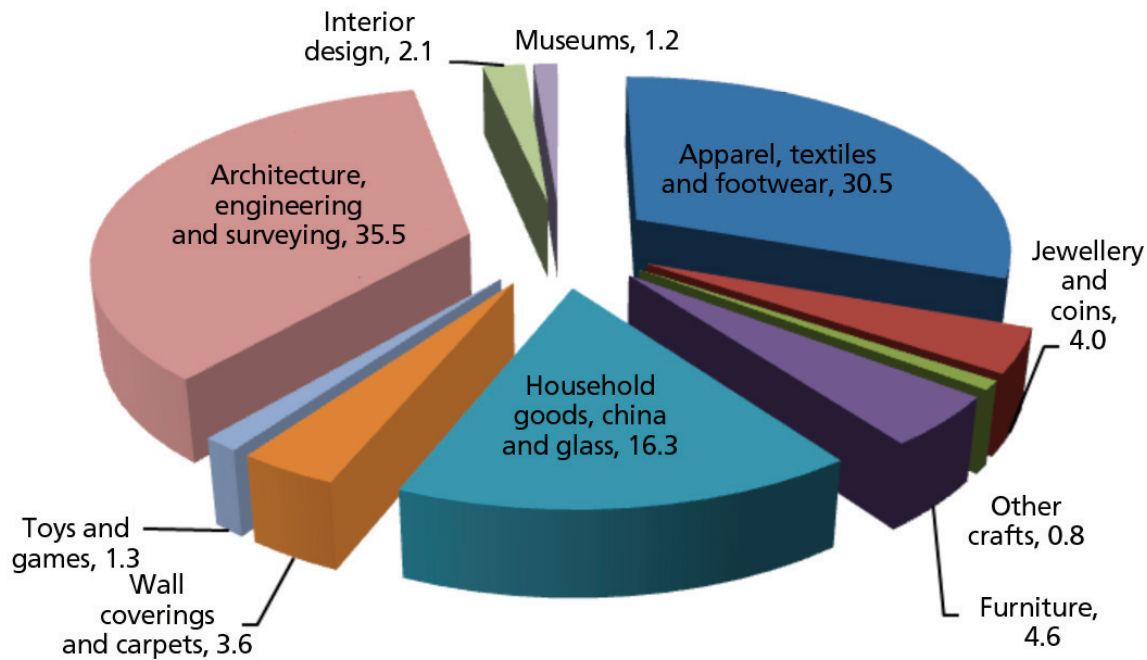
**Table 4.24: Number of Employees of Partial Copyright Industries**

(Persons; %)

	2005 (A)		2009 (B)		B/A
	Number of Employees	Ratio	Number of Employees	Ratio	% Change
1. Apparel, textiles and footwear	45,963	34.3	48,385	30.5	5.3
2. Jewellery and coins	6,821	5.1	6,329	4.0	-7.2
3. Other crafts	1,416	1.1	1,320	0.8	-6.8
4. Furniture	6,791	5.1	7,253	4.6	6.8
5. Household goods, china and glass	22,425	16.8	25,818	16.3	15.1
6. Wall coverings and carpets	6,268	4.7	5,672	3.6	-9.5
7. Toys and games	2,257	1.7	2,089	1.3	-7.4
8. Architecture, engineering and surveying	38,571	28.8	56,245	35.5	45.8
9. Interior design	2,040	1.5	3,397	2.1	66.5
10. Museums	1,311	1.0	1,944	1.2	48.3
<b>Total</b>	<b>133,863</b>	<b>100.0</b>	<b>158,453</b>	<b>100.0</b>	<b>18.4</b>

**Chart 4.19: Employment Ratio of Partial Copyright Industries in 2009**

(%)



**(2) Growth Rate of Employment**

Overall employment in the partial copyright industries expanded at an average rate of 4.3% per annum during the period 2006-2009. In the partial copyright industries, interior design showed the highest increase at 13.6%, followed by museums (10.4%), architecture, engineering and surveying (9.9%), and household goods, china and glass (3.6%). However, the annual average growth rate of employment in jewellery and coins, other crafts, wall coverings and carpets, and toys and games marked a decline during the same period.

**Table 4.25: Employment Growth Rate of Partial Copyright Industries**

(%)

	2006	2007	2008	2009	Average 2006-2009
1. Apparel, textiles and footwear	5.2	-0.3	-1.8	2.2	1.3
2. Jewellery and coins	-2.2	-2.2	-2.8	-0.2	-1.9
3. Other crafts	5.7	-3.1	-9.6	0.7	-1.7
4. Furniture	8.2	1.2	-0.8	-1.7	1.7
5. Household goods, china and glass	4.6	2.2	3.0	4.4	3.6
6. Wall coverings and carpets	-1.9	-0.5	-8.1	0.9	-2.5
7. Toys and games	-4.5	-4.8	-1.9	3.8	-1.9
8. Architecture, engineering and surveying	9.7	8.9	19.8	1.9	9.9
9. Interior design	5.5	5.2	49.4	0.4	13.6
10. Museums	6.3	11.2	13.3	10.7	10.4
<b>Total</b>	<b>5.7</b>	<b>2.9</b>	<b>6.4</b>	<b>2.2</b>	<b>4.3</b>

## 4.5 Non-Dedicated Support Industries

The non-dedicated support industries are industries 'in which a portion of the activities are related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries' (WIPO Guide p.35). The non-dedicated support industries comprise the following:

- General wholesale and retail
- General transportation
- Telephony and Internet.

### 4.5.1 Overview

The non-dedicated support industries in the Republic of Korea showed the following trends over the period 2005 through 2009:

The nominal output of the non-dedicated support industries amounted to KRW 26.0 trillion in 2009, up 43.4% from KRW 18.1 trillion in 2005, while their real output increased by 28.9% between 2005 and 2009 (an average annual increase of 6.6%).

The nominal value added in the non-dedicated support industries was KRW 10.3 trillion in 2009, up 28.0% from KRW 8.1 trillion in 2005, while their real value added increased by 15.5% between 2005 and 2009 (an average annual increase of 3.7%).

The number of persons employed in the non-dedicated support industries added up to 264,274 persons in 2009, up 23.2% from 214,554 persons in 2005 (an average annual increase of 5.3%).

**Table 4.26: Summary of the performance of Non-Dedicated Support Industries**

(Billion won, persons; %)

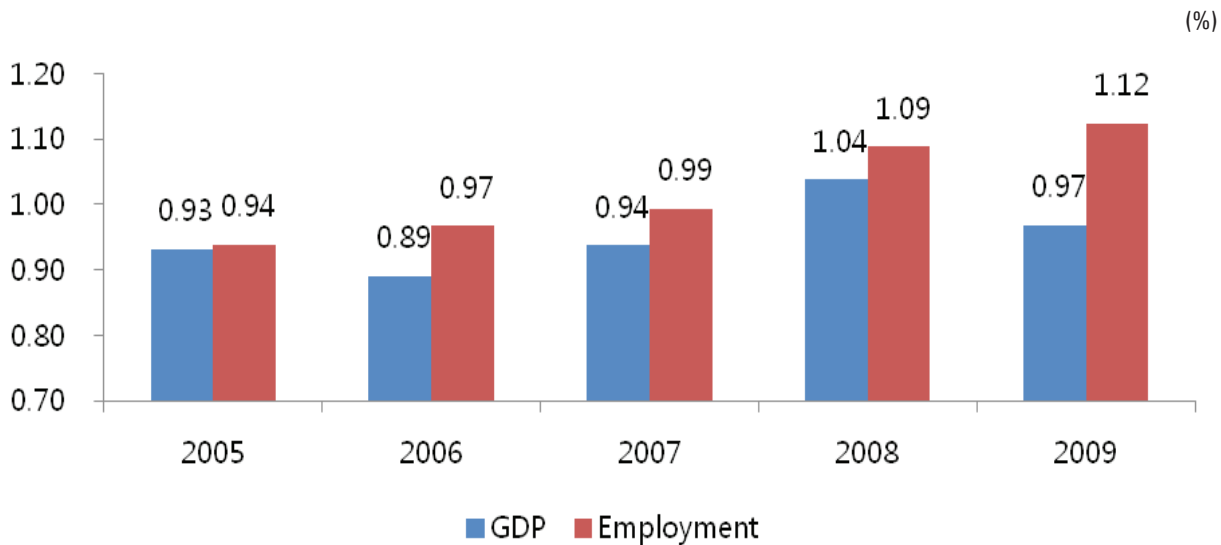
		2005	2006	2007	2008	2009	2009/2005
Output	Nominal (change)	18,107.9 (-)	18,734.1 (3.5)	20,987.5 (12.0)	26,081.9 (24.3)	25,967.1 (-0.4)	- (43.4)
	Real (change)	18,107.9 (-)	18,490.4 (2.1)	20,377.0 (10.2)	23,913.5 (17.4)	23,347.1 (-2.4)	- (28.9)
Value added	Nominal (change)	8,064.6 (-)	8,092.1 (0.3)	9,138.2 (12.9)	10,651.1 (16.6)	10,319.1 (-3.1)	- (28.0)
	Real (change)	8,064.6 (-)	7,998.0 (-0.8)	8,876.3 (11.0)	9,829.9 (10.7)	9,314.1 (-5.2)	- (15.5)
Employment	Number of employees (change)	214,554 (-)	223,991 (4.4)	232,771 (3.9)	256,798 (10.3)	264,274 (2.9)	- (23.2)

The contribution of the non-dedicated support industries to the nation's economy (nominal value added in the non-dedicated support industries/nominal GDP) increased from 0.93% in 2005 to 0.97% in 2009. The contribution to employment (number of employees in the non-dedicated support industries/total number of persons employed) steadily increased to 1.12% in 2009 from 0.94% in 2005.

The employment share in the non-dedicated support industries is higher than its GDP share, indicating that the employees in the non-dedicated support industries receive, on average, lower wages than those of other industries.



**Chart 4.20: Economic Contribution of Non-Dedicated Support Industries**



#### 4.5.2 Output

##### (1) Nominal Output and Component Ratio

The non-dedicated support industries produced in nominal terms an estimated output of KRW 26.0 trillion in 2009, up 43.4% compared to 2005. The fastest growing sector in this group between 2005 and 2009 was general wholesale and retail trade, recording average growth of 50.5% year on year. Next in line were general transportation (44.5%), telephony and the Internet (27.7%).

**Table 4.27: Output of Non-Dedicated Support Industries**

(Nominal values, billion won, %)

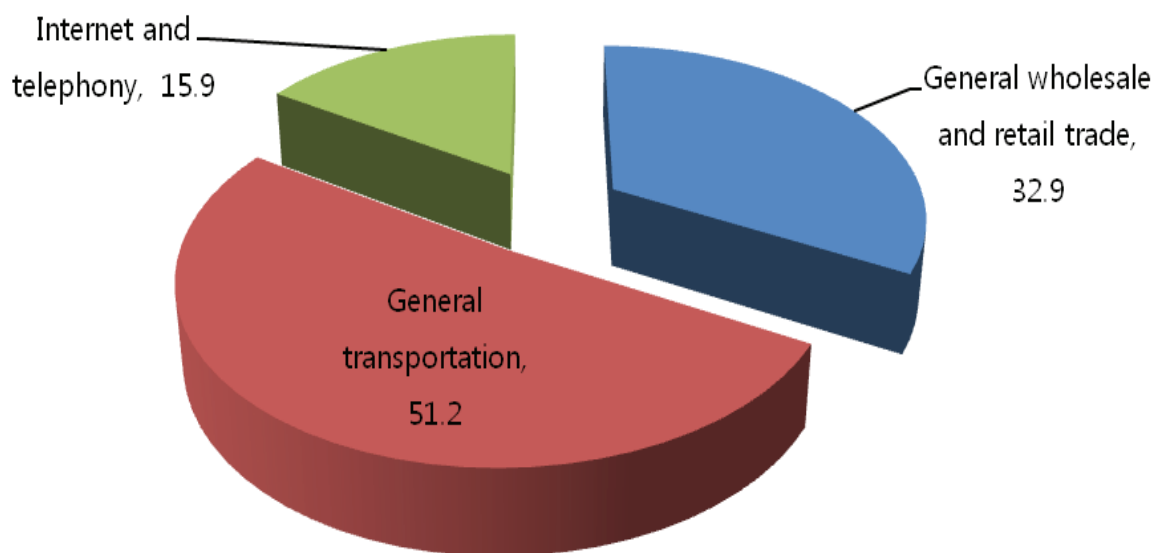
	2005(A)		2009(B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. General wholesale and retail	5,679.3	31.4	8,545.2	32.9	50.5
2. General transportation	9,200.5	50.8	13,298.3	51.2	44.5
3. Telephony and Internet	3,228.2	17.8	4,123.7	15.9	27.7
<b>Total</b>	<b>18,107.9</b>	<b>100.0</b>	<b>25,967.1</b>	<b>100.0</b>	<b>43.4</b>

The three components of non-dedicated support industries demonstrated the following nominal outputs in 2009:

General transportation was the largest sector, producing a nominal output of KRW 13.3 trillion, accounting for 51.2% of the total non-dedicated support industries. The output of general wholesale and retail trade stood at KRW 8.5 trillion, or 32.9% of the total non-dedicated support industries. The telephony and Internet stood at KRW 4.1 trillion, or 15.9% of the total non-dedicated support industries.

**Chart 4.21: Output Ratio of Non-Dedicated Support Industries**

(Nominal values, %)



**(2) Growth Rate of Real Output**

The annual increase of real output in the non-dedicated support industries averaged 6.6% between 2006 and 2009. Among the non-dedicated support industries, general wholesale and retail trade showed the highest average growth rate of 7.8% during the same period, followed by telephony and Internet (6.6%), and general transportation (5.8%).

**Table 4.28: Output Growth Rate of Non-Dedicated Support Industries**

(2005 prices, %)

	2006	2007	2008	2009	average 2006-2009
1. General wholesale and retail	3.0	13.1	6.9	8.4	7.8
2. General transportation	1.1	10.2	25.1	-10.2	5.8
3. Telephony and Internet	3.3	5.0	14.5	3.8	6.6
<b>Total</b>	<b>2.1</b>	<b>10.2</b>	<b>17.4</b>	<b>-2.4</b>	<b>6.6</b>

**4.5.3 Value Added**

**(1) Nominal Value Added and Component Ratio**

In 2009, the non-dedicated support industries generated value added of KRW 10.3 trillion in nominal terms, up 28.0% compared to 2005. Between 2005 and 2009, general wholesale and retail trade showed the highest growth rate of 46.1%, followed by general transportation (25.6%) and telephony and Internet (2.7%).

**Table 4.29: Value Added of Non-Dedicated Support Industries**

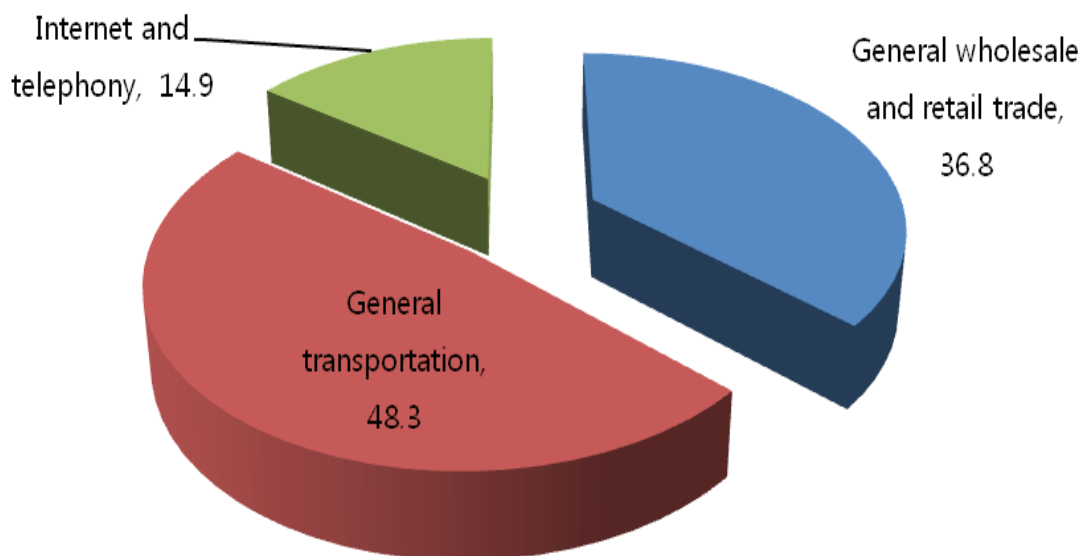
(Nominal values, billion won, %)

	2005 (A)		2009 (B)		B/A
	Amount	Ratio	Amount	Ratio	% Change
1. General wholesale and retail trade	2,596.2	32.2	3,793.7	36.8	46.1
2. General transportation	3,971.7	49.2	4,988.0	48.3	25.6
3. Telephony and Internet	1,496.6	18.6	1,537.4	14.9	2.7
<b>Total</b>	<b>8,064.6</b>	<b>100.00</b>	<b>10,319.1</b>	<b>100.00</b>	<b>28.0</b>

In 2009, the non-dedicated support industries showed the following component ratio in terms of value added: General transportation generated the highest share at 48.3% among the group, followed by general wholesale and retail (36.8%) and telephony and Internet (14.9%).

**Chart 4.22: Component Ratio of Value Added of Non-Dedicated Support Industries**

(Nominal values, %)

**(2) Growth Rate of Real Value Added**

The value added of the non-dedicated support industries during the period 2006-2009 increased in real terms by an average of 3.7% per annum. The highest growth was achieved in general wholesale and retail trade with 7.0%, followed by general transportation (2.4%) and telephony and Internet (0.9%).

**Table 4.30: Growth Rate of Value Added of Non-Dedicated Support Industries**

(2005 prices, %)

	2006	2007	2008	2009	average 2006-2009
1. General wholesale and retail	-2.6	19.1	5.8	6.8	7.0
2. General transportation	0.2	7.1	14.7	-10.9	2.4
3. Telephony and Internet	-0.6	7.5	9.5	-11.5	0.9
<b>Total</b>	<b>-0.8</b>	<b>11.0</b>	<b>10.7</b>	<b>-5.2</b>	<b>3.7</b>

#### 4.5.4 Number of Employees

##### (1) Employment Size and Ratio

In 2009, the number of employees of the non-dedicated support industries totalled 264,274 workers, up 23.2% compared to 2005. In terms of the number and ratio of employees of each sector of the non-dedicated support industries, general transportation was the largest employer with 140,538 workers, accounting for 53.2% of the total workforce of the industries; followed by general wholesale and retail trade with 114,792 workers (43.4%); and telephony and Internet with 8,944 workers (3.4%).

**Table 4.31: Number of Employees of Non-Dedicated Support Industries**

(Persons, %)

	2005(A)		2009(B)		B/A
	Number of Employees	Ratio	Number of Employees	Ratio	% Change
1. General wholesale and retail	85,607	39.9	114,792	43.4	34.1
2. General transportation	120,950	56.4	140,538	53.2	16.2
3. Telephony and Internet	7,997	3.7	8,944	3.4	11.8
<b>Total</b>	<b>214,554</b>	<b>100.0</b>	<b>264,274</b>	<b>100.0</b>	<b>23.2</b>

##### (2) Growth Rate of Employment

The number of employees in the non-dedicated support industries showed an average increase of 5.3% per annum between 2006 and 2009. The highest growth rate was achieved in general wholesale and retail trade at 7.6%, followed by general transportation (3.8%) and telephony and Internet (2.8%).

**Table 4.32: Employment Growth Rate of Non-Dedicated Support Industries**

(%)

	2006	2007	2008	2009	Average 2006-2009
1. General wholesale and retail	9.3	3.1	12.9	5.4	7.6
2. General transportation	1.0	5.1	8.2	1.2	3.8
3. Telephony and Internet	3.5	-4.5	14.1	-0.8	2.8
<b>Total</b>	<b>4.4</b>	<b>3.9</b>	<b>10.3</b>	<b>2.9</b>	<b>5.3</b>

## 4.6 Foreign Trade

Foreign trade in copyright goods and services was estimated on the basis of exports and imports of the following copyright-related goods and services:

- Press and literature
- Music, theatrical production and opera
- Motion picture and video
- Radio and television
- Photography
- Software and databases
- Visual and graphic arts
- Advertising services
- Copyright collecting societies.

The Republic of Korea is a net importing country in copyright-related goods and services. The trade deficit in copyright-related goods and services continued to increase to 6.0 billion US dollars in 2009, up 78.9% from 3.4 billion US dollars in 2005. The trade deficit was generated mainly by the press and literature, and advertising services.

Imports of copyright-related goods and services increased from 5.2 billion US dollars in 2005 to 8.3 billion US dollars in 2009. Imports sharply increased more than 20% in 2007 and 2008 for two consecutive years, but they rose by 0.5% in 2009.

In contrast, exports of copyright-related goods and services fluctuated within a range of between 1.7 billion US dollars and 2.2 billion US dollars for the period 2005-2009, except in 2008 when they recorded 3.2 billion US dollars.

**Table 4.33: Trade in Copyright-Related Goods and Services**

(Million US dollars, %)

		2005	2006	2007	2008	2009
Exports	Amount	1,862	1,702	1,782	3,192	2,221
	(%Change)	(-)	(-8.6)	(4.7)	(79.1)	(-30.4)
Imports	Amount	5,233	5,526	6,766	8,214	8,253
	(%Change)	(-)	(5.6)	(22.5)	(21.4)	(0.5)
Difference	Amount	-3,371	-3,824	-4,984	-5,022	-6,032

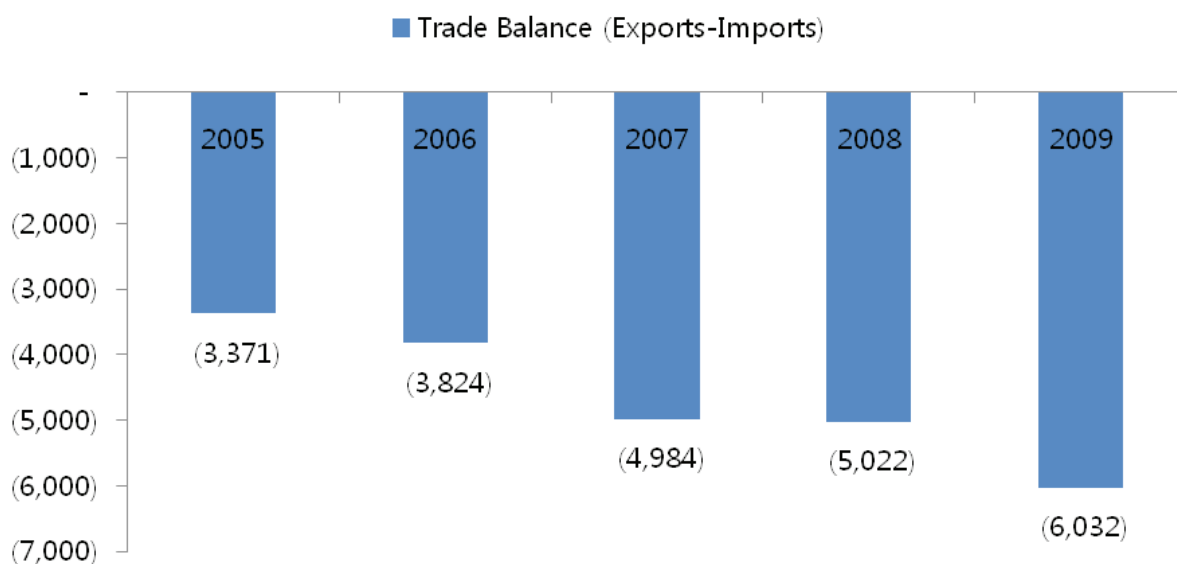
**Chart 4.23: Trade in Copyright-Related Goods and Services**

(Million US dollars)



**Chart 4.24: Trade Balance (Exports – Imports)**

(Million US dollars)



## 4.7 International Comparisons

It is very informative to compare the level of economic contribution of 29 countries, including the United States, Canada and Australia, that have produced statistics on the copyright-based industries since 2004. International comparisons regarding the copyright-based industries are typically made on the basis of the total copyright-based industries and the core copyright industries.

### 4.7.1 GDP Contribution by Country

In terms of GDP contribution by the total copyright industries, average GDP contribution of the 29 countries was 5.45%. The highest contribution was recorded in the USA with 11.05%, followed by Australia (10.30%), the Republic of Korea (9.89%), Hungary (6.66%), and China (6.37%). On the other hand, Brunei Darussalam (1.58%), Peru (2.67%), and Ukraine (2.85%) recorded low contributions.

With regards to the GDP contribution of the core copyright industries, the average GDP contribution of the 29 countries was 3.03%. Australia topped this category with 7.30%, followed by the USA (6.44%), Panama (5.40%), and the Netherlands (4.00%), which were classified as countries with high GDP contribution by the core copyright industries.

On the other hand, Brunei Darussalam recorded 0.70%, the lowest contribution, followed by Peru (1.23%), Pakistan (1.37%), and Ukraine (1.54%), which can be classified as countries with lower GDP contribution by the core copyright industries. In the Republic of Korea, the GDP contribution by the core copyright industries was estimated at 3.51%, slightly hovering over the average of the 29 countries.

**Table 4.34: GDP Contribution of Copyright Industries by Country**

(%)

Country	Published	Total CRI*	Core CRI	Country	Published	Total CRI	Core CRI
USA	2009	11.05	6.44	Brunei	2011	1.58	0.70
Australia	2009	10.30	7.30	Peru	2009	2.67	1.23
Republic of Korea	2012	9.89	3.51	Ukraine	2008	2.85	1.54
Hungary	2010	6.66	3.96	Colombia	2008	3.30	1.90
China	2009	6.37	3.06	South Africa	2011	4.11	2.05
Panama	2009	6.35	5.40	Croatia	2007	4.27	2.99

Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

\*CRI = Copyright Industries

In terms of the share of core copyright industries in the value added of the total copyright industries for each country, the average of the 29 countries was 54.9%. Panama led the high-ranking group with 85.0%, followed by Finland (76.6%), Canada (74.2%), the Philippines (73.2%), and Australia (70.9%). The middle of the list included the USA (58.3%), Colombia (57.6%), Hungary (59.5%), Singapore (55.9%), and Ukraine (54.0%); whereas at the bottom of the list were the Russian Federation (39.4%), the Republic of Korea (35.5%), Jamaica (35.3%), Bhutan (34.8%), and Mexico (32.5%).

**Table 4.35: Share of Core Copyright Industries in the Total Copyright Industries**

(Value added, %)

High			Middle			Bottom		
	Published	Share		Published	Share		Published	Share
Panama	2009	85.0	Hungary	2010	59.5	Russian Federation	2007	39.4
Finland	2010	76.6	USA	2009	58.3	Republic of Korea	2011	35.5
Canada	2004	74.2	Colombia	2008	57.6	Jamaica	2007	35.3
Philippines	2006	73.2	Singapore	2007	55.9	Bhutan	2011	34.8
Australia	2009	70.9	Ukraine	2008	54.0	Mexico	2006	32.5

Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

#### 4.7.2 Employment Contribution by Country

In terms of the employment contribution of the total copyright industries, the average of the 29 countries' employment contribution was 5.99%. The Philippines had the highest contribution with 11.10%, followed by Mexico (11.01%), Bhutan (10.09%), the Netherlands (8.80%), and the USA (8.51%). Other countries such as Ukraine (1.90%), Jamaica (3.03%), Panama (3.17%), Brunei Darussalam (3.20%) and Kenya (3.26%) showed lower contributions. The Republic of Korea's employment contribution of the total copyright industries was 6.24%, slightly higher than the average of the 29 countries.

Regarding the contribution of the core copyright industries to national employment, the average of the 29 countries was 3.19%. The Philippines led the high-ranking group with 8.81%, followed by the Netherlands (6.20%), Australia (4.97%), Slovenia (4.60%), the Russian Federation (4.29%), and the USA (4.05%).

In contrast, Pakistan recorded the lowest contribution share of 0.70%. At the bottom of the list were Bhutan (1.03%), Ukraine (1.16%), Kenya (1.20%), and Brunei Darussalam (1.50%). the Republic of Korea's employment contribution of the core copyright industries was 2.85%, lower than the average of the 29 countries.

**Table 4.36: Employment Contribution by Country**

(%)

Country	Published	Total CRI	Core CRI	Country	Published	Total CRI	Core CRI
Philippines	2006	11.10	8.81	Ukraine	2008	1.90	1.16
Mexico	2006	11.01	3.41	Jamaica	2007	3.13	1.79
Bhutan	2011	10.09	1.03	Panama	2009	3.17	1.52
Netherlands	2009	8.80	6.20	Brunei Darussalam	2011	3.20	1.50
USA	2009	8.51	4.05	Kenya	2009	3.26	1.20
Australia	2009	8.00	4.97	Pakistan	2009	3.71	0.70
Russian Federation	2007	7.30	4.29	Republic of Korea	2012	6.24	2.85

Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

On the other hand, regarding the employment share of the core copyright industries in the total copyright industries, the average of the 29 countries was 53.2%. The Philippines showed the highest share with 79.4%, followed by Finland (79.3%), the Netherlands (70.5%), Croatia (69.2%), and Slovenia (67.6%). The middle-ranking group included the Russian Federation (58.8%), Hungary (58.5%), Canada (58.2%), South Africa (56.6%), and Romania (56.3%). Bhutan (10.2%), Pakistan (18.9%), Colombia (29.3%), Mexico (31.0%) and Kenya (36.8%) were at the bottom of the list. The Republic of Korea (45.7%) was at the lower-middle tier of the list.

**Table 4.37: Employment Share of Core Copyright Industries by Country**

(%)

High			Middle			Low		
	Published	Share		Published	Share		Published	Share
Philippines	2006	79.4	Russian Federation	2007	58.8	Bhutan	2011	10.2
Finland	2010	79.3	Hungary	2010	58.5	Pakistan	2010	18.9
Netherlands	2009	70.5	Canada	2004	58.2	Colombia	2008	29.3
Croatia	2007	69.2	South Africa	2011	56.6	Mexico	2006	31.0
Slovenia	2010	67.6	Romania	2008	56.3	Kenya	2009	36.8

Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

#### 4.7.3 GDP and Employment Shares by Country

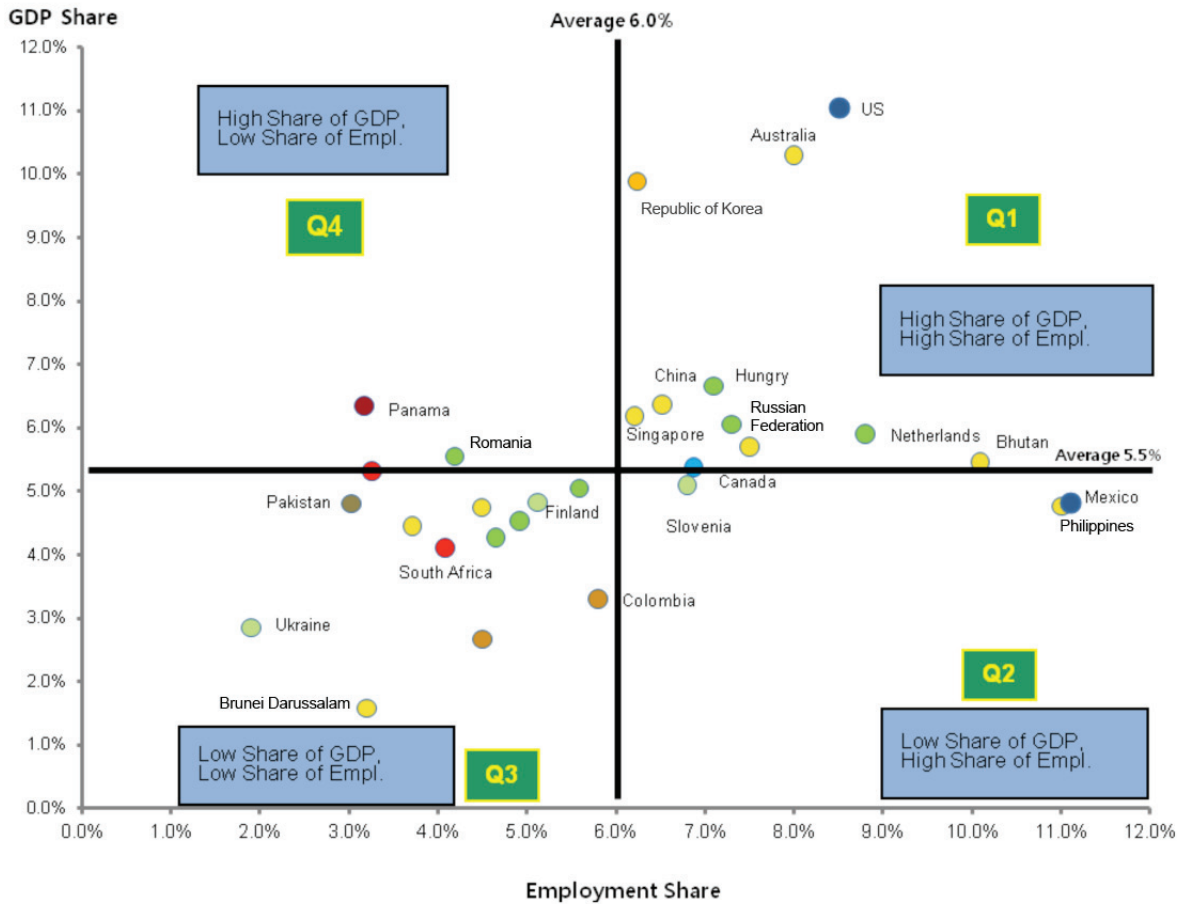
It is noteworthy to compare the distribution of the economic contribution of copyright industries of the 29 countries that have generated relevant statistics since 2004, including the USA, Canada and Australia, by means of quadrant tables based on both mean values and median values of GDP and employment shares respectively.

#### Total Copyright-Based Industries

The average GDP share of total copyright-based industries is 5.5% and the average employment share is 6.0%. The first quadrant where both GDP and employment shares are high included ten countries, such as the USA, Australia, the Republic of Korea, China, Singapore, Hungary, the Russian Federation, and the Netherlands. The second quadrant where the GDP share is low but the employment share is high included four countries, namely Canada, Slovenia, Mexico and the Philippines. The third quadrant where both GDP and employment shares are low included 13 countries, such as Kenya, Latvia, Finland, South Africa, Ukraine, Pakistan and Brunei Darussalam. And the fourth quadrant where the GDP share is high but the employment share is low included two countries, namely Panama and Romania. In case median values of GDP and employment shares are used instead of mean values, there is no significant change in the distribution of countries in the quadrant table (refer to table 4.38).



**Chart 4.25: Country Distribution of Total Copyright-Based Industries**



Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

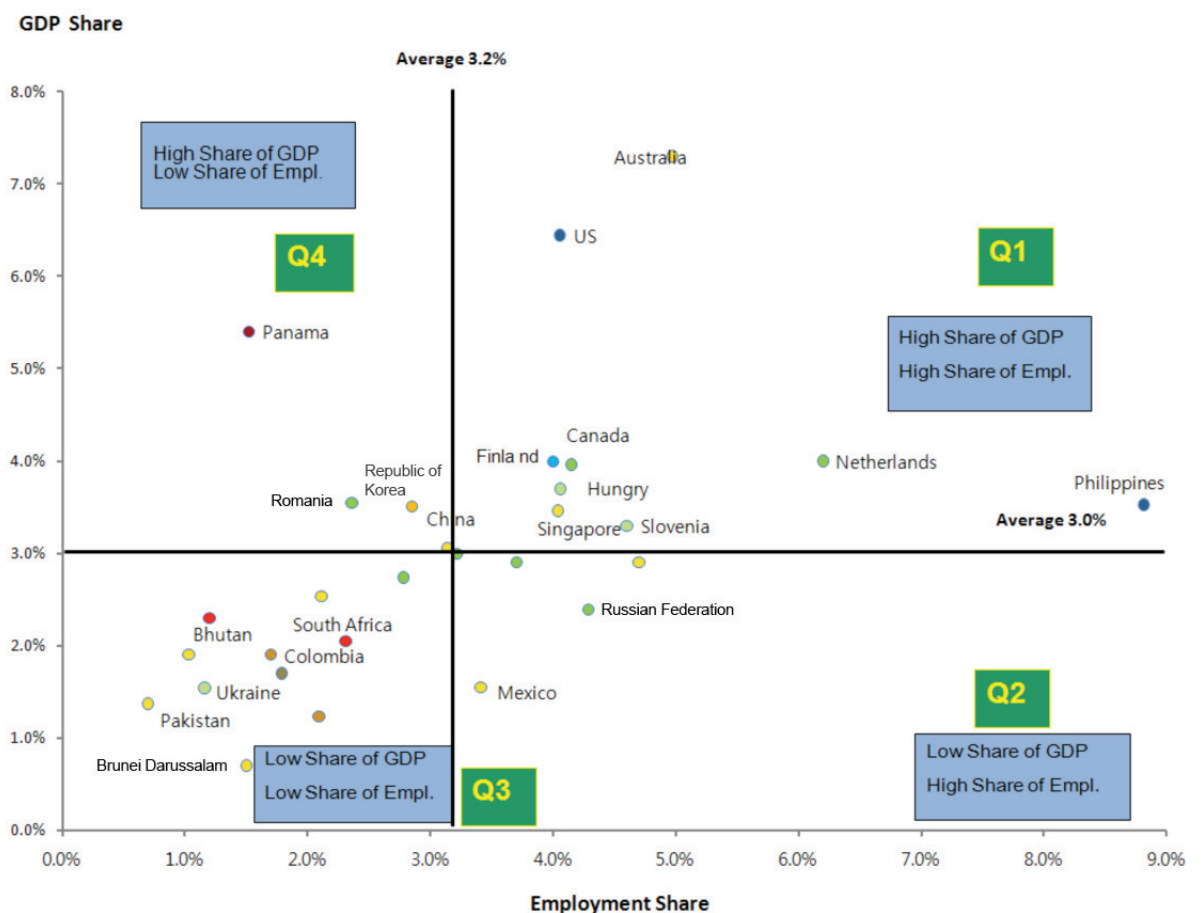
**Table 4.38: Country Placement of Total Copyright-Based Industries**

	Mean Values (GDP 5.5%, Employment 6.0%)	Median Values (GDP 5.1%, Employment 5.8%)	Changes due to Median Values
Q1	USA, Australia, Republic of Korea, China, Hungary, Russian Federation, Netherlands, Malaysia, Bhutan (10 countries)	USA, Australia, Republic of Korea, China, Hungary, Russian Federation, Netherlands, Malaysia, Bhutan, Canada (11 countries)	Canada(+)
Q2	Canada, Slovenia, Mexico, Philippines (4 countries)	Mexico, Philippines (2 countries)	Slovenia(-), Colombia(-) (GDPMedian)
Q3	Kenya, Latvia, Finland, Jamaica, Lebanon, Bulgaria, Pakistan, Croatia, South Africa, Colombia, Ukraine, Peru, Brunei Darussalam (13 countries)	Latvia, Finland, Jamaica, Lebanon, Bulgaria, Pakistan, Croatia, South Africa, Ukraine, Peru, Brunei Darussalam (11 countries)	Kenya(-), Colombia(-) (Employment Median)
Q4	Panama, Romania (2 countries)	Kenya, Panama, Romania (3 countries)	Kenya(+)

### Core Copyright Industries

The average (mean) GDP share of total copyright-based industries is 3.0%, and the average employment share is 3.2%. The first quadrant, where both GDP and employment shares are high, included nine countries such as Australia, the USA, the Netherlands, Canada, Hungary, Finland, the Philippines, Singapore and Slovenia. The second quadrant, where the GDP share is low but the employment share is high, included five countries, namely Croatia, Malaysia, Latvia, the Russian Federation and Mexico. The third quadrant, where both GDP and employment shares are low, included eleven countries such as Bulgaria, Lebanon, Kenya, South Africa, Bhutan, Colombia, Jamaica, Ukraine, Pakistan, Peru and Brunei Darussalam. Finally, the fourth quadrant, where the GDP share is high but the employment share is low, included four countries, namely Panama, Romania, the Republic of Korea and China. Applying median values of GDP and employment shares instead of average values, there is no significant change in the distribution of countries in the quadrant table (refer to table 4.39).

**Chart 4.26: Country Distribution of Core Copyright Industries**



Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

**Table 4.39: Country Placement of Core Copyright Industries**

	Mean Values (GDP 3.0%, Employment 3.2%)	Median Values (GDP 2.9%, Employment 3.1%)	Changes due to Median Values
Q1	Australia, USA, Netherlands, Canada, Hungary, Finland, Philippines, Singapore, Slovenia (9 countries)	Australia, USA, Netherlands, Canada, Hungary, Finland, Philippines, Singapore, Slovenia, Croatia ( 10 countries)	Croatia(+)
Q2	Croatia, Malaysia, Latvia, Russian Federation, Mexico (5 countries)	Latvia, Russian Federation, Mexico (3 countries)	Croatia(-), Malaysia(-) (GDP Median)
Q3	Bulgaria, Lebanon, Kenya, South Africa, Bhutan, Colombia, Jamaica, Ukraine, Pakistan, Brunei Darussalam (11 countries)	Bulgaria, Lebanon, Kenya, South Africa, Bhutan, Colombia, Jamaica, Ukraine, Pakistan, Brunei Darussalam (10 countries)	
Q4	Panama, Romania, the Republic of Korea, China (4 countries)	Panama, Romania, Republic of Korea (3 countries)	China(-) (Employment Median)

#### 4.8 Summary

Regardless of average values (mean or median) and industry boundaries (total copyright industries or core copyright industries), the quadrant analysis reveals that countries are concentrated in the first quadrant (advanced countries in terms of copyright industries) where both GDP and employment shares are high and the third quadrant (countries whose copyright industries are not fully developed) where both GDP and employment shares are low. However there was a big change in the composition of countries in the first quadrant between total copyright industries and core copyright industries analyses. The USA, Australia and the Netherlands, which have significantly high shares of GDP and employment, still belonged to the first quadrant in all cases of the quadrant analyses.

Two significant conclusions can be drawn from such distributions. First, copyright industries across countries tend to evolve from the third quadrant toward the first quadrant over time. Second, legal and economic incentives intended to drive the growth of the copyright industries will considerably contribute to promoting employment in the copyright industries by creating more jobs.

## 5. INPUT-OUTPUT ANALYSIS

The Bank of Korea has published Korean Input-Output Tables (KIO) since 2006. The Tables have a detailed classification of 403 goods and services. This study used 2009 Input-Output Tables and examined the economic impact of the core copyright industries. The coverage of core copyright industries is defined based on the following 13 detailed sectors from 403 KIO sectors. Table 5.1 shows the definition of core copyright industries expressed in the 403 detailed sectors.

**Table 5.1: Definition of Core Copyright Industries**

Core Copyright Industries	Korean Input-Output Tables (403 sectors)
Press and literature	KIO 129(Printing) + KIO 130(Reproduction of recorded media) + KIO 384(Newspapers) + KIO 385(Publishing)
Music, theatrical productions, operas	KIO 390(Theatrical producers, bands and entertainers)
Motion picture and video	KIO 388(Motion picture production and distribution) + KIO 389(Motion picture exhibition)
Radio and television	KIO 346(Terrestrial broadcasting) + KIO 347(Broadcasting via cable, satellite)
Software and databases	KIO 366(Computer software development and supply) + KIO 367(Computer-related services)
Advertising services	KIO 363(Advertising services)
Copyright collecting societies	KIO 393(Business and professional organizations)

### 5.1 Output Multipliers

An output multiplier of an industry represents the size of output directly or indirectly required by the industry or other industries to meet the final demand for one unit of an output of the industry.

The output multiplier of the core copyright industries was 2.0021. Looking at the output multiplier by sector, the advertising services were highest at 2.6732, followed by press and literature (2.1325), motion picture and video (1.9942), and radio and television (1.9112). The software and databases showed the lowest level of 1.7072, which was lower than the average of core copyright industries.

Compared with other industries, the multiplier of the core copyright industries (2.0021) was much higher than that of the total services (1.7282), and slightly lower than that of the manufacturing industries (2.0810). This meant that the core copyright industries showed a higher degree of incentive to production than total services, and almost the same level as manufacturing (2.0810).

**Table 5.2: Output Multipliers of Core Copyright Industries**

Industry	Output Multipliers *
Core copyright industries **	2.0021
Press and literature	2.1325
Music, theatrical productions and operas	1.8078
Motion picture and video	1.9942
Radio and television	1.9112
Software and databases	1.7072
Advertising services	2.6732
Copyright collecting societies	1.7884
Total services**	1.7282
Manufacturing**	2.0810

\* Output multiplier by industry =  $1 \cdot (I - A^d)^{-1}$ ,  $1 = (1, 1 \dots 1) (1 \times n)$

\*\* Simple average

## 5.2 Value Added Multipliers

A value added multiplier of an industry denotes the size of value added directly or indirectly by the industry or other industries when one unit of the final demand for goods of the industry occurs.

The value added multiplier of the core copyright industries was 0.8317 in 2009. Among the core copyright industries, the value added multiplier of copyright collecting societies was the highest at 0.9229, followed by music, theatrical productions and operas (0.8554), and radio and television (0.8363). Press and literature showed the lowest value added multiplier of 0.7780.

Compared with other industries, the value added multiplier of the core copyright industries (0.8317) was much higher than that of manufacturing (0.5891), and was slightly higher than that of the total services (0.8286). This meant that the core copyright industries used more domestic inputs than other industries in their production process.

**Table 5.3: Value Added Multipliers of Core Copyright Industries**

Industry	Value Added Multipliers *
Core copyright industries **	0.8317
Press and literature	0.7780
Music, theatrical productions and operas	0.8544
Motion picture and video	0.8126
Radio and television	0.8363
Software and databases	0.8094
Advertising services	0.8086
Copyright collecting societies	0.9229
Total services**	0.8286
Manufacturing**	0.5891

\* Value added multiplier =  $1 + \tilde{A}^v \cdot (I - A^d)^{-1} \cdot 1$ ,  $1 = (1, 1, \dots, 1) (1 \times n)$ ,

$A^d$  = diagonal matrix of value added coefficients

\*\* Simple average

## 5.3 Employment Multipliers

An employment multiplier of an industry denotes the number of workers directly or indirectly employed by the industry or other industries when a final demand of KRW 1 billion for goods of the industry arises.

The employment multiplier of the core copyright industries was 16.8. This signifies that meeting every 1 billion of the final demand of the core copyright industries would require a workforce of 16.8 persons in the core copyright industries and in other industries together.

Looking at employment multipliers by sector, copyright collecting societies had the highest multiplier at 25.1, followed by music, theatrical productions and operas (20.8), motion picture and video (17.1), press and literature (16.1), and advertising services (15.3). Radio and television recorded the lowest employment multiplier of 10.0.

Compared with other industries, the employment multiplier of the core copyright industries (16.8) was much higher than that of the manufacturing (10.0), and was lower than the average of the total services (17.4).

**Table 5.4: Employment Multipliers of Core Copyright Industries**

Industry	Employment Multipliers
Core copyright industries **	16.8
Press and literature	16.1
Music, theatrical productions and operas	20.8
Motion picture and video	17.1
Radio and television	10.0
Software and databases	13.2
Advertising services	15.3
Copyright collecting societies	25.1
Total services**	17.4
Manufacturing**	10.0

\* Employment multiplier =  $1 \cdot \hat{i} \cdot (I - A^d)^{-1}$ ,  $1 = (1, 1, \dots, 1)$  (1xn)

$\hat{i}$  = diagonal matrix of total workers coefficients

\*\* Simple average

#### 5.4 Cross-Industry Comparison

The output multiplier of the core copyright industries in 2009 was 2.0021, which was almost the same level as manufacturing (2.0810). It was higher than agriculture, forestry and fishing (0.8173), the total services (1.7282), and all industries (1.9545).

The value added multiplier of the core copyright industries was 0.8317, which surpassed that of agriculture, forestry and fishing (0.8173), manufacturing (0.5891), construction (0.7494), total services (0.8286), and all industries (0.6867).

The employment multiplier of the core copyright industries was 16.8 in 2009, which was higher than those of manufacturing (10.0), construction (14.2), and all industries (12.4).

Compared with other industries, the core copyright industries had numerous positive contributions to the economic growth of the Republic of Korea in terms of incentive to production, value added, and employment generation.

**Table 5.5: Industrial Comparison of Multipliers**

	Output Multiplier	Value Added Multiplier	Employment Multiplier
Agriculture, forestry and fishing	1.8745	0.8173	40.5
Mining and quarrying	1.7310	0.8163	8.7
Manufacturing	2.0810	0.5891	10.0
Electricity, gas, steam and water supply	1.4827	0.4520	2.9
Construction	2.1292	0.7494	14.2
Total services	1.7282	0.8286	17.4
(Wholesale and retail trade)	1.6776	0.8653	28.0
(Accommodation and food services)	2.0654	0.7789	31.4
(Transportation)	1.5932	0.5765	12.7
Core copyright industries	2.0021	0.8317	16.8
<b>All industries</b>	<b>1.9548</b>	<b>0.6867</b>	<b>12.4</b>

## 6. RECENT TRENDS OF KEY PLAYERS IN THE CORE COPYRIGHT INDUSTRIES

### 6.1 The Press Industry

As shown in Table 6.1 below, real output of the press industry exhibited slight fluctuations since 2005. In the aftermath of the global financial crisis in 2008, its real output stood at approximately KRW 12.6 trillion in 2009, down 9.0% from the preceding year. The industry's value added in 2009 declined by 6.9% from the previous year to KRW 5.1 trillion. In contrast, employment inched up 0.5% from the preceding year to 146,838 persons.

**Table 6.1: Summary of the Press Industry**

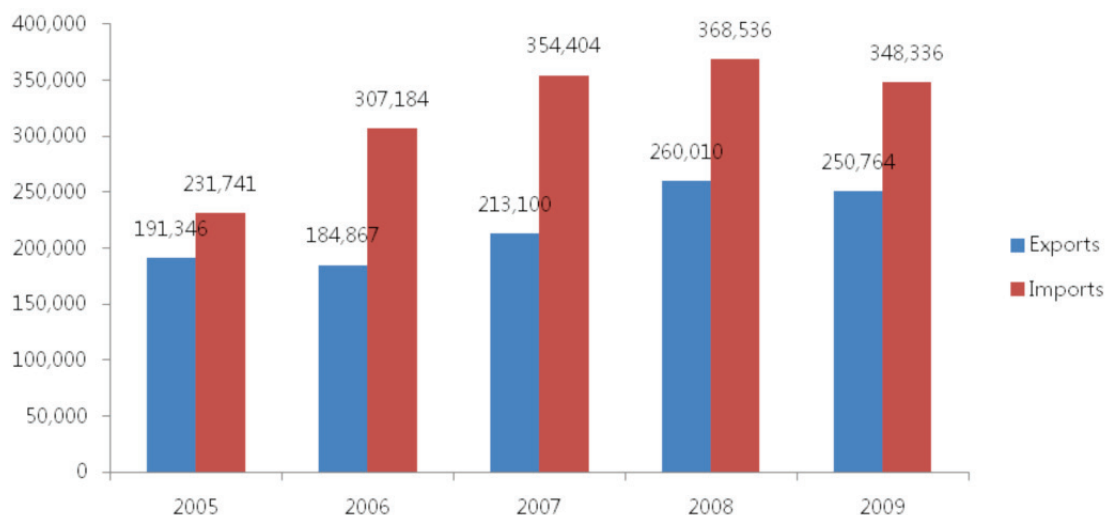
(2005 prices, million won; persons)

Description	Output	Value Added	Number of Employees
2005	12,951,883	5,501,992	148,784
2006	12,715,076	5,309,119	148,987
2007	13,535,116	5,714,141	154,349
2008	13,837,698	5,515,941	146,050
2009	12,599,850	5,135,108	146,838

Chart 6.1 displays the trend in imports and exports of the press industry. Since 2005, the industry has seen an overall rise in the amount of its exports notwithstanding some annual fluctuations. Its imports expanded steadily with the exception of 2009. As of 2009, its exports totalled 251 million US dollars, which is far less than its imports of 348 million US dollars.

**Chart 6.1: Imports and Exports of the Press Industry**

(Thousand US dollars)

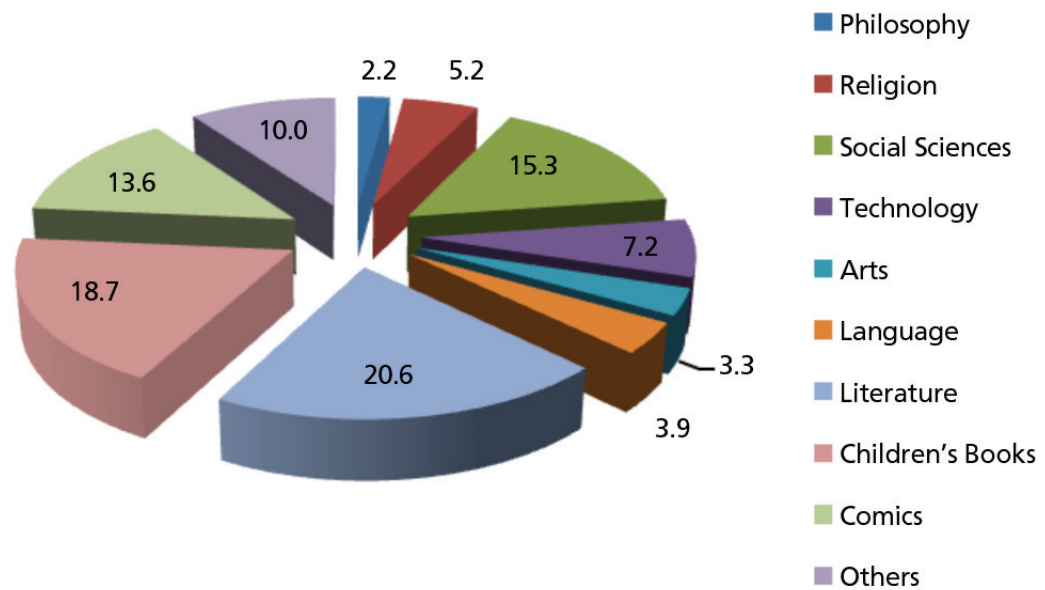


Source: Contents Industry Statistics 2010

About 42,000 books were newly published in 2009. Among them, literary books comprised the largest portion (20.6%), which was followed by children's books (18.7%), social science books (15.3%) and comics (13.6%).

**Chart 6.2: Number of Books Newly Published in 2009**

(%)



Source: Korean Publication Yearbook 2010

Following the introduction of an electronic publication certification system in 1998, the cumulative number of certified electronic publications remained at approximately 2.4 million as of 2009. As shown in Table 6.2 below, certification of electronic publications gradually increased from 2005. In particular, a surge was seen in the number of certification cases in 2009, which was apparently ascribed to the impending launching of paid electronic publication certification services. It seemed that applications for certification of existing electronic publications were filed concurrently against this backdrop.

**Table 6.2: Annual Electronic Publication Certifications**

(Cases)

Description	2005	2006	2007	2008	2009
Number of certifications	3,281	45,029	6,987	311,805	2,034,961
Total cumulative number of certifications	2,402,063				

Source: Korean Publication Yearbook 2010

## 6.2 The Music Industry

As demonstrated in Table 6.3, real output of the music industry had been declining slightly since it reached a peak of KRW 2.8 trillion in 2007. In 2009, its real output was recorded at KRW 2.4 trillion, down 4.5% from the previous year. In 2009, its value added showed a similar trend, and was placed at KRW 1.2 trillion, down 5.0% from the previous year. Its employment, which peaked in 2007, had been waning since then. As of 2009, the number of employees in this sector was estimated at 67,000 persons.



**Table 6.3: Summary of the Music Industry**

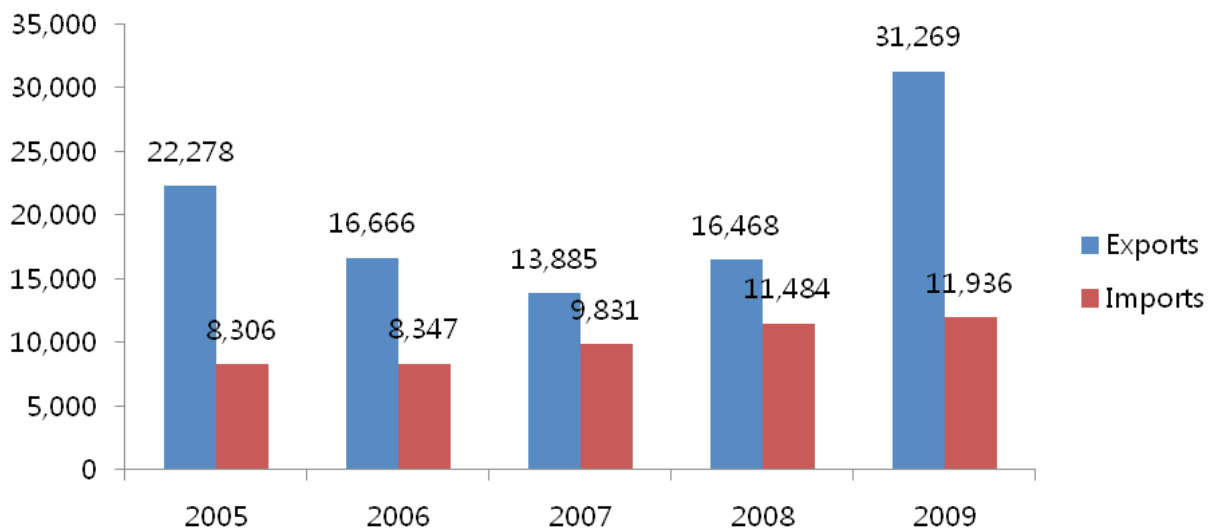
(2005 prices, million won, persons)

Description	Output	Value Added	Number of Employees
2005	2,171,950	1,114,103	70,577
2006	2,538,320	1,243,374	72,232
2007	2,772,084	1,416,752	79,638
2008	2,543,750	1,276,816	69,703
2009	2,428,498	1,212,605	67,451

Chart 6.3 illustrates the trend in imports and exports of the music industry. Exports, which had been caught up in a downturn until 2007, moved to a high growth trajectory. In 2009, exports of the music industry soared 89.9% from the preceding year to 31 million US dollars, while imports enjoyed a slight increase without much fluctuation. The music industry's imports amounted to 12 million US dollars in 2009. Overall, the industry's exports outweighed its imports.

**Chart 6.3: Trend of Imports and Exports by the Music Industry**

(Thousand US dollars)

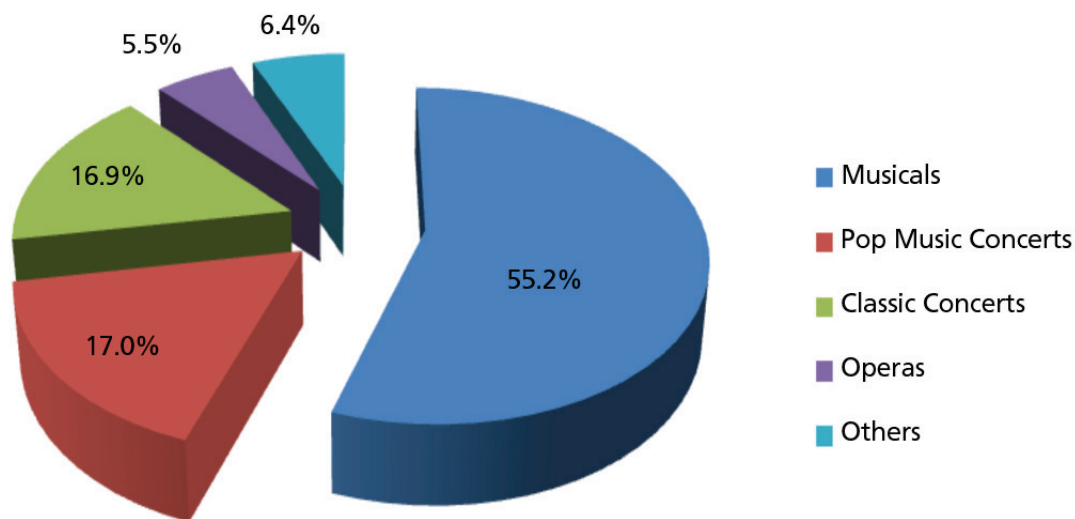


Source: Contents Industry Statistics 2010

In 2009, the music industry registered KRW 257 billion in total revenues. Among this amount, musicals (KRW 142 billion) comprised 55.2% of the total, followed by pop music concerts (KRW 43 billion or 17.0%) and classical concerts (KRW 41 billion or 16.0%).

**Chart 6.4: Composition of Music Performance Industry in 2009**

(%)



Source: Contents Industry Statistics 2010

### 6.3 The Motion Picture Industry

Table 6.4 illustrates the status of the motion picture industry. Year-to-year real output of the industry showed a downward trend in 2007 and 2008. In 2009, it took an upturn with KRW 1.8 trillion in output. However, its real value added declined 6.6% from the previous year to KRW 560 billion. Employment in the industry has been steadily declining from 2005. In 2009, however, the downward trend came to a halt. The industry retained about 20,000 employees, a level similar to those of the previous year.

**Table 6.4: Summary of the Motion Picture Industry**

(2005 prices, million won, persons)

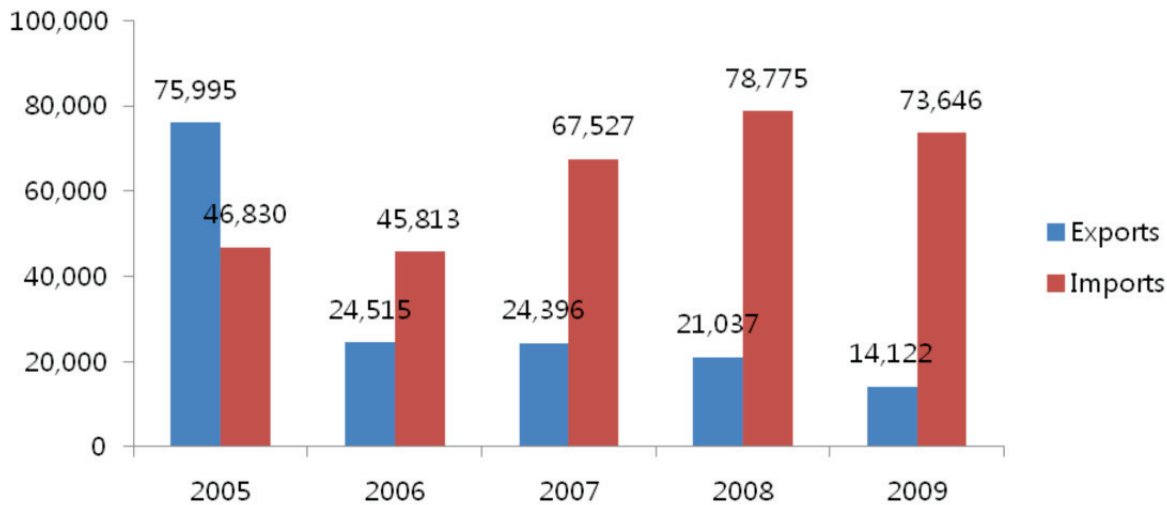
Description	Output	Value Added	Number of Employees
2005	1,907,479	662,948	23,669
2006	2,013,856	740,413	23,210
2007	1,848,479	627,288	21,750
2008	1,680,409	610,216	19,787
2009	1,847,244	569,791	19,884

Source: Contents Industry Statistics 2010

Chart 6.5 displays the trend in imports and exports of the motion picture industry. Its exports have been shrinking since 2005. In 2009, the industry's exports amounted to approximately 14 million US dollars. Meanwhile, its imports grew steadily until 2008, but dropped 6.5% in 2009 from the preceding year to 74 million US dollars. Its imports generally outpaced its exports.

**Chart 6.5: Imports and Exports of the Motion Picture Industry**

(Thousand US dollars)



Source: Contents Industry Statistics 2010

## 6.4 The Broadcasting Industry

As illustrated by Table 6.5, real output of the broadcasting industry rose slightly except for 2007. In 2009, its real output edged up from the previous year to about KRW 9.6 trillion. Its real value added during this period decreased a small degree to approximately KRW 3.5 trillion. In 2009, employment dipped slightly to 39,800 persons.

**Table 6.5: Summary of the Broadcasting Industry**

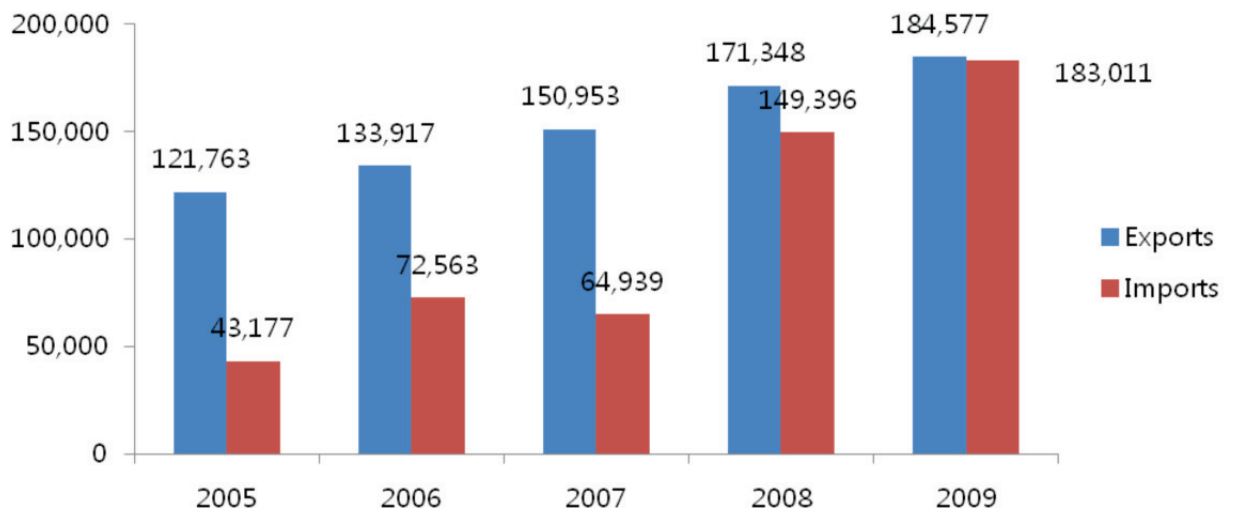
(2005 prices, million won, persons)

Description	Output	Value Added	Number of Employees
2005	8,135,670	2,983,374	38,366
2006	9,394,888	3,528,422	38,079
2007	9,107,171	3,353,940	38,538
2008	9,444,760	3,517,704	40,651
2009	9,568,709	3,507,386	39,836

The trend in imports and exports of the broadcasting industry is presented in Chart 6.6 shown below. Since 2005, exports of the industry registered steady growth. As of 2009, it recorded 185 million US dollars in exports. The industry's imports gradually rose except for the drop in 2007. In 2008, its imports increased 130.1% from the preceding year to 149 million US dollars. In 2009, its imports stood at 183 million US dollars. This indicates that imports exhibited a higher increase rate than exports. However, it can be noted that the gap between exports and imports of the broadcasting industry is gradually narrowing.

**Chart 6.6: Imports and Exports of the Broadcasting Industry**

(Thousand US dollars)



Source: Contents Industry Statistics 2010

### 6.5 The Software and Database Industry

As shown in Table 6.6, real output of the software and database industry has witnessed a gradual increase with the exception of 2007. In 2009, its real output was KRW 40.8 trillion, an increase of 14.0% from the preceding year. Its value added grew 10.5% year on year to KRW 18.6 trillion. In contrast with the large increase in its output and value added, its employment in 2009 registered a comparatively small increase of 6.3%, with approximately 258,000 persons.

**Table 6.6: Summary of the Software and Database Industry**

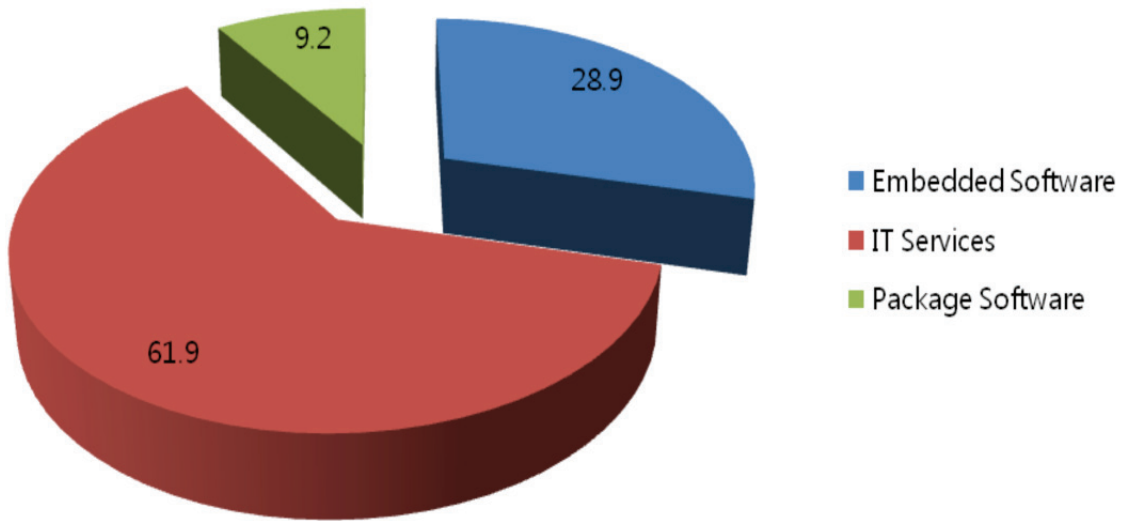
(2005 prices, million won, persons)

Description	Output	Value Added	Number of Employees
2005	27,952,648	13,945,815	209,912
2006	31,391,672	14,186,021	235,677
2007	30,783,610	13,950,184	247,495
2008	35,783,797	16,861,844	243,022
2009	40,807,262	18,630,410	258,426

Chart 6.7 breaks down the output of the software industry in 2009 into three areas. Of the entire output of KRW 35.7 trillion, IT services comprised the largest share of 61.9%, which was followed by embedded software (28.9%) and package software (9.2%).

**Chart 6.7: Output Shares of the Software Industry in 2009**

(%)

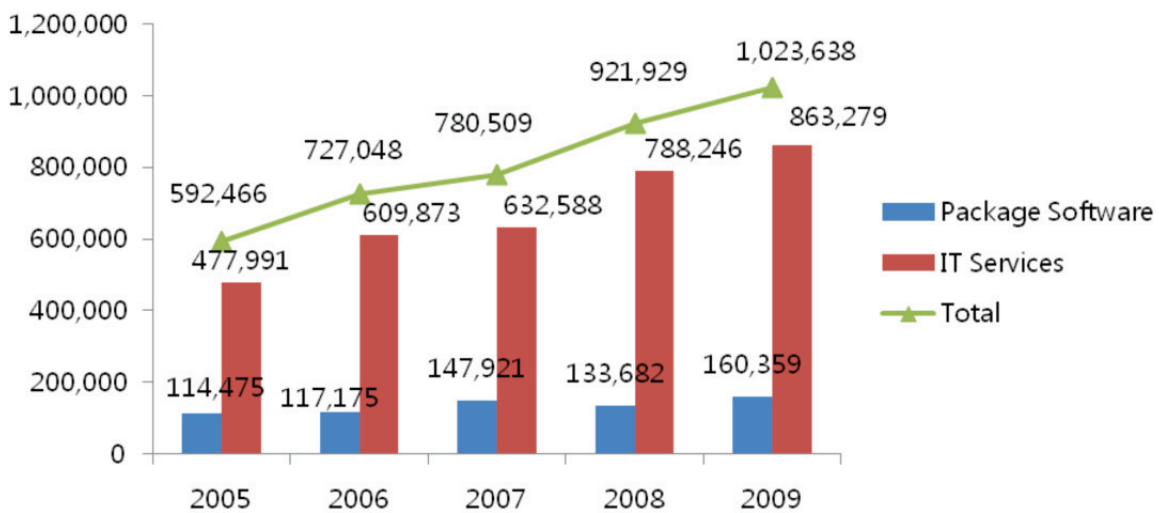


Source: White Paper on Software Industry 2010

The trends in software exports are shown in Chart 6.8. Software exports have been gradually increasing since 2005; exports in 2009 recorded 1.0 billion US dollars. Package software export kept increasing during the period 2005-2009 except for a 9.6% year-on-year decrease in 2008. The amount of software exports was placed at 160 million US dollars in 2009. IT service exports have been steadily increasing as well, recording a total of 863 million US dollars in 2009.

**Chart 6.8: Trends in Software Exports**

(Thousand US dollars)

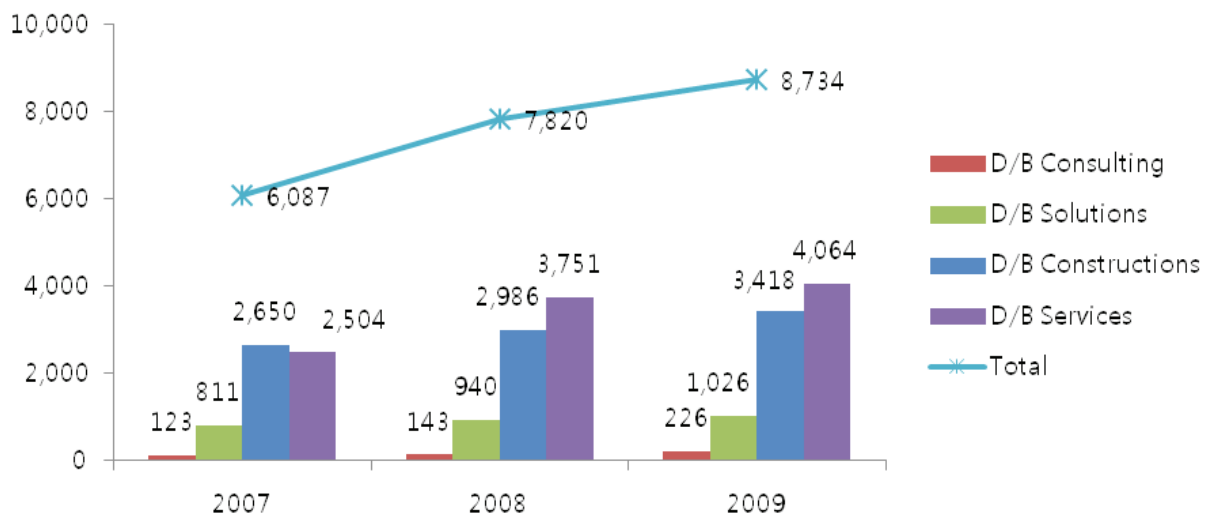


Source: Chronology of Statistics on Information and Communication Industry 2010

The database (D/B) industry consists of consulting, solutions, construction and services. As indicated in Chart 6.9, services occupied the largest share, followed by construction, solutions, etc. The market size of the database industry was estimated at KRW 8.7 trillion as of 2009, an 11.7% increase from the previous year.

**Chart 6.9: Market Size of the Domestic Database Industry**

(Billion won)



Source: Database White Paper 2011

## 6.6 The Advertising Industry

Table 6.7 illustrates the status of the advertising industry. Real output of the industry has been on a declining trend since reaching a peak of KRW 8.1 trillion in 2007. As of 2009, its real output remained at KRW 6.9 trillion, down 4.0% from the previous year. As of 2009, its real value added shrank 17.1% from the preceding year to KRW 2.7 trillion. In 2008, both its real output and real value added decreased. Notwithstanding this trend, its employment saw an increase. In 2009, however, its employment edged down about 3.5% from the previous year to approximately 40,000 people.

**Table 6.7: Summary of the Advertising Industry**

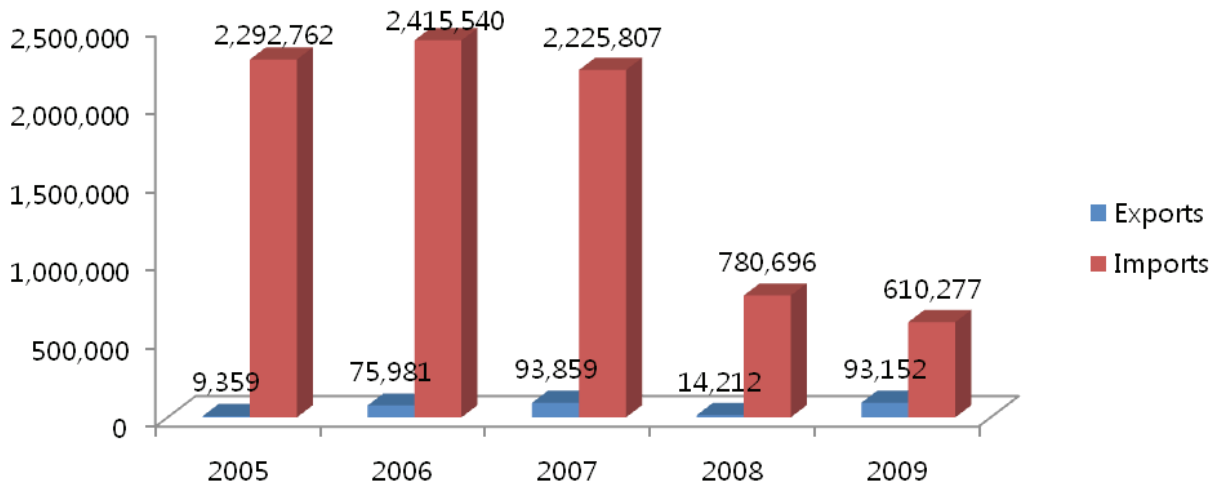
(2005 prices, million won, persons)

Description	Output	Value Added	Number of Employees
2005	7,177,413	3,050,063	34,589
2006	7,470,592	3,166,095	35,342
2007	8,085,199	3,444,695	37,841
2008	7,144,366	3,232,574	41,569
2009	6,856,226	2,680,775	40,134

Chart 6.10 illustrates the trend in imports and exports of the advertising industry. The amount of exports in the industry peaked at 94 million US dollars in 2007, but plummeted in 2008. In 2009, it recovered to its past level by recording 93 million US dollars. Imports of the industry reached the highest point 2.4 billion US dollars in 2006. Since then, its imports had been steadily decreasing. As of 2009, the industry registered 610 million US dollars in imports. Overall, the disparity in the industry's exports and imports was being bridged. However, its imports still comprised a larger portion than its exports.

**Chart 6.10: Imports and Exports of the Advertising Industry**

(Thousand US dollars)



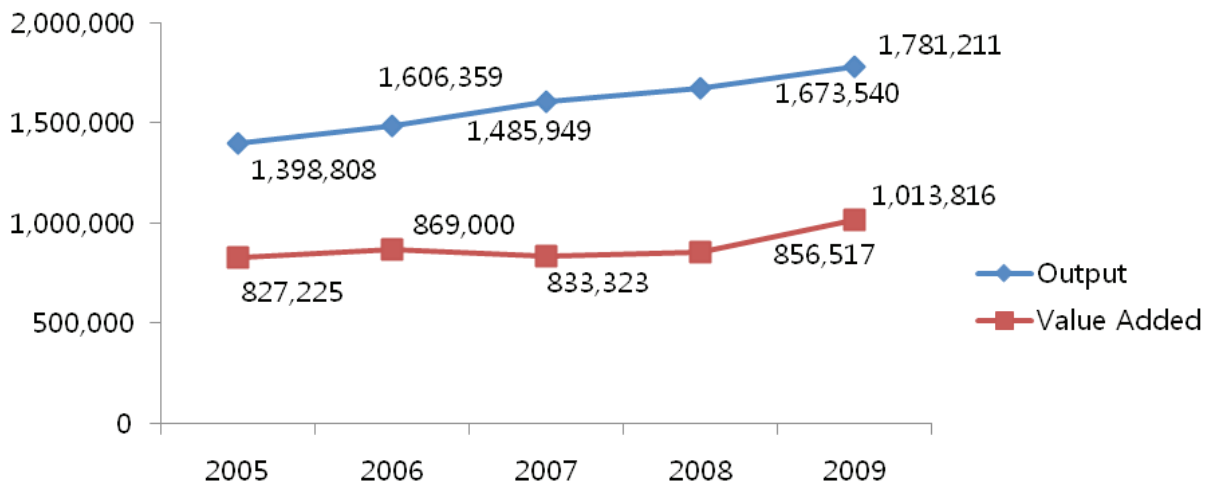
Source: Contents Industry Statistics 2010

### 6.7 Photography, Visual and Graphic Arts Industry

As shown in Chart 6.11, real output of the photography sector of the core copyright industries expanded steadily. As of 2009, its real output recorded a 6.4% year-on-year increase to KRW 1.8 trillion. In 2007, real value added of this sector decreased 4.1% from the previous year, but it had seen a steady increase across the board. As of 2009, its value added grew 18.4% from the preceding year to KRW 1.0 trillion.

**Chart 6.11: Summary of the Photography Industry**

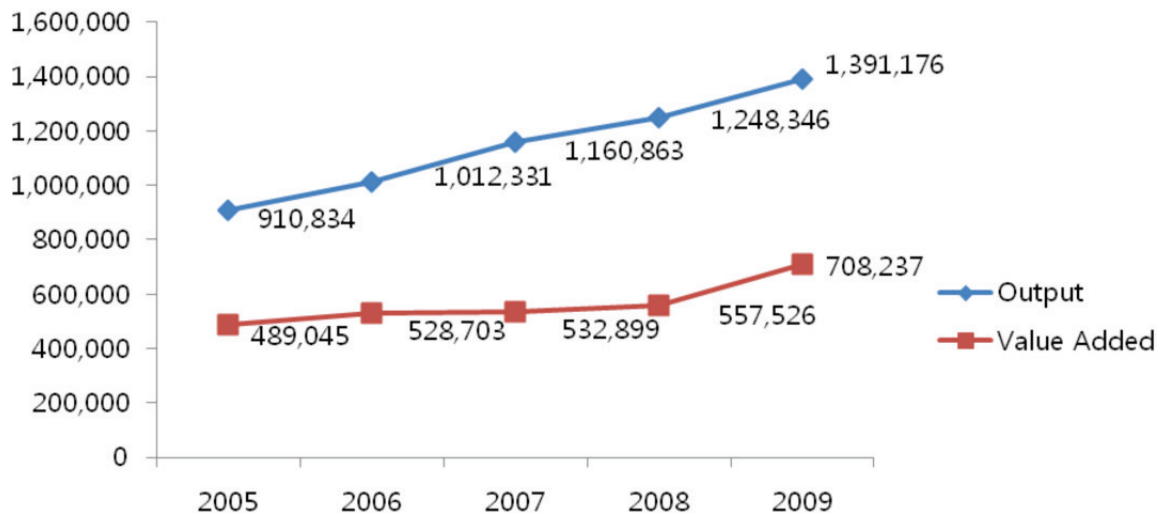
(2005 prices, million won)



Real output of the visual and graphic arts industry, as shown in Chart 6.12, exhibited strong growth over the period. As of 2009, its real output registered an 11.4% year-on-year increase to KRW 1.4 trillion. Its real value added also grew consistently, but recorded a lower rate of increase compared to its output. In 2009, its real value added soared 27.0% from the previous year to approximately KRW 708 billion, showing a substantial improvement in comparison with past increase rates.

**Chart 6.12: Summary of the Visual and Graphic Arts Industry**

(2005 prices, million won)



## 6.8 Copyright Collection Societies

The Republic of Korea manages the copyright trust scheme through its incorporation of provisions for commissioned copyright management in its Copyright Act in a bid to alleviate difficulties met by owners of rights concerning the management of their rights, as well as to promote the convenience of licensing for users. Table 6.8 shown below portrays the copyright collection societies in the Republic of Korea as of 2009. There are three such organizations in the field of music, literature, and visual works, respectively. In addition, there are two collective management organizations, one handling press and public domain works regardless of genre, and one dealing with reprographic rights.

**Table 6.8: Summary of Collective Management Organizations**

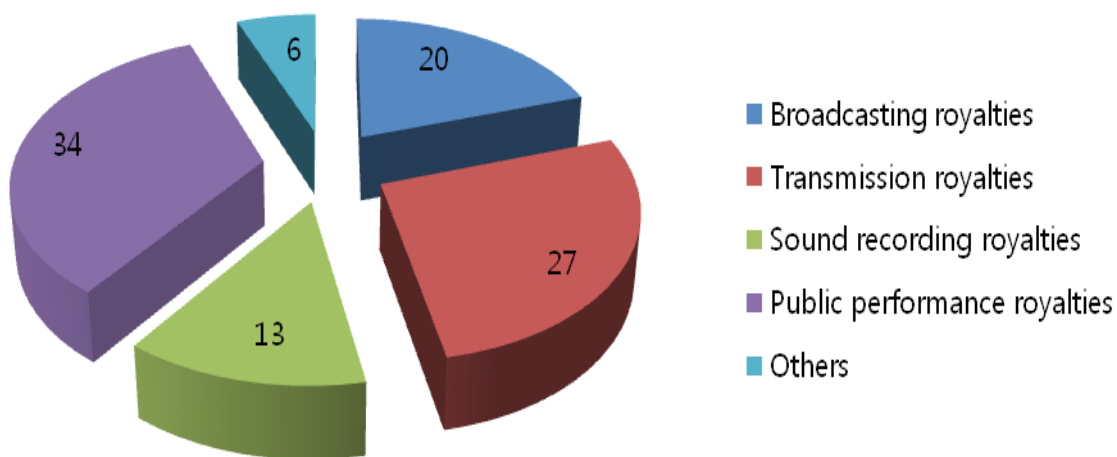
	Name of Collective Management Organization	Major Area	Remarks
Music	Korea Music Copyright Association	Composers, lyricists and music publishers	
	Federation of Korean Music Performers	Singers, musicians etc.	
	Korean Association of Phonogram Producers	Phonogram producers	
Literature	Korean TV and Radio Writers Association	TV and radio writers	
	Korean Society of Authors	Authors of literature, comics, artistic works and photography	
	Korean Scenario Writers Association	Movie scenario writers	
Visual works	Korean Film Producers Association	Film producers	
	Korea Movie and Video Industry Association	Acts of publicly performing videos and DVDs (Performers' rights)	
	Korea Broadcasting Performers Association	Broadcasting performers including TV and voice actors/actresses	
	Korea Press Foundation	News works	Public domain and press
	Korea Creative Contents Agency	Public domain works	
	Korea Reprographic and Transmission Rights Association	Acts of reproduction and transmission	Re-trust



The Korea Music Copyright Association was established to manage and protect music-related public performance rights, broadcasting rights, transmission rights, digital sound transmission rights, reproduction rights, etc. This collective management organization had 10,202 registered members as of 2009 and generated the largest amount of revenues among the twelve trust organizations. As of 2009, the amount of its royalty collection stood at approximately KRW 87 billion. Of this amount, public performance royalties comprised the largest portion with about KRW 29 billion or 34%, followed by transmission royalties (27%) and broadcasting royalties (20%).

**Chart 6.13: Royalty Collection of the Korea Music Copyright Association in 2009**

(%)



Source: Korea Music Copyright Association

The Federation of Korean Music Performers is an organization established to manage and safeguard stage performers' neighbouring rights. As of 2009, the organization had 3,234 registered members. Its major duties include collection and distribution of broadcasting compensations for commercial phonograms, compensations for digital sound transmissions, and public performance compensations for commercial phonograms as well as managing neighbouring rights trusts for stage performers.

The Korean Association of Phonogram Producers, established to manage and protect sound sources, counted 1,842 registered members as of 2009. Among its core business affairs are compensation collection and distribution as the designated recipient of broadcasting compensations for commercial phonograms, compensations for digital sound transmissions, and public performance compensations as well as managing trusts pertaining to sound sources. The Korean TV and Radio Writers Association was instituted to manage and protect copyrights of broadcasting writers. As of 2009, it had 2,206 registered members.

As an organization established to manage and safeguard works in the literary and academic fields, the Korean Society of Authors had 2,340 individual members and 70 institutional members as of 2009. Major areas of trusts for the organization include poetry, novels, theses, photographs, video works and artistic works. The Korean Scenario Writers Association was set up to manage and protect the rights of scenario writers. As of 2009, it had 132 registered members.

The Korean Film Producers Association, originating from a consultative body among producers, had 65 registered members as of 2009. Due to the nature of film copyrights, however, the organization faces difficulties in securing works for trust. The Korea Movie and Video Industry Association was set up to manage and protect the rights of visual copyright owners. As of 2009, it had 46 corporate members. Its primary duties are giving permission to DVD-showing sites, etc. regarding their use of copyrights, in addition to managing public performance rights to film works on a trust basis.

The Korea Broadcasting Performers Association is an organization established to manage and safeguard neighbouring rights of broadcasting performers, including TV and voice actors/actresses and MCs. As of 2009, it had 3,289 registered members. The Korea Press Foundation was established to manage and protect the rights to news works. As of 2009, it had 59 related media as registered members.

The copyright management concerning works in the public domain is conducted by the Korea Creative Contents Agency. As of 2009, it had about 29,000 works under its management. The Korea Reprographic and Transmission Rights Association was set up to manage and protect rights pertaining to literature reproduction and transmission. As of 2009, its registered members comprised 14,999 individual members and 434 institutional members. Its major functions include collection and distribution of compensations for textbooks, compensations for reproduction for the purpose of teaching, compensations from libraries, etc. as well as managing the trust for reproduction and transmission rights.

As shown in Table 6.9, output of the copyright trust industry has been progressively expanding. As of 2009, the output of collective management organizations was KRW 22.8 billion, while their combined value added was estimated at KRW 11.7 billion. The combined number of their employees stood at 386 people.

**Table 6.9: Summary of Copyright Collective Management Organizations**

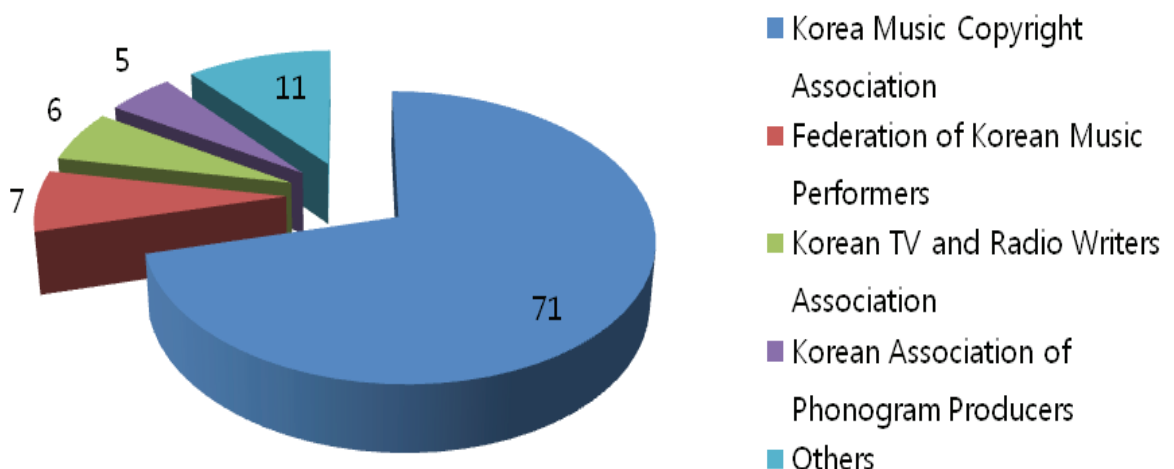
(Million won, persons)

Description	Output	Value Added	Number of Employees
2005	13,224	6,718	207
2006	14,573	7,521	247
2007	19,862	9,663	291
2008	19,895	10,917	364
2009	22,757	11,694	386

Chart 6.14 shows the output of each of the 12 copyright collecting societies in 2009. The Korea Music Copyright Association made up the bulk (about 71%) of the combined output of KRW 22 billion, followed by the Federation of Korean Music Performers (7%), Korean TV and Radio Writers Association (6%), and the Korean Association of Phonogram Producers (5%). Overall, the three music-related organizations demonstrated a dominant presence with about 83% of the total output. In contrast, the trust business of other genres remains relatively meagre.

**Chart 6.14: Revenue Shares of Collective Management Organizations in 2009**

(%)



## 7. SUMMARY AND IMPLICATIONS

### 7.1 Summary

#### 7.1.1 Contribution to National Economy

The Republic of Korea's copyright industries made significant contributions to the national economy in 2009. The value added in nominal terms was KRW 105.4 trillion (9.89% of GDP). The number of employees was 1,467,000 persons (6.24% of nationwide employment). In short, 9.89% of the ROK's GDP was generated by the copyright-based industries, and 6.24% of the workforce in the Republic of Korea was employed by the copyright-based industries.

**Table 7.1: Contribution of Copyright-Based Industries in 2009**

(Nominal values)

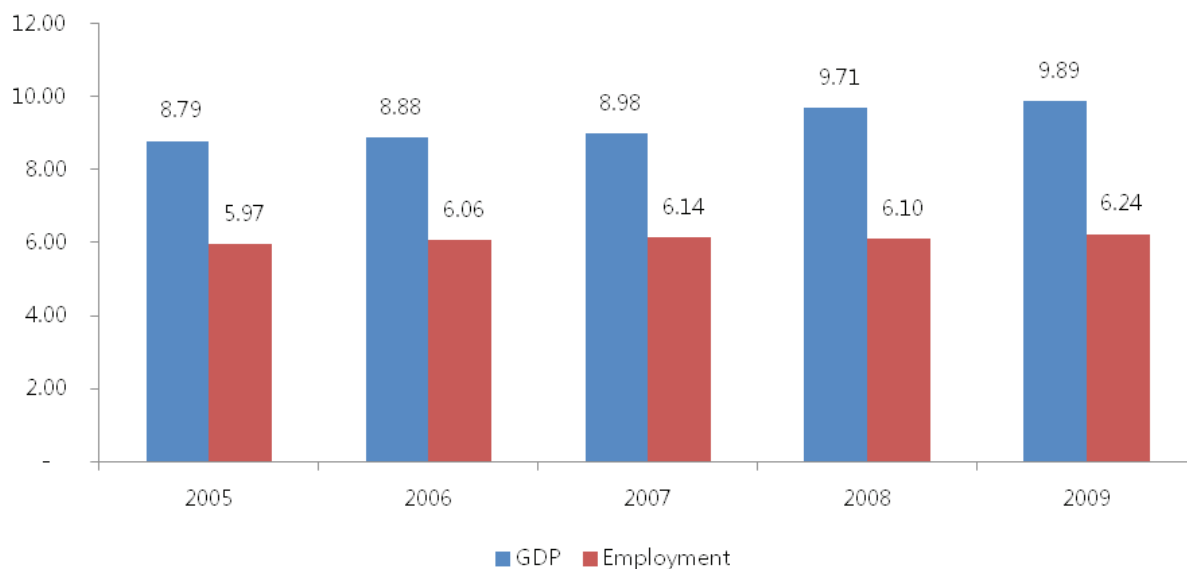
Industry	Output (1 bn won)	Value Added (1 bn won)	GDP Shares (%)	Employees (1,000 persons)	Employment Shares (%)
1. Core copyright	86,074	37,434	3.51	670	2.85
2. Interdependent copyright	120,538	50,629	4.75	374	1.59
3. Partial copyright	14,775	6,988	0.66	158	0.67
4. Non-dedicated support	25,967	10,319	0.97	264	1.12
<b>Copyright-based industries</b>	<b>247,354</b>	<b>105,370</b>	<b>9.89</b>	<b>1,467</b>	<b>6.24</b>
<b>ROK economy</b>	<b>N/A</b>	<b>10,264,518</b>	<b>100.00</b>	<b>23,506</b>	<b>100.00</b>

When it comes to the composition of the ROK copyright industries in 2009, the core copyright industries accounted for 34.8% of the entire output, 35.5% of the value added and 45.7% of the workers. The interdependent copyright industries comprised 48.7% of the output, 48.0% of the value added, and 25.5% of the workers. In the meantime, the partial copyright industries accounted for only 6.0% of the output, 6.6% of the value added, and 10.8% of the workers.

In terms of (nominal) annual contribution to GDP by the copyright-based industries, the share of the copyright-based industries increased continuously to 9.89% in 2009 from 8.79% in 2005. The contribution of the copyright-based industries to nationwide employment increased slightly to 6.24% in 2009 from 5.97% in 2005.

**Chart 7.1: Trends of the Contribution to GDP and Employment**

(%)



### 7.1.2 Trends of Growth

Growth rates of the real value added of the copyright-based industries grew at a pace of 7.3% on annual average during the period 2006-2009. It hovered much higher than the average annual real GDP growth rate (3.2%). This trend was strongly manifested in 2008 and 2009, when the GDP growth rate remained relatively low.

On the other hand, the number of employees in the copyright-based industries increased at an annual average rate of 1.8% during the period 2006-2009, which was 2.5 times higher than that of the entire number of employees in the Republic of Korea (0.7%). In 2009, the number of employees decreased 0.3% compared with the previous year, but employees in copyright-based industries increased by 1.9%.

**Table 7.2: Growth Rate of the Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	Average in 2006-2009
Value added of copyright-based industries	6.2	8.6	10.7	3.9	7.3
GDP	5.2	5.1	2.3	0.3	3.2
Employment in copyright-based industries	2.8	2.6	-0.02	1.9	1.8
Total number of employees	1.3	1.2	0.6	-0.3	0.7

### 7.1.3 Comparison with Other Industries

The value added of the copyright-based industries was worth KRW 105.5 trillion and represented 9.9% of GDP. The size of the copyright-based industries was almost the same size of general government (9.8%), and was much bigger than those of construction (6.3%), wholesale and retail trade (7.6%), financial intermediation (6.1%), information and communication (3.9%), and health and social work (4.0%).

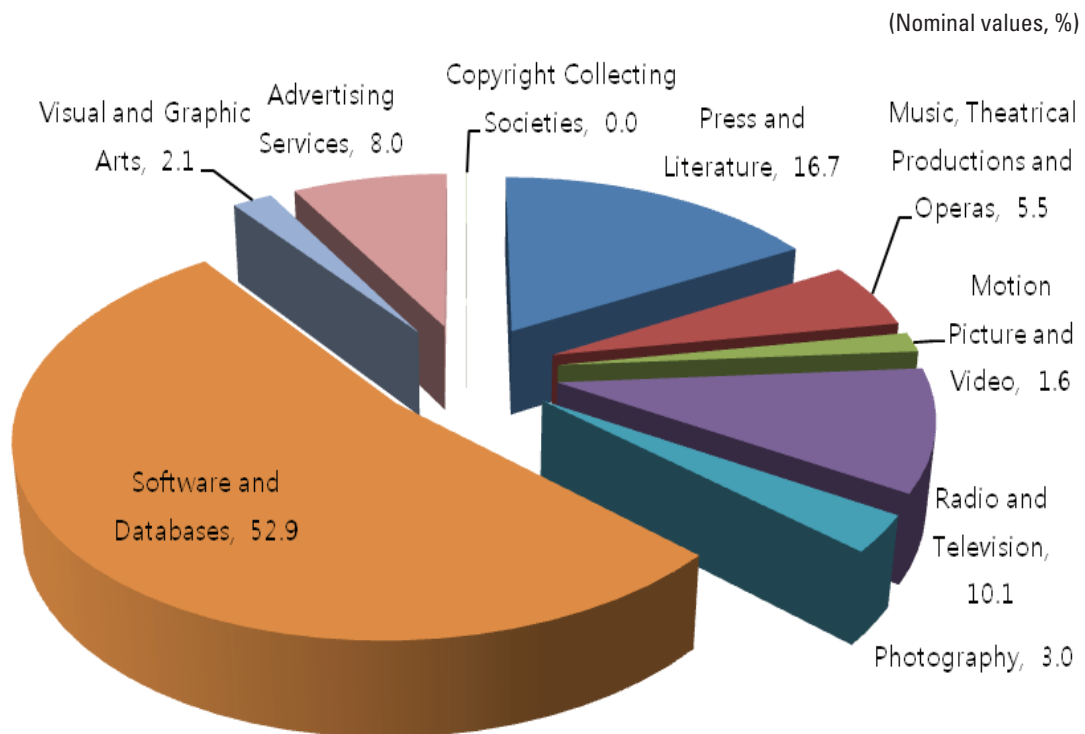
**Table 7.3: Copyright-Based Industries Compared to Selected Other Industries**

	2005		2009	
	Billion won	% of GDP	Billion won	% of GDP
Copyright-based industries	76,051	8.8	105,370	9.9
Core copyright industries	29,345	3.4	37,434	3.5
General government	78,929	9.1	104,696	9.8
Manufacturing	213,646	24.7	266,578	25.0
Construction	59,285	6.9	66,577	6.3
Wholesale and retail trade	64,193.9	7.4	80,757.0	7.6
Financial intermediation	53,395	6.2	65,036	6.1
Information and communication	36,256	3.9	41,225	3.9
Health and social work	28,558	3.3	43,092	4.0
GDP	865,241	100.0	1,065,037	100.0

**7.1.4 Composition and Growth of Core Copyright Industries**

In 2009, each sector of the core copyright industries showed the following component ratio: In terms of value added, the software and databases accounted for 52.9% of the entire core copyright industries, followed by press and literature (16.7%), radio and television (10.1%), and advertising services (8.0%).

**Chart 7.2: Value Added Share of Core Copyright Industries in 2009**



The real value added of the core copyright industries between 2006 and 2009 increased by an average of 4.2% per annum. The highest growth was recorded by the copyright collecting societies showing an increase of 12.6%. Next in line were the visual and graphic arts (9.7%), software and databases (7.5%), and photography (5.2%) industries. On the other hand, press and literature, motion picture and video, and advertising services experienced a decrease in the average annual growth rate during the same period.

**Table 7.4: Value Added Growth Rate of Core Copyright Industries**

(2005 prices, %)

	2006	2007	2008	2009	Average 2006-2009
1. Press and literature	-2.9	8.1	-2.3	-6.0	-0.9
2. Music, theatrical productions and operas	1.1	13.8	-2.5	1.2	3.2
3. Motion picture and video	11.7	-15.3	-2.7	-6.6	-3.7
4. Radio and television	18.3	-5.0	4.9	-0.3	4.1
5. Photography	5.1	-4.1	2.8	18.4	5.2
6. Software and databases	1.7	-1.7	20.9	10.5	7.5
7. Visual and graphic arts	8.1	0.8	4.6	27.0	9.7
8. Advertising services	3.8	8.8	-6.2	-17.1	-3.2
9. Copyright collecting societies	1.8	41.4	-4.4	16.7	12.6
<b>Total</b>	<b>3.1</b>	<b>1.4</b>	<b>8.8</b>	<b>3.4</b>	<b>4.2</b>

### 7.1.5 Foreign Trade

The Republic of Korea is a net importing country in copyright-related goods and services. The trade deficit in the copyright-related goods and services continued to increase to 6.0 billion US dollars in 2009, up 78.9% from 3.4 billion US dollars in 2005. The trade deficit was generated mainly by the press and literature, and advertising services.

Imports of copyright-related goods and services increased from 5.2 billion US dollars in 2005 to 8.3 billion US dollars in 2009. Imports sharply increased more than 20% in 2007 and 2008 for two consecutive years, but they rose by 0.5% in 2009.

In contrast, exports of copyright-related goods and services fluctuated within a range between 1.7 billion US dollars and 2.2 billion US dollars for the period 2005-2009, except in 2008 when it recorded 3.2 billion US dollars.

**Table 7.5: Trade in Copyright-Related Goods and Services**

(Million US dollars, %)

		2005	2006	2007	2008	2009
Exports	Amount	1,862	1,702	1,782	3,192	2,221
	(%Change)	(-)	(-8.6)	(4.7)	(79.1)	(-30.4)
Imports	Amount	5,233	5,526	6,766	8,214	8,253
	(%Change)	(-)	(5.6)	(22.5)	(21.4)	(0.5)
Difference	Amount	-3,371	-3,824	-4,984	-5,022	-6,032

### 7.1.6 International Comparison

In terms of the GDP contribution by the total copyright industries, the average GDP contribution of the 29 countries on which information was available was 5.45%. The highest contribution was recorded by the USA with 11.05%, followed by Australia (10.30%), the Republic of Korea (9.89%), Hungary (6.66%) and China (6.37%). On the other hand, Brunei Darussalam (1.58%), Peru (2.67%) and Ukraine (2.85%) experienced low contribution.

The average of the 29 countries' employment contribution was 5.99%. The Philippines had the highest contribution of 11.10%, followed by Mexico (11.01%), Bhutan (10.09%), the Netherlands (8.80%) and the USA (8.51%). Other countries such as Ukraine (1.90%), Jamaica (3.03%), Panama (3.17%), Brunei Darussalam (3.20%) and Kenya (3.26%) showed low figures. The Republic of Korea's employment contribution of the total copyright industries was 6.24%, slightly higher than the average of the 29 countries.

With regard to the GDP contribution of the core copyright industries, the average GDP contribution of the 29 countries was 3.03%. Australia topped this category with 7.30%, followed by the USA (6.44%), Panama (5.40%), and the Netherlands (4.00%), which were classified as countries with high GDP contribution by the core copyright industries. The GDP contribution of the Republic of Korea was estimated at 3.51%, slightly hovering over the average of the 29 countries.

Regarding the contribution of the core copyright industries to national employment, the average of the 29 countries was 3.19%. The Philippines led the high-ranking group with 8.81%, followed by the Netherlands (6.20%), Australia (4.97%), Slovenia (4.60%), the Russian Federation (4.29%) and the USA (4.05%). The Republic of Korea's employment contribution of the core copyright industries was 2.85%, lower than the average of the 29 countries.

In terms of the share of core copyright industries in the value added of the total copyright industries for each country, the average of the 29 countries was 54.9%. Panama led the high-ranking group with 85.0%, followed by Finland (76.6%), Canada (74.2%), the Philippines (73.2%) and Australia (70.9%). The middle of the list included the USA (58.3%), Colombia (57.6%), Hungary (59.5%), Singapore (55.9%) and Ukraine (54.0%), whereas at the bottom of the list were the Russian Federation (39.4%), the Republic of Korea (35.5%), Jamaica (35.3%), Bhutan (34.8%) and Mexico (32.5%).

**Table 7.6: Share of Core Copyright Industries in the Total Copyright Industries**

(Value added, %)

High			Middle			Bottom		
	Published	Share		Published	Share		Published	Share
Panama	2009	85.0	Hungary	2010	59.5	Russian Federation	2007	39.4
Finland	2010	76.6	USA	2009	58.3	Republic of Korea	2011	35.5
Canada	2004	74.2	Colombia	2008	57.6	Jamaica	2007	35.3
Philippines	2006	73.2	Singapore	2007	55.9	Bhutan	2011	34.8
Australia	2009	70.9	Ukraine	2008	54.0	Mexico	2006	32.5

Source: Overview of WIPO Surveys on the Economic Contribution of the Copyright Industries, Presentation by Dimiter Gantchev, (2011.11)

### 7.1.7 Multipliers of the Core Copyright Industries

The output multiplier of the core copyright industries in 2009 was 2.0021, which was almost the same as the one of manufacturing (2.0810). It was higher than agriculture, forestry and fishing (0.8173), the total services (1.7282), and all industries (1.9545).

The value added multiplier of the core copyright industries in 2009 was 0.8317, which surpassed that of agriculture, forestry and fishing (0.8173), manufacturing (0.5891), construction (0.7494), total services (0.8286), and all industries (0.6867).

The employment multiplier of the core copyright industries was 16.8 in 2009, which was higher than those of manufacturing (10.0), construction (14.2), and all industries (12.4).

Compared with other industries, the core copyright industries made numerous positive contributions to the economic growth of the Republic of Korea in terms of incentive to production, value added, and employment generation.

**Table 7.7: Industrial Comparison of Multipliers**

	Output Multiplier	Value Added Multiplier	Employment Multiplier
Agriculture, forestry and fishing	1.8745	0.8173	40.5
Mining and quarrying	1.7310	0.8163	8.7
Manufacturing	2.0810	0.5891	10.0
Electricity, gas, steam and water supply	1.4827	0.4520	2.9
Construction	2.1292	0.7494	14.2
Total services	1.7282	0.8286	17.4
(Wholesale and retail trade)	1.6776	0.8653	28.0
(Accommodation and food services)	2.0654	0.7789	31.4
(Transportation)	1.5932	0.5765	12.7
Core copyright industries	2.0021	0.8317	16.8
<b>All industries</b>	<b>1.9548</b>	<b>0.6867</b>	<b>12.4</b>

## 7.2 Implications

Implications derived from the analysis of the economic contribution of the copyright-based industries to the national economy of the Republic of Korea are summarized as follows:

The ROK core copyright industries' contribution to GDP (3.51%) is far lower than those of the USA (6.44%) and Australia (7.30%). This implies that a strategy to galvanize these industries is required. In particular, music, theatrical production and opera, and motion picture and video, among the core copyright industries, are of a relatively small size and have a low growth rate. Therefore, it is deemed urgently necessary to implement a strategy to nurture these vulnerable sectors.

The annual average growth rate of the copyright-based industries between 2006 and 2009 was 7.3%, which was much higher than that of the GDP (3.2%). This phenomenon takes a more definite form in 2008 and 2009 when the GDP growth rates were relatively low. Accordingly, it is imperative to foster the copyright industries as a buffer during times of economic downturn.

As of 2009, the value added generated by the copyright-based industries was 9.9% of GDP, which was almost the same size of general government (9.8%). It was much bigger than those of construction (6.3%), wholesale and retail trade (7.6%), financial intermediation (6.1%), information and communication (3.9%), and health and social work (4.0%). Considering the size of the copyright-based industries, it is desirable to promote and develop them as key industries of the Republic of Korea.

In terms of the output multiplier, the value-added multiplier and the employment multiplier, the core copyright industries showed higher levels than those of the total services and all industries. This means that the core copyright industries had a bigger impact on creating a positive platform for production, value added, and employment generation. Based on these findings, we surmised that fostering the core copyright industries will translate into higher rates of economic growth and employment.

The Republic of Korea was a net importing country of copyright-related goods and services during the period 2005-2009. The trade deficit in the copyright-related goods and services continued to increase to 6.0 billion US dollars in 2009 from 3.4 billion US dollars in 2005. Since the trade deficit was generated mainly by the goods and services of press and literature, and advertisement, it is necessary that economic policies boost the international competitiveness in these sectors.



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## APPENDICES

### I. Copyright-Based Industries Data

**Table I.1: Data by Group**

Output (Nominal, million won)					
Activity	2005	2006	2007	2008	2009
Core copyright industries	64,090,253	70,276,084	73,071,668	79,631,241	86,074,012
Interdependent copyright industries	89,715,869	92,577,538	97,986,942	111,694,774	120,538,120
Partial copyright industries	9,524,608	10,904,976	11,203,827	13,270,759	14,775,102
Non-dedicated support industries	18,107,940	18,734,106	20,987,514	26,081,909	25,967,124
<b>Copyright-based industries</b>	<b>181,438,671</b>	<b>192,492,704</b>	<b>203,249,951</b>	<b>230,678,682</b>	<b>247,354,359</b>
Output (Real, million won)					
Activity	2005	2006	2007	2008	2009
Core copyright industries	64,090,253	69,405,703	70,454,243	74,709,735	79,312,510
Interdependent copyright industries	89,715,869	94,729,086	102,471,060	115,064,186	121,955,003
Partial copyright industries	9,524,608	10,700,628	10,705,180	11,571,752	12,377,768
Non-dedicated support industries	18,107,940	18,490,379	20,377,048	23,913,508	23,347,070
<b>Copyright-based industries</b>	<b>181,438,671</b>	<b>193,325,797</b>	<b>204,007,532</b>	<b>225,259,180</b>	<b>236,992,351</b>
Value Added (Nominal, million won)					
Activity	2005	2006	2007	2008	2009
Core copyright industries	29,345,468	30,644,912	31,811,955	35,574,054	37,434,024
Interdependent copyright industries	33,875,080	36,639,872	41,288,102	47,073,865	50,628,987
Partial copyright industries	4,765,804	5,278,319	5,356,289	6,351,652	6,987,540
Non-dedicated support industries	8,064,564	8,092,105	9,138,215	10,651,079	10,319,133
<b>Copyright-based industries</b>	<b>76,050,916</b>	<b>80,655,208</b>	<b>87,594,560</b>	<b>99,650,651</b>	<b>105,369,684</b>
Value Added (Real, million won)					
Activity	2005	2006	2007	2008	2009
Core copyright industries	29,345,468	30,257,403	30,666,470	33,376,314	34,523,146
Interdependent copyright industries	33,875,080	37,355,827	42,954,080	48,240,508	51,065,913
Partial copyright industries	4,765,804	5,155,324	5,090,994	5,466,527	5,784,847
Non-dedicated support industries	8,064,564	7,997,973	8,876,311	9,829,897	9,314,143
<b>Copyright-based industries</b>	<b>76,050,916</b>	<b>80,766,528</b>	<b>87,587,855</b>	<b>96,913,246</b>	<b>100,688,049</b>
Employment (person)					
Activity	2005	2006	2007	2008	2009
Core copyright industries	608,635	636,886	668,406	654,954	670,244
Interdependent copyright industries	407,971	400,511	392,638	372,358	373,564
Partial copyright industries	133,863	141,521	145,688	155,072	158,453
Non-dedicated support industries	214,554	223,991	232,771	256,798	264,274
<b>Copyright-based</b>	<b>1,365,022</b>	<b>1,402,909</b>	<b>1,439,503</b>	<b>1,439,182</b>	<b>1,466,535</b>

**Table I.2: Data by Sector**

Output (Nominal, million won)

Activity	2005	2006	2007	2008	2009
Press and literature	13,373,050	13,575,306	14,626,868	15,259,785	15,090,337
Music, theatrical productions and operas	3,221,126	3,444,043	3,855,658	3,964,370	4,049,054
Motion picture and video	1,907,479	2,012,904	1,894,037	1,753,821	1,985,654
Radio and television	8,135,670	9,394,888	9,380,386	9,879,219	10,286,362
Photography	1,398,808	1,526,707	1,677,300	1,802,100	1,978,808
Software and databases	27,952,648	31,712,431	32,023,420	37,782,707	43,419,491
Visual and graphic arts	910,834	1,034,992	1,209,783	1,346,261	1,535,152
Advertising services	7,177,413	7,560,239	8,384,351	7,823,081	7,706,398
Copyright collecting societies	13,225	14,574	19,865	19,897	22,757
<b>Core copyright industries</b>	<b>64,090,253</b>	<b>70,276,084</b>	<b>73,071,668</b>	<b>79,631,241</b>	<b>86,074,012</b>
TV sets, radios and electronic game equipment	60,844,429	60,285,366	64,190,301	76,571,267	84,957,687
Computers and equipment	7,434,380	10,026,910	9,994,704	9,439,222	10,007,866
Musical instruments	396,304	318,832	345,529	359,274	338,726
Photographic and cinematographic instruments	3,877,450	4,418,285	4,691,675	3,741,713	3,842,965
Photocopiers	2,026,207	2,330,462	2,372,269	2,197,087	2,708,422
Blank recording material	1,737,422	1,794,352	1,809,221	2,005,067	2,063,763
Paper	13,399,677	13,403,331	14,583,243	17,381,144	16,618,691
<b>Interdependent copyright industries</b>	<b>89,715,869</b>	<b>92,577,538</b>	<b>97,986,942</b>	<b>111,694,774</b>	<b>120,538,120</b>
Apparel, textiles and footwear	3,058,393	3,527,113	3,403,376	3,696,326	4,052,364
Jewellery and coins	325,989	346,433	319,454	385,126	455,200
Other crafts	32,964	36,578	40,606	40,423	35,911
Furniture	775,351	1,009,500	945,498	971,934	1,050,261
Household goods, china and glass	1,696,079	1,846,566	1,863,077	2,020,746	2,412,753
Wall coverings and carpets	221,685	212,769	229,804	237,555	264,176
Toys and games	101,963	104,159	86,196	92,238	113,784
Architecture, engineering and surveying	3,021,898	3,499,137	3,976,377	5,375,054	5,901,715
Interior design	212,656	222,071	231,485	326,794	348,743
Museums	77,630	100,650	107,955	124,562	140,195
<b>Partial copyright industries</b>	<b>9,524,608</b>	<b>10,904,976</b>	<b>11,203,827</b>	<b>13,270,759</b>	<b>14,775,102</b>
General wholesale and retail trade	5,679,272	5,775,349	6,566,893	7,617,303	8,545,157
General transportation	9,200,489	9,612,744	10,935,979	14,495,462	13,298,281
Internet and telephony	3,228,180	3,346,012	3,484,642	3,969,143	4,123,687
<b>Non-dedicated support industries</b>	<b>18,107,940</b>	<b>18,734,106</b>	<b>20,987,514</b>	<b>26,081,909</b>	<b>25,967,124</b>
<b>Copyright-based industries</b>	<b>181,438,671</b>	<b>192,492,704</b>	<b>203,249,951</b>	<b>230,678,682</b>	<b>247,354,359</b>

(2) Output (Real, million won)

Activity	2005	2006	2007	2008	2009
Press and literature	13,373,050	13,210,070	14,104,744	14,097,662	13,331,523
Music, theatrical productions and operas	3,221,126	3,412,182	3,738,954	3,718,533	3,708,339
Motion picture and video	1,907,479	2,013,856	1,848,479	1,680,409	1,847,244
Radio and television	8,135,670	9,394,888	9,107,171	9,444,760	9,568,709
Photography	1,398,808	1,485,949	1,606,359	1,673,540	1,781,211
Software and databases	27,952,648	31,391,672	30,783,610	35,683,797	40,807,262
Visual and graphic arts	910,834	1,012,331	1,160,863	1,248,346	1,391,176
Advertising services	7,177,413	7,470,592	8,085,199	7,144,366	6,856,226
Copyright collecting societies	13,225	14,163	18,865	18,321	20,821
<b>Core copyright industries</b>	<b>64,090,253</b>	<b>69,405,703</b>	<b>70,454,243</b>	<b>74,709,735</b>	<b>79,312,510</b>
TV sets, radios and electronic game equipment	60,844,429	60,650,995	64,832,300	78,667,369	85,695,158
Computers and equipment	7,434,380	10,032,935	9,980,639	9,368,020	9,677,063

**Table I.2: Data by Sector (Continued)**

Musical instruments	396,304	315,685	331,911	335,016	296,833
Photographic and cinematographic instruments	3,877,450	5,626,267	7,535,463	6,077,867	6,143,778
Photocopiers	2,026,207	2,869,634	3,538,113	3,302,523	3,957,571
Blank recording material	1,737,422	1,780,675	1,776,644	1,895,227	1,888,504
Paper	13,399,677	13,452,895	14,475,991	15,418,163	14,296,096
<b>Interdependent copyright industries</b>	<b>89,715,869</b>	<b>94,729,086</b>	<b>102,471,060</b>	<b>115,064,186</b>	<b>121,955,003</b>
Apparel, textiles and footwear	3,058,393	3,567,567	3,474,480	3,655,392	3,891,936
Jewellery and coins	325,989	346,331	303,373	324,492	382,974
Other crafts	32,964	36,144	39,538	37,085	31,501
Furniture	775,351	995,600	923,097	944,166	972,768
Household goods, china and glass	1,696,079	1,834,451	1,814,661	1,863,827	2,131,320
Wall coverings and carpets	221,685	211,015	225,290	217,937	235,367
Toys and games	101,963	104,792	85,398	87,736	103,434
Architecture, engineering and surveying	3,021,898	3,291,757	3,522,034	4,044,435	4,209,497
Interior design	212,656	216,654	218,176	288,178	301,160
Museums	77,630	96,316	99,132	108,503	117,811
<b>Partial copyright industries</b>	<b>9,524,608</b>	<b>10,700,628</b>	<b>10,705,180</b>	<b>11,571,752</b>	<b>12,377,768</b>
General wholesale and retail trade	5,679,272	5,851,276	6,619,124	7,076,210	7,669,353
General transportation	9,200,489	9,304,183	10,257,571	12,828,518	11,516,369
Internet and telephony	3,228,180	3,334,920	3,500,352	4,008,779	4,161,348
<b>Non-dedicated support industries</b>	<b>18,107,940</b>	<b>18,490,379</b>	<b>20,377,048</b>	<b>23,913,508</b>	<b>23,347,070</b>
<b>Copyright-based industries</b>	<b>181,438,671</b>	<b>193,325,797</b>	<b>204,007,532</b>	<b>225,259,180</b>	<b>236,992,351</b>
	Value Added (Nominal, million won)				
<b>Activity</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Press and literature	5,721,188	5,708,016	6,227,659	6,350,308	6,243,928
Music, theatrical productions and operas	1,659,004	1,692,850	1,968,438	1,985,115	2,059,629
Motion picture and video	662,948	739,741	640,232	635,794	612,430
Radio and television	2,983,374	3,528,422	3,454,558	3,679,518	3,770,440
Photography	827,225	893,334	870,421	922,747	1,124,735
Software and databases	13,945,815	14,330,606	14,512,839	17,849,523	19,816,695
Visual and graphic arts	489,045	540,725	555,343	601,206	781,030
Advertising services	3,050,063	3,204,088	3,572,148	3,539,669	3,013,191
Copyright collecting societies	6,806	7,130	10,316	10,173	11,945
<b>Core copyright industries</b>	<b>29,345,468</b>	<b>30,644,912</b>	<b>31,811,955</b>	<b>35,574,054</b>	<b>37,434,024</b>
TV sets, radios and electronic game equipment	23,020,683	24,440,282	28,333,896	33,045,067	37,120,642
Computers and equipment	2,977,192	4,078,394	4,315,673	4,034,525	4,435,736
Musical instruments	180,717	132,931	142,354	154,298	149,568
Photographic and cinematographic instruments	1,284,476	1,384,144	1,645,199	1,301,091	1,419,499
Photocopiers	769,490	860,165	1,001,732	840,972	927,504
Blank recording material	813,433	807,686	779,526	849,766	890,723
Paper	4,829,089	4,936,271	5,069,721	6,848,146	5,685,314
<b>Interdependent copyright industries</b>	<b>33,875,080</b>	<b>36,639,872</b>	<b>41,288,102</b>	<b>47,073,865</b>	<b>50,628,987</b>
Apparel, textiles and footwear	1,390,447	1,544,365	1,539,765	1,680,227	1,836,237
Jewellery and coins	129,376	133,193	135,634	144,834	176,675
Other crafts	13,393	14,770	17,956	17,649	14,917
Furniture	283,908	366,562	340,981	355,163	377,975
Household goods, china and glass	699,814	738,118	792,839	830,622	1,001,862
Wall coverings and carpets	90,652	83,417	91,607	90,457	111,900
Toys and games	43,469	44,121	39,405	40,684	49,098
Architecture, engineering and surveying	1,957,283	2,184,861	2,237,109	2,984,767	3,164,500
Interior design	117,514	119,674	104,932	143,561	180,789

**Table I.2: Data by Sector (Continued)**

Museums	39,948	49,238	56,061	63,688	73,588
<b>Partial copyright industries</b>	<b>4,765,804</b>	<b>5,278,319</b>	<b>5,356,289</b>	<b>6,351,652</b>	<b>6,987,540</b>
General wholesale and retail trade	2,596,211	2,501,276	2,990,693	3,430,208	3,793,697
General transportation	3,971,731	4,098,631	4,555,452	5,485,224	4,988,027
Internet and telephony	1,496,622	1,492,199	1,592,069	1,735,648	1,537,409
<b>Non-dedicated support industries</b>	<b>8,064,564</b>	<b>8,092,105</b>	<b>9,138,215</b>	<b>10,651,079</b>	<b>10,319,133</b>
<b>Copyright-based industries</b>	<b>76,050,916</b>	<b>80,655,208</b>	<b>87,594,560</b>	<b>99,650,651</b>	<b>105,369,684</b>

Value Added (Real, million won)

Activity	2005	2006	2007	2008	2009
Press and literature	5,721,188	5,554,386	6,005,665	5,869,461	5,519,058
Music, theatrical productions and operas	1,659,00	1,677,435	1,908,680	1,861,105	1,882,745
Motion picture and video	662,948	740,413	627,28	610,216	569,791
Radio and television	2,983,374	3,528,422	3,353,940	3,517,704	3,507,386
Photography	827,225	869,000	833,323	856,517	1,013,816
Software and databases	13,945,815	14,186,021	13,950,184	16,861,844	18,630,410
Visual and graphic arts	489,045	528,703	532,899	557,526	708,237
Advertising services	3,050,063	3,166,095	3,444,695	3,232,574	2,680,775
Copyright collecting societies	6,806	6,929	9,797	9,368	10,929
<b>Core copyright industries</b>	<b>29,345,468</b>	<b>30,257,403</b>	<b>30,666,470</b>	<b>33,376,314</b>	<b>34,523,146</b>
TV sets, radios and electronic game equipment	23,020,683	24,586,815	28,613,067	33,921,515	37,419,624
Computers and equipment	2,977,192	4,080,162	4,308,401	3,997,558	4,289,901
Musical instruments	180,717	131,604	136,839	43,786	131,072
Photographic and cinematographic instruments	1,284,476	1,747,805	2,612,981	2,065,981	2,234,999
Photocopiers	769,490	1,053,710	1,486,425	1,236,412	1,286,489
Blank recording material	813,433	801,342	764,47	800,184	812,501
Paper	4,829,089	4,954,389	5,031,893	6,075,071	4,891,326
<b>Interdependent copyright industries</b>	<b>33,875,080</b>	<b>37,355,827</b>	<b>42,954,080</b>	<b>48,240,08</b>	<b>51,065,913</b>
Apparel, textiles and footwear	1,390,447	1,566,329	1,578,289	1,665,869	1,768,057
Jewellery and coins	129,376	133,048	129,017	125,107	150,068
Other crafts	13,393	14,595	17,484	16,191	13,086
Furniture	283,908	361,653	333,292	344,527	349,573
Household goods, china and glass	699,814	733,268	772,183	765,146	884,234
Wall coverings and carpets	90,652	82,725	89,723	82,960	100,068
Toys and games	43,469	44,461	39,132	38,778	44,669
Architecture, engineering and surveying	1,957,283	2,055,373	1,981,496	2,245,875	2,257,132
Interior design	117,514	116,755	98,899	126,597	156,12
Museums	39,948	47,118	51,479	55,478	61,839
<b>Partial copyright industries</b>	<b>4,765,804</b>	<b>5,155,324</b>	<b>5,090,994</b>	<b>5,466,527</b>	<b>5,784,847</b>
General wholesale and retail trade	2,596,211	2,529,204	3,012,221	3,185,68	3,402,384
General transportation	3,971,731	3,981,503	4,265,840	4,893,841	4,32,748
Internet and telephony	1,496,622	1,487,267	1,598,250	1,750,376	1,59,011
<b>Non-dedicated support industries</b>	<b>8,064,564</b>	<b>7,997,973</b>	<b>8,876,311</b>	<b>9,829,897</b>	<b>9,314,143</b>
<b>Copyright-based industries</b>	<b>76,050,916</b>	<b>80,766,528</b>	<b>87,587,855</b>	<b>96,913,246</b>	<b>100,688,049</b>

Employment (Persons)

Activity	2005	2006	2007	2008	2009
Press and literature	157,967	158,739	165,385	158,213	159,918
Music, theatrical productions and operas	91,973	92,237	102,348	94,094	92,714
Motion picture and video	23,669	23,210	21,750	19,787	19,884
Radio and television	38,366	38,079	38,538	40,651	39,836

**Table I.2: Data by Sector (Continued)**

Photography	33,891	34,474	35,201	36,439	37,320
Software and databases	209,912	235,677	247,495	243,022	258,426
Visual and graphic arts	18,061	18,882	19,558	20,815	21,626
Advertising services	34,589	35,342	37,841	41,569	40,134
Copyright collecting societies	207	247	291	364	386
<b>Core copyright industries</b>	<b>608,635</b>	<b>636,886</b>	<b>668,406</b>	<b>654,954</b>	<b>670,244</b>
TV sets, radios and electronic game equipment	180,672	190,889	181,618	175,731	177,931
Computers and equipment	86,898	69,878	70,257	60,234	59,984
Musical instruments	5,316	4,910	4,959	4,633	4,526
Photographic and cinematographic instruments	20,729	21,354	20,998	19,502	19,802
Photocopiers	14,785	14,504	15,832	15,057	15,950
Blank recording material	46,066	46,797	46,459	44,674	44,123
Paper	53,505	52,179	52,515	52,527	51,248
<b>Interdependent copyright industries</b>	<b>407,971</b>	<b>400,511</b>	<b>392,638</b>	<b>372,358</b>	<b>373,564</b>
Apparel, textiles and footwear	45,963	48,364	48,216	47,341	48,385
Jewellery and coins	6,821	6,674	6,528	6,344	6,329
Other crafts	1,416	1,497	1,451	1,311	1,320
Furniture	6,791	7,345	7,433	7,377	7,253
Household goods, china and glass	22,425	23,465	23,991	24,722	25,818
Wall coverings and carpets	6,268	6,149	6,119	5,621	5,672
Toys and games	2,257	2,156	2,052	2,013	2,089
Architecture, engineering and surveying	38,571	42,327	46,084	55,205	56,245
Interior design	2,040	2,152	2,264	3,382	3,397
Museums	1,311	1,394	1,550	1,756	1,944
<b>Partial copyright industries</b>	<b>133,863</b>	<b>141,521</b>	<b>145,688</b>	<b>155,072</b>	<b>158,453</b>
General wholesale and retail trade	85,607	93,605	96,507	108,934	114,792
General transportation	120,950	122,111	128,361	138,849	140,538
Internet and telephony	7,997	8,276	7,903	9,015	8,944
<b>Non-dedicated support industries</b>	<b>214,554</b>	<b>223,991</b>	<b>232,771</b>	<b>256,798</b>	<b>264,274</b>
<b>Copyright-based industries</b>	<b>1,365,022</b>	<b>1,402,909</b>	<b>1,439,503</b>	<b>1,439,182</b>	<b>1,466,535</b>

## II. Questionnaire on Copyright Factors Survey

Copyright Factor Survey for the Korean Copyright Industries
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ID				
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Respondent	Name		Name of Company	
	Type of Industry		Telephone Number	
	Sales in 2009	( ) million won	Number of Employees	( ) persons
	Address			
Interviewer	Name		Date of Interview	
Verification Officer	Name		Verification Findings	

- What are major products of your company?
- How important is copyright in the daily operation of your business?
   
 Very Significant  
  Significant  
  Slightly Significant  
  Insignificant
- Does your company receive or pay any form of payments for the use of intellectual rights in the form of royalties or other licence fees?
   
 Yes  
  No (Please proceed to 4)
  - On average, what is the percentage of your company's copyright-related expenditure including royalties and licence fees in annual total expenditure?
   
 ( ) %
  - What do you think is the percentage of your company's revenues generated by copyrights or creative activities?
   
 ( ) %
- What percentage of the workforce in your business is involved in creative activities?
   
 ( ) %

Creative activities include product/service creation and development, for example, 'A jewellery craftsman drawing the designs for his jewellery'.

**Thank you very much for your answers.**

### III. Core Copyright Industries in KSIC Rev.9

**Table III.1: Press and Literature**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Authors, writers, translators	9000	Class: 9000 – Creative, arts and entertainment activities	90132	Independent performing artists
	8299	Class: 8299 – Other business support service activities n.e.c. (for translation and interpretation)	73902	Translation and interpretation services
Newspapers	5813	Class: 5813 – Publishing of newspapers, journals and periodicals	58121	Publishing of newspapers
News and feature agencies etc.	6391	Class: 6391 – News agency activities	63910	News agency activities
Magazines/periodicals	5813	Class: 5813 – Publishing of newspapers, journals and periodicals	58122	Publishing of magazines and periodicals
			58123	Publishing of advertising periodicals
Book publishing	5811	Class: 5811 – Book publishing	58111	Publishing of textbooks and study books
			58112	Publishing of cartoons
			58119	Other publishing
Cards, maps, directories and other published material	5812 5819	Class: 5812 – Publishing of directories and mailing lists Class: 5819 – Other publishing activities	58190	Other publishing of prints
Pre-press, printing, and post-press of books, magazines, newspapers, advertising materials	1811	Class: 1811 – Printing	18111	Commercial printing by stencil plate and similar plates
			18112	Screen printing
			18119	Other printing
	1812	Class: 1812 – Service activities related to printing	18121	Printing composition services and plate-making
			18122	Bookbinding services
			18129	Other service activities related to printing
Wholesale and retail of press and literature (book stores, newsstands, etc.)	4649	Class: 4649 – Wholesale of other household goods	46453	Wholesale of books, magazines and newspapers
	4761	Class: 4761 – Retail sale of books, newspapers and stationary in specialized stores	47611	Retail sale of books and magazines
			47612	Retail sale of stationery
7729	Class: 7729 – Renting and leasing of other personal and household goods (incl. books)	69291	Book renting	
Libraries	9101	Class: 9101 – Library and archive activities	90211	Library and archive activities



**Table III.2: Music, Theatrical Productions, Operas**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Composers, lyricists, arrangers, choreographers, writers, directors, performers and other personnel	9000	Class: 9000 – Creative, arts and entertainment activities	90131	Independent performing artists
			90132	Independent non-performing artists
			90121	Performing arts event promotion and organization
			90122	Public performance and production agencies
			90123	Other creative and arts-related services n.e.c.
	9329	Class: 9329 – Other amusement and recreation activities n.e.c.	91291	Ballroom operation
			91299	Other recreation services n.e.c.
			85612	Recreation education
73901	Managers			
Printing and publishing of music	5920	Class: 5920 – Sound recording and music publishing activities	59201	Publishing of music and other audio
Production/manufacturing of recorded music	1820	Class: 1820 – Reproduction of recorded media	18200	Reproduction of recorded media
Wholesale and retail of recorded music (sale and rental)	4649	Class: 4649 – Wholesale of other household goods (incl. wholesale of recorded video tapes)	46461	Wholesale of musical records and videotapes
	4762	Class: 4762 – Retail sale of music and video recordings in specialized stores	47620	Retail sale of musical records and videos
	7729	Class: 7729 – Renting and leasing of other personal and household goods n.e.c.	69220	Disc and video Tape renting
Performances and allied agencies (bookings, ticket agencies, etc.)	9000	Class: 9000 – Creative, arts and entertainment activities	90110	Operation of public performance facilities
			90191	Performing arts event promotion and organization
			90192	Public performance and production agencies
			90199	Other creative and arts-related services n.e.c.
			91223	Singing room operation

**Table III.3: Motion Picture and Video**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Writers, directors, actors	9000	Class: 9000 – Creative, arts and entertainment activities	90131	Independent performing artists
			90132	Independent non-performing artists
Motion picture and video production and distribution	5911	Class: 5911 – Motion picture, video and television programme production activities	59111	General motion picture and video production
			59112	Animated cartoon and video production
			59113	Commercials advertising motion picture and video production
	5912	Class: 5912 – Motion picture, video and television programme post-production activities	59120	Motion Picture, video, broadcasting programme production-related services
	5913	Class: 5913 – Motion picture, video and television programme distribution activities	59130	Motion picture, video, broadcasting programme distribution
59202			Sound-recording studios	
Motion picture exhibition	5914	Class: 5914 – Motion picture projection activities	59141	Motion picture exhibition
			59142	Video exhibition rooms
Video rentals and sales, video on demand	7722	Class: 7722 – Renting of video tapes and disks	69220	Disc and video tape renting
		□	46461	Wholesale of musical records and videos
	4762	Class: 4762 – Retail sale of music and video recordings in specialized stores	47620	Retail sale of musical records and videos
Allied services	1820	Class: 1820 – Reproduction of recorded media	18200	Reproduction of recorded media

**Table III.4: Radio and Television**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Television programme production activities (NEW)	5911	Class: 5911 – Motion picture, video and television programme production activities	60221	Broadcasting programme production
	5912	Class: 5912 – Motion picture, video and television programme post-production activities	59120	Motion picture, video, broadcasting programmes' production-related services
	5913	Class: 5913 – Motion picture, video and television programme distribution activities	59130	Motion picture, video, broadcasting programme distribution
National radio and television broadcasting companies	6010	Class: 6010 – Radio broadcasting	60100	Radio broadcasting
	6020	Class: 6020 – Television programming and broadcasting activities	60210	Over-the-air broadcasting
Independent producers	5911	Class: 5911 – Motion picture, video and television programme production activities	59111	General motion picture and video production
			59112	Animated cartoon and video production
			59113	Commercials advertising motion picture and video production
			59114	Broadcasting programme production

**Table III.4: Radio and Television (Continued)**

Cable television (systems and channels)	6110	Class: 6110 – Wired telecommunications activities	61210	Wired telecommunications
			60222	Cable networks
Satellite television	6130	Class: 6130 – Satellite telecommunications activities	61230	Satellite telecommunications
			60229	Broadcasting via satellite and other broadcasting

**Table III.5: Photography**

Economic Activity	ISIC Rev. 4 c	Description	KSIC Rev. 9	Description
Studios and commercial photography	9000	<input type="checkbox"/>	90132	Independent non-performing artists
	7420	Class: 7420 – Photographic activities	73301	Portrait photography and videotaping of events services
			73302	Commercial photography services
			73303	Photograph processing
Photo agencies and libraries	1812	Class: 1812 – Service activities related to printing	18121	Printing composition services and plate-making
			18122	Bookbinding services
			18129	Other service activities related to printing
	8219	Class: 8219 – Photocopying, document preparation and other specialized office support activities	75911	Document preparation services
			75912	Duplicating services
			75919	Other office support service activities
	8299	Class: 8299 – Other business support service activities n.e.c.		All other business support services n.e.c.
	9101	Class: 9101 – Library and archives activities	90211	Library and archive activities

**Table III.6: Software and Databases**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Programming, development and design manufacturing	5820	Class: 5820 – Software publishing	58211	Online and mobile game software development and supply
			58219	Other game software development and supply
			58221	System software development and supply
			58222	Application software development and supply
	6201	Class: 6201 – Computer programming activities	62010	Computer programming services
	6202	Class: 6202 – Computer consultancy and computer facilities management activities	62021	Computer system integration consultancy and establishment services
			62022	Computer facilities management services
	6209	Class: 6209 – Other information technology and computer service activities	62090	Other information technology and computer operation related services

**Table III.6: Software and Databases (continued)**

Wholesale and retail prepackaged software (business programs, video games, educational programs etc.)	4651	Class: 4651 – Wholesale of computers, computer peripheral equipment and software	46510	Wholesale of computers, computer peripheral equipment and software
	4741	Class: 4741 – Retail sale of computers, peripheral units, software and telecommunications equipment in specialized stores	47311	Retail sale of computers, computer peripheral equipment and software
Database processing and publishing	6311	Class: 6311 – Data processing, hosting and related activities	63111	Data processing
			63112	Hosting and related service activities
			63991	Database activities and online information provision services
	6312	Class: 6312 – Web publishing	63120	Portals and other Internet information media service activities

**Table III.7: Visual and Graphic Arts**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Artists	9000	Class: 9000 – Creative, arts and entertainment activities	90132	Independent non-performing artists
Art galleries and other wholesale and retail	9000	Class: 9000 – Creative, arts and entertainment activities	47841	Retail sale of art works and antiques
Picture framing and other allied services	7420	Class: 7420 – Photographic activities	73303	Photograph processing
Graphic design	9000	Class: 9000 – Creative, arts and entertainment activities	73203	Graphic design services
			90199	Other creative and arts-related services n.e.c.
	1812	Class: 1812 – Service activities related to printing	18129	Other service activities related to printing
	8219	Class: 8219 – Photocopying, document preparation and other specialized office support activities	75911	Document preparation services
			75912	Duplicating services
			75919	Other office support service activities
8299	Class: 8299 – Other business support service activities n.e.c.	75992	Exhibition and trade fair organization agencies	

**Table III.8: Advertising**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Agencies, buying services	7310	Class: 7310 – Advertising	71310	Media advertising agencies
			71391	Outdoor and exhibition advertising
			71392	Media representatives and media buying agencies
			71393	Advertising preparation
			71399	Other advertising n.e.c.
	7320	Class: 7320 – Market research and public opinion polling	71400	Market research and public opinion polling

**Table III.9: Copyright Collecting Societies**

Economic Activity	ISIC Rev. 4	Description	KSIC Rev. 9	Description
Copyright collecting societies	9412	Class: 9412 – Activities of professional membership organizations	94120	Professional organizations



# The Economic Contribution of Copyright-Based Industries in South Africa

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**WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO)  
IN COOPERATION WITH THE REPUBLIC OF SOUTH AFRICA**

Prof. Anastassios Pouris and  
Mrs Roula Inglesi-Lotz  
2011

Institute for Technological Innovation  
University of Pretoria



Department of Trade and  
Industry Ministry



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## Foreword

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*by Dr. Rob Davies, Minister of Trade and Industry*

In 2010 the Department of Trade and Industry (the DTI) commissioned a study through the World Intellectual Property Organization (WIPO). The research study would indicate whether there are any benefits coming from copyright-based industries in South Africa. The reason for commissioning these studies was solely based on the fact that South Africa wants to accede to treaties in the area of copyright and the South African Parliament indicated that before any treaty could be acceded to the country needs to know what benefits come from these treaties as becoming a signatory to a treaty entails attracting obligations and amending the legislation.

With the final report of the studies being submitted by WIPO, I am of the view that:

The studies give a clear indication on whether or not there is any benefit for South Africa in joining or not joining international treaties.

- It is clear that South Africa should improve its internal copyright legislation as it is over three decades-old.
- The methodology used in conducting the study is not disputed by the DTI.
- The absence of data from Statistics South Africa is problematic especially with the reliance on data from privately managed databases may be misleading as this data has not been proven to be reliable.
- The treatment of Intellectual Property (IP) as a non-sector renders the recognition of copyright as a sub-sector of IP non-existent or sterile.

Notwithstanding the above:

- The report is an eye opener. It will assist the country in treating IP as a sector and this will be judged by its contribution to the economy as laid out in the report.
- This is an indictment to the state to put systems in place that will assist in improving the contribution of copyright/IP to the Gross Domestic Product.
- Statistics South Africa, the South African Revenue Services and privately owned associations that collect data on IP should strive for perfect/proper data gathering in this sector.
- The report enables the state to allow innovation in trade and education as well as profit making and the development of incentive schemes in the area of copyright e.g. film and music and to allow limitations and exceptions.

It is my view that when all is done, there will be economic growth, job creation and respect for IP as it contributes to the social good. In regards to the above it is in the best interest of the DTI to note the findings of the study.

The publication of the findings of this study represents a very important milestone for South Africa as it clearly indicates the areas we need to improve on in terms of legislation on the protection and enforcement of copyright.

It is with great pleasure therefore that I present to you the findings of the commissioned study on "Benefits coming from Copyright-Based Industries". The DTI and relevant stakeholders will engage in a consultative process that will consider the recommendations.

January 4th, 2012

## Executive Summary

---

The creation of new knowledge in a competitive economy is dependent to a significant extent on the protection of the intellectual property (WIPO, 2004<sup>1</sup>). Copyright law should be effective in promoting and encouraging the creation of and investment in creative works.

Copyright law protects specific expression, not general ideas, and applies to literary, artistic, dramatic and musical works, sound recordings, broadcasts and films. Copyright law protects the way in which the work is expressed, rather than the idea behind the work. Dan Brown's *The Da Vinci Code* (2003)<sup>2</sup> was recently found not to have infringed the copyright of an earlier book which contained many of the theories found in *The Da Vinci Code*. Drawing on ideas of other copyrighted works does not infringe those copyrights.

Industries based on copyright and related rights are believed to have considerable impact on the national economies. However, measuring their relevant contribution is only a recent phenomenon. This document reports an effort to estimate the contribution of the copyright industries in South Africa. The investigation has been requested by the government of South Africa (Department of Trade and Industry (DTI)) with financial and technical support from WIPO and in light of the increasing importance of copyright goods and services to the country's economy. It is important to emphasise that this investigation is the first using WIPO-based methodology to be conducted in South Africa and the second, after Kenya, to be completed in the Africa region.

It is expected that the results of the investigation will provide robust data on the actual economic contribution of the copyright-based activities, which can serve as a basis for adjusting policies and strategies aimed at promoting growth and development in the country's copyright-based sectors.

Similar investigations quantifying the economic contribution of the copyright-based industries of developed and developing economies indicate the importance of these industries. The total economic contribution of copyright-based industries as a percentage to GDP varies from 2.81% in Bulgaria to 11.70% in Philippines. Similarly the indicator ratio of persons employed in the copyright-based sector to the total number of employees in the economy varies from 3.03% in Jamaica to 11.17% in Latvia.

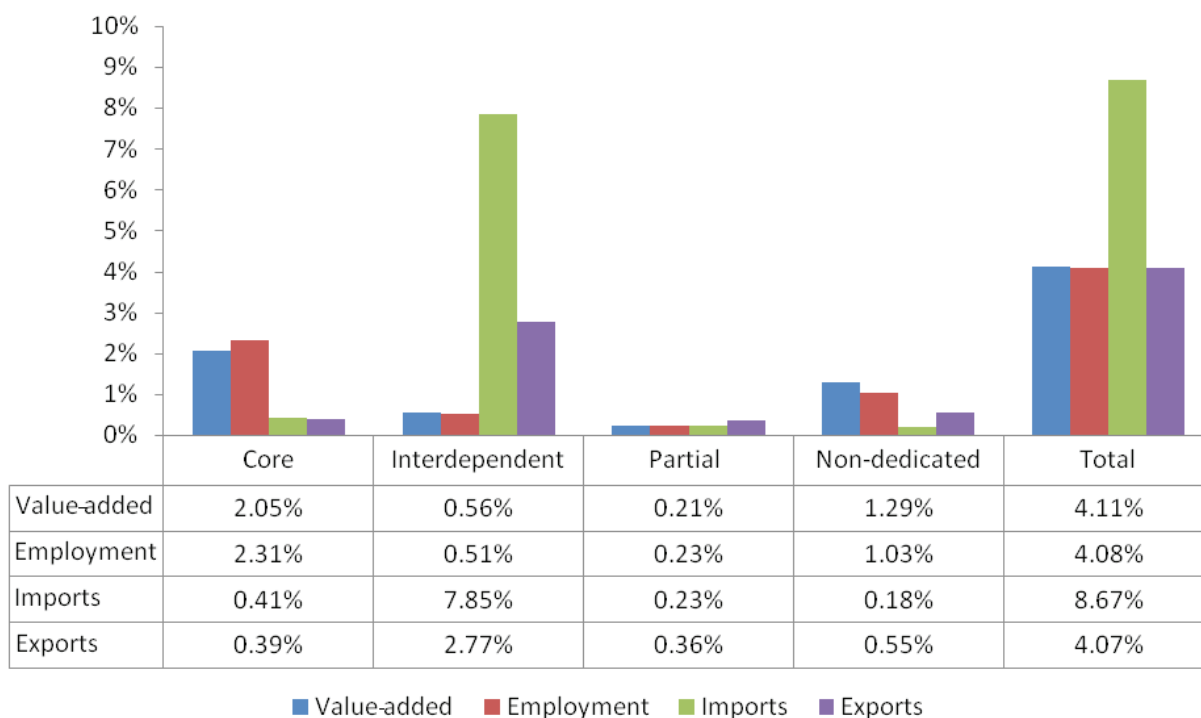
The results of this investigation indicate that the indicators for the South African copyright-based industries fall within the overall range of the international studies, albeit in the low range. The South African copyright-based industries contribution to GDP is 4.11% and to employment 4.08%. Nevertheless the results of this study show that the overall contribution of the copyright-based industries is substantial enough to stipulate increased attention by the South African policy-makers. Figure A presents the overall contribution of copyright-based industries in South Africa in 2008 with regard to their value-added, employment, imports and exports.

---

<sup>1</sup>World Intellectual Property Organization (WIPO), 2006 "National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No1: the economic contribution of copyright-based industries." WIPO: Switzerland. Countries: Latvia (2000), Singapore (2004), Canada (2004), Hungary (2005).

<sup>2</sup>Brown D. (2003) "The Da Vinci Code", Doubleday, USA.

**Figure A: Contribution of Copyright-Based Industries to the South African Economy in 2008**

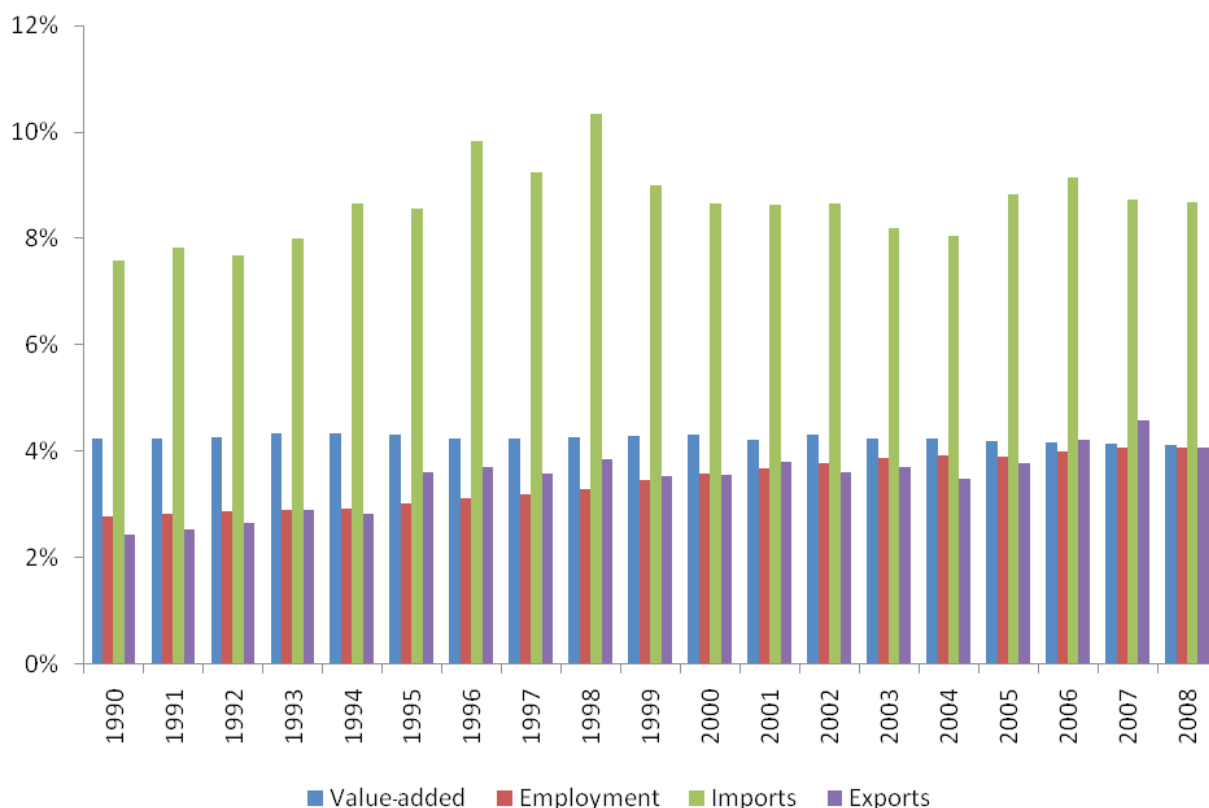


Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

In 2008, with regards to value-added, the copyright-based industries in total are responsible for almost 4.11% of the total economy, with the core copyright-based industries being the highest contributor (2.05%) and the non-dedicated copyright-based following with 1.29%. As far as employment is concerned, 4.08% of the workforce is employed in the copyright-based industries, the majority of which is employed in the core and non-dedicated copyright-based industries (2.31% and 1.03%). The interdependent copyright-based industries show a high contribution in the exports of the economy (2.77%) and an even higher contribution to the total imports (7.85%).

Apart from the high growth of the specific industries' value-added, their contribution also presented a significant increase until the 1980s. From that point onwards, the trend varied little moving in the range from 4 to 4.5% (figure B).

**Figure B: Evolution of Contribution of Copyright-Based Industries to Total Value-Added, Employment, Imports and Exports**



Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

The percentage of workforce employed in the copyright-based industries to the total has almost doubled in the period from 1970 to 2008, from less than 2% at the beginning of the period to almost 4% in 2008 (figure B). The copyright-based industries were responsible for around 8 to 10% of the country's imports (figure B), presenting a spike in 1983 but coming back in the range afterwards. The sector's exports showed a significant rise since the end of the 1980s.

Table A presents the values of all the copyright-based sectors examined in this study for four indicators: real value-added, employment, exports and imports, after the implementation of copyright factors in the calculations.

**Table A: Real Value-Added, Employment, Exports and Imports for all Copyright-Based Industries for 2008**

Year 2008	Real value-added	Employment	Exports	Imports
	R millions (2005=100)	Number of employees	R millions (2005=100)	R millions (2005=100)
<b>TOTAL ECONOMY</b>	<b>1,620,139</b>	<b>10,376,881</b>	<b>495,382</b>	<b>572,354</b>
<b>Total CBI</b>	<b>66,101</b>	<b>422,974</b>	<b>20,168</b>	<b>48,051</b>
<b>Core Copyright-Based Industries</b>	<b>32,670</b>	<b>239,959</b>	<b>1,954</b>	<b>2,359</b>
Printing, Publishing and Recorded Media	7,588	53,465	790	2,009
Film and Television Industry	6,811	30,899	–	–
Photography, Software and Databases, Advertising	18,271	155,595	1,165	350
<b>Interdependent Copyright-Based Industries</b>	<b>9,091</b>	<b>52,620</b>	<b>13,745</b>	<b>43,324</b>
Photographic and Cinematographic Instruments	15	–	–	–

**Table A: Real Value-Added, Employment, Exports and Imports for all Copyright-Based Industries for 2008 (Continued)**

Television, Radio and Communication Equipment	944	2,632	994	9,557
Computers and Equipment, Photocopiers	5,442	40342	11,138	33,767
Paper and Paper Products	2705.55	9646	1,612	1,595
<b>Partial Copyright-Based Industries</b>	<b>3,426</b>	<b>23,879</b>	<b>1,767</b>	<b>1,321</b>
Apparel, Textiles and Footwear	45	472	8	72
Furniture and Other Manufacturing	2,418	9,405	1,755	1,237
Crafts	949	13,938	–	–
Glass and Glass Products	14	63	3	11
<b>Non-Dedicated Copyright-Based Industries</b>	<b>20,913</b>	<b>106,516</b>	<b>2,702</b>	<b>1,046</b>
General Wholesale and Retailing	11,685	85,796	1,049	5
Transport, Storage and Communication	9,229	20,720	1,654	1,041

Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

This study uses a complete Input-Output (I-O) analysis calculating multipliers to show not only the direct effects of the copyright-based industries but also their indirect effects to the economy's output, income, employment and imports. The results, as presented in table A and in detail in appendix 4, depict significant effects of the core copyright-based industries to the above-mentioned indicators with the exception of imports. The total direct effect (contribution) of the copyright-based industries in terms of value-added is 4.11% while their total<sup>3</sup> indirect effect (contribution) in terms of output would be 5.49% (production-induced effect<sup>4</sup>). On the other hand, with regards to employment, the total direct effect is 4.08%, while its production-induced effect (contribution) would be 14.52% (sum of the first-round and the industrial support effects).<sup>5</sup>

**Table B: Production-Induced Effect of Copyright-Based Industries (Input-Output 2009)**

Industry	Production-induced effect	Adjusted for copyright factors	Production-induced effect	Adjusted for copyright factors
	Outcome		Employment	
Communication	1.18%	1.18%	2.73%	2.73%
Crafts*	0.76%	0.04%	2.87%	0.16%
Film and television*	1.60%	0.67%	2.98%	1.25%
Footwear	2.08%	2.08%	6.23%	6.23%
Furniture	1.93%	0.01%	6.48%	0.03%
Glass and glass products	1.49%	0.15%	4.89%	0.49%
Computers and equipment/ photocopiers	1.70%	0.00%	4.93%	0.00%
Other manufacturing	1.23%	0.43%	3.65%	1.28%
Photography/ Software and Databases/ Advertising	1.13%	0.00%	2.97%	0.00%
Paper and paper products	2.02%	0.50%	5.77%	1.44%
Printing, publishing and recorded media	1.79%	1.79%	5.17%	5.17%

<sup>3</sup>It should be noted that the analysis of the indirect effect includes all the copyright-based industries except for 'film and television' and 'crafts' for which we made appropriate assumptions.

<sup>4</sup>Production-induced effect is the combination of first-round and industrial support effects. First-round effect is how much an industry must increase its inputs from other industries and from itself, in order to produce an extra unit of output to meet a ZAR1.00 increase in final demand. Industrial support effect is how much other industries will need to increase their purchases to expand their output to meet the first-round requirements.

<sup>5</sup>Input-Output analysis portrays the results of a change in the whole economy until equilibrium is restored again. The time period is not determined.



**Table B: Production-Induced Effect of Copyright-Based Industries (Input-Output 2009) (Continued)**

Television, radio and communication equipment	1.64%	0.57%	4.75%	1.66%
Textiles	1.81%	0.01%	6.05%	0.02%
Transport and storage	1.19%	0.07%	3.02%	0.17%
Wearing apparel	1.59%	0.01%	6.19%	0.02%
Wholesale and retail trade	1.00%	0.06%	2.63%	0.15%
<b>Total</b>		<b>7.56%</b>		<b>20.81%</b>

Where \* denotes industries with figures by extrapolation.

Source: Authors' calculations with data from the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).

An example is the 'printing, publishing and recorded media' – one of the most influential copyright-based industries: although its direct effect (contribution) to total value-added would be 0.47%, its indirect effect would be 1.8% (production-induced effect). The same industry's direct effect (contribution) to employment is 0.52% while its indirect effect would be 5.17%. The multipliers will assist the policy makers to evaluate the impact of promoting copyright-based industries.

If appropriate policies are implemented resulting in an increase of the demand for products, for instance of the same sector as in the previous example 'printing, published and recorded media', a series of links will occur affecting, through individual sectors, the economy in its entirety. If the demand for 'printing, published and recorded media' products increases by ZAR100,000 the industry must increase its inputs from other industries and from itself by R69,000 (first-round effects multiplier).

An increase in the 'printing, published and recorded media' industry will also influence other sectors in the economy. Among the inputs that 'printing, published and recorded media' will need in order to meet an increase in the demand is for example some form of energy, i.e. electricity. To cover the new demand for its product, the sector 'electricity, gas and steam' will have to increase their inputs by ZAR0.465 for every ZAR1.00 of demand. Similar effects will be experienced with the employment and trade of the sectors which are trying to meet the increased demand, they will affect various other industries by asking for inputs.

During the process of our investigation a number of questions were raised which lead to a number of recommendations at the end of the study. Indicatively, it is suggested that WIPO should identify international best practice in the promotion of copyright-based industries and disseminate the information to member states. Also, it is proposed that the Department of Trade and Industry (DTI) and the Department of Arts and Culture (DAC) request from Statistics SA and the Reserve Bank to separate the statistics related to copyright-based industries and publish them regularly. Among others, it is also advisable that DTI should develop a research programme supporting researcher initiated projects related to Intellectual Property Rights (IPR) in general and copyright in particular.

## 1. Introduction

---

Copyright exists to encourage the creation of, and investment in, creative works. It protects specific expression, not general ideas, and applies to literary, artistic, dramatic and musical works, sound recordings, broadcasts and films. Copyright law protects the way in which the work is expressed, rather than the idea behind the work, e.g. in 2006 a court in the United Kingdom ruled that Dan Brown's *The Da Vinci Code* (2003)<sup>6</sup> did not infringe the copyright of an earlier book, *The Holy Blood and the Holy Grail*, which contained some of the theories found in *The Da Vinci Code*. Drawing on ideas of other copyrighted works does not infringe those copyrights.

Copyright rights are inextricably linked to limitations<sup>7</sup>, exceptions<sup>8</sup> and "compulsory" or "obligatory" licences<sup>9</sup>. Limitations, exceptions and licences exist in order to facilitate consumer access, the use for socially desirable purposes and to encourage further creativity.

The World Intellectual Property Organization<sup>10</sup> states "the juridical and policy basis for each kind of provision is different. The *limitations* proceed on the assumption that there are clear public policy grounds and that copyright protection should not exist in the works in question, for example because of the importance of the need for ready availability of such works from the point of view of the general public. The *exceptions* represent a more limited concession that certain kinds of uses of works that are otherwise protected should be allowed: there is a public interest present here that justifies overriding the private rights of authors in their works in these particular circumstances. In the *licences* the author's rights continue to be protected but are significantly abridged: public interest still justifies the continuance of the use, regardless of the author's consent, but subject to the payment of appropriate remuneration".

In determining where the appropriate balance lies between rights and exceptions, it is a basic principle of the Intellectual Property policy that the result should be in the public interest. In determining what is in the public interest the government must balance a number of often overlapping policy goals including economic, social, political and legal objectives and constraints.

Exceptions are of interest because like rights they have the potential to create value, employment and enhance the economic welfare of society.

Recently, the Gowers Review (2006)<sup>11</sup> proposed a number of recommendations for the improvement of the IP system. In this report, the UK argued that exceptions – among others – have the potentials to create value. The study suggests that the broader approach applied in the USA to copyright exceptions has opened up a commercial space for others to create value. For instance, it refers to Google's ability to 'cache' websites, effectively copying content without having to seek permission first; for many that is considered an unfair use of other people's copyrighted material. In this study, Google's explanation to the Call of Evidence can be found stating: "The existence of a general fair use exception that can adapt to new technical environments may explain why the search engines first developed in the USA, where users were able to rely on flexible copyright exceptions, and not in the UK, where such uses would have been considered infringement".

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<sup>6</sup>Brown D. (2003) *"The Da Vinci Code"*, Doubleday, USA.

<sup>7</sup>Provisions that exclude or allow for the exclusion of protection for particular categories of works or material may be described as "limitations" on protection, in the sense that no protection is required for the particular kind of subject matter in question. There are several instances of such provisions in the Berne Convention for the protection of literary and artistic works: for official texts of a legislative, administrative and legal nature (Article 2(4)), news of the day (Article 2(8)) and speeches delivered in the course of legal proceedings (Article 2bis (1)).

<sup>8</sup>Provisions that allow for the giving of immunity (usually on a permissive, rather than mandatory basis) from infringement proceedings for particular kinds of use, for example, where this is for the purposes of news reporting or education, where particular conditions are satisfied can be termed "permitted uses" or exceptions to protection, in that they allow for the removal of liability that would otherwise arise.

<sup>9</sup>"Compulsory" or "obligatory" licences allow a particular use of copyright material, subject to the payment of compensation to the copyright owner. Permissions are found in Articles 11bis (2) and 13 and the Appendix of the Berne Convention for the Protection of Literary and Artistic Works.

<sup>10</sup>WIPO (2003) *"WIPO Study on Limitations and Exceptions of Copyright and Related Rights in the Digital Environment"*. Standing Committee on Copyright and Related Rights, Ninth Session, Geneva, June 23rd – 27th, 2003.

<sup>11</sup>Gowers Review (2006) *"Gowers Review of Intellectual Property"*, HMSO, Norwich, NR3 1BQ.

Another example of 'fair uses' of copyright that can create economic value without damaging the interests of copyright owners is the film *West Side Story* that grossed \$43.7 million (\$39.9 million when adjusted for inflation). Although the film may be considered a reworking of *Romeo and Juliet*, its success indicates that works which build on others (and are not necessarily substitutes of the original work) can be extremely valuable. Indeed, it is not the case that *West Side Story* has made *Romeo and Juliet* less popular or less commercially successful<sup>12</sup>.

The value of copyright has traditionally been observed both in social and cultural terms. Also, with the continuous rising of the services sector, globalisation and the development of knowledge economy, the need for a copyright law and infrastructure underpinning a number of industries has been more imperative than ever.

Copyright in South Africa is legislated by the Copyright Act No. 98 of 1978<sup>13</sup> and its amendments.

Furthermore, the need to protect, support and promote the copyright-based industries has been re-emphasised in the strategic plan for "Cultural Industries"<sup>14</sup>.

The "Cultural Industries" identified by the Department of Arts, Culture, Science and Technology (DACST) includes the music industry, the craft industry, the publishing industry and the film and television industry (the most essential core copyright-based industries). "Their selection was based on a number of criteria including the recognition that these sectors were identifiable industries in South Africa, are potentially internationally competitive and have the potential to create employment and offer opportunities for rural and urban job creation"<sup>15</sup>.

Despite the importance of the cultural industries for South Africa there has been little, if any, analysis of the economic contribution and value of the country's copyright industries as a whole.

The objective of this study is to quantify the importance of copyright-based industries in South Africa and set them in an international context. More specifically the study aims to estimate the:

- contribution of the copyright-based industries to South Africa's Gross Domestic Product,
- share of national employment related to the country's copyright-based industries, participation of copyright-based industries in international trade.

The report is structured as follows: the next chapter provides an overview of the copyright activities in South Africa, the chapter "International Studies Estimating the Economic Contribution of Copyright Industries" provides a literature review emphasising the findings of WIPO's supported studies, the next chapter discusses the methodological as well as data selection and collection issues, while the chapter "The contribution of Copyright-Based Industries to the South African Economy" presents the findings of our analysis. The next section focuses on the Input-Output methodology and the results of such an analysis, while the next chapter focuses on the trade of copyright-based industries in South Africa. Finally, the last chapter provides a discussion and a number of policy recommendations for the future of the South African copyright-based industries.

<sup>12</sup>Ibid.

<sup>13</sup>Republic of South Africa (1978) "Copyright Act of South Africa, No. 98, as amended through No.9 (2002)", available at [http://portal.unesco.org/culture/en/ev.php-URL\\_ID=15486&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/culture/en/ev.php-URL_ID=15486&URL_DO=DO_TOPIC&URL_SECTION=201.html)

<sup>14</sup>DACST (1998) "Cultural Industries Growth Strategy" Department of Arts Culture Science and Technology, Pretoria.

<sup>15</sup>Ibid.

## 2. Copyright in South Africa

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Copyright in South Africa is legislated by the Copyright Act No. 98 of 1978<sup>16</sup> and its amendments.

Section 2 of the Act identifies that the following works are eligible for copyright:

- (a) literary works,
- (b) musical works,
- (c) artistic works;
- (d) cinematographic films,
- (e) sound recordings,
- (f) broadcasts,
- (g) programme-carrying signals,
- (h) published editions,
- (i) computer programs.

More specifically, for literary, musical and artistic works, except for photographs, the copyright term in South Africa is of fifty years from the end of the year of the author's death, or fifty years from publication if it is first published after the author's death. For photographs, films and computer programs, the term is fifty years from first publication, or fifty years from creation if not published within fifty years. For sound recordings, broadcasts, programme-carrying signals and published editions, it is fifty years from first publication or transmission.

Anonymous works are protected for shorter than fifty years from first publication and fifty years from the year when it is reasonable to presume the author is dead. For works with multiple authors, the fifty years from death are calculated from the death of the last author to die. Finally, government works are protected for fifty years from first publication.

Section 12 "General exceptions from protection of literary and musical works" (appendix 2) provides for a number of exceptions.

The Act has been criticised (Nicholson *et al.*, 2008)<sup>17</sup> in that:

- It does not have any provisions for persons with visual, aural or learning disabilities, or for distance learners and literacy training purposes.
- It does not address digitisation or preservation and curation in the digital environment to enable libraries and archives to carry out their mandates in terms of other Acts of Parliament.
- It has no provisions for adaptations, translations, parodies, broadcasts or public performances for non-commercial or educational purposes.

The authors expressed their concerns on several shortcomings of the Copyright Act which include its conflicts with Article 32 of the Constitution relating to right to access of state held information, absence of provisions catering for the rights to information of individuals with sensory-disabilities and the long and cumbersome process that an individual would need in order to reproduce multiple copies of government departmental publications which include public health related, public safety and security publications<sup>18</sup>.

They suggest that "government departmental publications are subject to copyright, which means that the public would need copyright permission to reproduce multiple copies, beyond what is permitted in section 13. This means that the copyright law would require that important documents on health issues, such as HIV/AIDS, tuberculosis, malaria, hepatitis and other serious diseases, be cleared for copyright by, or through, relevant government departments, before being able to be reproduced for use by health workers in rural areas. In a pandemic, such as AIDS, this information should be in the public domain. Similarly, in view of the high levels of crime in this country, documents published by the Department of Safety and Security,

<sup>16</sup>Copyright Act 98 of 1978 Regulations as amended by Notice Government Gazette R.1211 9775, June, 7th 1985.

<sup>17</sup>Nicholson R. D. and Kawooya D. (2008) "The Impact of Copyright on Access to Public Information in African Countries: a Perspective from Uganda and South Africa". World Library and Information Congress: 74th IFLA General Conference and Council, August 10th – 14th, 2008, Québec, Canada, <http://www.ifla.org/IV/ifla74/index.htm>

<sup>18</sup>Ibid.

the South African Police Service and other government security enforcement agencies should be in the public domain.”<sup>19</sup> Hence, it appears that they argue that there may also be discrimination against other sectors of society.

The WIPO study<sup>20</sup> (2008) on copyright limitations and exceptions for libraries and archives summarised South Africa’s limitations and exceptions.

South Africa has introduced anti-circumvention provisions in its Electronic Communications and Transactions Act No. 25 of 2002 (Chapter xiii: Cybercrime, Clause 86). The Act is managed by the Minister of Communications. It is of importance, however, that the Act does not provide exceptions for legitimate purposes. Unlike traditional copyright law, which limits the term of protection, there is no limit to the term of protection accorded to a Technological Protection Measure (TPM), effectively extending the term of protection for works protected by a TPM indefinitely.

In an international context, South Africa is a party to the Berne Convention for the Protection of Literary and Artistic works and the Trade-Related aspects of Intellectual Property Rights (TRIPS). Also, South Africa has signed the WIPO Copyright Treaty but not ratified it yet.

South Africa appears to have a high standing in the field of protection of intellectual property rights in general and copyright in particular. The 2008 International Property Rights Index (IPRI) is an international comparative indicator that measures the significance of both physical and intellectual property rights and their protection for economic well-being. The Property Rights Alliance<sup>21</sup> initiated the IPRI studies for the Hernando de Soto Fellowship Program to contribute to developing accurate and comprehensive measures regarding Property Rights (PR) on an international scale. The IPRI provides a tool for comparative analysis and research on global property rights. The Index focuses on three areas: Legal and Political Environment (LP), Physical Property Rights (PPR) and Intellectual Property Rights (IPR).

The IPR component considers four aspects of intellectual property:

- Protection of IPR according to opinions of expert participants in each country.
- Patent protection as is manifested in coverage, membership in international treaties, restrictions on patent rights, enforcement and duration of protection.
- Trademark protection covering the registration, maintenance and enforcement of trademark rights.
- Copyright piracy covering piracy levels mainly in business software, records and music, motion pictures and entertainment software.

The Property Rights Alliance (PRA) study analyses data for 115 countries around the globe, representing 96% of world GDP. Of great importance, the 2008 gauge incorporates data of property rights protection from various sources, often directly obtained from expert surveys within the evaluated countries.

Figure 1 shows a map of the world where countries with similar property rights indices are coloured similarly. South Africa belongs to the same group as North America, Europe and Australia.

In the IPR, South Africa scores 7 and is in the 12th position (in terms of marks). In terms of countries South Africa is ranked 22nd out of 115 countries. The top country in the index is Finland with a score of 8.5. Countries like South Korea (6.7), Italy (6.5), Israel (6.3), India (5.2), Brazil (5.1) and others are below South Africa.

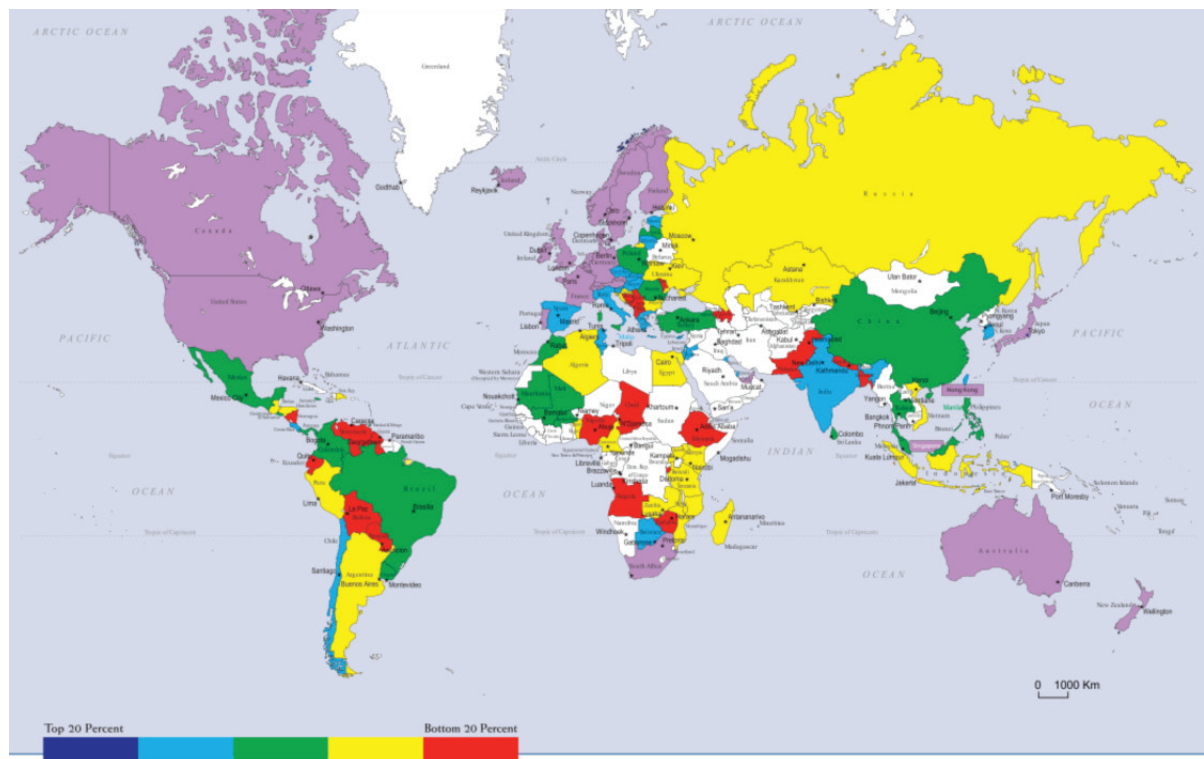
South Africa’s IPR score is substantially higher from what is expected from its GDP per capita (an indicator discussed in the Property Rights Alliance (2008) report). South Africa’s score was expected to be around 5.

<sup>19</sup>Ibid.

<sup>20</sup>Kenneth Crew, study commissioned by WIPO (2008) “*Study on Copyright Limitations and Exceptions for Libraries and Archives*”. Standing Committee on Copyright and Related Rights, Seventeenth Session, Geneva, November 3rd – 7th, 2008.

<sup>21</sup>Property Rights Alliance (2008) “*International Property Rights Index 2008 Report*”, Washington DC.

**Figure 1: International Property Rights Index: Ranking by Quintiles 2008**



Source: Property Rights Alliance 2008

Zooming into the piracy rates internationally (appendix 1, table 12) leads us to the same conclusion. South Africa has one of the lowest piracy rates. The Business Software Alliance states: “South Africa is among the countries with the lowest piracy rates (35%) in Africa and the Middle East.”<sup>22</sup>

South Africa has identified the need to protect, support and promote the copyright-based industries since 1998. The then Department of Arts, Culture, Science and Technology (DACST) published a strategic plan for “Cultural Industries”<sup>23</sup> as the department’s contribution towards the government’s Growth, Employment and Redistribution (GEAR) strategy.

The “Cultural Industries” identified by the DACST included the music industry, the craft industry, the publishing industry and the film and television industry (the most essential core copyright-based industries). “Their selection was based on a number of criteria including the recognition that these sectors were identifiable industries in South Africa, are potentially internationally competitive and have the potential to create employment and offer opportunities for rural and urban job creation.”<sup>24</sup>

<sup>22</sup>Business Software Alliance: News Release May 12th 2009 Illegal Software use is up 1% in South Africa, accessed during March 2010 at [http://global.bsa.org/globalpiracy2008/pr/pr\\_southafrica.pdf](http://global.bsa.org/globalpiracy2008/pr/pr_southafrica.pdf)

<sup>23</sup>DACST (1998) “Creative South Africa: A Strategy for Realising the Potential of the Cultural Industries”, Department of Arts, Culture, Science and Technology, Pretoria.

<sup>24</sup>Ibid.

Having investigated the importance of the “Cultural Industries”, the report makes some key recommendations for the future of these industries:

- designing and implementing a Cultural Industries Development Programme (CIDP),
- setting up a CIDP regulatory framework,
- creating a Cultural Industries Development Fund,
- promoting the industries internationally and setting up an export programme,
- co-ordinating copyright legislation to protect the local cultural products,
- developing human resources and skills appropriate to cultural industries,
- adopting and co-ordinating government supply side measures,
- designing and implementing an awareness campaign focused on audience development,
- collecting and monitoring statistics,
- co-ordinating initiatives in other departments,
- establishing a Cultural Industries Development Agency.

The DACST report looked at the cultural industries not only holistically as an important sector of South Africa but also per individual industry. The following reports focused on the main cultural industries: film and television, publishing and the music industry.

## 2.1 The South African Film and Television Industry Report<sup>25</sup>

The South African film and television industry report is part of the Cultural Industries Growth Strategy (CIGS) conducted by the DACST, whose purpose was to develop a strategy of the film, craft and publishing industries.

The report summarises the significance of the film and television industry in three main pillars:

- It is a medium of communication of ideas, information and ideology.
- It provides opportunity for debate and discussion for participation in the social and political life.
- Globally, the particular industry creates millions of jobs and contributes significantly to the total economy.

Past mismanagement of funding and lack of equity have been two of the main reasons that the South African film and television industry struggles to overcome other important predicaments to the growth of the industry which have been identified by the report as follows:

- Limited access to financing and facilities,
- Insufficient audience development,
- Few training opportunities, only domestic interest for the industry with limited opportunities for exports and
- A lack of understanding of the needs of the market by South African film makers.

These predicaments remained for the next years as confirmed by the Industrial Policy Action Plan (IPAP)<sup>26</sup>. This report confirmed that some key constraints to the sector’s growth are:

- Limited access to finance,
- Limited access to distribution and exhibition,
- Lack of training opportunities,
- Lack of opportunities to export the sector’s products and
- Insufficient coordination.

<sup>25</sup>DACST (1998) “The South African Film and Television Industry Report” in “Cultural Industries Growth Strategy (CIGS)”, Department of Arts, Culture, Science and Technology, Pretoria.

<sup>26</sup>DTI (2007) “Industrial Policy Action Plan”, Department of Trade and Industry, Pretoria.

During the late 1990s, important developments promised a better future for the film and television industry in South Africa:

- Formal acknowledgement of the significance of the industry by the South African government and implementation of initiatives and developments such as establishing the National Film and Video Foundation and realignment of ownership structures. It began with Primedia's acquisition of the Ster-Kinekor distribution and exhibition business in July 1997 and the subsequent establishment of an entertainment division.
- Recommendations by the White Paper on Broadcasting with regards to changes in the broadcast industry, such as commercialisation of various SABC operations and introduction of satellite and digital technology,
- Establishment of the International Southern African Film and Television Market to provide opportunities for networking and deal-making between key players of the industry.

## 2.2 The South African Publishing Industry Report<sup>27</sup>

The South African publishing industry report was also part of the biggest initiative by the DACST under the Cultural Industries Growth Strategy (CIGS) in 1998. Main areas of the South African society are linked and signify the importance of the publishing industry:

- Education and training,
- Awareness of, and participation in current affairs,
- Cultural expression and entertainment,
- Research and innovation,
- Critique and commentary and
- Communications.

The publishing industry also acts as the central core of an entire network of related individuals and industries, such as paper manufacturers, educational institutions, ink producers, authors, printers, designers, bookbinders, illustrators, booksellers, distributors and CD manufacturers. The industry is therefore an important source of revenue and employment in South Africa.

However, various problems have limited the growth of the industry as follows:

- A limited buying market for published material, government prioritises basic needs before publishing products,
- Lack of training opportunities, advances in information technology affecting the more traditional forms of publishing, highly competitive foreign publishers impacting on local industry and
- Inadequate motivation for local writers.

## 2.3 The South African Music Industry<sup>28</sup>

This report, also part of the Cultural Industries Growth Strategy (CIGS) in 1998, focuses on the music industry of South Africa which is a complicated combination of different industries producing a range of musical products. The industry, according to the report, includes:

- Creators: musicians and composers,
- Agents,
- Record companies and
- Retail outlets.

The music industry is responsible for the creation of jobs and income in the South African economy. A SWOT analysis was conducted for the music industry summarised as follows.

<sup>27</sup>DACST (1998) "The South African Publishing Industry Report" in "Cultural Industries Growth Strategy (CIGS)", Department of Arts, Culture, Science and Technology, Pretoria.

<sup>28</sup>DACST (1998) "The South African Music Industry Report" in "Cultural Industries Growth Strategy (CIGS)", Department of Arts, Culture, Science and Technology, Pretoria.



### ***Strengths***

- Multinational recording companies involved in the domestic market
- Widespread retail and broadcast network and agencies
- Growth in community radio broadcasting
- Cooperation both between local musicians and between local and international musicians
- Growth in the recording, marketing and sales of domestic collection

### ***Weaknesses***

- Limited financing
- Limited investment and promotion of local artists
- High piracy levels in the music industry
- Lack of coordinated strategy

### ***Opportunities***

- Growth of international music industry
- Exposure of the local music industry

### ***Threats***

- Lack of necessary commitment
- Lack of resources from several key players

Recently, more publications were released with information on creative industries as well as specific sectors:

- The *Industrial Policy Action Plan*, by the Department of Trade and Industry (Available at <http://www.dti.gov.za/DownloadFileAction?id=561>)
- The *Annual Book Publishing Industry Survey Report 2008* by the Department of Arts and Culture through the South African Book Development Council (SABDC) and the Publishers' Association of South Africa (PASA). Available at: [http://www.publishsa.co.za/downloads/industry-statistics/2008\\_industry\\_survey.pdf](http://www.publishsa.co.za/downloads/industry-statistics/2008_industry_survey.pdf).

### 3. International Studies: Estimating the Economic Contribution of Copyright-Based Industries

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A literature review was carried out identifying the results and the methodologies employed by other studies internationally. Compatibility with other investigations will provide the basis for comparisons and the development of relevant recommendations for the South African copyright-based industries.

The WIPO "Guide on Surveying the Economic Contribution of the Copyright-Based Industries"<sup>29</sup> states that the economic contribution of the copyright-based industries has exceeded expectations in the last two decades.

In order to facilitate the undertaking of a comparative analysis, WIPO developed a "Guide on Surveying the Economic Contribution of the Copyright-Based industries". The guide provides a methodology and indicators to be employed. The existing WIPO studies in other countries follow the guide in its recommendation of the main indicators to be analysed: the sectors' value-added as a % of GDP, the sectors' employment as % of total employment in the country and to a limited extent the trade performance of the sectors.

A summary of a selection of studies<sup>30, 31</sup> dealing with the significance of the copyright industries in a number of countries is presented in figure 2. The figure shows that the total economic contribution of copyright-based industries as a % to GDP varies from 2.81% in Bulgaria to 11.70% in the Philippines (figure 2). The average unweighted share of the copyright-based industries to GDP in these nine countries is 6.35%.

Similarly the indicator ratio of persons employed in the copyright-based sector to the total number of employees in the economy varies from 3.03% in Jamaica to 11.17% in Latvia. Latvia's copyright-based industries are responsible for the employment of 11.17% of the total employment of the country, this is much higher than the average of the nine countries (7.21%).

Similar findings are identified by other studies. According to Siwek (2004)<sup>32</sup>, the US copyright-based industries accounted for 7.75% to the US GDP and 5.9% of the total workforce, in 2001.

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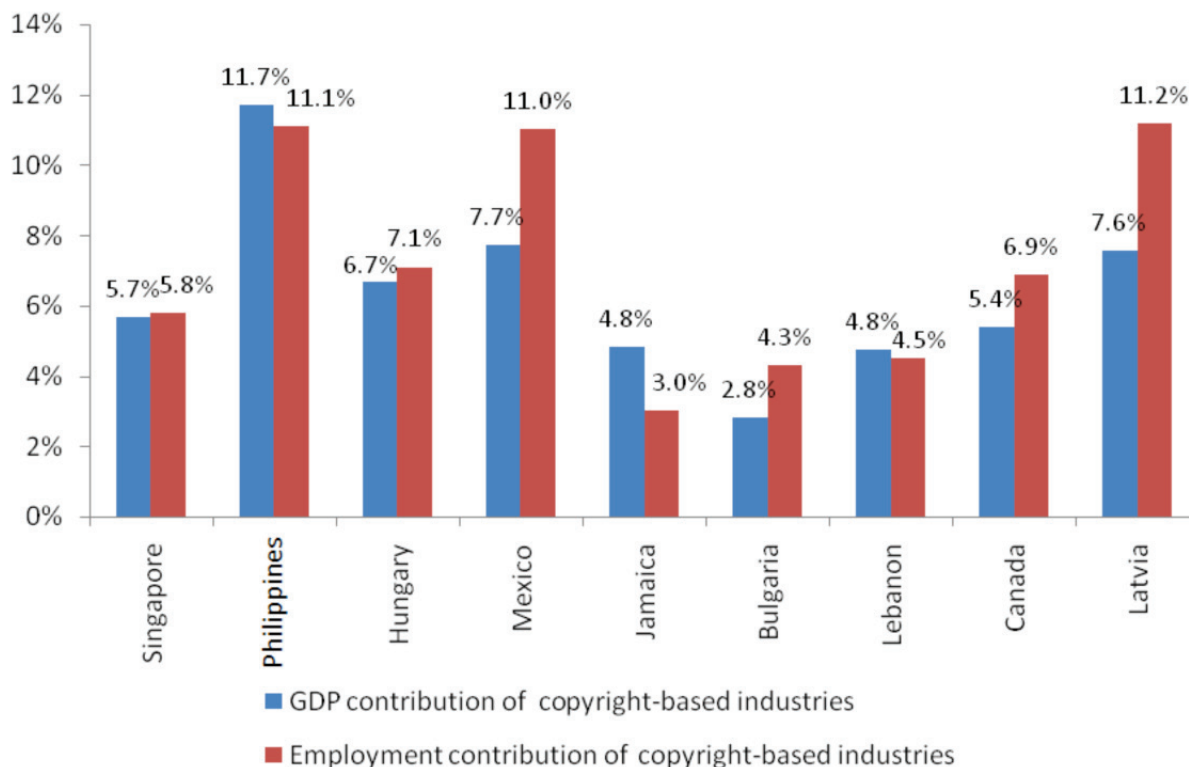
<sup>29</sup>World Intellectual Property Organization (WIPO), 2003 "Guide on surveying the economic contribution of the copyright-based industries". WIPO: Geneva.

<sup>30</sup>World Intellectual Property Organization (WIPO), 2006 "National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No1: the economic contribution of copyright-based industries." WIPO: Switzerland. Countries: Latvia (2000), Singapore (2004), Canada (2004), Hungary (2005).

<sup>31</sup>World Intellectual Property Organization (WIPO), 2008 "National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No2: the economic contribution of copyright-based industries". WIPO: Switzerland. Countries: Philippines, Mexico (2006), Jamaica (2007), Bulgaria (2007), Lebanon (2007).

<sup>32</sup>Siwek, S.E., 2004 "The measurement of "copyright" industries: the US experience". Review of Economic Research on Copyright Issues, 1(1) pp. 17-25.

**Figure 2: International Contribution of Copyright-Based Industries (GDP and Employment) WIPO Supported Studies**



Source: Data derived from World Intellectual Property Organization (WIPO) (2006 and 2008)<sup>33, 34</sup>

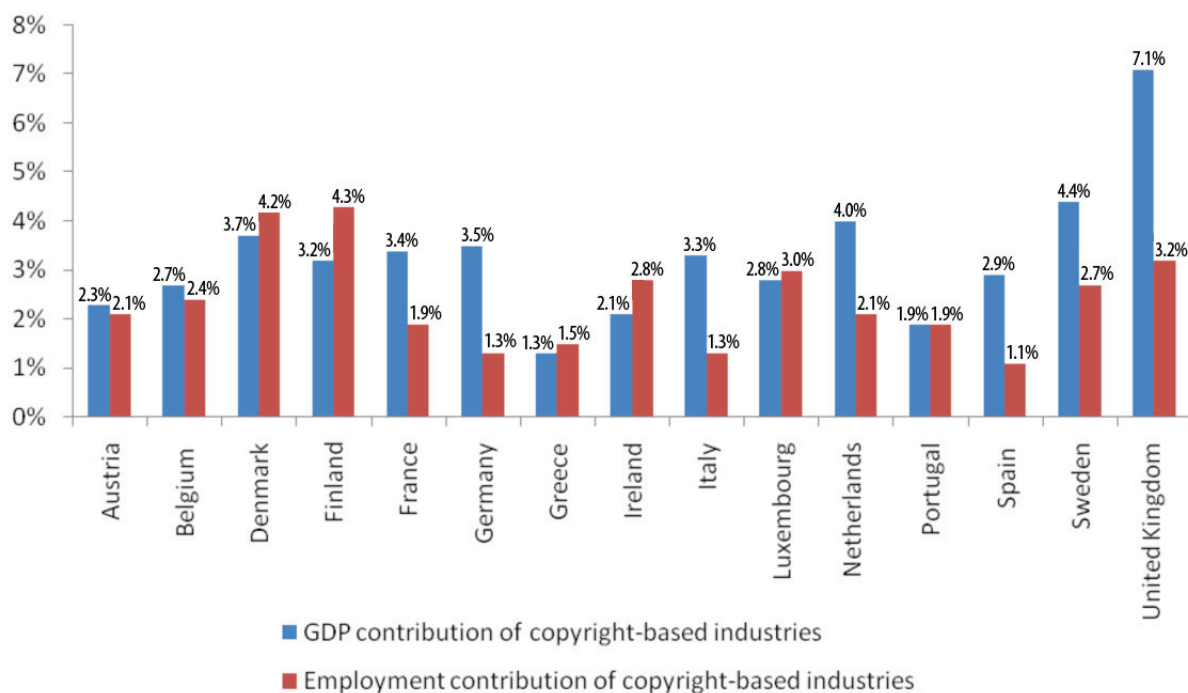
A study conducted by the Media Group<sup>35</sup> for the European countries showed that the copyright-based industries have an important contributing role in the GDP and employment of Europe as well (figure 3).

<sup>33</sup>See footnote 25.

<sup>34</sup>See footnote 26.

<sup>35</sup>Media Group, 2003 "The Contribution of Copyright and Related Rights to the European Economy". Business Research and Development Centre Turku School of Economics and Business Administration. Finland.

**Figure 3: Contribution of Copyright-Based Industries in European Countries**



Source: Data derived from Media Group (2003)<sup>36</sup>

The contribution of the copyright-based industries to the countries' GDP was in the range of 1.5% to 7% while the copyright-based industries employ 2% to 4.3% of the total workforce.

Based on the guidance of WIPO's *Guide*, the studies mentioned in figure 2 classified the total copyright industry into four categories: core, interdependent, partial and non-dedicated support copyright industries.

It is shown in table 13 (appendix 2) that the core copyright-based industries made a significant contribution to the total economy. In terms of their share in total GDP, the core copyright-based industries' contribution varies from 1.57% in Bulgaria to 8.59% in the Philippines, these are the countries with the highest and lowest share of total copyright-based industries' contribution. With regards to employment, the average contribution of the core copyright-based industries in the countries in question is 3.74%, half of the contribution of the total copyright-based industries (7.21%).

Two sub-sectors play a significant role in the overall economic contribution of the core copyright-based industries to GDP, namely 'press and literature' and 'software and databases'. From the employment's point of view, however, 'press and literature' and 'radio and television' provide to a high percentage of copyright-based industries' employees.

Compared to the core copyright-based Industries, the interdependent copyright-based industries contribute less to the total economic activity and total employment. The average of the summarised studies' share to GDP is 1.42%, while their average contribution to the total employment is 1.26% (table 14, appendix 2). More than half of the interdependent copyright-based industries' contribution is derived from two main sub-sectors: 'TV sets, radios, VCRs and DVD players' and 'computers and equipment'.

The majority of the studies summarised concludes that the partial copyright-based industries do not contribute more than 1% of the total economic activities and employment. The exceptions are the Mexican and the Latvian partial copyright-based industries which contribute 1.11% and 2.81% of the total GDP, respectively and 2.53% and 5.29% of the total employment respectively (table 15, appendix 2).

<sup>36</sup>Ibid.

Five out of eight studies' results showed that the non-dedicated support industries do not contribute more than 1% to the total economy, while the rest (Hungary, Mexico and Jamaica) present a contribution not higher than 2%. Regarding employment, the contribution of the non-dedicated support industries varies from 0.28% in Bulgaria to 1.48% in Latvia (table 16, appendix 2).

In conclusion, a number of international studies identify the high significance of the copyright-based industries to the countries' total economic activities, as represented by the value-added of these industries and their employment levels. More particularly, the core copyright-based industries are the most important category based on their level of contribution. 'Press and literature', 'software and databases', 'radio and television' and 'computers and equipment' as well as an interdependent copyright-based industry named, 'TV sets, radios, VCRs and DVD players' are notable sources of economic activity and job positions.

## 4. Methodology

In this report we follow the WIPO methodology for the estimation of the contribution of the copyright industries in the South African economy. According to WIPO, copyright-based industries are those engaged in creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales of works and other protected subject matter<sup>37</sup>. The WIPO Guide also recognises that the economic impact can be related to both “core” copyright-based industries and “non-core” industries. These different categories proposed are dependent on copyright at different levels, represented in the WIPO Guide by the *copyright factors*.

In our study, we deal with “core” and “non-core” industries separately by measuring their value-added contribution as well as employment and trade levels. In this section, the overall methodology, data collection issues and selection of copyright factors are described in depth.

The WIPO Guide categorises the copyright-based industries into four main categories based on their type of association to copyright. They are:

- **core copyright industries:** industries wholly engaged in creation, production and manufacturing of performance, broadcast, communication and exhibition or distribution and sales of works and other protected subject matter
- **interdependent copyright industries:** industries engaged in production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production or use of works and other protected subject matter
- **partial copyright industries:** industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales
- **non-dedicated support industries:** industries in which a portion of the activities is related to facilitating, broadcast, communication, distribution or sales of works or other protected subject matter and whose activities have not been included in the core copyright industries.

The specific South African industries for each of the above categories were determined based on the WIPO Guide and the availability of data in the country, as presented in table 1. In appendix 3 (tables 18-21), we indicate the sub-categories in which each of the main industries is comprised, in accordance with the classification by the WIPO Guide.

**Table 1: Copyright-Based Industries Used in the South African Study**

Core	Interdependent	Partial	Non-dedicated
Printing, publishing and recorded media	Television, radio and communication equipment	Apparel, textiles and footwear	General wholesale and retailing
Film and television industry	Computers and equipment, photocopiers	Furniture, jewellery, musical instruments, games and toys	Transport, storage and communication
Photography, software and databases, advertising	Paper and paper products	Crafts	
Copyright collecting societies		Glass and glass products	

Industrial sectors such as ‘photography, software and databases, advertising’, ‘computers and equipment, photocopiers’, and ‘furniture, jewellery, musical instruments, games and toys’ were derived from the following sectors: ‘business services’, ‘machinery and equipment’ and ‘furniture and other manufacturing’. In these cases, we used a percentage that represents the appropriate copyright industries. For instance, ‘business and services’ includes two significant sub-sectors (‘advertising’ and ‘software and databases’) among other smaller copyright-based industries, such as ‘photographic activities’. Our analysis of the outputs of these

<sup>37</sup>World Intellectual Property Organization (WIPO), 2003 “*Guide on surveying the economic contribution of the copyright-based industries*”. WIPO: Geneva.

two industries indicates that they contribute almost 8.7% of the 'business services' sector's output for 2008 [advertising R3 billion, software R38 billion]. Hence, 10% of the 'business services' sector statistics was estimated to represent all the copyright-based industries included in it.

The basic sources where data were obtained from are the following:

- Business Monitor International Ltd,
- the Department of Arts, Culture, Science and Technology,
- the Department of Labour,
- the Economist Intelligence Unit,
- the National Organisation for Reproduction Rights in Music in Southern Africa (NORM),
- the Publishers Association,
- Quantec databases,
- SA Recording Rights Association Ltd (SARRAL),
- the South African Book Development Council (SABDC),
- the South African Reserve Bank,
- the South African Revenue Service (SARS),
- the Southern African Music Rights Organisation (SAMRO) and
- Statistics South Africa.

A number of international studies use the so-called *copyright factor*, which is a percentage ratio expressing the share of copyright activities in a given industry. It is used as a weight which –according to the industry in question – takes values between 0 and 1: 1 for industries that only produce products and works related to copyright while 0 for the industries that have nothing to do with copyright.

By multiplying the indicators chosen (e.g. value-added) by the copyright factor of the industry, researchers estimate the contribution of the copyright content. Estimating the copyright factors is challenging and different investigations employ different methodologies for their estimation. For instance, the study on the contribution of copyright-based industries in Mexico used the average of the US and Hungarian copyright factors while the study on Singapore produced the copyright weights by using the US copyright factors. A summary of copyright factors used in various studies is given as an indication in table 17, appendix 2.

In our study, we have employed the copyright factors used in the study for Singapore<sup>38</sup> (see table 2). Singapore was selected because it is a newly industrialised economy with high dependence on trade, tourism and other related copyright-based industries. In addition, South Africa and Singapore are close in terms of their copyright legislation, piracy rates (see appendix 1, table 12) and in the index of intellectual property rights.

**Table 2: South African Copyright Factors**

Core Copyright-Based Industries		
	Printing, publishing and recorded media	1.000
	Film and television industry	1.000
	Photography, software and databases, advertising	1.000
	Copyright collecting societies	1.000
Interdependent Copyright-Based Industries		
	Television, radio and communication equipment	0.350
	Computers and equipment, photocopiers	0.350
	Paper and paper products	0.250
	Photographic and cinematographic instruments	0.300

<sup>38</sup>World Intellectual Property Organization (WIPO), 2006 "National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 1: the economic contribution of copyright-based industries in Singapore 2004". WIPO: Switzerland.

**Table 2: South African Copyright Factors (Continued)**

Partial Copyright-Based Industries		
	Apparel, textiles and footwear	0.004
	Furniture, jewellery, musical instruments, games and toys	0.100
	Crafts	0.420
	Glass and glass products	0.006
Non-Dedicated Copyright-Based Industries		
	General wholesale and retailing	0.057
	Transport, storage and communication	0.057

Source: World Intellectual Property Organization (WIPO)<sup>39</sup>

<sup>39</sup>Ibid.



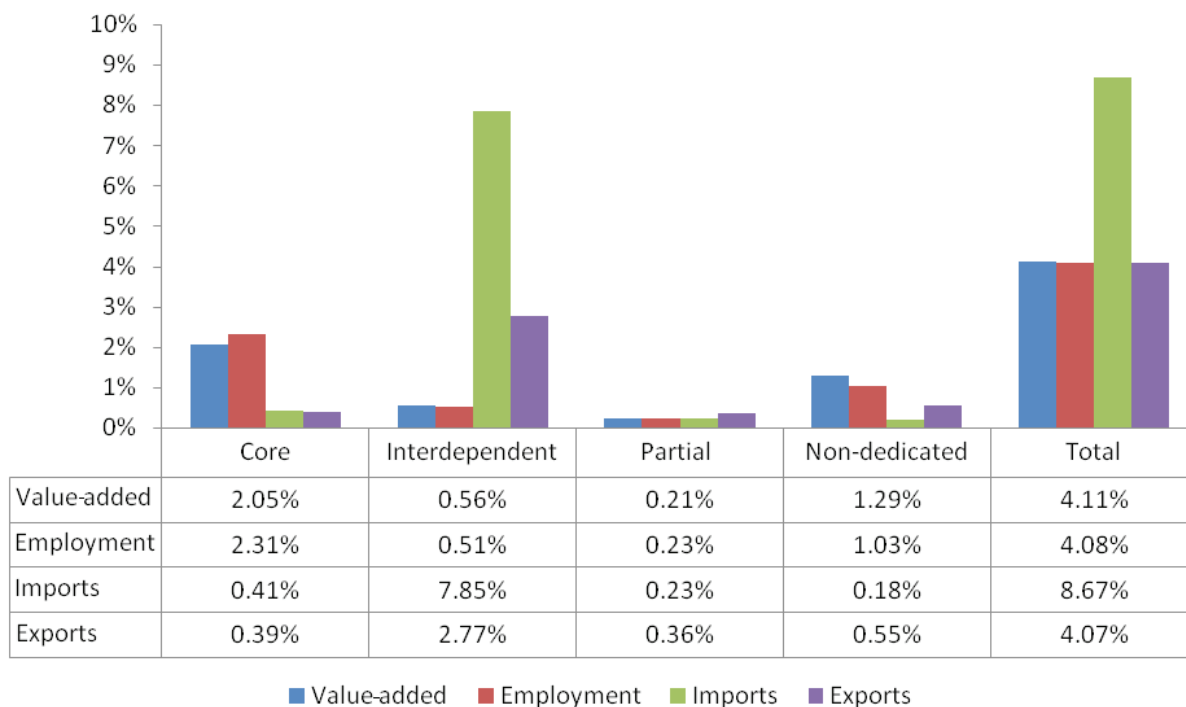
## 5. The Contribution of Copyright-Based Industries to the South African Economy

This chapter presents the results of the quantitative analysis conducted aiming to estimate the total contribution of the copyright-based industries, as well as the contribution of the individual categories of copyright-based industries (i.e. core, interdependent, partial, non-dedicated support industries). The analysis focuses on the estimation of value-added, employment, exports and imports.

### 5.1 The Performance of Copyright-Based Industries

The overall contribution of the copyright-based industries in 2008 is presented in figure 4. The copyright-based industries are responsible for almost 4.11% of the total economy in terms of value-added, with core copyright-based industries being the highest contributor (2.05%) and the non-dedicated copyright industries following with 1.29%.

**Figure 4: Contribution of Copyright-Based Industries in 2008**



Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

As far as employment is concerned, 4.08% of the workforce is employed in the copyright-based industries, the majority of which is employed in the core and non-dedicated copyright-based industries (2.31% and 1.03%, respectively). The interdependent copyright-based industries show a high contribution to the exports of the economy (2.77%) and an even higher contribution to the total imports (7.85%).

Table 3 presents the values of all the copyright based sectors examined in this study for four indicators: real value-added, employment, exports and imports, after the implementation of copyright factors in the calculations.

**Table 3: Real Value-Added, Employment, Exports and Imports for all Copyright-Based Industries for 2008**

Year 2008	Real value-added	Employment	Exports	Imports
	R millions (2005=100)	Number of employees	R millions (2005=100)	R millions (2005=100)
<b>TOTAL ECONOMY</b>	<b>1,620,139</b>	<b>10,376,881</b>	<b>495,382</b>	<b>572,354</b>
<b>Total CBI</b>	<b>66,101</b>	<b>422,974</b>	<b>20,168</b>	<b>48,051</b>
Core Copyright-Based Industries	32,670	239,959	1,954	2,359
Printing, publishing and recorded media	7,588	53,465	790	2,009
Film and television Industry	6,811	30,899	–	–
Photography, software and databases, advertising	18,271	155,595	1,165	350
Interdependent Copyright-Based Industries	9,091	52,620	13,745	43,324
Photographic and cinematographic instruments	15	–	–	–
Television, radio and communication equipment	944	2,632	994	9,557
Computers and equipment, photocopiers	5,442	40,342	11,138	33,767
Paper and paper products	2,705.55	9,646	1,612	1,595
Partial Copyright-Based Industries	3,426	23,879	1,767	1,321
Apparel, textiles and footwear	45	472	8	72
Furniture and other manufacturing	2,418	9,405	1,755	1,237
Crafts	949	13,938	–	–
Glass and glass products	14	63	3	11
Non-Dedicated Copyright-Based Industries	20,913	106,516	2,702	1,046
General wholesale and retailing	11,685	85,796	1,049	5
Transport, storage and communication	9,229	20,720	1,654	1,041

Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

In table 4, we analyse the growth of contribution of the four main categories of copyright-based industries to total value-added, employment, imports and exports. The figures are calculated as the percentage change between the first and last year for each period. For example, after the use of the copyright factors, the value-added of the total copyright-based industries in 2000 was ZAR49,970.74 million while in 2008, it was R66,615.58 million: a change of 33%.

Table 4 shows that all the different divisions of copyright-based industries have increased substantially through the last four decades, with the overall contribution of copyright-based industries to the total of value-added having grown by 33% in the last decade. Only the partial copyright-based industries showed a negative growth of their value-added in the 1990s. This trend in combination with the sharp increase of imports (165%) and slower increase of exports (18%) in the same period can be interpreted as a result of the lack of comparative advantage of the South African partial copyright-based industries, in comparison with the rest of the world. As a result of this decrease, the employment growth of the next period (2000 to 2008) was affected.

**Table 4a: Value-Added, Employment, Imports and Exports Growth of Copyright-Based Industries in % 1970 to 2008**

	Value-added				Total
	Core	Interdependent	Partial	Non-dedicated	
1970-1979	28%	63%	36%	44%	37%
1980-1989	3%	20%	94%	18%	8%
1990-1999	17%	15%	-6%	31%	16%
2000-2008	24%	40%	24%	45%	33%
	Employment				Total
	Core	Interdependent	Partial	Non-dedicated	
1970-1979	33%	23%	29%	21%	33%
1980-1989	36%	16%	30%	10%	23%
1990-1999	51%	-5%	12%	4%	26%
2000-2008	30%	-6%	-13%	17%	21%
	Imports				Total
	Core	Interdependent	Partial	Non-dedicated	
1970-1979	9%	-28%	-31%	-20%	-7%
1980-1989	-17%	5%	-9%	49%	-5%
1990-1999	21%	231%	175%	27%	104%
2000-2008	-29%	72%	160%	8%	46%
	Exports				Total
	Core	Interdependent	Partial	Non-dedicated	
1970-1979	-55%	10%	93%	1%	15%
1980-1989	-14%	130%	101%	40%	84%
1990-1999	202%	97%	18%	100%	82%
2000-2008	108%	4%	23%	50%	31%

Source: Authors' calculations with data from the Department of Labour (DoL), the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

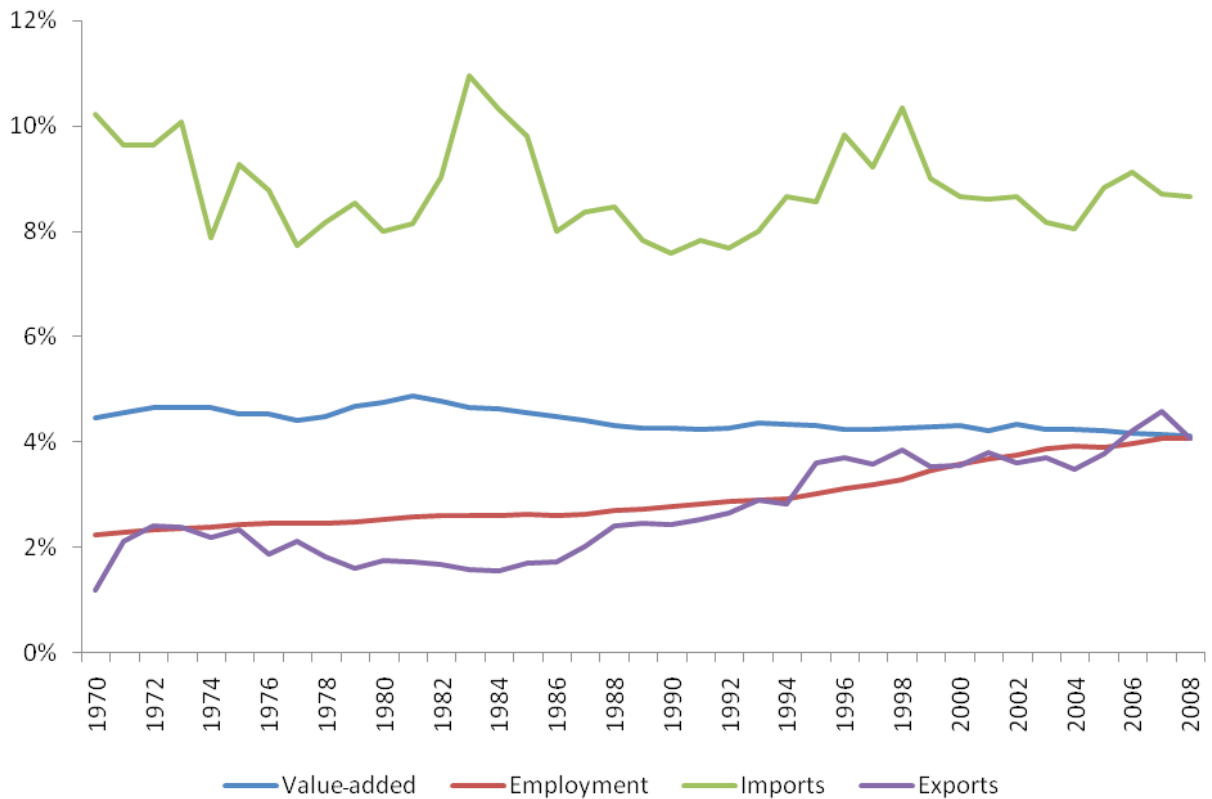
Also, the growth of employment in copyright-based industries is presented. It is noticed that the employment in interdependent copyright-based industries has decreased in the last two decades and employment of partial copyright-based industries has decreased in the period 2000 to 2008. The number of employees in copyright-based industries has increased by 21% during the period 2000 to 2008. Although, the value-added of the interdependent industries kept increasing through the years, their employment decreased during the period 1990 to 2008. It can be speculated that this decreasing trend can be attributed to the fact that the production might have become more capital intensive – hence, less labour intensive.<sup>40</sup> This can be linked to the opening of the country to the international markets as well as the phenomenon of globalisation and transfer of knowledge. The rest of the industries were not affected because they are less technology-driven industries. In addition, this trend can be supported by the fact that the same period also witnessed a significant drop in the growth of imports of the interdependent industries.

The trade of copyright-based industries has followed the overall trend of the South African trade, showing high increases in the 1990s after the end of sanctions. The core copyright-based industries' imports showed a significant decrease (-29%) while their exports showed a high increase between 2000 and 2008 (108%); an indication that this type of industries either had the comparative advantage and benefited from the end of sanctions or/and the South African consumers had little interest for international products of the core

<sup>40</sup>The joint labour intensity of 'television, radio and communication', 'computers and equipment/ photocopiers' and 'paper and paper products' (the main interdependent copyright-based industries) decreased by 20% from 2000 to 2008 while its capital intensity increased by 1% (Quantec Standardised Industry Database ([www.quantec.co.za/data/easydata-rsa-standardised-industry](http://www.quantec.co.za/data/easydata-rsa-standardised-industry))).

copyright-industries. The total copyright-based industries' imports and exports rose in the last 8 years of the sample by 46% and 31% respectively.

**Figure 5: Evolution of Contribution of Copyright-Based Industries to Total Value-Added, Employment, Imports and Exports**



Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

Figure 5 shows the evolution of the contribution of the total copyright-based industries to value-added, employment, imports and exports for the period 1970 to 2008, while table 4 presents the exact figures. Even though the growth of value-added of the specific industries was high, their contribution to total value-added presented an increase until the beginning of the 1980s. From that point onwards, the trend varied little in the range from 4% to 4.5%.

The percentage of workforce employed in copyright-based industries to the total has almost doubled in the period 1970 to 2008 (less than 2.3% in 1970 and almost 4.1% in 2008), as shown in figure 5. The copyright-based industries were responsible for between 8% and 10% of the country's imports, range that remained relatively constant with a significant spike in the middle of the 1980s. On the other side, the sector's exports showed a noteworthy rise at the end of the 1980s.

**Table 4b: Copyright-Based Industries to Value-Added, Employment, Imports and Exports: 1970 to 2008**

	Value-added	Employment	Imports	Exports
Units	Rand million (2005=100)	Number of employees	Rand million (2005=100)	Rand millions (2005=100)
1970	26,017	158,957	16,370	1,886
1971	27,621	166,305	16,978	3,528
1972	28,848	173,118	14,843	4,233
1973	30,098	180,671	17,260	3,969
1974	31,583	189,801	16,087	3,527
1975	31,608	198,524	18,308	3,760
1976	32,593	204,593	15,592	3,173
1977	31,678	205,084	11,870	3,785
1978	33,016	206,606	12,561	3,398
1979	35,543	212,198	12,976	3,047
1980	38,241	224,266	14,477	3,380
1981	41,417	235,598	16,777	3,240
1982	40,403	240,443	15,378	3,043
1983	39,616	240,172	15,634	2,837
1984	41,629	243,993	17,665	2,864
1985	40,865	246,132	14,433	3,470
1986	40,194	247,512	11,463	3,422
1987	40,185	253,199	12,424	4,146
1988	40,695	262,870	15,339	5,350
1989	41,299	270,180	14,213	5,541
1990	41,075	274,187	12,971	5,475
1991	40,599	276,915	13,673	5,590
1992	40,319	279,997	14,119	6,233
1993	41,585	279,880	15,759	7,489
1994	42,612	283,109	19,790	7,461
1995	43,671	293,405	22,855	10,562
1996	44,422	307,175	28,515	11,533
1997	45,619	315,569	28,223	11,700
1998	46,305	321,466	32,242	13,038
1999	47,648	336,375	25,700	12,050
2000	49,971	347,906	26,060	13,093
2001	50,283	357,886	26,027	14,266
2002	53,427	371,428	27,514	13,705
2003	54,058	383,586	27,977	14,119
2004	56,430	389,654	31,762	13,708
2005	58,840	389,480	38,645	16,080
2006	61,688	404,635	47,281	19,346
2007	64,693	420,615	49,203	22,209
2008	66,616	422,974	49,646	20,168

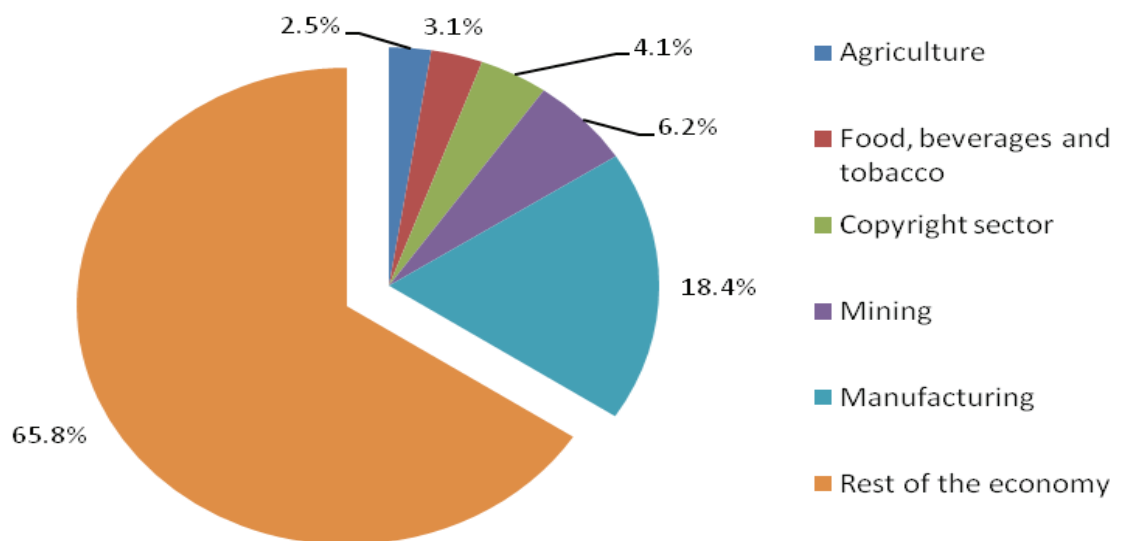
Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

## 5.2 Comparison with Other Economic Sectors

To put in context the findings of the analysis on the contribution of the copyright-based industries, we compare their contribution to the total economy with that of other major sectors of the South African economy.

With regards to value-added, figure 6 shows that the copyright sector has contributed more (4.11%) to the total economy in 2008 than 'agriculture' (2.51%) and 'food, beverages and tobacco' (3.09%). South Africa's economy, however, is based mainly on its 'manufacturing' and 'mining' sectors. Hence, as expected, the copyright sector contributed significantly less than the 'manufacturing' (18.36%) and 'mining' (6.15%) sectors.

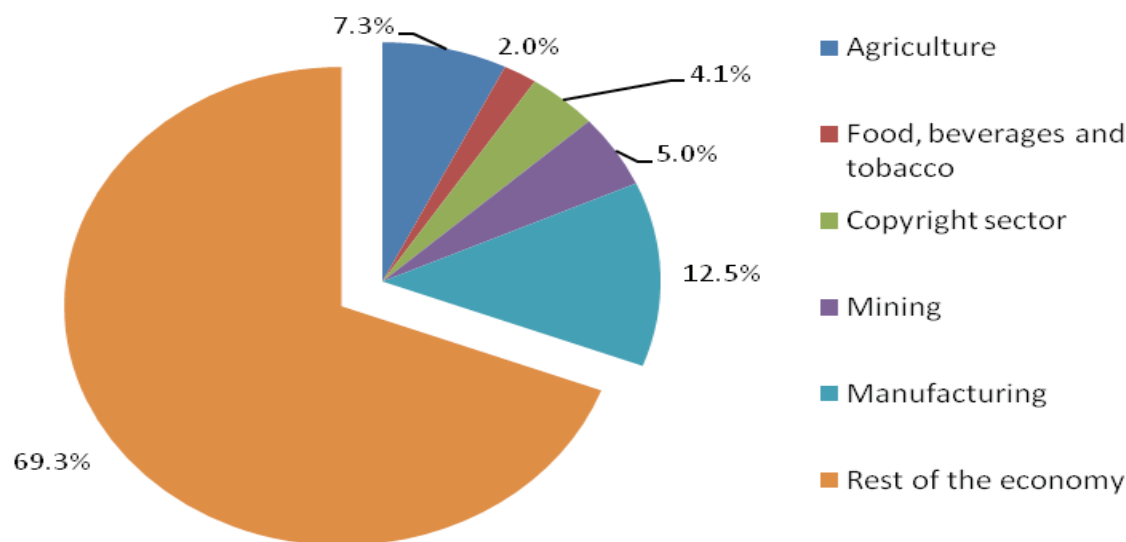
**Figure 6: Value-Added Contribution: Comparison with Other Sectors – 2008**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

In contrast, as shown in figure 7, the number of employees in the copyright sector (4.08%) in comparison with the total economy is lower than in the mining sector (4.96%) and significantly lower than in the 'agriculture' (7.27%) and 'manufacturing' (12.47%) sectors. However, the sector employs more than double the number of people than the 'food, beverages and tobacco sector' (1.96%).

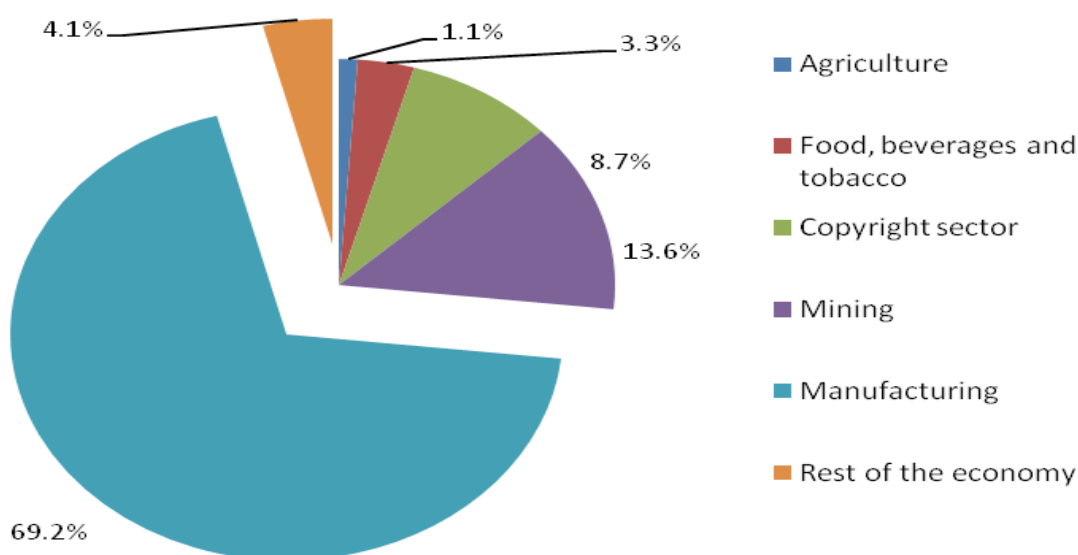
**Figure 7: Employment Contribution: Comparison with Other Sectors – 2008**



Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

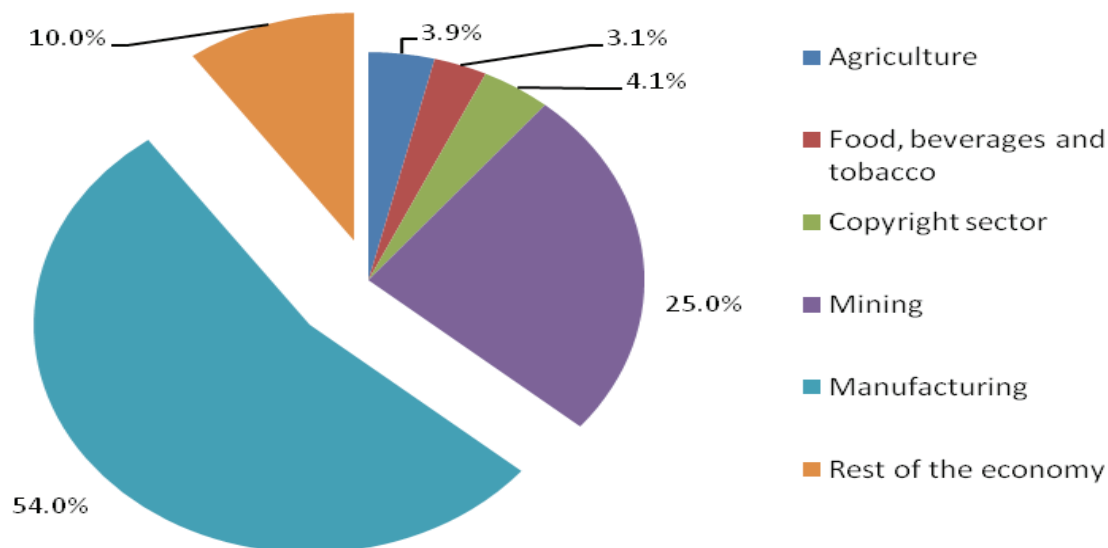
Regarding the trade of the copyright sector, the imports contribution to the total economy is 8.67% – much higher than the 'agriculture' and 'food, beverages and tobacco' industries (1.09% and 3.31%). But as seen in figure 8, the 'manufacturing' and 'mining' sectors were the main importers of the economy in 2008. The picture is not dissimilar in the analysis of the exports of the economy (figure 9). It should be noted that the copyright sector contributes 4.07% of the country's export activity, while 'food, beverages and tobacco' and the 'agriculture' sectors are below the 4% mark and 'mining' and 'manufacturing' sectors were the dominant exporters of the country in 2008.

**Figure 8: Imports Contribution: Comparison with Other Sectors – 2008**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

**Figure 9: Exports Contribution: Comparison with Other Sectors – 2008**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

### 5.3 Core Copyright-Based Industries

Core copyright industries include activities/industries engaged in creation, production and manufacturing performance, broadcast, communication and exhibition or distribution and sales of works and other protected subject matter. In 2008, the economic performance of core copyright-based industries was approximately 2% of the entire national economy. Their contribution to employment was 2.3% while their exports and imports were responsible for not more than 0.5% of the national economy.

As shown in table 5, the value-added of the two major industries that are included in the core copyright-based industries ('film and television' and 'photography, software and databases, advertising') increased drastically the last eight years, affecting the overall trend of the core copyright-based industries that increased substantially during the 1990s and the 2000s (17% and 24% respectively).

With regards to employment, core copyright-based industries have kept rising since the 1970s with a higher increase in the 1990s. Employment of 'Photography, software and databases, advertising' has known an impressive increase through the last 40 years, more than doubling during the 1980s (table 5).

**Table 5: Value-Added, Employment, Imports and Exports Growth of Core Copyright-Based Industries in % 1970 to 2008**

	Value-added			Core
	Printing, publishing and recorded media	Film and television	Photography, software and databases, advertising	
1970-1979	30%	33%	23%	28%
1980-1989	-1%	2%	9%	3%
1990-1999	-2%	7%	39%	17%
2000-2008	-6%	30%	40%	24%



**Table 5: Value-Added, Employment, Imports and Exports Growth of Core Copyright-Based Industries in % 1970 to 2008 (Continued)**

	Employment			Core
	Printing, publishing and recorded media	Film and television	Photography, software and databases, advertising	
1970-1979	20%	21%	79%	33%
1980-1989	8%	9%	106%	36%
1990-1999	6%	32%	98%	51%
2000-2008	10%	10%	45%	30%
	Imports			Core
	Printing, publishing and recorded media		Photography, software and databases, advertising	
1970-1979	12%		-13%	9%
1980-1989	-18%		-12%	-17%
1990-1999	24%		-2%	21%
2000-2008	-31%		-8%	29%
	Exports			Core
	Printing, publishing and recorded media		Photography, software and databases, advertising	
1970-1979	-56%		-55%	-55%
1980-1989	-59%		127%	-14%
1990-1999	308%		116%	202%
2000-2008	36%		228%	108%

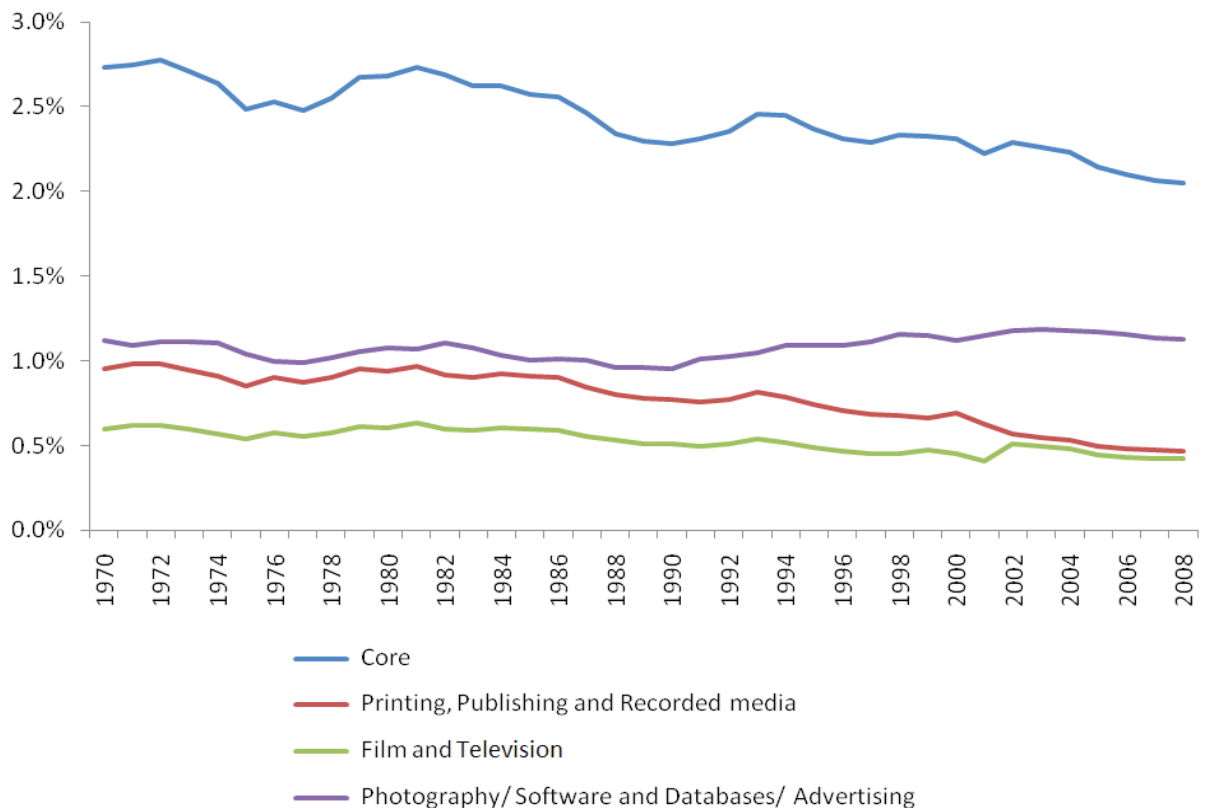
Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

As far as trade of core copyright-based industries is concerned, they experienced an increase of their imports during the 1990s as a result of the re-opening of the economy to the rest of the world, however the imports decreased by 29% in the 2000s (table 5). From the exports point of view, the fact that exports of the total core copyright-based industries have increased by 202% and 108% in the 1980s and 1990s, respectively, is very encouraging for the sectors.

Except for the sectors' growth throughout the period, it is of high importance to examine the evolution of their contribution to the total economy. Although the growth of value-added was significant, the contribution of core copyright-based industries to total value-added of the economy has shown a decreasing trend since 1970. An average increase of 2.74% of the total value-added for the period 1970 to 2008 in combination with a much lower average increase of the value-added of the core copyright-based industries (1.99%), lead to an overall decrease of the contribution of the core industries as defined by the ratio *core copyright-based industries' value-added/total economy's value-added*. Among the main sub-categories only the contribution of 'Photography, software and databases, advertising' presented a minor increase in the period 1970 to 2008.

On the contrary, the 'printing, publishing and recorded media' industry has experienced a rising decrease since 1980. This trend can be linked to two main facts, as also mentioned in the section dealing with trade of the core copyright-based industries. It is either indicative of low interest of the South African consumers for the products of these industries or a lower comparative advantage to the rest of the world leading to less demand of the products of the particular industry.

**Figure 10: Core Copyright-Based Industries: Contribution to Total Value-Added**

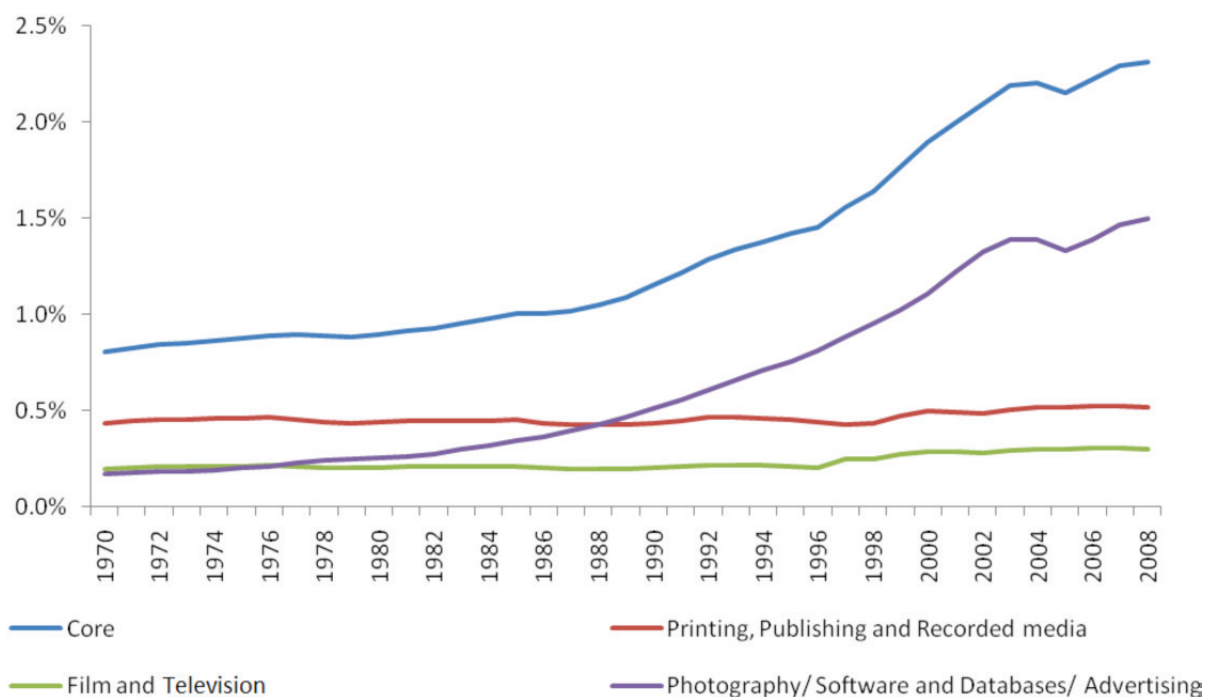


Source: Authors' calculations with data from the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

In figure 10, it is shown that the contribution of core copyright-based industries has decreased in the studied period but has always remained within the range of 2 to 3%. The main sectors that are included in the core copyright-based industries showed stability with very small fluctuations, for instance 'printing, publishing and recorded media' presented a relative decrease from 1970 to 2008.

In figure 11, it is shown that the contribution of core copyright-based industries to total employment has increased considerably from 0.81% in 1970 to 2.31% in 2008. This increase can be attributed mainly to the rising contribution of the 'Photography, software and databases, advertising' to the economy in its entirety.

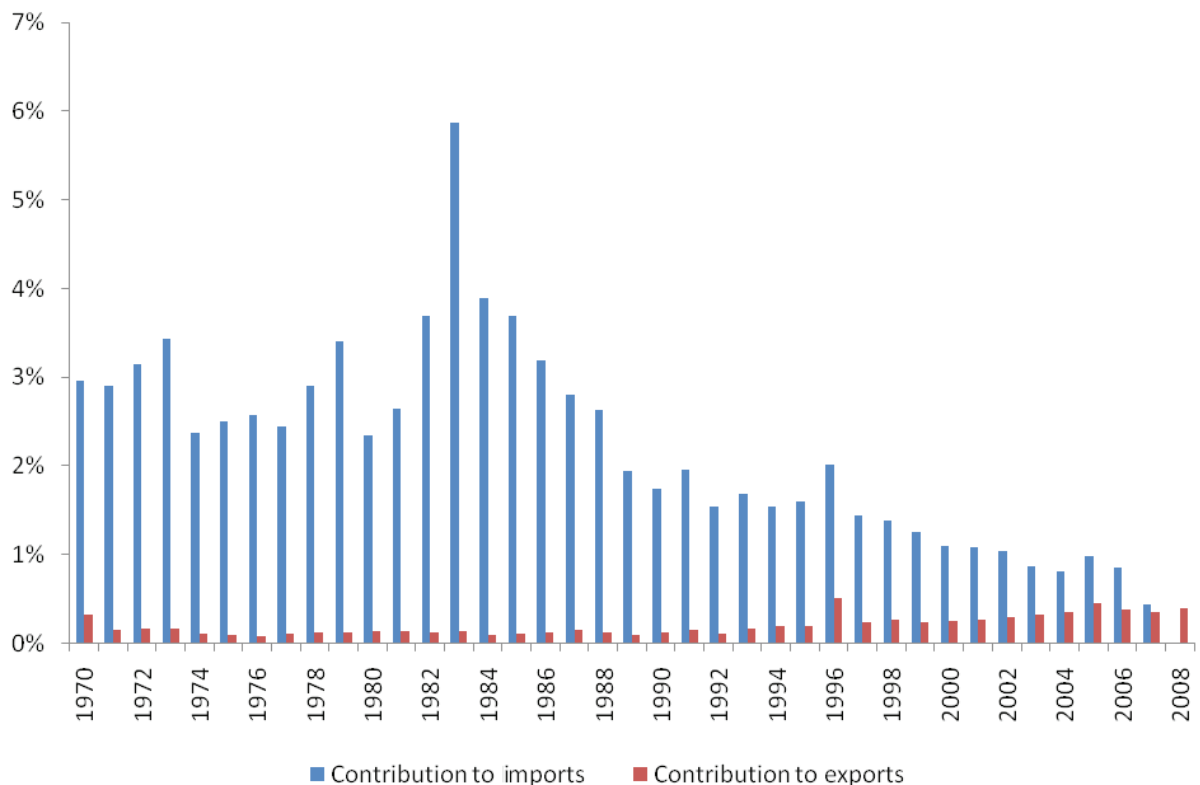
**Figure 11: Total Core Copyright-Based Industries: Contribution to Employment**



Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

In figure 12, the contribution of core copyright-based industries to the total trade of South Africa is presented. The contribution to imports has experienced an overall decreasing trend with a big hike in the middle of the 1980s which later, at the end of the 1980s, was neutralised by a high decline while on the other side the contribution to exports has increased to a small extent remaining however, at levels lower than 0.5%.

**Figure 12: Core Copyright-Based Industries: Contribution to Imports and Exports**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

### 5.4 Interdependent Copyright-Based Industries

Interdependent copyright industries include those engaged in production, manufacture and sale of equipment whose function is wholly or primarily to facilitate the creation, production or use of works and other protected subject matter. In 2008, the economic performance of interdependent copyright-based industries was approximately 0.5% of the entire national economy. Their contribution to employment was 0.5% while their exports contribution was almost 7.9% of the national economy. Their imports were responsible for 2.7% of the total imports in South Africa.

**Table 6: Value-Added, Employment, Imports and Exports Growth of Interdependent Copyright-Based Industries in % from 1970 to 2008**

	Value-added				
	Television, radio and communication	Computers and equipment, photocopiers	Photographic and cinematographic instruments	Paper and paper products	Interdependent
1970-1979	125%	58%	75%	65%	63%
1980-1989	11%	-17%	0%	35%	20%
1990-1999	8%	-14%	0%	14%	15%
2000-2008	29%	70%	199%	33%	40%

**Table 6: Value-Added, Employment, Imports and Exports Growth of Interdependent Copyright-Based Industries in % from 1970 to 2008 (Continued)**

	Employment			
	Television, radio and communication	Computers and equipment, photocopiers	Paper and paper products	Interdependent
1970-1979	110%	36%	2%	31%
1980-1989	-2%	3%	30%	8%
1990-1999	19%	-6%	-14%	-5%
2000-2008	-46%	30%	2%	16%
	Imports			
	Television, radio and communication	Computers and equipment, photocopiers	Paper and paper products	Interdependent
1970-1979	-15%	-35%	-31%	-33%
1980-1989	54%	2%	-31%	3%
1990-1999	454%	92%	50%	128%
2000-2008	56%	136%	81%	111%
	Exports			
	Television, radio and communication	Computers and equipment, photocopiers	Paper and paper products	Interdependent
1970-1979	7%	-44%	-17%	133%
1980-1989	149%	31%	151%	70%
1990-1999	274%	219%	54%	155%
2000-2008	29%	88%	-27%	54%

Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

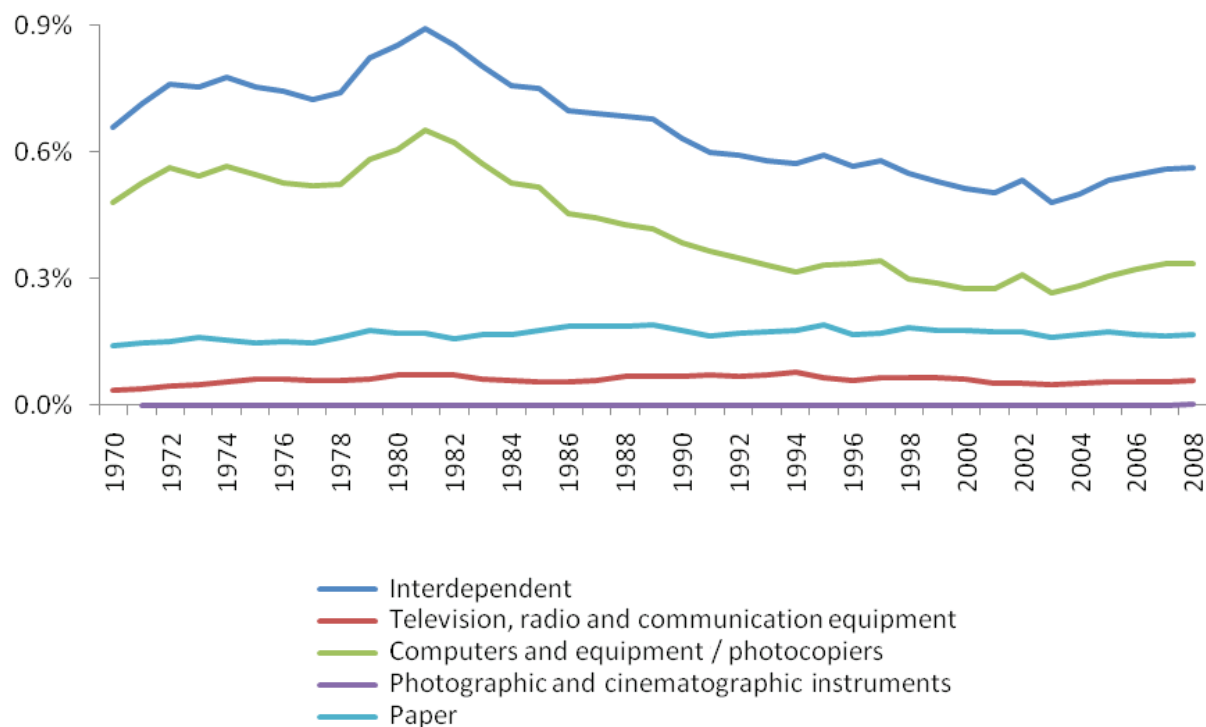
All the sub-categories that are included in the interdependent copyright-based industries experienced a significant increase in their value-added, especially in the period 2000 to 2008 (table 6). In the 1990s, a deceleration was experienced – presented either by a decrease ('computers and equipment') or a lower increase than the previous years ('television, radio and communication' and 'paper'). However, the industries with the negative growth in value-added during the 1990s almost caught up with the rest by showing a high increase in the 2000s ('computers and equipment, photocopiers'=70%, 'photographic and cinematographic instruments'=199%).

As can be seen in table 6, the growth of employment of the total interdependent copyright-based industries was negative in the 1990s but recovered in the 2000s. This decrease can be attributed to a decrease in 'computers and equipment, photocopiers' and 'paper and paper products' employment, -6% and -14%, respectively, while the 'television, radio and communication equipment' enjoyed a 19% growth. On the contrary, in the 2000s 'television, radio and communication equipment' showed a different picture with a decrease of 46% that was not however, able to influence the overall increase of the interdependent industries' employment (16%). This decreasing trend can be attributed to the fact that the production might have turned to more capital intensive – hence, less labour intensive – methods.

The growth of the interdependent copyright-based industries with regards to trade has been significant for the years after the end of sanctions. Both imports and exports increased substantially in the 2000s (table 6) with the exception of 'paper and paper products' whose exports declined by 27% during the period 2000 to 2008. As expected, the highest increases were experienced in the 1990s.

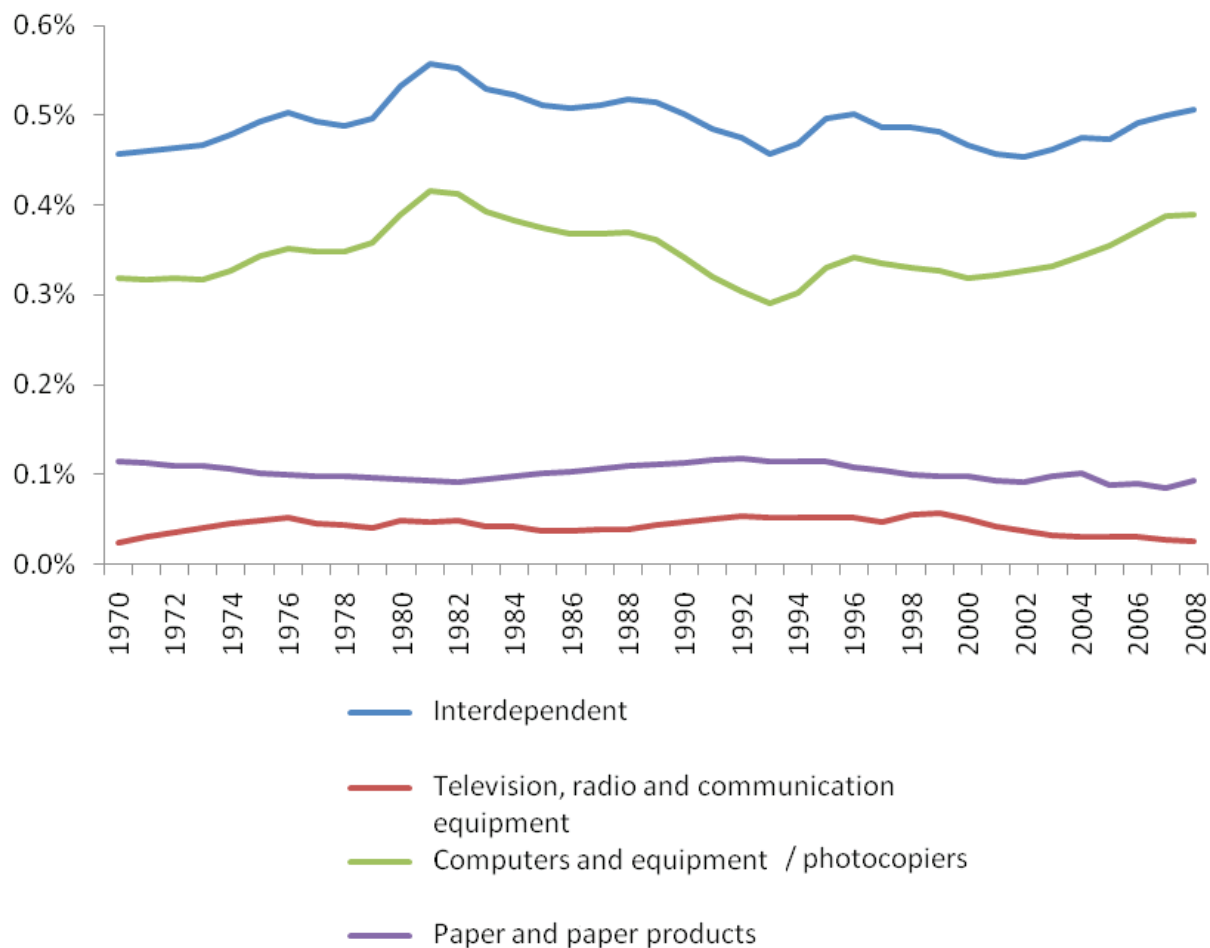
As far as the evolution of the interdependent copyright-based industries' contribution is concerned, figure 13 shows a decrease in the contribution of interdependent copyright-based industries to the total value-added. However, putting that into perspective, the total interdependent copyright-based industries have never contributed more than 0.9% to the total economy. Therefore, the decrease – although significant – was not major. All the independent sub-categories, except from 'computers and equipment, photocopiers', have remained constant during the period 1970 to 2008.

**Figure 13: Interdependent Copyright-Based Industries: Contribution to Value-Added**



Source: Authors' calculations with data from Quantec databases, the Department of Arts and Culture (DAC) and the South African Reserve Bank (SARB).

**Figure 14: Interdependent Copyright-Based Industries: Contribution to Employment**

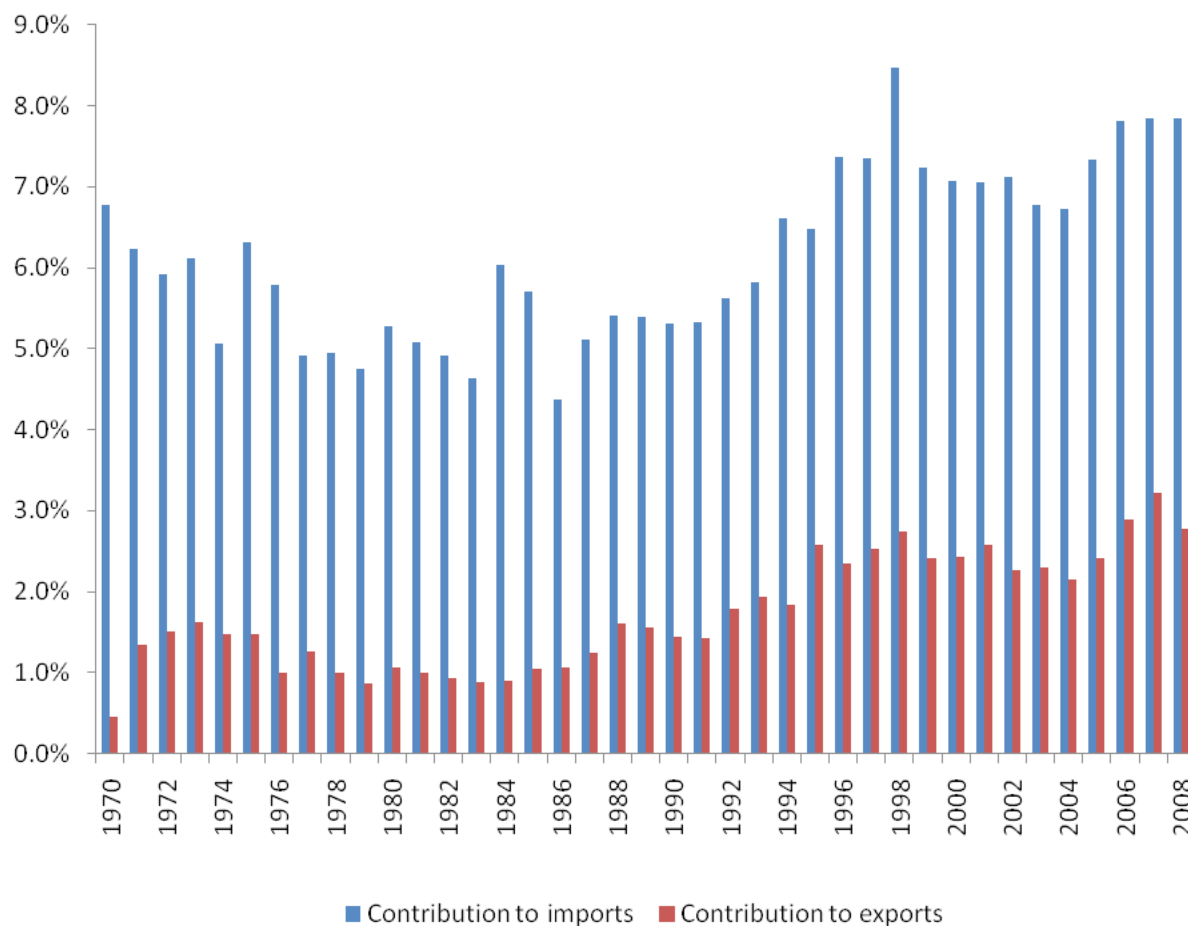


Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

The contribution of the interdependent copyright-based industries to employment has remained in very low levels – below 0.6%. The contribution of the interdependent copyright-based industries separately has not exceeded 0.4% of the total employment and remained relatively constant through the years (figure 14).

The contribution of the interdependent copyright-based industries to the overall trade is presented in figure 15. Both contribution to exports and imports show a similar increasing trend during the last 40 years.

**Figure 15: Interdependent Copyright-Based Industries: Contribution to Imports and Exports**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

### 5.5 Partial Copyright-Based Industries

Partial copyright industries include those in which a portion of the activities is related to works and other protected subject matter and may involve creation, production and manufacturing, performance, broadcast, communication and exhibition or distribution and sales. In 2008, their contribution on all indicators analysed was approximately 0.2% with the exception of imports (0.36%).

**Table 7: Value-Added, Employment, Imports and Exports Growth of Partial Copyright-Based Industries in % 1970 to 2008**

	Value-added				
	Apparel, textiles and footwear	Furniture, jewellery, musical instruments, games and toys	Crafts	Glass and glass products	Partial
1970-1979	53%	28%	48%	38%	36%
1980-1989	2%	124%	60%	25%	94%
1990-1999	-13%	-5%	-8%	15%	-6%
2000-2008	18%	25%	22%	71%	24%



**Table 7: Value-Added, Employment, Imports and Exports Growth of Partial Copyright-Based Industries in % 1970 to 2008 (Continued)**

	Employment				
	Apparel, textiles and footwear	Furniture, jewellery, musical instruments, games and toys	Crafts	Glass and glass products	Partial
1970-1979	20%	34%	28%	-3%	29%
1980-1989	1%	47%	24%	20%	30%
1990-1999	-24%	5%	19%	-11%	12%
2000-2008	-36%	0%	-20%	11%	-13%
	Imports				Partial
	Apparel, textiles and footwear	Furniture, jewellery, musical instruments, games and toys	Glass and glass products		
1970-1979	-53%	-27%	-49%		-31%
1980-1989	-22%	-8%	1%		-9%
1990-1999	109%	183%	85%		175%
2000-2008	114%	164%	111%		160%
	Exports				Partial
	Apparel, textiles and footwear	Furniture, jewellery, musical instruments, games and toys	Glass and glass products		
1970-1979	15%	91%	174%		93%
1980-1989	-20%	108%	13%		101%
1990-1999	33%	18%	40%		18%
2000-2008	-72%	25%	-22%		23%

Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

The value-added of the partial copyright-based industries increased significantly from 1970 to 1989, declined by 6% in the 1990s and has increased since 2000 by 24% (table 7). All the sub-categories showed a decline in the period from 1990 to 1999, with the exception of 'glass and glass products'. This decrease can be attributed to the comparative disadvantage of the particular products, also expressed in the high increase of imports and lower increase of exports during the 1990s and after the opening of the country to the international markets.

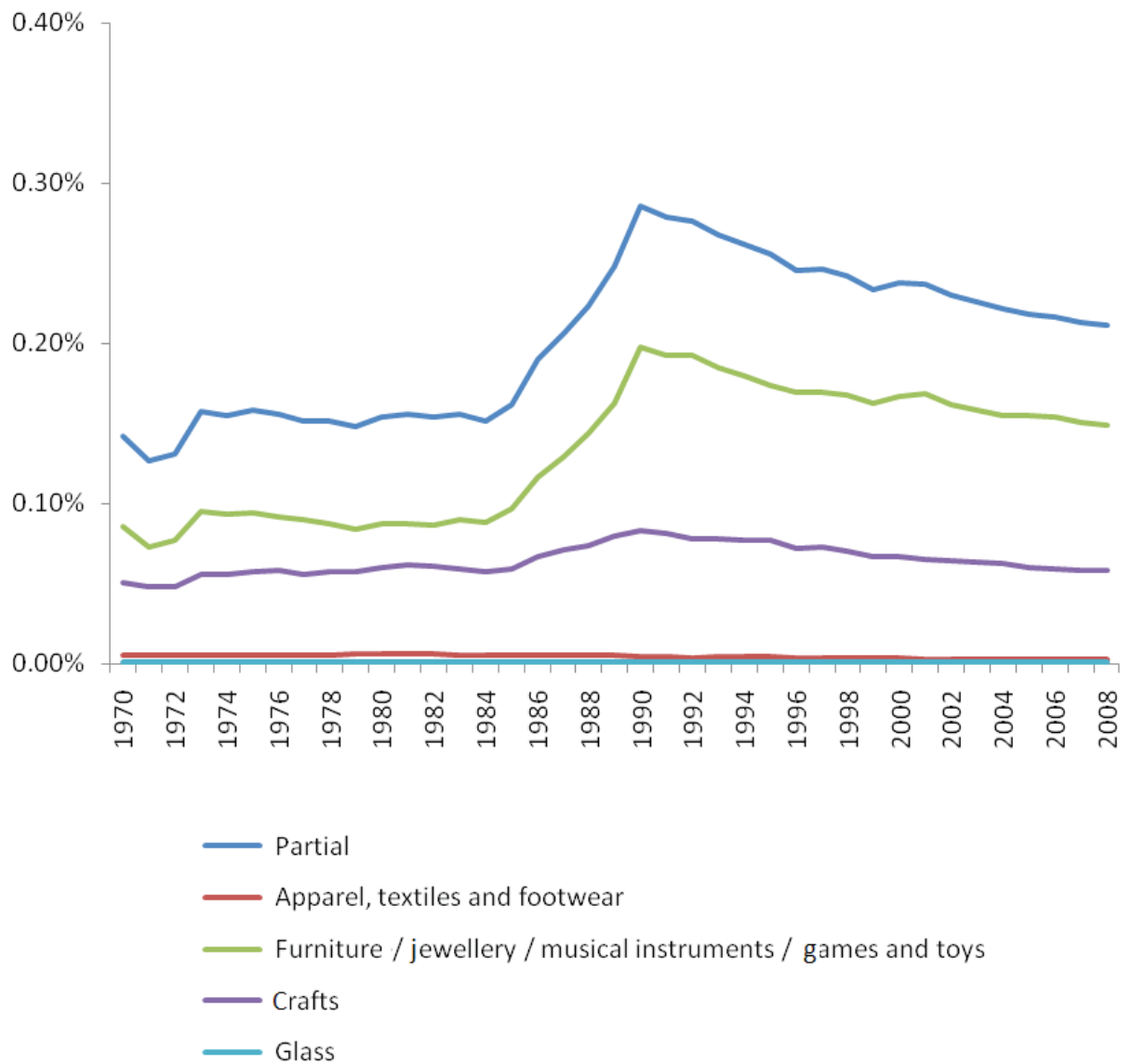
The employment of the partial copyright-based industries showed a declining trend in the last decade with 'apparel, textiles and footwear' employing 36% less employees in the period 2000 to 2008 as a result of the decline of the production (value-added) in the 1980s and 1990s (table 7).

Contrary to other copyright-based industries, the imports of the partial copyright-based industries increased greatly in the last two decades (table 7). However, the exports showed a small but not unimportant increase (23%) during the 2000s (table 7) while the 'apparel, textiles and footwear' exported almost 72% less in 2008 than in 2000. The growth of exports in the 1990s with the opening of the economy was not as high as in other sectors with 'glass and glass products' increasing by almost 40% and 'apparel, textiles and footwear' by 33%.

These results show once more the comparative disadvantage of the partial copyright-based industries in the period when the sanctions ended and the South African economy opened to the world. The imports of the individual industries were substantially higher than their exports showing a clear interest of the South African consumers for international products of the partial copyright-based industries.

With regards to the partial copyright-based industries' contribution, even though the growth of 'glass and glass products' value-added was substantial, its contribution to the total value-added was negligible. The minor rise of the contribution of the total partial copyright-based industries at the end of 1980s did not last long. It returned to its initial levels of 0.05% at the end of 1990s.

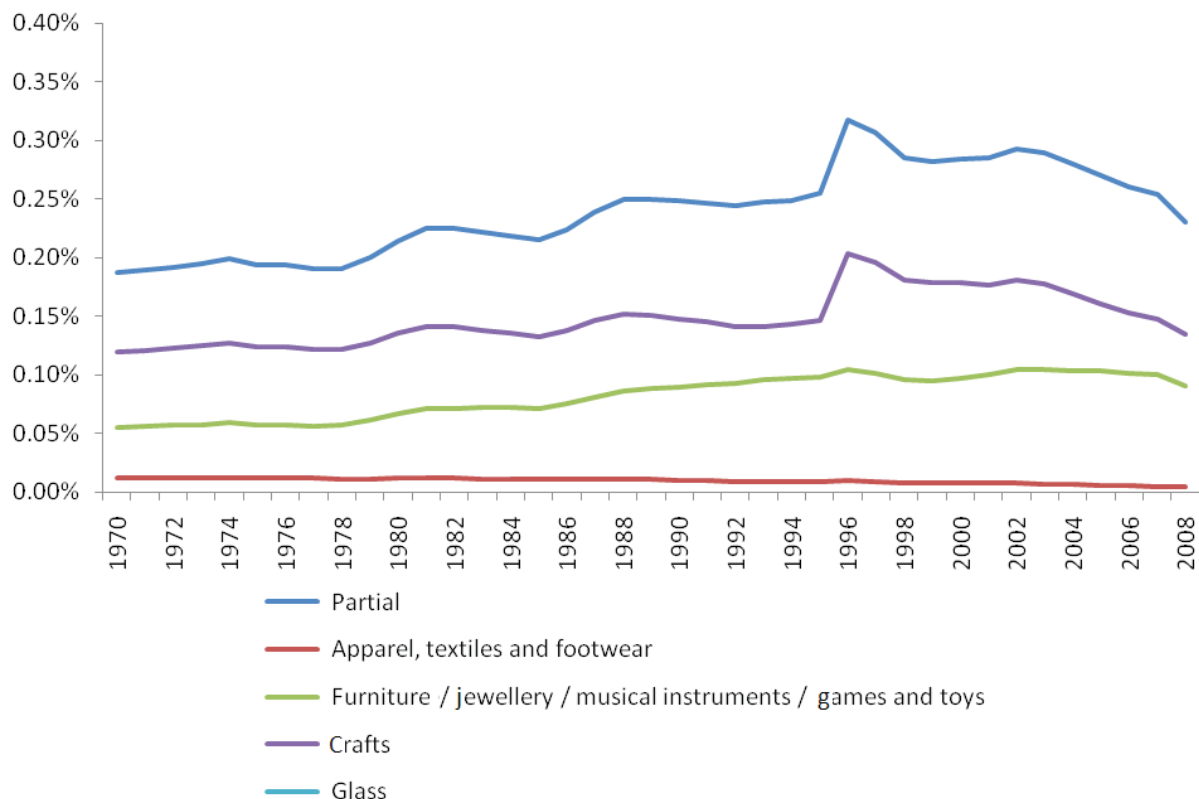
**Figure 16: Partial Copyright-Based Industries: Contribution to Value-Added**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

Their contribution to the total workforce of the country started declining in 1996, after a step increase in the period 1994 to 1996. Only the 'crafts' industry follows the overall trend, showing that it is the main contributor to partial copyright-based industries, with regards to employment.

**Figure 17: Partial Copyright-Based Industries: Contribution to Employment**



Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

As far as partial copyright-based industries contribution to trade is concerned, both contribution to exports and imports showed an increasing trend. Then again, the contribution to trade was never higher than 0.05%, not having a significant impact in the country's trade.

**Figure 18: Partial Copyright-Based Industries: Contribution to Imports and Exports**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

## 5.6 Non-Dedicated Copyright-Based Industries

Non-dedicated copyright industries include those in which a portion of the activities is related to facilitating, broadcast, communication, distribution or sales of works or other protected subject matter and whose activities have not been included in the core copyright industries. In 2008, the economic performance of non-dedicated copyright-based industries was approximately 1.3% of the entire national economy. Their contribution to employment was 1.03% while their exports contribution was less than 0.2% of the national economy. Their imports were responsible for only 0.55% of the total imports in South Africa.

**Table 8: Value-Added, Employment, Imports and Exports Growth of Non-Dedicated Support Copyright-Based Industries in % 1970 to 2008**

	Value-added		
	Wholesale and retail trade	Transport, storage and communication	Non-dedicated support
1970-1979	35%	63%	44%
1980-1989	20%	15%	18%
1990-1999	21%	50%	31%
2000-2008	36%	57%	45%
	Employment		
	Wholesale and retail trade	Transport, storage and communication	Non-dedicated support
1970-1979	30%	48%	21%
1980-1989	18%	-3%	10%
1990-1999	21%	-28%	4%
2000-2008	21%	2%	17%
	Imports		
	Wholesale and retail trade	Transport, storage and communication	Non-dedicated support
1970-1979	52%	-20%	-20%
1980-1989	10%	49%	49%
1990-1999	17%	27%	27%
2000-2008	-11%	9%	8%
	Exports		
	Wholesale and retail trade	Transport, storage and communication	Non-dedicated support
1970-1979	-18%	13%	1%
1980-1989	105%	18%	40%
1990-1999	158%	70%	100%
2000-2008	34%	62%	50%

Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases, the South African Reserve Bank (SARB) and the South African Revenue Service (SARS).

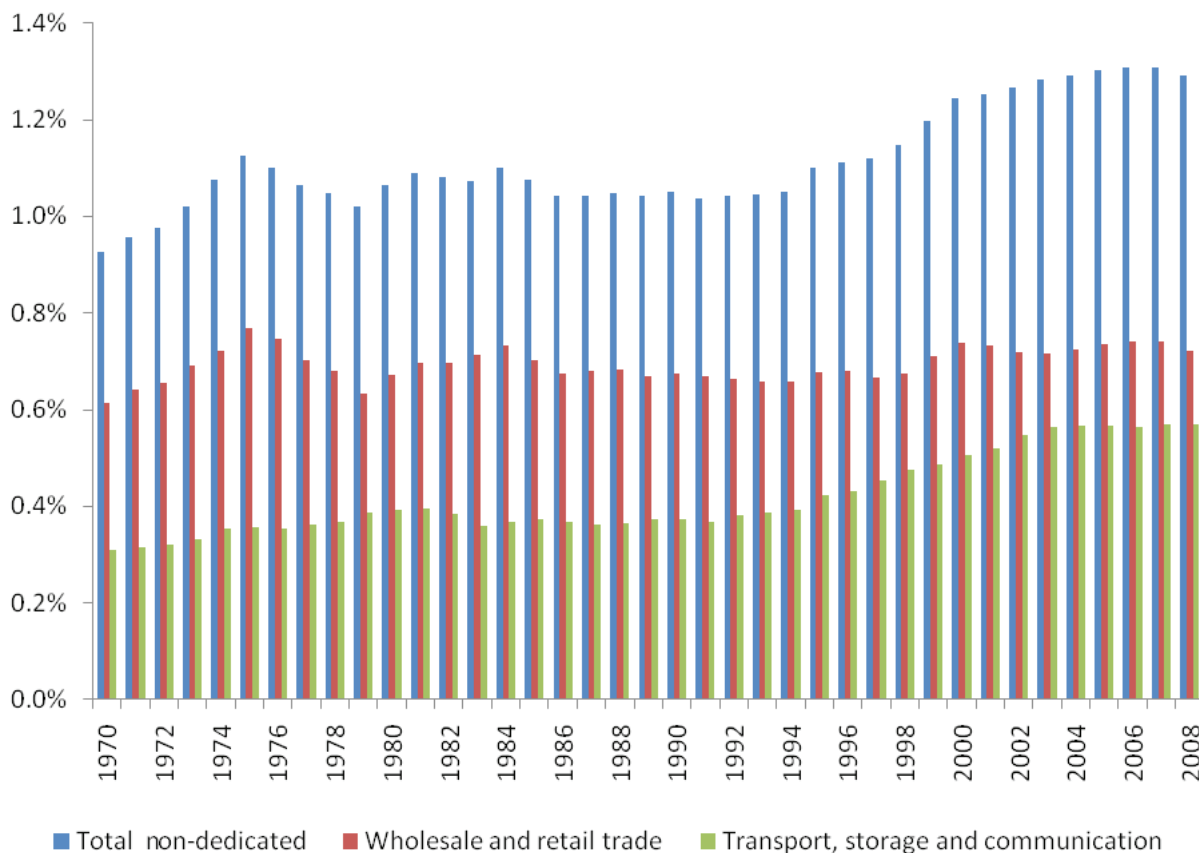
The value-added of the non-dedicated copyright-based industries has been continually increasing since 1970. More specifically, the 'transport, storage and communication' sector's value-added increased by 57% in the 2000s and the 'wholesale and retail trade' by 36% (table 8).

With regards to employment, the non-dedicated copyright-based industries increased their number of employees overall (17% in the 2000s). However, the increase in the 'transport, storage and communication' was at the low level of 2% (table 8).

The non-dedicated copyright-based industries imports have shown an increase in the 2000s of 8% while the one of the two main sub-categories' ('wholesale and retail trade') imports have decreased by 11% in the same period. The exports of this group have increased substantially through the last 30 years (40% in 1980s, 100% in 1990s and almost 50% in 2000s) (table 8).

Their contribution to the economy's value-added has shown a rising trend from 0.93% in 1970 to 1.29% in 2008 (figure 19). This increase may be accredited to the increase of the contribution of the 'transport, storage and communication' sector, while the 'wholesale and retail trade' contribution remained more or less stable in the range between 0.6 and 0.8%.

**Figure 19: Non-Dedicated Copyright-Based Industries: Contribution to Value-Added**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

The non-dedicated copyright-based industries' contribution to the total labour of the country has increased from 0.79% in 1970 to 1.026% in 2008, not a drastic increase but one that should be taken into consideration (figure 20). However, the 'transport, storage and communication' sector's contribution to the total workforce has experienced a decreasing trend after 1984, from 0.325% in 1984 to 0.2% in 2008.

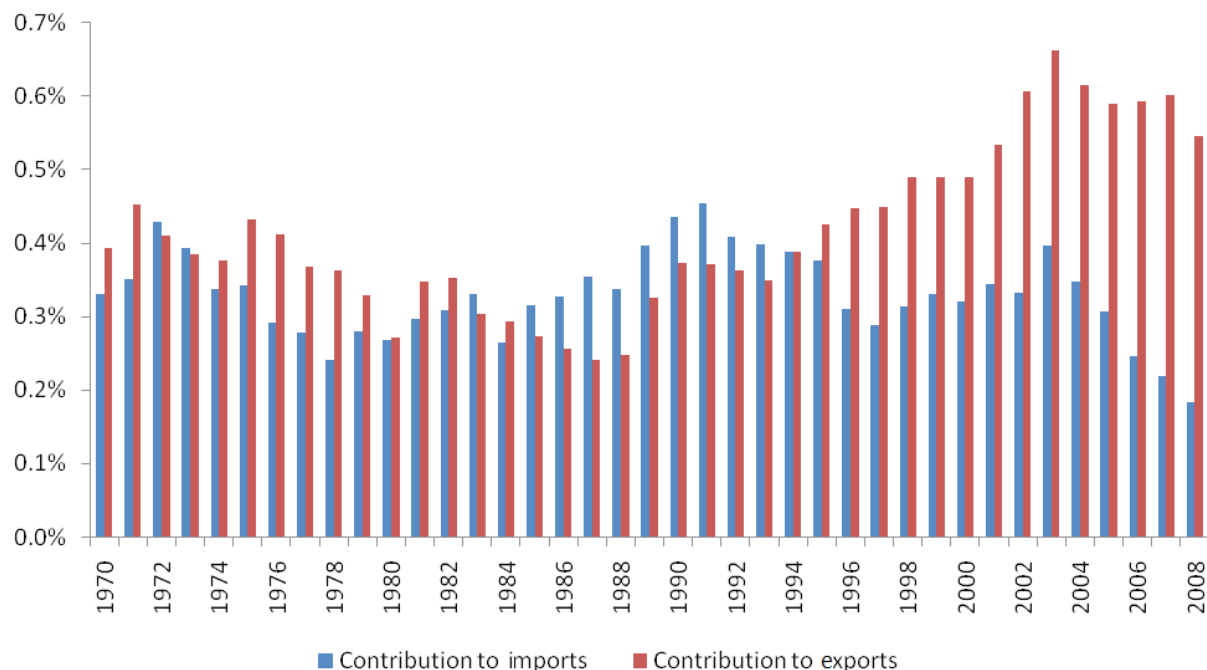
**Figure 20: Non-Dedicated Copyright-Based Industries: Contribution to Employment**



Source: Authors' calculations with data from the Department of Labour, the Department of Arts and Culture (DAC), Quantec databases and the South African Reserve Bank (SARB).

In figure 21, it can be seen that the contribution to imports of the non-dedicated copyright-based industries has been decreasing since the 1990s while its contribution to exports has shown an increasing trend since 1988. Although the trends have changed in comparison with the 1970s, the contribution of non-dedicated copyright-based industries in the total trade has not exceeded 0.7% for exports and 0.5% for imports.

**Figure 21: Non-Dedicated Copyright-Based Industries: Contribution to Imports and Exports**



Source: Authors' calculations with data from the Department of Arts and Culture (DAC), the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

## 6. Discussion

The purpose of this study was to investigate the contribution of copyright-based industries to the South African economy. The results of the analysis show that the copyright-based industries contribute significantly to the total value-added, employment and trade. The results show that the copyright-based industries contribute more than the agriculture and food and beverage sectors, however their contribution is lower than traditionally big contributors such as 'mining' and 'manufacturing'.

The copyright-based industries are responsible for almost 4.11% of the total economy in terms of value-added, with core copyright-based industries being the highest contributor (2.05%) and the non-dedicated copyright industries following with 1.29%. As far as employment is concerned, 4.08% of the workforce is employed in the copyright-based industries, the majority of which is employed in the core and non-dedicated copyright-based industries (2.31% and 1.03%). The interdependent copyright-based industries show a high contribution in the exports of the economy (2.77%) and an even higher contribution to the total imports (7.85%).

The contribution of the total copyright-based industries in South Africa in terms of value-added (4.11%) is significantly lower than the other countries, whose studies were reviewed. Only Bulgaria's overall contribution of copyright-based industries to total value-added was lower than South Africa's (2.38%). The rest of our results are in agreement with international standards that also indicate a higher contribution of the core copyright-based industries for all indicators. Following the comparison, in South Africa the non-dedicated support copyright-based industries present a higher contribution to the total economy than in the other international studies.

This study uses a complete Input-Output analysis calculating multipliers to show not only the direct effects of the copyright-based industries but also the indirect effects to the economy. In table 9, the production-induced effect of a number of industries on total output is presented. This multiplier sums up first-round effects (how much an industry must increase its inputs from other industries and from itself, in order to produce an extra unit of output to meet a ZAR1.00 increase in final demand) and industrial support effects (how much other industries will need to increase their purchases to expand their output to meet the first-round requirements).

The only industries missing from the Input-Output analysis are 'film and television' and 'crafts'. In order to estimate the total production-induced effect we assume that their indirect effects would be proportionately dependent on their direct contribution of 2008 and the relative indirect effects of 'printing, publishing and recorded media' and 'furniture' industries respectively. For example, the 'film and television' direct contribution was 0.42%, the 'printing publishing and recorded media' was 0.47% and the latest production-induced effect was 1.79%. Based on this we assume that 'film and television's' production-induced effect was 1.6%.

**Table 9: Production-Induced Effect of Copyright-Based Industries (Input-Output 2009)**

Industry	Production-induced effect	Adjusted for copyright factors	Production-induced effect	Adjusted for copyright factors
	Outcome		Employment	
Photography, software and databases, advertising	1.13%	0.11%	2.97%	0.30%
Communication	1.18%	0.07%	2.73%	0.16%
Crafts*	0.76%	0.32%	2.87%	1.21%
Film and television*	1.60%	1.60%	2.98%	2.98%
Footwear	2.08%	0.01%	6.23%	0.02%
Furniture	1.93%	0.19%	6.48%	0.65%
Glass and glass products	1.49%	0.01%	4.89%	0.03%
Computers and equipment, photocopiers	1.70%	0.06%	4.93%	0.17%
Other manufacturing	1.23%	0.12%	3.65%	0.37%

**Table 9: Production-Induced Effect of Copyright-Based Industries (Input-Output 2009) (Continued)**

Paper and paper products	2.02%	0.50%	5.77%	1.44%
Printing, publishing and recorded media	1.79%	1.79%	5.17%	5.17%
Television, radio and communication equipment	1.64%	0.57%	4.75%	1.66%
Textiles	1.81%	0.01%	6.05%	0.02%
Transport and storage	1.19%	0.07%	3.02%	0.17%
Wearing apparel	1.59%	0.01%	6.19%	0.02%
Wholesale and retail trade	1.00%	0.06%	2.63%	0.15%
<b>Total</b>		<b>5.49%</b>		<b>14.52%</b>

Where \* denotes industries with figures by extrapolation

Source: Authors' calculations with data the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).

The results presented in table 9 illustrate the importance of the copyright-based industries for the South African economy. The overall production-induced effect in terms of value-added is 5.49% while the production-induced effect to total employment is 14.52%.

If appropriate policies are implemented resulting in an increase of the demand for products for instance of the sector 'printing, publishing and recorded media' a series of links will occur affecting through individual sectors the economy in its entirety. If the demand for 'printing, published and recorded media' products increases by ZAR 100 000 the industry must increase its inputs from other industries and from itself by R69 000 (first-round effects multiplier).

This need will increase the demand of products of other industries such as for example another copyright-based industry: 'paper and paper products', among others. Now, the 'paper and paper products' industry needs to increase its supply of products to cover the needs of 'printing, publishing and recorded media' industry. To do so, it will need to increase its inputs by ZAR0.78 for every ZAR1.00 of demand.

But also such an increase in the 'printing, published and recorded media' industry will also influence other sectors in the economy. Among the inputs that 'printing, published and recorded media' will need in order to meet an increase in the demand is for example some form of energy, i.e. electricity. To cover the new demand for its product, the sector 'electricity, gas and steam' will have to increase their inputs by ZAR0.465 for every ZAR1.00 of demand.

Similar effects will be experienced with the employment and trade of the sectors that are trying to meet the increased demand, they will affect various other industries by asking for inputs.

An important issue not covered on the above analysis is the concerns related to the deficit of copyright royalty flows. We discuss the issue below.

## 6.1 Copyright in Trade

An important concern is related to the argument that copyright benefits exporting countries at the cost of countries like South Africa which are net importers of copyright material. The issue has been studied in the "Gowers Review of Intellectual Property (2006)<sup>41</sup> in the UK, by the Office of Regulation Review (1995) in Australia and others. More recently, IPO (2009)<sup>42</sup> took this study a step further and according to the Australian government the majority of the recommendations will soon be implemented.<sup>43</sup>

<sup>41</sup>Gowers Review (2006). "Gowers Review of Intellectual Property". HMSO, Norwich, NR3 1BQ

<sup>42</sup>Intellectual Property Office (IPO), 2009, "Taking forward the Gowers Review of Intellectual Property: Second Stage Consultations on Copyright Exceptions". IPO, United Kingdom. Available at: [www.ipo.gov.uk/consult-gowers2.pdf](http://www.ipo.gov.uk/consult-gowers2.pdf)

<sup>43</sup>Ibid.



The argument is that since South Africa has a net deficit of copyright royalty which flows out of the country, the country may benefit from free riding on the innovative activities of the rest of the world. Australia for example has argued that the country should not extend copyright protection beyond the limits demanded by the international treaties obligations because of the net costs of such protection<sup>44</sup>.

The maintenance of the existing standards were based on the fact that any reduction in the scope beyond the minimum standards provided in Berne and TRIPs would entail costs to reciprocal treatment of Australian copyright producers under those conventions and the generally good reputation that Australia has as a responsible member of the international community of nations.

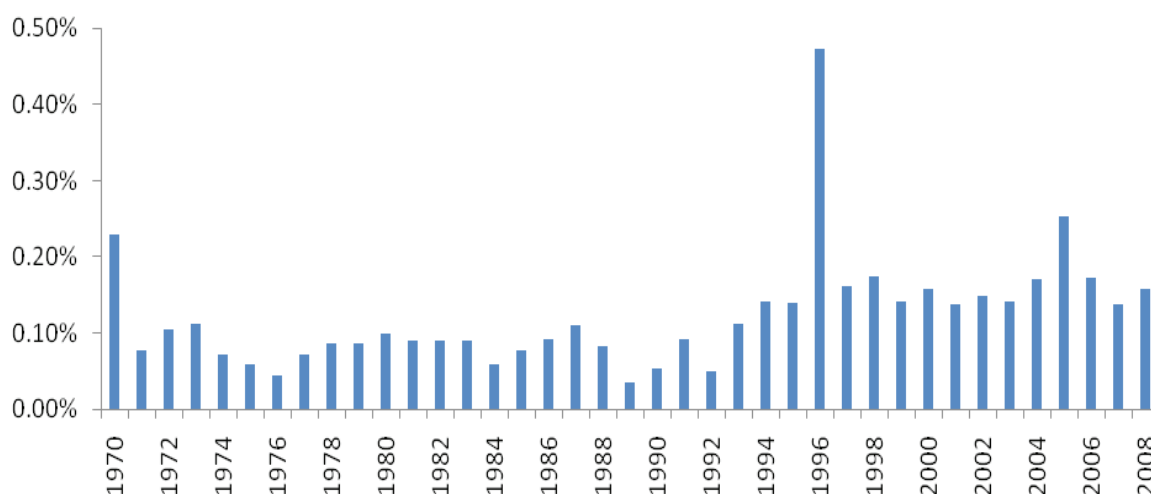
It was also argued that such changes may have labour market implications for copyright industries as they can move their operations abroad where the conditions may be more favourable.

While we present evidence of the South African trade in copyright materials we would like to emphasise that the argument at stake is the benefits and costs of protectionism versus free trade which TRIPs and WIPO have been so concerned to promote. Richardson *et al.* (2000)<sup>45</sup> argue that the argument reflects the old mercantilist fallacy that exports are good and imports are bad. The argument has been attacked by Adam Smith in his *Wealth of Nations*<sup>46</sup> (1776). "What Smith showed is that mercantilism provides a vehicle for subsidising the inefficient efforts of local producers, who seek to prevent competition from cheaper imports to the ultimate detriment of consumers. Economists have accepted for over 200 years that mercantilism is a fallacy when applied to industries such as textiles, shoes and meat. The logical and rational position with respect to copyright industries is exactly the same" (Richardson *et al.*, 2000)<sup>47</sup>.

Trade in copyright consists of two components. The first component is part of the merchandise trade and includes trade in commodities such as books, newspapers, periodicals, sound recordings and other recorded tapes and disks passing through merchandise trade. The second component is made up of licence fees and royalties paid for the use of products such as computer and information services, software, films, TV programmes and sound recordings. These royalties are included in trade in services in the balance of payments.

Figures 22 and 23 show the shares of imported and exported traded copyright material in the total imports and exports of the country for the period 1970 to 2008.

**Figure 22: South Africa Printing, Publishing and Recorded Media Exports: Share to Total Exports**



Source: Authors' calculations with data from the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

<sup>44</sup>ORR (1995) "An Economic Analysis of Copyright Reform" (submission to the copyright law review committee's review of the copyright act 1968) Office of Regulation Review, Australia.

<sup>45</sup>Richardson M., Gans J., Hanks F. and Williams P. (2000) "The Benefits and Costs of Copyright: An Economic Perspective" Centre for Copyright Studies Ltd, Discussion Paper, Australia.

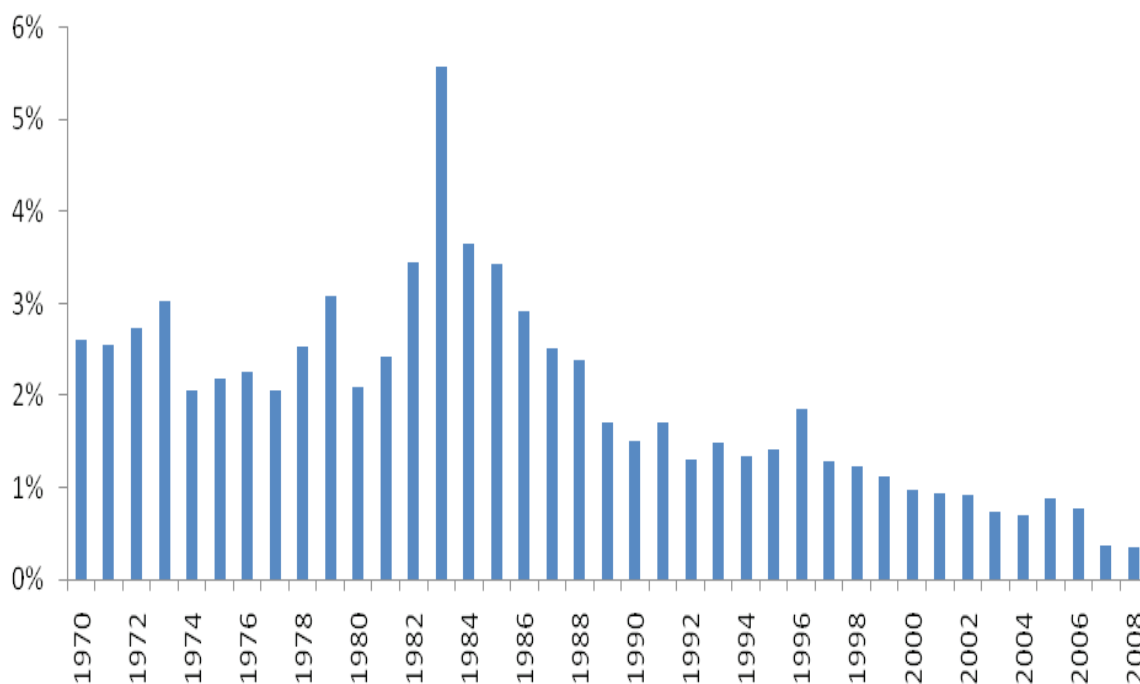
<sup>46</sup>Smith A. (1776) "An Inquiry into the Nature and Causes of the Wealth of Nations", as quoted in Richardson et al. (2000)

<sup>47</sup>See footnote 39.

The share of 'printing, publishing and recorded media' exports was 0.158% during 2008 while their share of imports has been reduced from more than 5% in the 1980s to 0.351% in 2008.

The South African share of 'printing, publishing and recorded media' exports (0.15%) is lower than the average in Europe (table 10), while the share of imports (0.35) is just below those appearing in table 10.

**Figure 23: South Africa Printing, Publishing and Recorded Media Imports: Share to Total Imports**



Source: Authors' calculations with data from the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

**Table 10: Trade in Copyright Dependent Goods**

	Share of copyright material in merchandise exports (%)	Share of copyright material in merchandise imports (%)
Australia 1996 to 1997	0.5	2.2
EU-12	0.8	0.7
Belgium – Luxembourg	0.5	0.8
Denmark	0.9	0.8
Germany	0.8	0.7
Greece	0.2	0.5
Spain	0.6	0.6
France	0.6	0.8
Ireland	4.9	1.0
Italy	0.4	0.5
the Netherlands	1.0	0.9
Portugal	0.2	0.6
the UK	1.1	0.9
the EFTA	0.4	1.1
the USA	1.1	0.5
Japan	0.8	0.4

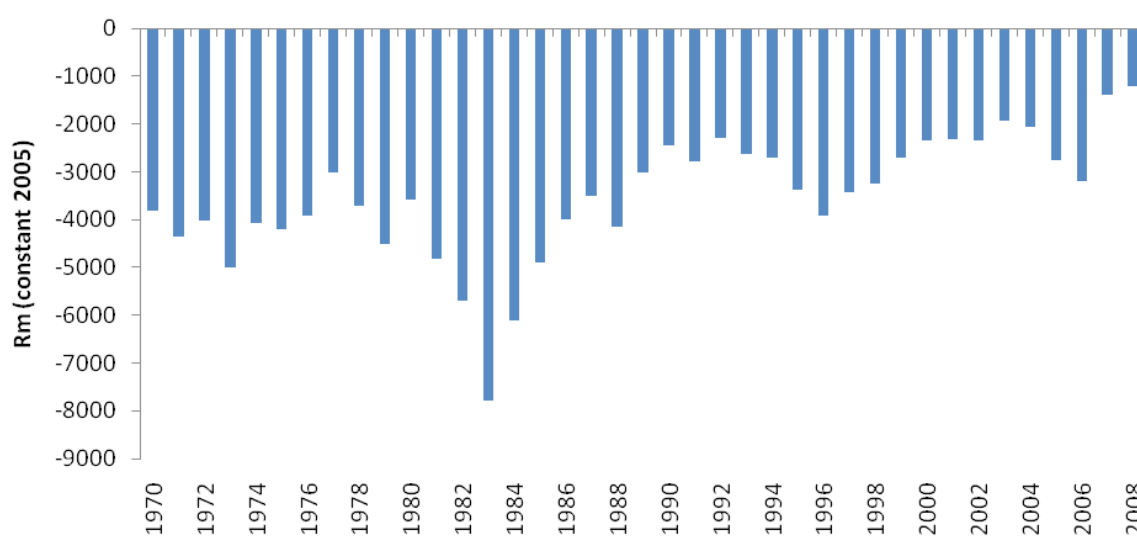
**Table 10: Trade in Copyright Dependent Goods (Continued)**

Korea (South)	1.3	0.2
Brazil	0.1	0.7
India	0.1	0.4

Source: Revesz (1999)<sup>48</sup>

Figure 24 shows the trade balance of the 'printing, publishing and recorded media' industry in South Africa. The trade balance has been reduced from just below ZAR8 billion in the 1980s to just above ZAR1 billion in 2008, in 2005 values.

**Figure 24: Trade Balance: South Africa Printing, Publishing and Recorded Media 1970 to 2008**



Source: Authors' calculations with data from the South African Reserve Bank (SARB), the South African Revenue Service (SARS) and Quantec databases.

Trade in copyright services statistics (the second component of trade in copyright) is not available in South Africa. In order to have an estimate we assume that 50% of receipts and payments registered under royalties and licence fees and 10% of those under 'architectural, engineering and other technical services' are copyright related. Table 11 shows the payments and receipts in copyright services.

<sup>48</sup>Revesz J. (1999) "Trade Related Aspects of Intellectual Property Rights" Productivity Commission Staff Research Paper, AGPS, Canberra.

**Table 11: Payments and Receipts in Copyright Services**

Year	Payments (ZAR million current)	Receipts (ZAR million current)	Balance (ZAR million current)
2000	115.70	75.80	-39.90
2001	138.00	80.00	-58.00
2002	184.40	88.20	-96.20
2003	180.00	90.80	-89.20
2004	202.00	98.40	-103.60
2005	293.80	115.60	-178.20
2006	604.10	104.30	-499.80
2007	688.00	186.70	-501.30
2008	815.10	271.35	-543.75

Source: The Reserve Bank –personal communication.

The sum of the balances in copyright services and in merchandise trade shows the total effect of copyright in the country's imports and exports. It becomes apparent that the size of deficits both in the trade and the balance of payments in South Africa are much smaller than those in other countries and hence the issue of deficits does not warrant further discussion.

## 6.2 Recommendations

During the process of our investigation a number of questions were raised which lead to a number of recommendations.

From a methodological prospective WIPO's guidelines<sup>49</sup> identify the industries affected by copyright and suggest certain copyright coefficients. The coefficients reflect the copyright components within particular industries and hence the percentage of value-added that should be allocated to copyright contribution. The guide states: "For architecture, for example, various studies take between 65% and 75% of the architectural industry as having a copyright component"<sup>50</sup>. Further the guide suggests that "an approximate average of the contribution of the non-core groups, based on the results from the past studies, would indicate that this contribution is around 30% of the entire contribution of all copyright-based industries"<sup>51</sup>. The guide concludes that "the procedure of establishing the weightings would combine several approaches or techniques..."<sup>52</sup>. As the copyright coefficients may change over time and may differ from country to country we suggest that WIPO considers developing guidelines for the estimation of copyright coefficients.

WIPO's interest in promoting the copyright industries is currently focused in the measurement of the relevant impact on the economy. However, the impact of the copyright-based industries is dependent mainly on the structure of the economy and the importance/incentives provided for the development and growth of the relevant clusters. We suggest that WIPO should identify international best practice in the promotion of copyright-based industries and disseminate the information to member states.

The South African authorities provide limited information related to copyright industries. As a result the copyright-based industries are not in the radar of the policy-makers. Furthermore, the lack of relevant information impedes the country's limited research expertise in investigating the relevant economic clusters. We suggest that the Department of Trade and Industry (DTI) and the Department of Arts and Culture (DAC) request from Statistics SA and the Reserve Bank to separate the statistics related to copyright-based industries and publish them regularly.

<sup>49</sup>WIPO (2003) "Guide on Surveying the Economic Contribution of the Copyright-Based Industry". World Intellectual Property Organization, Geneva.

<sup>50</sup>Ibid. p.34.

<sup>51</sup>Ibid. p.59.

<sup>52</sup>Ibid. p.59.

The South African copyright regime does not include exceptions and limitations for the visually impaired or for the benefit of people with any other disability (e.g. dyslexics) as well as for technological protection measures (such as encryption of the protected material) and electronic rights management information (such as digital identifiers). Furthermore, despite the existence of exceptions for purposes of illustration, for teaching and research, the legal uncertainty surrounding the use of works has led to the conclusion of agreements between the collecting societies and educational establishments to the financial detriment of the latter. As exceptions have the potentials to create value (Gowers Review, 2006)<sup>53</sup> we suggest that DTI should review the Copyright Act in order to introduce limitations in accordance with the Berne Convention three steps test (article 9(2)) and with the fair use provision and to clarify clauses as necessary.

The DTI should develop a research programme supporting researcher initiated projects related to IPR in general and copyright in particular. This programme will provide continuous research and intelligence supporting the needs of the DTI related to IPRs and simultaneously will develop relevant expertise in the country. The National Research Foundation may undertake to implement such a programme on the instructions of the DTI.

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<sup>53</sup>Gowers Review (2006). "Gowers Review of Intellectual Property". HMSO, Norwich, NR3 1BQ.

## Appendix 1

**Table 12: Highest and Lower Piracy Rates Internationally**

Highest Piracy		Lowest Piracy	
Georgia	95%	United States	20%
Bangladesh	92%	Japan	21%
Armenia	92%	Luxembourg	21%
Zimbabwe	92%	New Zealand	22%
Sri Lanka	90%	Austria	24%
Azerbaijan	90%	Belgium	25%
Moldova	90%	Denmark	25%
Yemen	89%	Sweden	25%
Libya	87%	Switzerland	25%
Pakistan	86%	Australia	26%
Venezuela	86%	Finland	26%
Indonesia	85%	Germany	27%
Vietnam	85%	United Kingdom	27%
Iraq	85%	Netherlands	28%
Ukraine	84%	Norway	28%
Algeria	84%	Israel	32%
Montenegro	83%	Canada	32%
Paraguay	83%	Ireland	34%
Cameroon	83%	South Africa	35%
Nigeria	83%	Singapore	36%
Zambia	82%	UAE	36%
Bolivia	81%	Czech Republic	38%
Guatemala	81%	Taiwan	39%
China	80%	Réunion	40%
El Salvador	80%	France	41%

Source: BSA-IDC 2009<sup>54</sup>

<sup>54</sup>BSA-IDC 2009 "Sixth Annual BSA-IDC Global Software: 08 Piracy Study" Business Software Alliance <http://global.bsa.org/globalpiracy2008/studies/globalpiracy2008.pdf>

## Appendix 2 International Studies Data

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The sources of the international data are the following:

- World Intellectual Property Organization (WIPO), 2006, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 1: The economic contribution of copyright-based industries in Singapore 2004*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2006, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 1: The economic contribution of copyright-based industries in Canada 2004*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2006, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 1: The economic contribution of copyright-based industries in Latvia 2000*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2006, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 1: The economic contribution of copyright-based industries in Hungary 2005*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2008, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 2: The economic contribution of copyright-based industries in the Philippines*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2008, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 2: The economic contribution of copyright-based industries in Mexico 2006*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2008, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 2: The economic contribution of copyright-based industries in Jamaica 2007*. WIPO: Switzerland.
- World Intellectual Property Organization (WIPO), 2008, *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries No. 2: The economic contribution of copyright-based industries in Bulgaria 2007*. WIPO: Switzerland.

**Table 13: Summary of Selected Studies: Contribution of the Core Copyright-Based Industries**

Country (Year)	Singapore (2001)		the Philippines (2003)		Hungary (2002)		Mexico (2003)	
	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment
Press and Literature	0.94%	1.16%	5.17%	6.22%	1.45%	1.56%	0.86%	1.22%
Music Theatrical Productions Operas	0.20%	0.49%	0.96%	0.81%	0.42%	0.64%	0.26%	0.38%
Motion Picture and Video	0.05%	0.10%	0.18%	0.11%	0.19%	0.16%	0.12%	0.28%
Radio and Television	0.15%	0.27%	1.11%	0.45%	0.50%	0.23%	0.74%	0.33%
Photography	0.03%	0.08%	0.01%	0.04%	0.05%	0.09%	0.05%	0.17%
Software and Databases	1.22%	1.13%	0.93%	0.97%	0.98%	1.16%	0.26%	0.44%
Visual and Graphic Arts	0.06%	0.13%	0.00%	0.00%			0.08%	0.16%
Advertising Services Agencies, Buying Services	0.20%	0.27%	0.24%	0.23%	0.29%	0.31%	0.25%	0.41%
Copyright Collecting Societies	0.01%	0.01%			0.07%	0.00%	0.00%	0.00%
<b>Core Copyright Industries</b>	<b>2.85%</b>	<b>3.64%</b>	<b>8.59%</b>	<b>8.81%</b>	<b>3.95%</b>	<b>4.15%</b>	<b>2.62%</b>	<b>3.40%</b>
Country (Year)	Jamaica (2005)		Bulgaria (2005)		Lebanon (2005)		Latvia (2000)	
Press and Literature	0.51%	0.61%	0.52%	1.03%	0.75%	0.83%	1.40%	1.70%
Music Theatrical Productions Operas	0.21%	0.27%	0.04%	0.05%	0.33%	0.22%	0.00%	0.10%
Motion Picture and Video	0.03%	0.05%	0.10%	0.09%	0.29%	0.25%	0.00%	0.30%
Radio and Television	0.59%	0.48%	0.19%	0.14%	0.34%	0.35%	0.10%	0.90%
Photography	0.09%	0.12%	0.02%	0.08%	0.04%	0.04%		
Software and Databases	0.11%	0.12%	0.51%	0.49%	0.39%	0.22%	0.60%	0.40%
Visual and Graphic Arts	0.05%	0.05%	0.01%	0.04%	0.23%	0.13%		
Advertising Services Agencies, Buying Services	0.12%	0.11%	0.16%	0.38%	0.15%	0.07%	0.80%	0.30%
Copyright Collecting Societies	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%		
<b>Core Copyright Industries</b>	<b>1.71%</b>	<b>1.80%</b>	<b>1.57%</b>	<b>2.30%</b>	<b>2.52%</b>	<b>2.11%</b>	<b>2.90%</b>	<b>3.70%</b>

 Source: Data derived from the World Intellectual Property Organization (WIPO), 2006 and 2008<sup>55</sup>
<sup>55</sup>See footnotes 25 and 26.



**Table 14: Summary of Selected Studies: Contribution of Interdependent Copyright-Based Industries**

Country (Year)	Singapore (2001)		the Philippines (2003)		Hungary (2002)		Mexico (2003)	
	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment
TV sets, Radios, VCRs and DVD Players	0.27%	0.26%	0.38%	0.20%	0.62%	0.67%	0.99%	1.09%
Computers and Equipment	1.32%	0.78%	0.52%	0.42%	0.20%	0.43%	0.90%	0.72%
Musical Instruments	0.01%	0.01%	0.00%	0.01%	0.01%	0.02%	0.03%	0.05%
Photographic and Cinematographic Instruments	0.07%	0.08%	0.05%	0.09%	0.02%	0.02%	0.17%	0.10%
Photocopiers	0.07%	0.06%			0.01%	0.01%	0.07%	0.31%
Blank Recording Material	0.01%	0.01%			0.01%	0.01%	0.06%	0.03%
Paper	0.03%	0.04%			0.11%	0.10%	0.64%	1.35%
Other			1.37%	0.72%	0.14%			
<b>Interdependent Copyright industries</b>	<b>1.76%</b>	<b>1.24%</b>	<b>2.32%</b>	<b>1.44%</b>	<b>1.25%</b>	<b>1.25%</b>	<b>2.86%</b>	<b>3.65%</b>
Country (Year)	Jamaica (2005)		Bulgaria (2005)		Lebanon (2005)		Latvia (2000)	
TV sets, Radios, VCRs and DVD Players	0.00%	0.01%	0.11%	0.19%	0.01%	0.02%	0.00%	0.00%
Computers and Equipment	0.02%		0.19%	0.21%	0.01%	0.04%	0.20%	0.00%
Musical Instruments		0.31%	0.01%	0.01%	0.00%	0.00%		
Photographic and Cinematographic Instruments	0.01%		0.02%	0.05%	0.00%	0.01%	0.50%	0.60%
Photocopiers								
Blank Recording Material			0.05%	0.01%				
Paper	0.02%		0.25%	0.27%	0.00%	0.01%		
Other	0.70%	0.29%			0.67%	0.65%	0.40%	0.10%
<b>Interdependent Copyright industries</b>	<b>0.74%</b>	<b>0.31%</b>	<b>0.63%</b>	<b>0.73%</b>	<b>0.71%</b>	<b>0.73%</b>	<b>1.10%</b>	<b>0.70%</b>

Source: Data derived from the World Intellectual Property Organization (WIPO), 2006 and 2008<sup>56</sup>

<sup>56</sup>See footnotes 25 and 26.

**Table 15: Summary of Selected Studies: Contribution of Partial Copyright-Based Industries**

Country (Year)	Singapore (2001)		the Philippines (2003)		Hungary (2002)		Mexico (2003)	
	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment
Apparel, textiles and footwear	0.00%	0.01%	0.01%	0.03%	0.03%	0.07%	0.00%	0.72%
Jewellery and coins	0.02%	0.03%	0.01%	0.02%	0.01%	0.02%	0.03%	0.06%
Other crafts	0.01%	0.04%			0.07%	0.14%	0.01%	0.04%
Furniture	0.02%	0.03%	0.04%	0.10%	0.02%	0.04%	0.02%	0.04%
Household goods, china and glass	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.44%	0.72%
Wall coverings and carpets	0.00%	0.00%			0.00%	0.00%	0.00%	0.01%
Toys and games	0.01%	0.03%	0.02%	0.06%	0.01%	0.04%	0.07%	0.15%
Architecture, engineering and surveying	0.02%	0.03%	0.00%	0.00%	0.23%	0.24%	0.54%	0.80%
Interior design	0.01%	0.01%						
Other			0.01%	0.01%	0.08%	0.07%	0.00%	0.01%
Partial copyright industries	0.09%	0.18%	0.09%	0.22%	0.45%	0.62%	1.11%	2.53%
Country (Year)	Jamaica (2005)		Bulgaria (2005)		Lebanon (2005)		Latvia (2000)	
Apparel, textiles and footwear	0.00%	0.00%	0.01%	0.05%	0.02%	0.03%	2.15%	4.27%
Jewellery and coins	0.01%	0.00%	0.00%	0.01%	0.12%	0.04%		
Other crafts			0.01%	0.03%				0.79%
Furniture	0.02%	0.01%	0.02%	0.06%	0.02%	0.03%	0.53%	
Household goods, china and glass	0.00%	0.00%	0.00%	0.01%	0.01%	0.02%		
Wall coverings and carpets			0.00%	0.00%	0.00%	0.00%		
Toys and games			0.01%	0.04%	0.00%	0.01%	0.05%	0.08%
Architecture, engineering and surveying	0.12%	0.07%	0.04%	0.07%	0.27%	0.26%		
Interior design	0.00%	0.00%						
Other	0.33%	0.15%	0.00%	0.01%	0.18%	0.31%	0.08%	0.15%
Partial copyright industries	0.49%	0.24%	0.09%	0.28%	0.62%	0.70%	2.81%	5.29%

Source: Data derived from the World Intellectual Property Organization (WIPO), 2006 and 2008<sup>57</sup>

<sup>57</sup>See footnotes 25 and 26.

**Table 16: Summary of Selected Studies: Contribution of Non-Dedicated Support Copyright-Based Industries**

Country (Year)	Singapore (2001)		the Philippines (2003)		Hungary (2002)		Mexico (2003)	
	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment
General wholesale and retail	0.34%	0.37%	0.18%	0.25%	0.56%	0.63%	0.50%	1.05%
General transportation	0.48%	0.33%	0.20%	0.29%	0.45%	0.45%	0.32%	0.31%
Telephony and internet	0.14%	0.04%	0.32%	0.09%			0.33%	0.05%
Non-dedicated support copyright industries	0.97%	0.74%	0.70%	0.63%	1.01%	1.08%	1.15%	1.41%
Country (Year)	Jamaica (2005)		Bulgaria (2005)		Lebanon (2005)		Latvia (2000)	
	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment	% of GDP	% of employment
General wholesale and retail	1.20%	0.35%	0.07%	0.22%	0.60%	0.72%	0.41%	0.53%
General transportation	0.70%	0.34%	0.10%	0.16%	0.30%	0.22%	0.37%	0.23%
Telephony and internet			0.10%	0.01%				0.73%
Non-dedicated support copyright industries	1.90%	0.68%	0.09%	0.28%	0.90%	0.94%	0.77%	1.48%

Source: Data derived from the World Intellectual Property Organization (WIPO), 2006 and 2008<sup>58</sup>

**Table 17: International Studies: Copyright Factors**

		Lebanon	Jamaica	the Philippines	Singapore	Hungary
Core	Press and Literature	1.000	1.000	1.000	1.000	1.000
	Music Theatrical Productions Operas	1.000	1.000	1.000	1.000	1.000
	Radio and Television	1.000	1.000	1.000	1.000	1.000
	Photography	1.000	1.000	1.000	1.000	1.000
	Software and Databases	1.000	1.000	1.000	1.000	1.000
	Visual and Graphic Arts	1.000	1.000	1.000	1.000	1.000
	Advertising Services	1.000	1.000	1.000	1.000	1.000
	Copyright Collecting Societies	1.000	1.000	1.000	1.000	1.000
Interdependent	Motion Picture and Video	1.000	1.000	1.000	1.000	1.000
	TV sets, Radios, VCRs, CD Players, DVD Players, Cassette Players, Electronic Game Equipment, Other Similar Equipment	1.000	1.000	0.350	0.350	1.000
	Computers and Equipment	1.000	1.000	0.350	0.350	1.000
	Musical Instruments	1.000	1.000	0.200	0.200	1.000
	Photographic and Cinematographic Instruments	1.000	1.000	0.300	0.300	1.000
	Photocopiers	1.000	1.000	0.300	0.300	1.000
	Blank Recording Material	1.000	1.000	0.250	0.250	1.000
Paper	1.000	1.000	0.250	0.250	1.000	

<sup>58</sup>See footnotes 25 and 26.

**Table 17: International Studies: Copyright Factors (Continued)**

		Lebanon	Jamaica	the Philippines	Singapore	Hungary
Partial	Apparel, textiles and footwear	0.020	0.005	0.004	0.000	0.005
	Jewellery and coins	0.250	0.005	0.083/0.42	0.083/0.42	0.250
	Other crafts			0.420	0.420	0.400
	Furniture	0.050	0.050	0.002	0.083/0.017	0.050
	Household goods, china and glass	0.025	0.005	0.006	0.001	0.005
	Wall coverings and carpets	0.025	0.020	0.002	0.002	0.020
	Toys and games	0.500	0.500	0.420	0.420	0.500
	Architecture, engineering and surveying	0.100			0.008	0.100
	Interior design		0.020		0.008	
	Museums	0.500	0.500			0.500
Non-dedicated support	General wholesale and retailing	0.038	0.057	0.057	0.057	0.057
	General transportation	0.041	0.057	0.057	0.057	0.057
	Telephony and internet		0.057	0.057	0.057	

Source: Data derived from the World Intellectual Property Organization (WIPO), 2006 and 2008

## Appendix 3 Classification of Industries

The categories of the industries were provided by Statistics SA and the classification is according to the Standard Industrial Classification of all economic activities (SIC). The SIC is a classification of economic activities of industries. An industry consists of establishments engaged in the same or a closely related kind of economic activity based mainly on the principal class of goods produced or services rendered. The term "industry" is used in the widest sense to cover all economic activity from the primary industries of agriculture, forestry, fishing and mining to the rendering of social, recreational, cultural and personal services.

**Table 18: Categories of Core Copyright-Based Industries**

Core Copyright Industries	
<b>1</b>	<b>3 Manufacturing: Printing, Publishing and Recorded Media</b>
	324 Publishing
	3241 Publishing of books, brochures, musical books and other publications
	3242 Publishing of newspapers, journals and periodicals
	3243 Publishing of recorded media
	3249 Other publishing
	3251 Printing
	3252 Service activities related to printing
	3260 Reproduction of recorded media
<b>2</b>	<b>Film and Television Industry</b>
<b>3</b>	<b>8 Financial Intermediation, Insurance, Real Estate And Business Services: Photography/Software and Databases/ Advertising</b>
	831 Activities auxiliary to financial intermediation, except insurance and pension funding
	8311 Administration of financial markets
	8312 Security dealing activities
	8319 Activities auxiliary to financial intermediation n.e.c.59
	8320 Activities auxiliary to insurance and pension funding
	841 Real estate activities with own or rented property
	842 Real estate activities on a fee or contract basis
	8511 Renting of land transport equipment
	8512 Renting of water transport equipment
	8513 Renting of air transport equipment
	8521 Renting of agricultural machinery and equipment
	8522 Renting of construction and civil engineering machinery and equipment
	8523 Renting of office machinery and equipment (including computers)
	8529 Renting of other machinery and equipment n.e.c.36
	8530 Renting of personal and household goods n.e.c. 36
	8610 Hardware consultancy
	8620 Software consultancy and supply
	8630 Data processing
	8640 Data base activities
	8650 Maintenance and repair of office, accounting and computing machinery
	8690 Other computer related activities

<sup>59</sup>n.e.c.=not elsewhere classified.

**Table 18: Categories of Core Copyright-Based Industries (Continued)**

	87 Research and development
	871 Research and experimental development on natural sciences and engineering
	8720 Research and experimental development on social sciences and humanities
	8811 Legal activities
	8812 Accounting, book-keeping and auditing activities; tax consultancy
	8813 Marketing research and public opinion polling
	8814 Business and management consultancy activities
	8821 Architectural and engineering activities and related technical consultancy
	8822 Technical testing and analysis
	883 Advertising
	8891 Labour recruitment and provision of personnel
	8892 Investigation and security activities
	8893 Building and industrial plant cleaning activities
	8894 Photographic activities
	8895 Packaging activities
	8899 Other business activities n.e.c. 36
<b>4</b>	<b>Copyright Collecting Societies</b>

Source: Statistics South Africa (Stats SA).

**Table 19: Categories of Interdependent Copyright-Based Industries**

Interdependent Copyright Industries	
<b>1</b>	<b>3 Manufacturing: Television, Radio and Communication Equipment</b>
	3710 Manufacture of electronic valves, tubes and other electronic components
	3720 Manufacture of television, radio transmitters and apparatus for line telephony and line telegraphy
	3730 Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods
<b>2</b>	<b>3 Manufacturing: Computers and equipment/ photocopiers</b>
	3561 Manufacture of engines and turbines, except aircraft, vehicle and motor cycle engines
	3562 Manufacture of pumps, compressors, taps and valves
	3563 Manufacture of bearings, gears, gearing and driving elements
	3564 Manufacture of ovens, furnaces and furnace burners
	3565 Manufacture of lifting and handling equipment
	3569 Manufacture of other general purpose machinery
	3571 Manufacture of agricultural and forestry machinery
	3572 Manufacture of machine-tools
	3573 Manufacture of machinery for metallurgy
	3574 Manufacture of machinery for mining, quarrying and construction
	3575 Manufacture of machinery for food, beverage and tobacco processing
	3576 Manufacture of machinery for textile, apparel and leather production
	3577 Manufacture of weapons and ammunition
	3579 Manufacture of other special purpose machinery
	3580 Manufacture of household appliances n.e.c. 36
	3590 Manufacture of office, accounting and computing machinery

**Table 19: Categories of Interdependent Copyright-Based Industries (Continued)**

<b>3</b>	<b>3 Manufacturing: Paper and Paper Products</b>
	3231 Manufacture of pulp, paper and paper board
	3232 Manufacture of corrugated paper and paper board and of containers of paper and paper board
	3239 Manufacture of other articles of paper and paper board

Source: Statistics South Africa (Stats SA).

**Table 20: Categories of Partial Copyright-Based Industries**

<b>Partial Copyright Industries</b>	
<b>1</b>	<b>3 Manufacturing: Apparel, textiles and footwear</b>
	<i>Wearing apparel</i>
	3130 Manufacture of knitted and crocheted fabrics and articles
	3140 Manufacture of wearing apparel, except fur apparel
	3150 Dressing and dyeing of fur; manufacture of articles of fur
	<i>Textiles</i>
	3111 Preparation and spinning of textile fibres, weaving of textiles
	3112 Finishing of textiles
	3121 Manufacture of made-up textile articles, except apparel
	3122 Manufacture of carpets, rugs and mats
	3123 Manufacture of cordage, rope, twine and netting
	3129 Manufacture of other textiles n.e.c. 36
	<i>Footwear</i>
<b>2</b>	<b>3 Manufacturing: Furniture and other manufacturing</b>
	3910 Manufacture of furniture
	3921 Manufacture of jewellery and related articles
	3922 Manufacture of musical instruments
	3923 Manufacture of sports goods
	3924 Manufacture of games and toys
	3929 Other manufacturing n.e.c. 36
	3951 Recycling of metal waste and scrap n.e.c. 36
	3952 Recycling of non-metal waste and scrap n.e.c.36.
<b>3</b>	<b>Crafts</b>
<b>4</b>	<b>Glass and glass products</b>

Source: Statistics South Africa (Stats SA).

**Table 21: Categories of Non-Dedicated Copyright-Based Industries**

Non-dedicated Copyright Industries	
<b>1</b>	<b>6 Wholesale and Retail Trade, Repair of Motor Vehicles, Motor Cycles and Personal and Household Goods, Hotels and Restaurants, General wholesale and retailing</b>
	61: Wholesale trade and commission trade, except of motor vehicles and motor cycles
	6110 Wholesale trade on a fee or contract basis
	6121 Wholesale trade in agricultural raw materials and livestock
	6122 Wholesale trade in food, beverages and tobacco
	61221 Wholesale trade in foodstuffs
	61222 Wholesale trade in beverages
	61223 Wholesale trade in tobacco products
	6131 Wholesale trade in textiles, clothing and footwear
	6139 Wholesale trade in other household goods
	61391 Wholesale trade in household furniture, requisites and appliances
	61392 Wholesale trade in books and stationery
	61393 Wholesale trade in precious stones, jewellery and silverware
	61394 Wholesale of pharmaceuticals and toiletries
	61399 Wholesale trade in other household goods n.e.c. 36
	6141 Wholesale trade in solid, liquid and gaseous fuels and related products
	6142 Wholesale trade in metals and metal ores
	6143 Wholesale trade in construction materials, hardware, plumbing and heating equipment and supplies
	6149 Wholesale trade in other intermediate products, waste and scrap
	61501 Office machinery and equipment, including computers
	61509 Other machinery
	61901 General wholesale trade
	61909 Other wholesale trade n.e.c. 36
	62: Retail trade, except of motor vehicles and motor cycles, repair of personal and household goods
	6211 Retail trade in non-specialised stores with food, beverages and tobacco predominating
	6219 Other retail trade in non-specialised stores
	62201 Retail trade in fresh fruit and vegetables
	62202 Retail trade in meat and meat products
	62203 Retail trade in bakery products
	62204 Retail trade in beverages (bottle stores)
	62209 Other retail trade in food, beverage and tobacco n.e.c.36
	623 Other retail trade in new goods in specialised stores
	6231 Retail trade in pharmaceutical and medical goods, cosmetic and toilet articles
	6232 Retail trade in textiles, clothing, footwear and leather goods
	62321 Retail trade in men's and boys' clothing
	62322 Retail trade in ladies' and girls' clothing
	62323 Retail trade by general outfitters and by dealers in piece goods, textiles, leather and travel accessories



**Table 21: Categories of Non-Dedicated Copyright-Based Industries (Continued)**

Non-dedicated Copyright Industries (continued)	
	62324 Retail trade in shoes
	6233 Retail trade in household furniture, appliances, articles and equipment
	6234 Retail trade in hardware, paint and glass
	62391 Retail trade of reading matter and stationery
	62392 Retail trade in jewellery, watches and clocks
	62393 Retail trade in sports goods and entertainment requisite
	62399 Retail trade by other specialised stores
	6240 Retail trade in second-hand goods in stores
	6251 Retail trade via mail order houses
	6252 Retail trade via stalls and markets
	6259 Other retail trade not in store
	6260 Repair of personal and household goods
	63: Sale, maintenance and repair of motor vehicles and motor cycles, retail trade in automotive fuel
	631 Sale of motor vehicles
	6320 Maintenance and repair of motor vehicles
	633 Sale of motor vehicle parts and accessories
	6340 Sale, maintenance and repair of motor cycles and related parts and accessories
	6350 Retail sale of automotive fuel
<b>2</b>	<b>7: Transport, storage and communication</b>
	7111 Railway transport
	712 Other land transport
	7121 Other scheduled passenger land transport
	7122 Other non-scheduled passenger land transport
	7123 Freight transport by road
	7130 Transport via pipelines
	72 Water transport
	7211 Sea and coastal water transport
	7220 Inland water transport
	7300 Air transport
	7411 Cargo handling
	7412 Storage and warehousing
	7413 Other supporting transport activities
	7414 Travel agency and related activities
	7419 Activities of other transport agencies
	7511 National postal activities
	7512 Courier activities other than national postal activities
	7520 Telecommunications

Source: Statistics South Africa (Stats SA).

## Appendix 4 Input-Output Multipliers

The Input-Output analysis is credited to W. Leontief (1905-1999) [Nobel Prize laureate 1973] who developed the first Input-Output (IO) table<sup>60</sup>. In the literature, the first studies on applications of Leontief's analysis were conducted during the 1950s and 1960s<sup>61, 62</sup>. However, the IO analysis has been even now preferred in the international literature in the 1980s, 1990s and 2000s with specific interest on the impact of environmental changes to the economies<sup>63, 64, 65, 66</sup>.

Input-Output analysis is a way of systematically quantifying the mutual interrelationships among the various sectors of the economic system. The idea of this analysis lies with the fact that it is impossible to analyse the sectoral contribution of a specific production sector (industry) to overall aggregate production without taking into account its connection with the other sectors.

The IO tables are used for several analytical purposes such as:

- economic policy
- forecasts
- analysis of the production structure
- production functions

The IO tables are organised in a basic matrix showing the inputs and outputs of the various economic sectors. This representation of the economy is based on specific assumptions. For example all the transactions are reflected in monetary terms and recorded on the assumption that general equilibrium exists in the economy. Furthermore, only cross-section data are included in the tables, hence, IO tables give us an opportunity for a static-dynamic analysis. Each year recorded in the IO tables gives us a frozen picture of the economy's equilibrium at that particular year (static part of the analysis). The researcher, however, can progress from one equilibrium position to the next (dynamic part of the analysis).

The main application of IO tables is the derivation of multipliers in order to examine the effects on an economy of an exogenous change in final demand. The four most commonly used multipliers are output, income, employment and import. They provide, respectively, a measure of the effects of an exogenous change in final demand on a) the output of industries in the economy b) income earned by households c) employment to be generated and d) usage of imports by all industries.

An IO model relates industry outputs to final demand. In matrix terminology, the model is expressed as  $X = (I-A)^{-1} * Y$ , where X is the column vector of industry outputs, Y the column vector of final demand, I the identity matrix and A the direct requirements coefficients matrix.  $(I-A)^{-1}$  is the "open" (all final demand sectors are assumed to be exogenous) Leontief inverse, usually referred to as the total requirements coefficients matrix. The multipliers derived from an open IO model are known as simple multipliers. The household sector receives income for its involvement in the production process and spends it on products. This will influence the domestic consumption and consequently the level of output of each domestic industry. Due to this, the household sector is preferred to be treated as endogenous. Therefore, with an expansion of matrix A, we close the matrix with respect to households. The multipliers derived from this new matrix are called total multipliers.

<sup>60</sup>Leontief W. (1953) "Studies on the structure of the American economy", New York: Oxford University Press.

<sup>61</sup>Adams A. and Stewart I. (1956) "Input-Output analysis: An application", The Economic Journal, 66 (263), 442-454.

<sup>62</sup>Rey G. and Tilanus C. (1963) "Input-Output Forecasts for the Netherlands, 1949-1958", Econometrica, 31 (3), 454-463.

<sup>63</sup>Devis K., de Melo J. and Robinson S. (1982) "General equilibrium models for development policy", Washington D.C.: The World Bank.

<sup>64</sup>Duchin F. and Steenge A. (1999) "Input-Output Analysis, technology and the environment". In J. van den Bergh, Handbook of Environmental and Resource economics. Northampton, USA: Edward Elgar Publishing.

<sup>65</sup>Huppes G., de Koning A., Suti S., Heijungs R., van Oers L., Nielsen P. et al. (2008) "Environmental Impacts of Consumption in the European Union: High-Resolution Input-Output Tables with Detailed Environmental Extensions". Journal of Industrial Ecology, 10 (3), 129-146.

<sup>66</sup>Richardson H. (2006) "Input-Output and Economic Base Multipliers: Looking Backward and Forward". Journal of Regional Science, 25 (4), 607-661.

A number of other multipliers can also be estimated from the I-O analysis:

- **Initial effects:** A ZAR1.00 change in output to meet the change of R1.00 in final demand.
- **First-round effects:** An industry must increase its inputs from other industries and from itself, in order to produce an extra unit of output to meet a ZAR1.00 increase in final demand.
- **Industrial support effects:** Other industries will need to increase their purchases to expand their output to meet the first-round requirements.
- **Production-induced effects:** The combination of first-round effects with the industrial-support effects.
- **Consumption induced effects:** It is equal to its total multiplier less its simple multiplier.
- **Type 1A and 1B:** They express the simple multiplier as a ratio of the initial effect.
- **Type 2A and 2B:** They express the total multiplier as a ratio of the initial effect.

Associated with this, there will also be similar effects on household income, employment and imports. The following tables present the multipliers for South Africa derived from the I-O tables for 2009.

**Table 22: Output Multipliers 2009**

	Consumption induced effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Agriculture, forestry and fishing	1.000	0.578	0.863	1.441	1.921	2.441	4.363	1.578	2.441	4.363	3.363
Coal mining	1.000	0.500	0.661	1.161	1.585	2.161	3.747	1.500	2.161	3.747	2.747
Gold and uranium ore mining	1.000	0.295	0.415	0.710	2.782	1.710	4.492	1.295	1.710	4.492	3.492
Other mining	1.000	0.454	0.579	1.034	1.587	2.034	3.620	1.454	2.034	3.620	2.620
Food	1.000	0.786	1.115	1.902	2.251	2.902	5.153	1.786	2.902	5.153	4.153
Beverages	1.000	0.665	0.918	1.584	2.304	2.584	4.888	1.665	2.584	4.888	3.888
Tobacco	1.000	0.633	0.933	1.566	1.697	2.566	4.262	1.633	2.566	4.262	3.262
Textiles	1.000	0.729	1.079	1.808	3.071	2.808	5.879	1.729	2.808	5.879	4.879
Wearing apparel	1.000	0.655	0.930	1.585	3.296	2.585	5.881	1.655	2.585	5.881	4.881
Leather and leather products	1.000	0.747	1.208	1.956	2.795	2.956	5.751	1.747	2.956	5.751	4.751
Footwear	1.000	0.773	1.307	2.080	2.778	3.080	5.857	1.773	3.080	5.857	4.857
Wood and wood products	1.000	0.697	1.004	1.701	2.546	2.701	5.247	1.697	2.701	5.247	4.247
Paper and paper products	1.000	0.778	1.237	2.016	2.495	3.016	5.511	1.778	3.016	5.511	4.511
Printing, publishing and recorded media	1.000	0.690	1.095	1.785	3.110	2.785	5.895	1.690	2.785	5.895	4.895
Coke and refined petroleum products	1.000	0.748	0.839	1.587	1.589	2.587	4.175	1.748	2.587	4.175	3.175
Basic chemicals	1.000	0.780	1.082	1.863	1.927	2.863	4.790	1.780	2.863	4.790	3.790
Other chemicals and man-made fibres	1.000	0.736	1.122	1.857	2.387	2.857	5.245	1.736	2.857	5.245	4.245
Rubber products	1.000	0.777	1.161	1.939	2.367	2.939	5.305	1.777	2.939	5.305	4.305
Plastic products	1.000	0.640	1.000	1.640	3.036	2.640	5.676	1.640	2.640	5.676	4.676
Glass and glass products	1.000	0.652	0.835	1.487	3.076	2.487	5.564	1.652	2.487	5.564	4.564
Non-metallic minerals	1.000	0.659	0.792	1.451	1.820	2.451	4.271	1.659	2.451	4.271	3.271
Basic iron and steel	1.000	0.773	0.947	1.719	2.235	2.719	4.954	1.773	2.719	4.954	3.954
Basic non-ferrous metals	1.000	0.641	0.827	1.468	1.608	2.468	4.076	1.641	2.468	4.076	3.076

**Table 22: Output Multipliers 2009 (Continued)**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Metal products excluding machinery	1.000	0.696	1.003	1.699	2.644	2.699	5.344	1.696	2.699	5.344	4.344
Machinery and equipment	1.000	0.693	1.011	1.704	2.797	2.704	5.502	1.693	2.704	5.502	4.502
Electrical machinery and apparatus	1.000	0.733	1.090	1.823	2.684	2.823	5.507	1.733	2.823	5.507	4.507
Television, radio and communication equipment	1.000	0.670	0.965	1.635	2.992	2.635	5.627	1.670	2.635	5.627	4.627
Professional and scientific equipment	1.000	0.717	0.988	1.705	2.348	2.705	5.053	1.717	2.705	5.053	4.053
Motor vehicles, parts and accessories	1.000	0.796	1.321	2.117	2.917	3.117	6.034	1.796	3.117	6.034	5.034
Other transport equipment	1.000	0.684	1.030	1.714	3.203	2.714	5.917	1.684	2.714	5.917	4.917
Furniture	1.000	0.764	1.165	1.929	2.905	2.929	5.834	1.764	2.929	5.834	4.834
Other manufacturing	1.000	0.560	0.670	1.229	1.729	2.229	3.959	1.560	2.229	3.959	2.959
Electricity, gas and steam	1.000	0.465	0.587	1.051	1.973	2.051	4.024	1.465	2.051	4.024	3.024
Water supply	1.000	0.627	0.879	1.506	1.631	2.506	4.138	1.627	2.506	4.138	3.138
Building construction	1.000	0.687	1.089	1.776	2.023	2.776	4.800	1.687	2.776	4.800	3.800
Civil engineering and other construction	1.000	0.657	0.923	1.580	1.987	2.580	4.567	1.657	2.580	4.567	3.567
Wholesale and retail trade	1.000	0.458	0.545	1.003	2.192	2.003	4.195	1.458	2.003	4.195	3.195
Catering and accommodation services	1.000	0.604	0.831	1.435	1.927	2.435	4.362	1.604	2.435	4.362	3.362
Transport and storage	1.000	0.510	0.675	1.185	1.748	2.185	3.933	1.510	2.185	3.933	2.933
Communication	1.000	0.521	0.656	1.177	1.852	2.177	4.029	1.521	2.177	4.029	3.029
Finance and insurance	1.000	0.400	0.383	0.783	2.293	1.783	4.076	1.400	1.783	4.076	3.076
Business services	1.000	0.518	0.608	1.125	1.773	2.125	3.898	1.518	2.125	3.898	2.898
Medical, dental and veterinary services	1.000	0.588	0.770	1.358	2.279	2.358	4.637	1.588	2.358	4.637	3.637
Excluding medical, dental and veterinary services	1.000	0.604	0.782	1.386	1.993	2.386	4.379	1.604	2.386	4.379	3.379
Other producers	1.000	0.215	0.285	0.499	4.442	1.499	5.942	1.215	1.499	5.942	4.942
General government services	1.000	0.357	0.443	0.800	3.589	1.800	5.389	1.357	1.800	5.389	4.389

Source: Authors' calculations with data from the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).

**Table 23: Income Multipliers 2009**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Agriculture, forestry and fishing	0.140	0.089	0.151	0.239	0.244	0.379	0.623	1.634	2.712	4.455	3.455
Coal mining	0.101	0.092	0.119	0.212	0.201	0.313	0.514	1.912	3.095	5.083	4.083
Gold and uranium ore mining	0.410	0.064	0.075	0.139	0.353	0.549	0.902	1.157	1.340	2.201	1.201
Other mining	0.129	0.079	0.104	0.184	0.201	0.313	0.514	1.615	2.422	3.978	2.978
Food	0.113	0.137	0.194	0.331	0.285	0.444	0.729	2.207	3.923	6.445	5.445
Beverages	0.148	0.138	0.168	0.307	0.292	0.455	0.747	1.934	3.072	5.047	4.047
Tobacco	0.066	0.107	0.162	0.269	0.215	0.335	0.550	2.621	5.069	8.326	7.326
Textiles	0.251	0.157	0.198	0.354	0.389	0.606	0.995	1.624	2.410	3.959	2.959
Wearing apparel	0.303	0.168	0.179	0.347	0.418	0.650	1.068	1.555	2.145	3.524	2.524
Leather and leather products	0.207	0.131	0.213	0.344	0.354	0.551	0.906	1.633	2.661	4.371	3.371
Footwear	0.149	0.164	0.235	0.399	0.352	0.548	0.900	2.105	3.686	6.055	5.055
Wood and wood products	0.188	0.134	0.180	0.314	0.323	0.502	0.825	1.713	2.669	4.385	3.385
Paper and paper products	0.138	0.135	0.219	0.355	0.316	0.492	0.809	1.984	3.578	5.876	4.876
Printing, publishing and recorded media	0.276	0.138	0.199	0.337	0.394	0.614	1.008	1.499	2.220	3.646	2.646
Coke and refined petroleum products	0.060	0.104	0.149	0.253	0.201	0.313	0.515	2.722	5.188	8.522	7.522
Basic chemicals	0.080	0.114	0.186	0.300	0.244	0.380	0.625	2.432	4.767	7.831	6.831
Other chemicals and man-made fibres	0.153	0.124	0.195	0.318	0.303	0.471	0.774	1.812	3.088	5.073	4.073
Rubber products	0.129	0.135	0.203	0.338	0.300	0.467	0.767	2.047	3.622	5.949	4.949
Plastic products	0.290	0.130	0.178	0.309	0.385	0.599	0.984	1.449	2.063	3.389	2.389
Glass and glass products	0.299	0.151	0.157	0.308	0.390	0.607	0.997	1.505	2.030	3.334	2.334
Non-metallic minerals	0.107	0.110	0.142	0.252	0.231	0.359	0.590	2.024	3.353	5.507	4.507
Basic iron and steel	0.145	0.127	0.169	0.296	0.283	0.441	0.724	1.875	3.040	4.993	3.993
Basic non-ferrous metals	0.091	0.089	0.137	0.226	0.204	0.317	0.521	1.970	3.477	5.712	4.712
Metal products excluding machinery	0.217	0.129	0.176	0.305	0.335	0.522	0.857	1.595	2.408	3.956	2.956
Machinery and equipment	0.226	0.142	0.184	0.326	0.355	0.552	0.907	1.628	2.444	4.014	3.014

**Table 23: Income Multipliers 2009 (Continued)**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Electrical machinery and apparatus	0.200	0.138	0.192	0.330	0.340	0.529	0.870	1.689	2.650	4.353	3.353
Television, radio and communication equipment	0.240	0.160	0.190	0.350	0.379	0.590	0.969	1.666	2.459	4.038	3.038
Professional and scientific equipment	0.142	0.141	0.181	0.321	0.298	0.463	0.761	1.993	3.266	5.366	4.366
Motor vehicles, parts and accessories	0.173	0.157	0.246	0.403	0.370	0.575	0.945	1.908	3.332	5.474	4.474
Other transport equipment	0.274	0.158	0.200	0.358	0.406	0.632	1.038	1.579	2.310	3.794	2.794
Furniture	0.205	0.155	0.213	0.368	0.388	0.573	0.941	1.756	2.792	4.586	3.586
Other manufacturing	0.118	0.103	0.119	0.223	0.219	0.341	0.560	1.872	2.881	4.732	3.732
Electricity, gas and steam	0.208	0.075	0.106	0.181	0.250	0.389	0.639	1.361	1.872	3.074	2.074
Water supply	0.095	0.084	0.143	0.227	0.207	0.322	0.529	1.878	3.380	5.552	4.552
Building construction	0.108	0.103	0.189	0.291	0.257	0.399	0.656	1.953	3.705	6.085	5.085
Civil engineering and other construction	0.122	0.106	0.164	0.270	0.252	0.392	0.644	1.866	3.212	5.276	4.276
Wholesale and retail trade	0.246	0.085	0.102	0.187	0.278	0.432	0.710	1.345	1.759	2.890	1.890
Catering and accommodation services	0.135	0.096	0.150	0.246	0.244	0.380	0.624	1.711	2.826	4.642	3.642
Transport and storage	0.132	0.090	0.122	0.212	0.222	0.345	0.566	1.679	2.603	4.276	3.276
Communication	0.149	0.093	0.123	0.216	0.235	0.365	0.600	1.627	2.450	4.024	3.024
Finance and insurance	0.279	0.096	0.078	0.174	0.291	0.452	0.743	1.343	1.624	2.668	1.668
Business services	0.136	0.100	0.114	0.214	0.225	0.350	0.574	1.737	2.576	4.231	3.231
Medical, dental and veterinary services	0.209	0.100	0.140	0.240	0.289	0.450	0.739	1.479	2.148	3.529	2.529
Excluding medical, dental and veterinary services	0.154	0.095	0.145	0.239	0.253	0.393	0.646	1.617	2.557	4.200	3.200
Other producers	0.781	0.043	0.052	0.095	0.563	0.876	1.440	1.055	1.122	1.843	0.843
General government services	0.533	0.092	0.084	0.175	0.455	0.708	1.163	1.172	1.329	2.184	1.184

Source: Authors' calculations with data from the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).

**Table 24: Employment Multipliers 2009**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2B
Agriculture, forestry and fishing	7.900	1.346	2.483	3.829	4.263	11.729	15.993	1.170	1.485	2.024	1.024
Coal mining	1.367	1.717	1.747	3.463	3.518	4.830	8.348	2.256	3.534	6.108	5.108
Gold and uranium ore mining	7.631	1.154	1.148	2.302	6.175	9.933	16.108	1.151	1.302	2.111	1.111
Other mining	2.466	1.469	1.508	2.978	3.521	5.443	8.965	1.596	2.207	3.635	2.635
Food	1.156	4.405	3.306	7.711	4.995	8.867	13.862	4.809	7.668	11.987	10.987
Beverages	1.423	3.047	2.802	5.849	5.113	7.272	12.386	3.140	5.109	8.701	7.701
Tobacco	0.198	3.676	2.528	6.204	3.765	6.402	10.167	19.578	32.354	51.383	50.383
Textiles	3.860	2.998	3.055	6.053	6.816	9.913	16.729	1.777	2.568	4.334	3.334
Wearing apparel	6.025	3.368	2.820	6.188	7.314	12.213	19.527	1.559	2.027	3.241	2.241
Leather and leather products	1.807	2.203	4.064	6.267	6.204	8.074	14.278	2.220	4.469	7.902	6.902
Footwear	1.946	2.274	3.955	6.229	6.165	8.175	14.340	2.168	4.201	7.368	6.368
Wood and wood products	3.274	3.443	3.098	6.541	5.650	9.815	15.465	2.052	2.998	4.724	3.724
Paper and paper products	0.924	2.332	3.435	5.766	5.537	6.690	12.227	3.524	7.242	13.237	12.237
Printing, publishing and recorded media	2.399	2.118	3.054	5.172	6.902	7.571	14.473	1.883	3.155	6.032	5.032
Coke and refined petroleum products	0.215	1.876	2.322	4.198	3.526	4.412	7.938	9.745	20.568	37.004	36.004
Basic chemicals	0.397	1.956	2.870	4.826	4.277	5.223	9.501	5.926	13.155	23.927	22.927
Other chemicals and man-made fibres	0.612	1.868	2.958	4.827	5.298	5.438	10.736	4.054	8.890	17.550	16.550
Rubber products	1.443	2.485	3.082	5.567	5.253	7.011	12.263	2.722	4.857	8.496	7.496
Plastic products	1.274	1.525	2.624	4.149	6.738	5.423	12.162	2.197	4.255	9.543	8.543
Glass and glass products	1.466	2.507	2.380	4.888	6.827	6.354	13.180	2.710	4.334	8.990	7.990
Non-metallic minerals	2.546	2.100	2.164	4.265	4.039	6.810	10.849	1.825	2.675	4.262	3.262
Basic iron and steel	0.771	2.251	2.588	4.839	4.959	5.609	10.568	3.920	7.277	13.710	12.710
Basic non-ferrous metals	0.780	1.173	2.022	3.195	3.568	3.975	7.543	2.503	5.095	9.669	8.669
Metal products excluding machinery	3.016	1.921	2.679	4.600	5.868	7.615	13.484	1.637	2.525	4.471	3.471
Machinery and equipment	2.508	2.175	2.750	4.925	6.208	7.433	13.641	1.867	2.964	5.440	4.440



**Table 24: Employment Multipliers 2009 (Continued)**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Electrical machinery and apparatus	1.205	1.839	2.785	4.624	5.956	11.784	2.527	4.838	9.782	8.782	
Television, radio and communication equipment	0.963	2.127	2.624	4.751	6.639	12.354	3.208	5.932	12.825	11.825	
Professional and scientific equipment	1.636	2.375	2.665	5.040	5.211	11.887	2.452	4.081	7.266	6.266	
Motor vehicles, parts and accessories	1.151	2.240	3.616	5.857	6.473	13.481	2.946	6.087	11.711	10.711	
Other transport equipment	0.992	1.600	2.670	4.270	5.263	12.370	2.613	5.304	12.467	11.467	
Furniture	2.923	2.783	3.695	6.478	6.446	15.847	1.952	3.216	5.421	4.421	
Other manufacturing	2.130	1.803	1.850	3.654	3.837	9.621	1.846	2.715	4.517	3.517	
Electricity, gas and steam	0.825	0.836	1.581	2.416	4.378	7.619	2.013	3.930	9.239	8.239	
Water supply	0.826	0.801	1.796	2.597	3.620	7.042	1.970	4.144	8.529	7.529	
Building construction	3.103	1.954	3.067	5.021	4.490	12.615	1.630	2.618	4.065	3.065	
Civil engineering and other construction	3.733	1.855	2.528	4.382	4.409	12.525	1.497	2.174	3.355	2.355	
Wholesale and retail trade	6.438	1.233	1.400	2.633	4.865	13.936	1.192	1.409	2.164	1.164	
Catering and accommodation services	7.462	1.856	2.589	4.445	4.276	16.184	1.249	1.596	2.169	1.169	
Transport and storage	2.265	1.255	1.763	3.018	3.879	9.163	1.554	2.333	4.046	3.046	
Communication	0.565	1.053	1.674	2.728	4.110	7.402	2.866	5.831	13.110	12.110	
Finance and insurance	1.002	0.703	0.901	1.605	5.088	7.695	1.702	2.601	7.678	6.678	
Business services	4.155	1.401	1.566	2.967	3.934	11.056	1.337	1.714	2.661	1.661	
Medical, dental and veterinary services	1.959	1.816	2.057	3.872	5.057	10.889	1.927	2.977	5.558	4.558	
Excluding medical, dental and veterinary services	1.393	2.080	2.160	4.240	4.422	10.055	2.492	4.043	7.216	6.216	
Other producers	31.002	0.702	0.771	1.473	9.858	42.333	1.023	1.048	1.365	0.365	
General government services	4.441	1.014	1.189	2.203	6.644	14.608	1.228	1.496	3.290	2.290	

Source: Authors' calculations with data from the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).

**Table 25: Import Multipliers 2009**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Agriculture, forestry and fishing	0.064	0.125	0.194	0.319	0.233	0.382	0.616	2.967	6.014	9.678	8.678
Coal mining	0.021	0.135	0.154	0.289	0.192	0.311	0.503	7.343	14.599	23.639	22.639
Gold and uranium ore mining	0.000	0.097	0.094	0.191	0.338	0.191	0.528	-	-	-	-
Other mining	0.564	0.097	0.133	0.231	0.192	0.795	0.987	1.173	1.410	1.751	0.751
Food	0.099	0.069	0.218	0.287	0.273	0.387	0.660	1.696	3.901	6.657	5.657
Beverages	0.089	0.060	0.165	0.225	0.280	0.314	0.594	1.678	3.525	6.660	5.660
Tobacco	0.032	0.056	0.191	0.247	0.206	0.279	0.485	2.738	8.698	15.111	14.111
Textiles	0.382	0.176	0.238	0.414	0.373	0.796	1.169	1.461	2.085	3.061	2.061
Wearing apparel	0.566	0.141	0.192	0.333	0.400	0.900	1.300	1.249	1.589	2.294	1.294
Leather and leather products	0.327	0.120	0.212	0.332	0.339	0.659	0.998	1.367	2.015	3.053	2.053
Footwear	0.728	0.209	0.242	0.451	0.337	1.180	1.517	1.287	1.619	2.082	1.082
Wood and wood products	0.094	0.079	0.193	0.272	0.309	0.366	0.675	1.834	3.878	7.151	6.151
Paper and paper products	0.127	0.135	0.255	0.391	0.303	0.517	0.820	2.067	4.079	6.466	5.466
Printing, publishing and recorded media	0.083	0.131	0.224	0.355	0.377	0.438	0.815	2.569	5.248	9.768	8.768
Coke and refined petroleum products	0.232	0.297	0.192	0.489	0.193	0.721	0.914	2.281	3.106	3.936	2.936
Basic chemicals	0.376	0.239	0.258	0.497	0.234	0.873	1.107	1.636	2.320	2.942	1.942
Other chemicals and man-made fibres	0.384	0.184	0.265	0.449	0.290	0.832	1.122	1.479	2.169	2.925	1.925
Rubber products	0.541	0.188	0.270	0.458	0.287	0.999	1.286	1.348	1.848	2.379	1.379
Plastic products	0.217	0.161	0.228	0.389	0.368	0.607	0.975	1.739	2.789	4.483	3.483
Glass and glass products	0.203	0.153	0.180	0.333	0.373	0.536	0.909	1.754	2.638	4.474	3.474
Non-metallic minerals	0.195	0.201	0.177	0.377	0.221	0.572	0.793	2.030	2.937	4.070	3.070
Basic iron and steel	0.096	0.245	0.213	0.458	0.271	0.554	0.825	3.543	5.759	8.577	7.577
Basic non-ferrous metals	0.154	0.157	0.190	0.346	0.195	0.500	0.695	2.018	3.252	4.520	3.520
Metal products excluding machinery	0.191	0.093	0.235	0.328	0.321	0.519	0.840	1.490	2.722	4.405	3.405
Machinery and equipment	1.509	0.319	0.258	0.577	0.339	2.086	2.425	1.211	1.382	1.607	0.607

**Table 25: Import Multipliers 2009 (Continued)**

Industry	Initial effects	First round effects	Industrial support effect	Production induced effect	Consumption induced effects	Simple	Total	Type 1A	Type 1B	Type 2A	Type 2b
Electrical machinery and apparatus	0.541	0.180	0.252	0.432	0.326	0.973	1.299	1.333	1.799	2.401	1.401
Television, radio and communication equipment	2.919	0.861	0.463	1.324	0.363	4.243	4.606	1.295	1.453	1.578	0.578
Professional and scientific equipment	2.647	0.297	0.221	0.518	0.285	3.165	3.449	1.112	1.196	1.303	0.303
Motor vehicles, parts and accessories	0.541	0.261	0.322	0.583	0.354	1.124	1.478	1.482	2.078	2.732	1.732
Other transport equipment	0.957	0.359	0.310	0.670	0.389	1.627	2.015	1.375	1.699	2.105	1.105
Furniture	0.252	0.107	0.223	0.330	0.352	0.582	0.934	1.425	2.310	3.710	2.710
Other manufacturing	0.172	0.177	0.151	0.329	0.210	0.500	0.710	2.032	2.915	4.138	3.138
Electricity, gas and steam	0.000	0.047	0.122	0.169	0.239	0.169	0.408	-	-	-	-
Water supply	0.000	0.064	0.148	0.212	0.198	0.212	0.410	-	-	-	-
Building construction	0.002	0.099	0.222	0.321	0.245	0.323	0.569	57.008	182.689	321.504	320.504
Civil engineering and other construction	0.005	0.134	0.204	0.339	0.241	0.343	0.585	28.232	69.556	118.371	117.371
Wholesale and retail trade	0.000	0.030	0.111	0.141	0.266	0.141	0.407	101.281	476.998	1375.423	1374.423
Catering and accommodation services	0.184	0.043	0.142	0.184	0.234	0.369	0.602	1.231	1.999	3.268	2.268
Transport and storage	0.084	0.099	0.161	0.260	0.212	0.343	0.556	2.174	4.093	6.620	5.620
Communication	0.048	0.208	0.234	0.442	0.225	0.489	0.714	5.370	10.274	14.991	13.991
Finance and insurance	0.009	0.013	0.053	0.065	0.278	0.074	0.352	2.423	8.411	39.952	38.952
Business services	0.012	0.055	0.119	0.174	0.215	0.186	0.401	5.756	16.083	34.713	33.713
Medical, dental and veterinary services	0.003	0.135	0.163	0.298	0.276	0.301	0.577	52.199	114.389	219.624	218.624
Excluding medical, dental and veterinary services	0.015	0.176	0.177	0.353	0.242	0.368	0.610	12.524	24.109	39.954	38.954
Other producers	0.098	0.034	0.062	0.096	0.539	0.195	0.733	1.344	1.980	7.464	6.464
General government services	0.000	0.060	0.102	0.162	0.435	0.162	0.598	-	-	-	-

Source: Authors' calculations with data from the Supply and Use Tables (SUT) of Statistics South Africa (Stats SA).



# The Economic Contribution of Copyright-Based Industries in Thailand

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## RESEARCH TEAM

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## Executive Summary

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The primary aim of this research is to estimate the contributions to GDP and employment of the copyright-based industries in Thailand. These particular industries have been widely recognised as enabling factors for the economic growth and the development of the country. The study starts by presenting the development of the legal system regarding copyrights and related rights. It is reported that the copyright law in Thailand has been developed over more than a hundred years. At an early stage, the coverage was limited to novels and poems. Today, the scope of copyright protection has been expanded and adjusted to meet the accepted international standards and to better fit the modern age of information and communication technology.

As far as the estimation of economic contributions is concerned, the study follows the guidelines recommended by the WIPO Guide on Surveying the Economic Contribution of the Copyright-based Industries. According to the WIPO Guide, copyright-based industries are classified into four groups, namely, core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated support industries. The core copyright industries refer to the industries that produce copyright materials as their main products while interdependent copyright industries mean the industries that support and facilitate the creation of copyright works. The partial industries represent the industries whose activities are partially associated with the creation of copyright materials whereas the industries that distribute and facilitate the dissemination of copyright works belong to the group of non-dedicated support industries.

The emphasis of this study is put on measuring the share of GDP and the share of total employment of all four groups of copyright-based industries. To do so, the statistical data sets used include the Industrial Census, the Business Trade and Services Survey of Thailand, business survey data and interviews with entrepreneurs as well as business associations related to copyright and related rights. Besides, the analysis of the international aspect is derived from the international trade data from the UN Comtrade database system.

According to the study, the key findings about estimating the economic contributions of copyright-based industries in Thailand are as follows:

- Trade data from 2004 to 2008 displays a positive trend of export revenue generated by the copyright-based industries. In 2006, the total export value is USD 5.73 billion, which represents 4.56 percent of the total of exports of Thailand.
- In 2006, the copyright-based industries generated 350.96 billion baht worth of total value-added. The figure represents 4.48 percent of Thailand's GDP. In terms of employment, the industries hired 1.02 million people which accounts for 2.85 percent of the total employment of the country.
- To compare the four groups of copyright-based industries, the core copyright industries' contribution to GDP dominates those of the other groups. Their contribution represents 2.21 percent of the GDP. This is followed by the contribution of interdependent copyright industries. Their share is 1.02 percent of the GDP. In terms of employment, core copyright industries hire more workers than other groups do. The employment in this group of industries accounts for 1.50 percent of total employment while the share is only of 0.29 percent for interdependent copyright industries.
- As far as the international comparison is concerned, the share of copyright-based industries' contribution to the GDP is lower than those of Australia, Korea, Malaysia, the Philippines and Singapore. But it is higher than that of Colombia.
- With regards to employment, the share of total employment for the Philippines is 11.1 percent, which is the highest amongst the seven countries. This reflects the fact that the copyright industries are a significant source of employment in the country. However in Thailand, the contribution to employment is the lowest compared to other countries. The copyright-based industries in Thailand are less labour-intensive than the same industries in other countries. This is indicated by the ratio of employment contribution to the GDP contribution.

The international comparison of the four industrial groups shows similar significance as in the other countries. The size of the core copyright industries is the biggest while that of interdependent copyright industries is the second biggest. For Colombia, Malaysia and Thailand, partial copyright industries contribute to their respective GDP more than non-dedicated support copyright industries do. Nonetheless the latter group is more important than the former group for Australia, Korea, the Philippines and Singapore.

When conducting the estimation of copyright-based industries, some difficulties were faced by the research team regarding the identification, the classification and the mapping of statistical data. This is due to imperfect correspondence between the Thailand Standard Industrial Classification (TSIC) and the WIPO Classification. Thus, it is recommended that relevant government agencies should improve database system, conduct data collection on a regular basis and make the data at disaggregated level more available for public access. This requires an efficient coordination among government agencies and business associations as well as copyright collecting societies when collecting and recording the statistical data.

Overall, the findings in this study would benefit policy-makers who formulate economic and social policies to enhance the competitiveness of copyright-based industries in Thailand. The policy-makers would have inputs on how to set out the direction to prioritise the copyright sectors that urgently need support. This is because copyrights and related rights have been widely recognised as some of the tools in the drive of Thailand to strive to be a Creative Economy. Such aim is included in the 11th National Economic and Social Development Plan as part of the economic restructuring in Thailand. National strategies should be properly designed to raise international and domestic demand, and to address the supply-side constraints of copyright-based industries. The results of this study lead to the suggestion that the emphasis should be put on enhancing labour participation in the copyright-based industries. The support should primarily target labour-intensive copyright-based industries with the objective to increase the employment and payoffs of workers. To do so, the revenue generated by these particular industries could be distributed more widely to larger groups of people in a fairer manner.

Importantly, in order to help raise the payoffs for workers engaging in copyright-based industries, public and private partnership is needed to support the development of collective management organisations. This is to enhance the effectiveness in collecting remuneration and royalties from copyright users and to distribute them to copyright owners in a systematic way. The copyright owners and their workers would have higher incentives to continue to create high-quality copyright works. As a consequence, this would push forward to a greater extent the economic contribution of copyrights and related rights, and in turn, foster further economic growth and development for the entire nation.

This study provides the foundation for the analysis of copyright-based industries' contributions at the macro level. An extension of this study could be done by conducting an in-depth analysis of each specific copyright sector. This is to illustrate more detailed information on their economic contributions as well as to identify the strength and weakness of each sector. The outcome would be a discrete policy recommendation to support and address the problems at micro level.



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## 1. Introduction

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In Thailand, the issues of intellectual property have become increasingly significant over the years. Seven intellectual property laws were enacted during the past few decades. These include Patent Act B.E. 2522 (1979), Trademark Act B.E. 2534 (1991), Copyright Act B.E. 2537 (1994), Protection of Layout-Designs of Integrated Circuits Act B.E. 2543 (2000), Trade Secret Act B.E. 2545 (2002), Protection of Geographical Indications Act B.E. 2546 (2003) and Optical Disc Production Act B.E. 2548 (2005) as well as the Plant Varieties Protection Act B.E. 2542. The purposes of these laws are primarily to encourage the creativity and invention and to assure that the benefits from property rights are recognised in the country. As far as copyright and related rights are concerned, such branch of intellectual property always gains the most attention from public. The right holders have greater than ever demands for their rights to be protected. At the same time, the copyright law is more actively implemented and enforced by the government.

Currently, the Thai government has a policy to develop Thailand into a Creative Economy. The National Creative Economy Policy Committee, chaired by the Prime Minister, was set up. A great deal of projects has been initiated with the aim to strengthen the capacity of creative industries in Thailand. To lay a good foundation for the Creative Economy, the growing importance of copyright and related rights industries and their economic contribution must be more widely recognised. Due to the strong interconnection between copyright-based industries and creative industries, it is essential to assess the economic contribution of the copyright-based industries and related rights in Thailand. The findings would benefit policy-makers, especially those from the Ministry of Commerce, as inputs for prioritising the copyright sectors that urgently need support, formulating policies to enhance the competitiveness of the weak sectors as well as magnifying the multiplier effects of the entire copyright-based industries.

Previous studies supported by the World Intellectual Property Organization (WIPO) to assess the economic contribution of copyright-based industries in other countries show that copyright and related rights industries have large impacts on their respective national economies. A number of jobs have been created and revenues are generated from domestic consumption as well as exports. According to the WIPO Guide on Surveying the Economic Contribution of the Copyright-Based Industries<sup>1</sup>, the copyright and related rights industries are classified into four main categories, namely, core copyright industries, interdependent copyright industries, partial industries and non-dedicated support industries. Some of these industries belong to manufacturing sectors, while the others are in services sectors, which are the sectors with high value-added creation and are currently the main composition of the Thai Gross Domestic Product (GDP).

The level of interlinkages between the copyright and related rights industries and other industries in the economy is perceived to be relatively high. In other words, the copyright and related rights industries economically tend to have high value of input-output multiplier. The external linkage via the international trade aspect would examine the extent to which the copyright and related rights industries play a role in foreign trade. Therefore, it is undeniable that the copyright and related rights industries have become one of the engines of the Thai economic growth from several aspects, despite of the fact that the analysis from the statistical data might understate the real contribution of the industries to the Thai economy mainly due to copyright and related rights infringement.

In this study, the contribution of the copyright-based industries and related rights to the national economy of Thailand is analysed based on the WIPO Guide. This is to boost up the recognition of the industries' significance to the economy, and ultimately, to provide effective policy recommendations. The study puts emphasis on the measurement of the economic contribution to the economy in terms of job creation, value-added and export volume; it also presents a situation analysis concerning the copyright and related rights industries in Thailand. Quantitative methodologies were applied with the latest Thai economic data series to obtain the results for analysis. Moreover, interviews with the Thai entrepreneurs and associations in the copyright and related rights industries were conducted so as to understand the real situation in specific industries and allow the research team to analyse the findings both quantitatively and descriptively.

The research team comprises Watcharas Leelawath and Poonsri Sakhornrad from the International Institute for Trade and Development (ITD) as well as Danupon Ariyasajakorn from Chulalongkorn University. During the

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<sup>1</sup>Hereafter is referred to as the WIPO Guide.

time this research project was conducted, the major difficulties faced were about identifying and classifying copyright-based industries into four groups as presented in the WIPO Guide because there is no perfect correspondence between Thailand Standard Industrial Classification (TSIC) and WIPO Classification. However, with the guidance and suggestions from Dimiter Gantchev, WIPO and Vijayakumari Kanapathy, the research team could overcome such difficulty and improve the quality of the report. The team is very thankful for their great help.

## 1.1 Objectives

The primary objective of the study is to assess the economic contribution of copyright and related rights industries in Thailand. The economic indicators to be used include the percentage of GDP attributable to copyright and related rights industries, ratio of the industries' employment to the total employment and export volume of copyright and related rights industries in relation to other industries in the Thai economy.

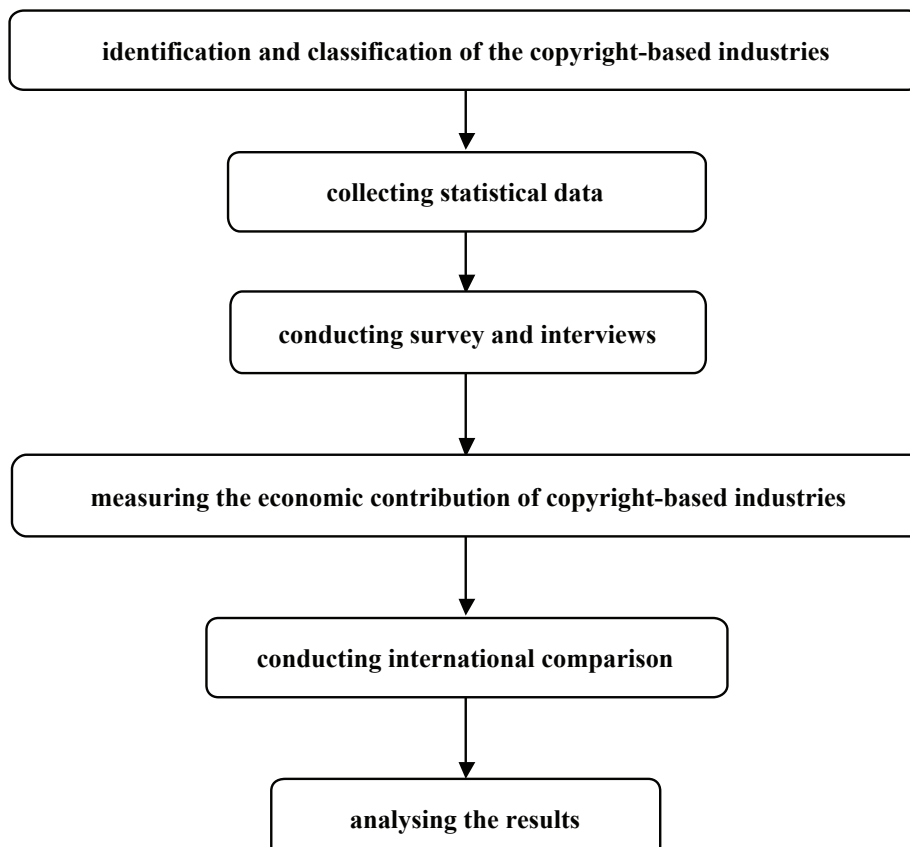
In addition, the study aims to create better understanding for the public and policy-makers on the overview and performance of the copyright and related rights industries in Thailand as well as the economic contribution of copyright and related right industries in comparison to other developed and developing countries.

Furthermore, the study provides policy recommendations to promote growth and development of copyright and related rights industries in Thailand.

## 1.2 Methodology and Data Sources

The study conforms to the methodology and the process specified in the WIPO Guide in evaluating the economic contribution of the copyright and related rights industries to the national economy of Thailand in terms of value-added, job creation and international trade. The study process can be illustrated in the following diagram.

**Diagram 1.1: Study Process in Assessing the Economic Contribution of Copyright-based Industries to the Thai Economy**



To start the process, all copyright and related rights industries have to be identified and grouped. According to the WIPO Guide, the copyright and related rights industries can be classified into four major groups by their characteristics, namely, (1) core copyright industries, (2) interdependent copyright industries, (3) partial copyright industries and (4) non-dedicated support industries.

#### (1) Core copyright industries

The core copyright industries are defined as those predominantly involved in creation, manufacture, production, broadcast and distribution and sale of copyrighted works and activities. These industries are listed as follows:

- Press and literature
- Music, theatrical productions, operas
- Motion picture and video
- Radio and television
- Photography
- Software and databases
- Visual and graphic arts
- Advertising services
- Copyright collecting societies

#### (2) Interdependent copyright industries

The interdependent copyright industries are industries which are engaged in production, manufacture and sale of equipment whose function is principally to facilitate the creation, production or use of works and other protected subject matter. The interdependent industries can be divided into two subgroups which include core interdependent and partial interdependent industries. The products of the former either are jointly consumed with the products of the core copyright industries and relate to signal transmission or are utilised to create the copyrighted works, while the products of the latter mainly facilitate the usage and broadcasting of copyrighted works predominantly through facilitating equipment.

- Core interdependent industries
  - TV sets, radios, VCRs, CD players, DVD players, electronic game equipment and other similar equipment
  - Computer and equipment
  - Musical equipment
- Partial interdependent industries
  - Photographic and cinematographic instruments
  - Photocopiers
  - Blank recording material
  - Paper

#### (3) Partial copyright industries

The partial copyright industries are industries in which a portion of the activities is related to works and other protected subject matter and may involve creation, manufacture, exhibition, broadcast or distribution and sales. These industries include the followings:

- Apparel, textiles and footwear
- Jewellery and coins
- Other crafts
- Furniture
- Household goods, china and glass
- Wall coverings and carpets
- Toys and games
- Architecture, engineering and surveying
- Interior design
- Museum

#### (4) Non-dedicated support industries

The non-dedicated support industries are industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter and such activities are not included in the core copyright industries. The industries include general wholesale and retail trade, general transportation and telephony and internet.

#### *Data Specification*

The primary goal of this study is to estimate the size of the copyright and related rights industries in the Thai economy. The most common measurement is the use of gross value-added of the industries as a percentage of GDP. The Thai economic data sets were analysed to measure economic contribution of the copyright industries to the Thai economy. The data is obtained from the Office of the National Economic and Social Development Board (NESDB) and National Statistical Office of Thailand (NSO).

According to the WIPO Guide, the copyright and related rights industries can be classified corresponding to the United Nations' International Standard Industrial Classification (ISIC). The Thai data can also be mapped to ISIC classification, thereby the authors can verify the copyright-based industries in the Thai economic data sets using the WIPO Guide. The classifications are as follows:

1. The core copyright industries are sectors representing printing and publishing, recorded media, photography, production and sale of motion picture, cinema and radio, TV and related services which include advertising services, software and database.
2. The interdependent copyright industries include sectors representing paper and paper products including other blank recording material, manufacture of accounting and computing machinery, manufactures of radio, television set and communication equipment, manufacture of photocopiers, photographic and optical instruments, manufacture of musical instruments and manufacture of chemical and chemical products related to the production of the aforementioned sectors.
3. The partial copyright industries can be represented by sectors representing manufacture of apparel, textiles and footwear, wood products, furniture, plastic wares, glass products, metal furniture and fixture, jewellery and related articles, architecture, engineering and surveying and museum.
4. The non-dedicated support industries are the sectors representing wholesale trade, retail trade, transportation and telecommunication.

As far as the employment is concerned, the team verified the employment contribution of the copyright and related rights industries from the 2002 and 2006 Industrial Census and the 2002 and 2007 Business Trade and Services Survey.<sup>2</sup> The employment information is derived from the NSO in both terms of the number of persons engaged and number of employed workers<sup>3</sup> in the copyright-based industries. Nevertheless the number of persons engaged is used to represent the national employment since it covers all kinds of labour contribution. The classification in the Census and the Survey is based on Thailand Standard Industrial Classification (TSIC) which is consistent with the International Standard Industrial Classification (ISIC). The approximation of employment shows contribution of copyright industries to the Thai labour market and the economy. In addition, it is to be noted at the beginning that the employment data might be underestimated

<sup>2</sup>The Industrial Census is basically established every ten years while the Business Trade and Services Survey is established every three years.

<sup>3</sup>According to NSO, the statistics which represents the number of persons engaged and the number of worker employed is different in terms of the definition and coverage of the sample. The number of workers employed considers only the workers who receive salary as the return for their contribution to work. The number of persons engaged, however, incorporates not only the workers in the copyright-based industries who receive a return in terms of salary but also the self-employed workers and the owners of the business. The earnings of the persons engaged in the industries could be in form of return from equity and profit from business. The research team used the number of persons engaged to represent the employment.

due to statistical error and limitations in data collection process. One of such limitations relates to the definition of "occupation" in the survey manual.<sup>4</sup>

Moreover, external linkage across countries is investigated through international trade channel. The volume of international movement of copyright merchandise can be analysed through the international trade data in Standard International Trade Classification (SITC) of the United Nations Statistics Division (UNSD), the UN Comtrade database system. The research team utilised the international trade data of 4-digit and 5-digit classification of the years 2004-2008.

### *Field Research*

The survey was conducted to obtain the Thai copyright factor for each sub-sector of copyrighted based industries. The survey responses cover 100 copyrighted and related right companies from all sub-sectors in 4 main groups of WIPO classification. In-depth interviews with entrepreneurs and copyright related business associations were carried out to investigate into more detailed information and their viewpoints. The business associations which have been interviewed are, for example, the Federation of National Film Association of Thailand (FNFAT), Association of Thai Software Industry (ATSI), Thai Software Export Promotion (TSEP), Thai Entertainment Content Trade Association (TECA), Motion Picture Association of America (Thailand), (MPA), Thai Animation and Computer Graphics Association (TACGA) including the experienced market players in music industry. The team also would like to extend the appreciation to Director General of the Department of Intellectual Property, Ministry of Commerce for the insightful interview.

### **1.3 Scope of the Study**

In order to fulfil the primary objective of the study, the identification of copyright and related rights industries and a collection of data were performed following the WIPO Guide. As mentioned earlier, the categories of the copyright and related rights industries cover core, interdependent, partial and non-dedicated support industries. Using the methodology as stated in section 1.2, the assessment of economic contribution of copyright and related rights industries was undertaken. The indicators of economic contribution that were measured include the share of copyright and related rights industries to GDP, share of the industries' employment to total employment and export volume with the export volume as a percentage of total Thai export to the world.

The survey and interviews allowed the research team to assess the fraction of their activities, revenues, expenses including the employment which is attributable to copyrighted works and eventually come up with a copyright factor of each copyright industry. Subsequently, the copyright factor is used as a ratio which reflects a picture of the importance of copyright activities in a given industry. The questions concerning the importance of copyright in the daily operations, revenues and expenditures on royalties and licensing fees as well as total number of manpower involved in creative activities, just to name a few, were asked in the questionnaire and personal interviews.

Besides, an overview of the copyright system is described and situation analysis on copyright and related rights industries is presented. The study also provides profile of specific sub-sectors in core copyright industries. Moreover, an international comparison is analysed in this report. The comparison between this particular study and previous studies on six countries, namely Australia, Colombia, Korea, Malaysia, the Philippines and Singapore was conducted so as to examine the relative performance of copyright and related rights industries among different countries. It is important to note that the methodologies employed in these studies are not exactly the same but their findings are comparable and could show us how important the industries are in Thailand and the other six countries.

<sup>4</sup>This information is obtained from the discussion with an NSO officer who is responsible to the employment data. For example, during the period of data collection called "the week of survey", even though the interviewees do many activities for a living, the interviewer will report only one occupation that the interviewees spend most time during that week. Other activities/occupations are recorded as part-time jobs. In case the interviewees reply that they spend equal time for two activities, the activity which generates most income to them will be kept in the record as their occupation. Therefore, for a number of Thai persons involved in the copyright-based industries (CBIs), their occupation recorded by the statistical office might not be any CBI. Such situation happens if the interviewee either does not spend most time on activities in CBIs or the copyrighted works do not bring them the most income amongst all their activities during the week of survey.



## 1.4 Structure of the Study

The report is organised as follows. The introduction, which includes scope and methodology of this study is presented in section 1. In section 2, the report contains an overview of copyright system in Thailand. The analysis of the economic contribution of copyright and related rights industries in Thailand is provided in section 3, where the measurements on the share to GDP, employment ratio and volume of exports are illustrated. Section 4 presents the overviews on selected sub-sectors in the core copyright industries. Finally, section 5 sets out the international comparison between Thailand and six other countries, namely, Australia, Colombia, Korea, Malaysia, the Philippines and Singapore. Lastly, the study is summarised in section 6.

## 2. An Overview of the Copyright System in Thailand

The copyright system in Thailand has been developed over more than a hundred years. In the early stage, the coverage was very limited, it related to novels and poems only. The protection did not cover a variety of literary and artistic works. In 1931, Thailand became a signatory member of the Berne Convention. Since then, the scope of Thai copyright law has been expanded and adjusted to meet the accepted international standards. In 1995, Thailand became a member of the World Trade Organization (WTO). As a consequence, domestic rules and regulations regarding copyright protection have been amended to be in line with the country's commitments under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). The protection has included computer program as a new form of literary and artistic work. This is to ensure the effective and appropriate enforcement of the country's copyright protection.

### 2.1 Institutional Framework on Intellectual Property Protection

With regard to the institutional framework, the Thai government set up the Department of Intellectual Property (DIP) in 1992 under the Ministry of Commerce. The initial aim was only to administer copyrights, patents and other intellectual property issues and to cooperate with related agencies both domestically and internationally. This reflects the fact that Thailand has determination and the intention to use intellectual property as a dynamic tool for social and economic development. The role of the DIP has been developed over the years. The department has been promoting the use of intellectual property for commercial purposes and also coordinating the enforcement activities with related government agencies. In 1997, the Central Intellectual Property and International Trade Court (IP&IT Court) was established. It has exclusive jurisdiction over disputes involving intellectual property. The IP&IT Court was set up under the joint effort between the Ministry of Justice and the Ministry of Commerce following the negotiations with the United States and the European Union on trade related aspects of intellectual property rights.

Recently, the Thai government in collaboration with several relevant business associations has been pushing forward the policies to promote IP. In January 2009, the National Committee on Prevention and Suppression of Intellectual Property Rights Violation was established upon the Council of Ministers' approval at the first Council meeting. The committee later was changed to The National Committee on Intellectual Property Policy. There were three significant IP related documents submitted by this committee. These documents include the National IP Strategy, the proactive plan on prevention and suppression of intellectual property rights violation and the renaming of the Policy Committee on Prevention and Protection of Intellectual Property to the Committee on National Intellectual Property Policy.<sup>5</sup> Regarding the legislation, there are several milestones marketing the efforts of the Thai government to suppress copyright violation. These include law enforcement (promoting consistent suppression of rights violation and integrated coordination between law enforcement agencies), judicial process and legislative changes.

### 2.2 The Development of Copyright Laws

The evolutionary stages of copyright protection system in the country are as follows:

- a. The Announcement of the Vajiranana<sup>6</sup> Library in 1892

The Announcement prohibited the reproduction of novels, poems and articles published in Vajirayarnvises Books, which were published for the Vajiranana Library, without permission from the Board of the Library.

- b. The Ownership of Authors Act B.E. 2444 (1901)

Since the scope of copyright protection under the Announcement of the Vajiranana Library was limited to Vajirayarnvises Books, the Ownership of Authors Act was enacted in 1901 to provide copyright protection to the authors of other books as well. The Act was influenced by the Statute of Queen Anne 1709 and the Literary Copyright Act 1842 which were in force in the United Kingdom during that time. The Act of 1901

<sup>5</sup>Department of Intellectual Property, Ministry of Commerce, Thailand (2010). *Thailand's Implementation on Intellectual Property Rights*.

<sup>6</sup>The Vajiranana Library had become a part of the National Library of Thailand since 1905.

provided exclusive right for authors to print and sell their works. It prohibited the reproduction without the authorisation from authors.

c. The Act for Protection of Literary and Artistic Works B.E. 2474 (1931)

The Act for Protection of Literary and Artistic Works was promulgated on June 16, 1931 as Thailand became a contracting state and adopted international copyright rules under the Berne Convention for the Protection of Literary and Artistic Works, in short, the Berne Convention. It was the first time ever that the word 'copyright' was defined. This Act was the first modern copyright law. It contained the universal principles of copyright law, especially the protection of artistic, scientific and foreign works. The Act set the time limit for copyright protection. Also, it listed actions considered violation of copyright and actions to be exempted from such violation. Importantly, this 1931 Act contained several provisions which were related to the protection of foreign copyright works.

d. The Copyright Act B.E. 2521 (1978)

This Copyright Act became effective on December 19, 1978, as a replacement for the Protection of Literary and Artistic Works Act of 1931. The 1931 Act was enforced for more than 40 years. It became obsolete and its protection was limited only to literary and artistic works. The penalties were so lenient that the infringement of copyright happened on a regular basis. In the Act of 1978, the penalties for infringement were more severe. The scope of copyright protection was expanded; it provided protection for audio-visual works, sound records and video broadcasting works.

e. The Copyright Act B.E. 2537 (1994)

The Copyright Act B.E. 2521 (1978) was repealed. In replacing such Act, Thailand adopted the Copyright Act B.E. 2537 (1994), which became effective on March 21, 1995 and is still currently in force. This Act, which is also called "Berne plus", conforms to the Berne Convention and TRIPS. It provides the protection for new forms of literary and artistic works such as computer programs, sound and visual recordings performances and the leasing of audio-visual works. Under the 1994 Act, the works are eligible for copyright protection as soon as they exist, the creators do not have to go through registration process. However, the copyright owners are encouraged to notify the creation of their copyrighted works by recording the copyrighted works and registration of relevant information with the Department of Intellectual Property (DIP), Ministry of Commerce, Thailand. Moreover, the protection of foreign copyrights is more clearly written than what it was in the previous copyright laws. The copyrighted works of foreign creators and international organisations are protected under this particular Act.

### 2.3 Copyright Protection in the Modern Days

Over the years, the copyright laws have been modified and modernised in compliance with the international treaty. Significant adjustments made to the Copyright Act B.E. 2537 (1994) from the previous Act are as follows:

- Types of subject matter: There was an expansion of the coverage of the copyright protection law. The Act embraces the copyright protection of databases and computer programs. Such works are protected as literary works.
- Performers' rights: The rights of performers were added to this Act. The performers have exclusive rights concerning broadcasting of their performances, the recording of their unrecorded performances and the reproduction of their recorded performances.
- Preliminary injunctions: Copyright owners may petition the court to order a preliminary injunction against infringers during or even before infringements. The recovery of legal costs and illicit profits made by infringers can be provided to copyright owners.
- New intellectual property court: The new court comprises three judges, two legal experts on intellectual property matters and a judicial assistant who has a wide knowledge in computer software and science.
- Rental rights: Copyright owners have exclusive rights to authorise or prohibit the commercial rental to the public of the originals or duplicates of computer program works, audio-visual works, cinematographic works and sound recording works as well as the reproduction of their recorded performances.
- Increase of penalties: Fine and prison sentence have been intensified for copyright infringement.

### *Scope of copyright protection*

In the present copyright law in Thailand, the copyright protection is provided for literary works or any other work in the literary, scientific or artistic domain whatever may be the mode or form of its expression (Copyright Act B.E. 2537). Hence it includes computer programs, dramatic works, artistic works, musical works, audio-visual works, cinematographic works, sound recordings as well as sound and video broadcasting works. Works that are not deemed copyright works and are not protected by the Act include for example, news and facts, constitution and legislation, regulations, notifications, judicial decisions and their translations.

As far as digital works are concerned, the reproduction or adaptation as well as communication to the public in any forms such as publicising others' works on websites and distribution of electronic files without authorisation of the authors are interpreted as infringements of copyrights. Moreover, the amendment of the Copyright Act by inserting the provision on Technological Protection Measures (TPM)<sup>7</sup> and Rights Management Information (RMI)<sup>8</sup> has been proposed by the Department of Intellectual Property (DIP). The proposal is now under the process of approval by the Council of State.

The proposal for amendment of Copyright Act B.E. 2537 also includes landlord liability, which relates the liability of the person who provides physical or digital spaces for infringing activities. The amendment has been submitted to the Cabinet for approval in 2010. This is to expect that either landlords or owners of spaces will be sentenced to imprisonment, if there is evidence that they actively participate in the crime commitment although they take no part in the actual crime. The crimes cover the activities in facilitating the production, sales and warehousing IPR pirated products.

Moreover, the DIP has drafted the Anti-Camcording Law in order to protect the commercial interests of film industries, which are the important copyright-based industries in Thailand. It is realised that unauthorised camcording of films in cinemas has damaged the film industry and indirectly discouraged the creativity of right holders, both Thais and foreigners. The camcording piracy is viewed as criminal offence for some groups of people in the Thai society, especially, the people in film industry. This is because such piracy could be the source of supply of other illegal productions as pirated CD and file sharing.

The Department of Intellectual Property, Ministry of Commerce of Thailand, which is the authority in responsible for the IP Law amendment, has drafted the Anti-Camcording Law with an aim to pass it into law as soon as possible. The draft is currently under consideration.

### *Term of copyright protection*

As common as copyright laws in other countries, the copyright protection in Thailand has time limits. In general, the duration for the protection of literary works is until the end of the fiftieth year after the death of the author. However, in the case of a work created by several authors, the protection continues to be active until the fiftieth year after the death of the last surviving co-author. But if every co-author died before the publication of the work, the copyright protection is provided for a period of fifty years after the first publication.

With regard to the photographic, audio-visual work, cinematographic work, sound recordings or audio and video broadcasting work, the copyright protection is given for fifty years starting from the date of its creation. Similar to cases mentioned earlier, if the work is published during such period, the protection lasts for fifty years from the date of first publication.

In the case of applied arts, the copyright protection subsists for twenty-five years from the authorship. However, if the works is published during that period, the copyright protection is given for another fifty years after the publication.

<sup>7</sup>Technological protection measures (TPMs) are technical locks, such as passwords, encryption software and access codes which copyright owners adopt to stop their copyright material from being copied or accessed.

<sup>8</sup>Rights Management Information (RMI) is defined as information which identifies the work, the author of the work, the owner of any right in the work or information about the terms and conditions for use of the work and any numbers or codes which represent such information, when any of these items of information is attached to a copy of a work or appears in connection with the communication of a work to the public.

### *Copyright infringement*

The provisions on infringement of copyright are in part 5 of the Copyright Act B.E. 2537 (1994). According to the Copyright Act B.E. 2537, the reproduction or adaptation, communication to the public, letting of the original or copies or re-broadcasting without the permission in accordance with section 15(5) are considered an infringement of copyright. Furthermore, whoever knows or should have known that a work is made by infringing the copyright of another person and still sells, distributes and imports the copyrighted work against the work for profit shall be deemed to infringe the copyright as well.

Section 32 of the Act provides for exceptions from copyright infringement. It states that an act against a copyright work which does not conflict with a normal exploitation of the copyright work by the owner of copyright and does not unreasonably prejudice the legitimate interests of the owner of copyright is not deemed an infringement of copyright. For example, such actions include using for personal benefit, using as questions in an examination as well as not-for-profit research, teaching, studying, commenting, criticising and reporting with an acknowledgement of the copyright ownership of the work.

### *Penalties*

As mentioned, the penalties stipulated in the Act in 1994 are more severe than those in the previous copyright laws. The fine for copyright infringement ranges from 20,000 up to 200,000 Thai baht. In addition, if the offence was committed for commercial purpose, the offender will be imprisoned for a term of 6 months up to 4 years or will be fined 100,000 up to 800,000 baht or both imprisonment and fine. As for the case of indirect infringement such as selling, distributing and importing copyright violated items, the offender will be imprisoned for a term of 3 months up to 2 years or will be liable to a fine from 50,000 to 400,000 baht or both. In the case that a wrongdoing is made within 5 years after being discharged from the earlier penalty, the double penalty will be imposed.

## **2.4 Copyright Notification and Infringement**

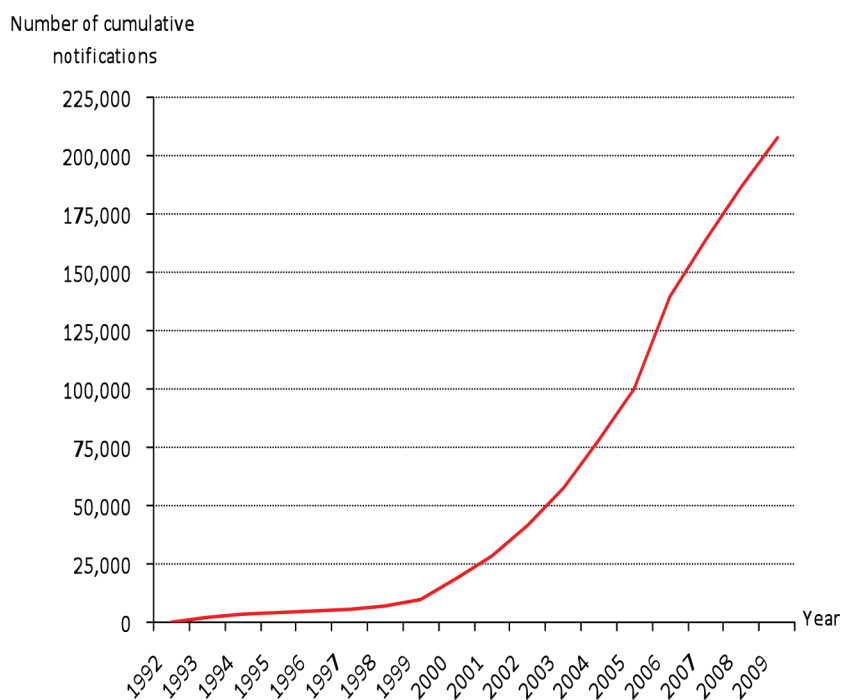
In connection to the notification of copyright works, the creators of any copyright works do not need to notify their works in order to be protected. The copyright works are automatically protected as they have been created. However, the notification of copyright works would be helpful in proving the right owners in any litigation. According to the DIP's statistics, the number of copyright notification has been increasing significantly since the inauguration of the DIP. As shown in table 2.1, the number of notifications per year has risen from 4 in 1992 to 1,134 in 1998 and 22,721 in 2008. To some extent, this reflects the effectiveness in creating awareness on the importance of copyright works by the DIP. The number has grown rapidly after the establishment of the IP&IT Court in 1997, as illustrated in figure 2.1, because of the creators' increasing confidence in the enforcement of the copyright law. In terms of the categories of works, the notification of musical works ranks first. Based on the latest available data, the total number of copyright notifications is 207,689. Out of this total number, the number of notified musical works is 134,322, as illustrated in table 2.2. The number of notified artistic works comes second with the figure of 37,249 in 2009.

**Table 2.1: Number of Copyrighted Work Notification during 1992-2009**

Year	Notification	Cumulative Notification
1992	4	4
1993	2,044	2,048
1994	1,350	3,398
1995	974	4,372
1996	562	4,934
1997	711	5,645
1998	1,134	6,779
1999	3,000	9,779
2000	9,233	19,012
2001	9,709	28,721
2002	12,714	41,435
2003	16,240	57,675
2004	20,418	78,093
2005	22,019	100,112
2006	39,511	139,623
2007	24,357	163,980
2008	22,721	186,701
2009	20,988	207,689

Source: Department of Intellectual Property (DIP)

**Figure 2.1: Cumulative Notifications of Copyrighted Works in Thailand during 1992-2009**



Source: Department of Intellectual Property (DIP)

**Table 2.2: Copyright Notifications Classified by Work**

Year	Unit Number									
	Total	Literary	Dance	Artistic	Musical	Audio-visual	Cinematographic	Sound recording	Broadcasting	Others
2553/2010	21836	4283	23	6776	9427	639	61	216	0	411
2552/2009	20988	3621	26	4968	10653	790	31	290	2	607
2551/2008	2271	2114	43	5430	13471	600	24	296	0	743
2550/2007	24357	1617	18	4823	15511	1172	76	282	0	858
2549/2006	39511	1892	4	3899	28347	1709	16	2329	0	1315
2548/2005	22019	1598	3	2607	15325	575	50	1757	2	102
2547/2004	20418	1128	5	2280	15395	698	195	595	0	122
2546/2003	16240	1074	3	2321	12230	361	0	153	0	98
2545/2002	12714	837	2	2777	8315	329	0	164	64	226
2544/2001	9709	599	17	2412	6354	156	0	171	0	0
2543/2000	9233	752	1	2758	5503	113	0	106	0	0
2542/1999	3000	524	13	416	1833	115	1	89	2	7
2541/1998	1134	2	206	299	113	2	33	6	24	449
2540/1997	711	1	165	214	45	0	75	10	6	195
2539/1996	562	1	104	232	47	1	12	2	7	156
2538/1995	974	0	221	480	56	3	0	0	30	184
2537/1994	1350	12	144	1003	105	0	0	3	10	73
2536/1993	2044	0	585	330	1019	0	0	2	0	108
2535/1992	4	0	1	0	0	0	0	0	0	3
<b>Total</b>	<b>229525</b>	<b>20055</b>	<b>1584</b>	<b>44025</b>	<b>143749</b>	<b>7263</b>	<b>574</b>	<b>6471</b>	<b>147</b>	<b>5657</b>

Source: Department of Intellectual Property (DIP)

As far as the infringement of copyright works is concerned, the reproduction and distribution of software, film and music content have gained a lot of attention from the government and media. According to the IP&IT Court statistics, almost all of the copyright infringement cases are retailing, distributing or importing of copyrighted works. As shown in table 2.3, the number of criminal cases filed against vendors or distributors of pirated CDs and DVDs accounted for more than 60 percent of the total number of copyright infringement cases. Retailing pirated CDs and DVDs, both domestically produced and imported, can be commonly seen in Bangkok's shopping areas. The prices range from 100 to 200 baht. The government has been enforcing the law and imposing measures to limit such type of copyright violation. Anti-piracy campaigns were carried out several times during the past years. The number of criminal cases on selling pirated musical works fell from 1,641 in 2004 to 701 in 2008. As for the total number of copyright infringements in Thailand, the number has been decreasing year by year. This has evidently proved that the government's measures have a positive impact in mitigating musical piracy incidences.

Regarding the infringement cases of retailing of cinematographic works, the reported number of the cases has led those of other categories. There were 958 cases in 2008 as compared to 719 in 2009. Still, numerous violation cases can be normally seen in shopping areas in Bangkok and other tourist destinations. Thus, the DIP (Ministry of Commerce), the Royal Thai Police as well as the Department of Special Investigation (DSI) under the Ministry of Justice are coming under pressure, especially after the Motion Picture Association of America implemented stricter and more consequential enforcement of the copyright law.

To summarise, the importance of copyright in Thailand is increasingly recognised as a tool to fulfil the government's Creative Economy goal. With regard to its legal system, the copyright law has been modified from time to time to better fit modern digital technology. There is a greater demand from right-holders for their rights to be protected. The empirical evidence shows that the cumulative number of copyright notifications, especially for musical works, is growing exponentially since 1992. This reflects the creators' confidence in the law enforcement in the country.

**Table 2.3: Number of Copyright Infringements in 2008 and 2009**

Types of copyright infringement	2008	2009
Reproduction or adaptation of copyrighted works	1	1
Reproduction or adaptation or letting audio-visual works, cinematographic works and sound recording works	6	3
Reproduction or adaptation or letting computer programs	2	0
Retailing, distributing or importing of copyrighted works	2,400	2,337
- Computer programs	108	96
- Literary works	43	24
- Cinematographic works	958	719
- Sound recording works	9	6
- Artistic works	197	385
- Musical works	701	753
- Audio-visual works	34	8
- Broadcasting	31	32
Violating performers' rights	0	0
Total	2,409	2,341

Source: Central Intellectual Property and International Trade Court (IP&IT Court)



### 3. Economic Contribution of the Copyright and Related Rights Industries to the Thai Economy

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The analytical framework of the economic contribution of the copyright and related rights industries is developed from the methodology in the WIPO Guide, using the economic data from the National Statistical Office of Thailand (NSO) and the National Economic and Social Development Board (NESDB). The contribution in terms of value-added to GDP and employment to GDP is retrieved to present the proportion of the copyright-based industries to the national economy.

#### 3.1 Defining Thai's Copyright and Related Rights Industries

The foremost core mission in order to reach the quantitative results is to precisely define and map the activities of the copyright and related rights industries to the national classification. In some countries, the national definitions of the copyright and related rights industries might vary because of the difference between the country's classification of copyright and related rights industries and the international one.

To obtain the consistent and comparable series of national study on the economic contribution of the copyright and related rights industries, the WIPO Guide has been strictly followed. The guide details the definitions of copyright and related rights industries with the guidelines to classify the copyright and related rights industries using the industrial classification in 4-digit ISIC. As noted earlier, the Thai Standard Industrial Classification (TSIC) is in line with the ISIC Rev.3 at 4-digit level ISIC, which is also utilised as a reference classification in the 2002 and 2006 Thai Industrial Census and the 2002 and 2007 Business Trade and Services Survey by the NSO.<sup>9</sup> Therefore, the classification of this study complies with that of the WIPO Guide and its recommendations.

According to the WIPO Guide, the copyright and related rights industries include the following industries:

1. Core copyright industries
2. Interdependent copyright industries
3. Partial copyright industries
4. Non-dedicated support industries

These four groups of industries comprise several sub-industries classified in the United Nations' International Standard Industrial Classification (ISIC). Furthermore, the research team categorised international trade classification, SITC classification from the UN Comtrade database system, into the 4 groups of copyright and related rights industries based on the WIPO Guide. The conversion table between the WIPO classification, the ISIC and the SITC is presented in Appendix 1.

Among all four groups of copyright industries, there is a presumption that these four groups of copyright industries are different in terms of the degree of relationship to copyright and related rights; thereby, the contribution of copyright and related rights of each group should be adjusted with the factor corresponding to their degree of depending on copyright and related rights called "copyright factor."<sup>10</sup> The copyright factors which are utilised to adjust the value-added, employment and international trade are derived from the survey. The population in the survey are the Thai entrepreneurs whose business are related to the copyright industries including the interviews with the copyright related associations. The research team received the survey result from 100 copyright and related rights companies with 5 in-depth interviews. The questions in the survey cover the business operation, employment, prospective development in the future, obstacles and the assistance they expect from the government. The questionnaire is included in Appendix 3.

<sup>9</sup>Note also that, according to NSO officer, the updated version of TSIC would be released in 5-digit level version in the near future. This version corresponds to the ISIC Rev.4. However, the authors utilised the current TSIC, the 4-digit ISIC, because it can be mapped to the classification of the 2006 Industrial Census and the 2007 Business Trade and Services Survey of Thailand.

<sup>10</sup>The detail and values of copyright factor is elaborated in appendix 2.

## 3.2 Economic Contribution of the Copyright and Related Rights Industries

### 3.2.1 Copyright-Based Industries' Performance in Comparison

#### 1. Comparison between 2002 and 2006 of Economic Contribution of Copyright-Based Industries

This sub-section presents the comparison between 2002 and 2006 of economic contribution of copyright-based industries.

**Table 3.1: Comparison between 2002 and 2006<sup>11</sup> of Economic Contribution of Copyright-Based Industries**

Industry	Value-Added (billion baht)		Employment (persons)	
	2002	2006	2002	2006
I. Core copyright	115.85 (2.13)	173.68 (2.21)	385,621 (1.17)	533,727 (1.50)
II. Interdependent copyright	82.49 (1.51)	79.97 (1.02)	113,173 (0.34)	102,905 (0.29)
III. Partial copyright	30.50 (0.39)	54.87 (0.71)	197,292 (0.60)	242,723 (0.68)
IV. Non-dedicated support	28.13 (0.52)	42.44 (0.54)	107,797 (0.33)	138,923 (0.39)
Copyright-Based Industries (CBIs)	256.97 (4.55)	350.96 (4.48)	803,883 (2.43)	1,018,279 (2.85)
Thai Economy	5,450.64	7,850.19	33,025,781	35,699,958

Source: Authors' calculation.

Note: Data in parentheses indicates percentage of national value.

According to table 3.1, the total value-added of the copyright and related rights industries in Thailand in 2002 and 2006 constituted a share of 4.55 percent (worth of 350.96 billion baht) and 4.48 percent (a value of 256.97 billion baht) of the country's GDP, respectively. In addition, the data revealed that copyright-based industries employed more workers in 2006 as compared to that of 2002. The CBIs industries' employment as a percentage of national employment increased from 2.43 percent in 2002 to 2.85 percent in 2006. Note that the performance of almost all groups in GDP and employment contribution improved between 2002 and 2006, except for the group of interdependent copyright industries. The shares of national value added as share of GDP and employment contribution of core, partial and non-dedicated copyright industries increased between 2002 and 2006, while the shares of interdependent copyright industries decreased. The group of core copyright industries, not surprisingly, contributed most in value-added and job creation in both years.

In details the 2006 data showed that the group of core copyright industries accounted for 2.21 percent of total GDP (173.68 billion baht), while the group of interdependent copyright industries contributed 1.02 percent of the country's GDP (79.97 billion baht). The group of partial copyright industries and the group of non-dedicated support industries added a share of 0.71 percent (54.87 billion baht) and 0.54 percent (42.44 billion baht) to the GDP, respectively. The data in table 3.1 also revealed that among all four groups of copyright-based industries in the Thai economy, the group of core copyright industries in Thailand economically played the most important role both in terms of value-added creation and employment contribution in 2006. Partial copyright industries and non-dedicated support industries had created 242,723 jobs (0.68 percent of national employment) and 138,923 jobs (0.39 percent of national employment) for the Thai citizens, respectively. Note that the 2006 GDP contribution of four groups of copyright-based industries ranked in descending manner corresponded to the group's degree of relationship to copyright and related rights activities. Nonetheless, the employment contribution does not have a similar pattern. The group of interdependent copyright industries generated the second largest GDP contribution to the Thai economy among all four groups of copyright industries; however, the employment of the group was the smallest. It reflects the nature of the activities in this group where most sub-sectors are manufacturing sectors which are less labour-dependent compared to those of partial and non-dedicated copyright industries.

<sup>11</sup>Data in some sectors is obtained from the 2007 Business Trade and Services Survey and is deflated by the 2006-2007 GDP growth rate of the corresponding sector to obtain the 2006 figures. Thus, the data is reported on the same base year of 2006.

**Table 3.2: Composition of Economic Contribution of Copyright-Based Industries by Group in Percent, 2002 and 2006**

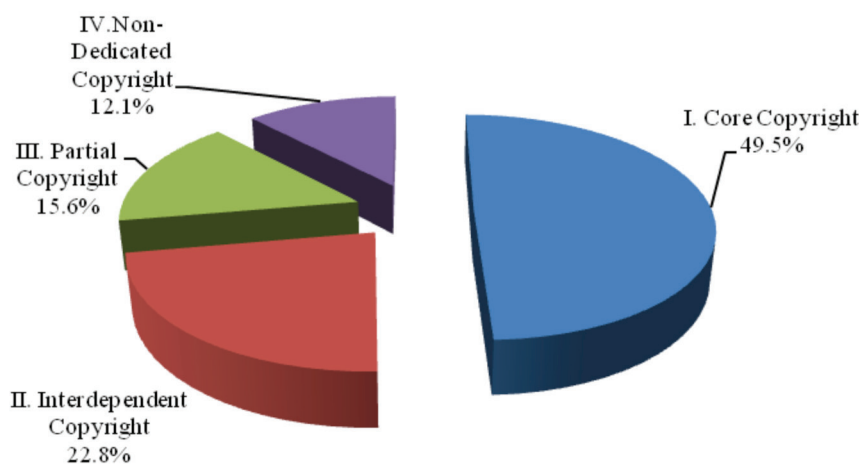
Industry	Value-Added		Employment	
	2002	2006	2002	2006
I. Core copyright	45.08	49.49	47.97	52.41
II. Interdependent copyright	32.10	22.79	14.08	10.11
III. Partial copyright	11.87	15.63	24.54	23.84
IV. Non-dedicated support	10.95	12.09	13.41	13.64
Copyright-Based Industries (CBIs)	100.00	100.00	100.00	100.00

Source: Authors' calculation.

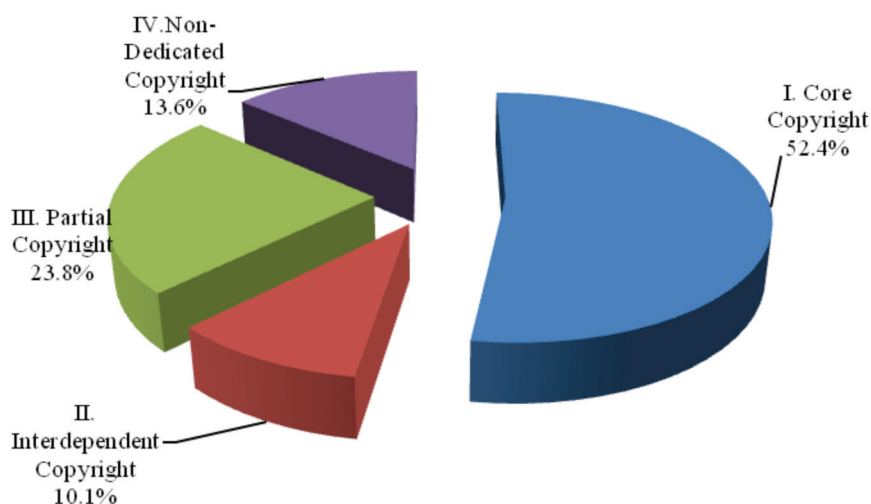
Table 3.2 demonstrated the composition of economic contribution of copyright-based industries by group in 2002 and 2006. The data showed a similar pattern of the composition of value-added contribution of each group between 2002 and 2006. As for value-added, the group of core copyright industries ranked first in both years. The group of interdependent industries came in the second place. The partial copyright industries and non-dedicated copyright industries followed in the third and last place, respectively, in both 2002 and 2006. With regard to employment, the core copyright industries kept their first position in jobs generation for both years. The second place was occupied by the group of partial copyright industries. However, in 2006, the group of non-dedicated copyright industries ranked third. The group's rank improved from the fourth place in 2002.

Figures 3.1 and 3.2 show in details the relative share of value-added and employment contribution of copyright-based industries in 2006 by group. The group of core copyright industries generated the biggest share of value-added among the four groups in copyright-based industries (49.5percent). Its contribution was about half of the total copyright-based industries' value-added in 2006. The group of interdependent copyright industries, which ranked second, explained 22.8 percent of copyright-based industries' GDP contribution. The group of partial copyright industries and interdependent copyright industries came in the third and the fourth places respectively (15.6 percent and 12.1 percent).

**Figure 3.1: Relative Size of Value-Added of Copyright-Based Industries by Group, 2006**



**Figure 3.2: Relative Size of Employment in Copyright-Based Industries by Group, 2006**



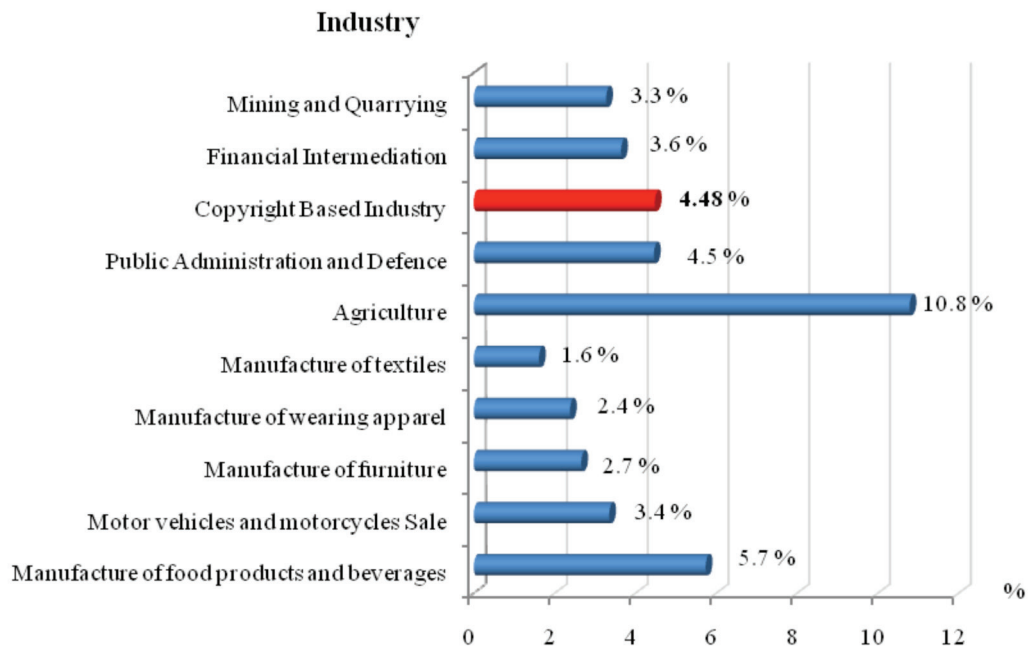
With regard to the contribution to employment, the number of persons engaged in the CBIs industries is reported. The number of job creation in the industries is the issue that the policy-makers have to take into account for the formulation of national development policies. The overall copyright-based industries employed 1.02 million workers, which accounted for 2.85 percent of total employment in the economy. The group of core copyright industries ranked first in terms of the employment among all four groups with a proportion of 1.50 percent of national employment. This number accounted for approximately 52.4 percent of total employment in copyright-based industries, as shown in figure 3.5. It indicates that the majority of workers in the copyright-based industries were in the core copyright industries. Partial copyright industries and non-dedicated copyright industries ranked third and fourth with a proportion of about 23.8 percent and 13.6 percent of the 2006 copyright-based industries' employment. The interdependent copyright industries came in the last place. The job creation was only 10.1 percent of the group's employment. The analysis in more details by subgroup is conducted in section 3.2.2 to provide a comprehensive picture of the copyright-based industries.

## 2. Inter-industry Comparison of 2006

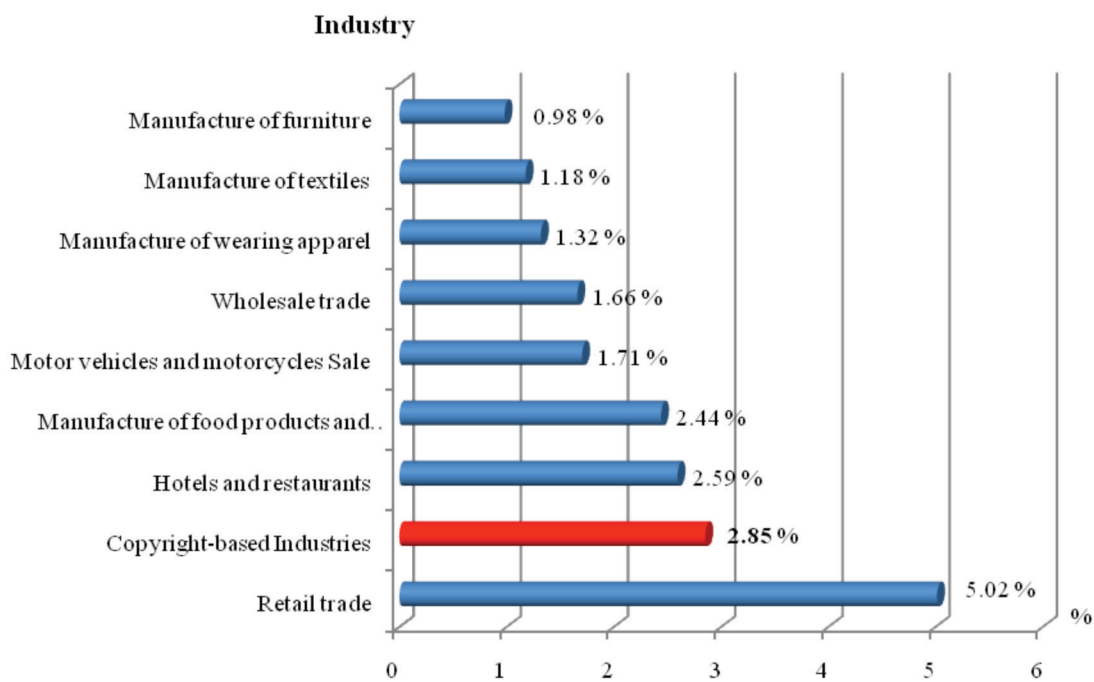
In the overall picture of the Thai economy, the copyright-based industries' value-added contribution to the country was significant as compared to other major sectors of Thailand. Figure 3.3 depicts the comparison of 2006 value-added in the copyright and related rights industries and those of other sectors in Thailand as a percentage of GDP. It is illustrated that the contributions of copyright-based industries public administration and defence are about the same. The size of copyright-based industries is approximately half of that of agriculture sector, which is a relatively important sector in Thailand.

Figure 3.4 exhibits the employment by industry as a percentage of the 2006 total employment in the economy. As far as the employment is concerned, the group of copyright-based industries hired 2.85 percent of the national employment. The industries even created more jobs for the Thai citizens than hotel and restaurant sector, which is the high potential sector of Thailand.

**Figure 3.3: Share of Value-Added as a Percentage of GDP by Industry, 2006**



**Figure 3.4: Share of Workers as a Percentage of National Employment by Industry, 2006**



### 3.2.2 Economic Contribution of Copyright-Based Industries by Subgroup

The detailed economic contributions by groups of copyright-based industries are elaborated as follows:

#### Core Copyright Industries

As defined by WIPO, the activities in core copyright industry group directly relate to creating copyrighted works. Core copyright industries is composed of 9 sub-sectors, namely:

- Press and Literature
- Music, Theatrical Productions and Operas
- Motion Picture and Video
- Radio and Television
- Photography
- Software and Database
- Visual and Graphic Arts
- Advertising Services
- Copyright Collecting Societies

However, in the Thai economic data set, the sub-sector of copyright collecting societies neither perfectly corresponds to WIPO's classification nor is it available because of the level of data aggregation. The data for this business operation is not available from the NSO for both value-added and employment since it is not registered in the statistical office's system. This is due to the fact that its data may not be fully reported as such even though Copyright Collecting Societies have been established in Thailand for several years. Another factor is that Copyright Collecting Societies also known as Copyright Management Organizations (CMO) in Thailand mostly are limited to music company operation. Thus, the data may be reported under the music, theatrical production and opera sub-sector, the motion picture and video sub-sector and the software and database sub-sector. In the future, it is recommended that data for the sub-sector Copyright Collecting Societies be reported separately. If this is possible, the policy-makers could have a clear picture on the significance of the copyright issue in the Thai economy.

**Table 3.3: Economic Contribution of Core Copyright Industries by Sub-Sector, 2002 and 2006**

Industries	Value-added (billion baht)		Employment (persons)	
	2002	2006	2002	2006
1- Press and Literature	46.83 (0.86)	70.41 (0.90)	158,714 (0.48)	216,283 (0.61)
2- Music, Theatrical Productions and Operas	14.54 (0.27)	34.45 (0.44)	54,390 (0.16)	131,384 (0.37)
3- Motion Picture and Video	2.59 (0.05)	6.92 (0.09)	23,672 (0.07)	30,204 (0.08)
4- Radio and Television	3.88 (0.07)	18.14 (0.23)	10,736 (0.03)	24,054 (0.07)
5- Photography	3.15 (0.06)	4.29 (0.05)	20,894 (0.06)	24,953 (0.07)
6- Software and Database	39.71 (0.73)	24.35 (0.31)	79,144 (0.24)	37,170 (0.10)
7- Visual and Graphic Arts	1.27 (0.02)	3.35 (0.04)	19,952 (0.06)	41,113 (0.12)
8- Advertising Services	3.86 (0.07)	11.77 (0.15)	18,120 (0.05)	28,565 (0.08)
9- Copyright Collecting Societies*	n.a.	n.a.	n.a.	n.a.
<b>Total</b>	<b>115.85</b> <b>(2.13)</b>	<b>173.68</b> <b>(2.21)</b>	<b>385,621</b> <b>(1.17)</b>	<b>533,727</b> <b>(1.50)</b>

Source: Authors' calculation.

Note: Data in parentheses indicates percentage of national value.

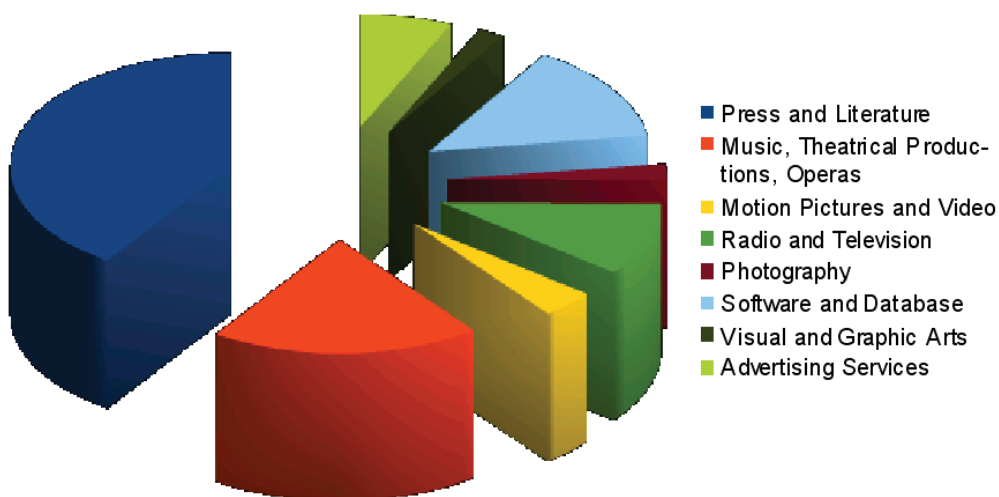
\* The data is not available since the Copyright Collecting Societies sub-sector is not categorised in the NSO database system.

Table 3.3 shows the value of value-added and employment in all industries that belong to the core copyright industry group in 2002 and 2006. Note that several sub-sectors in the group of core copyright industries have improved their performance in GDP and employment contribution, for example the music, theatrical production and opera sub-sector, the radio and television sub-sector, the visual and graphic arts sub-sector and the advertising sub-sector. As previously mentioned, the 2006 figures indicate that 52.4 percent of employment in copyright and related rights industries was in the group of core copyright industries. The share of core copyright industry group ranked first among all copyright-based industries. The detailed data revealed that the press and literature sub-sector led other sub-sectors in terms of value-added and employment as indicated in table 3.3, figure 3.5 and figure 3.6. Clearly, the statistical data showed that the press and literature sub-sector ranked in the first place in terms of both value-added and job creation among all sub-sectors in copyright-based industries. Most of employment in this sub-sector was in printing related activities.

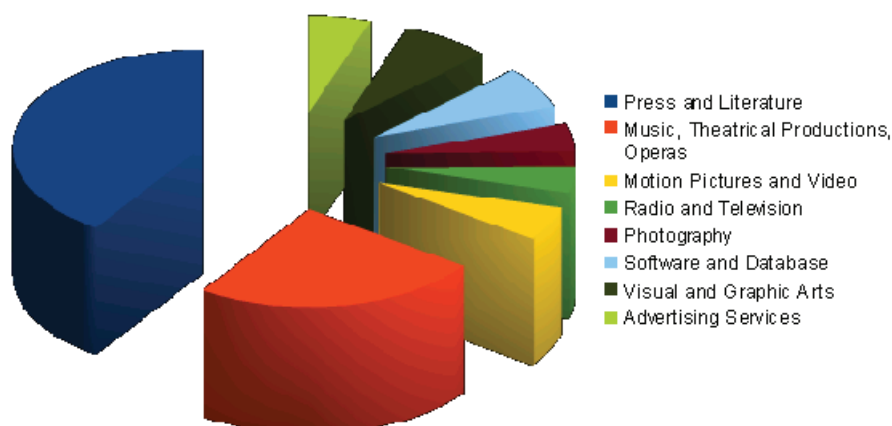
The music, theatrical productions and opera sub-sector came in the second place; this subgroup accounted for 19.84 percent of the total value-added in the group and 24.62 percent of the group's employment. The software and database sub-sector was in the third place in regard to GDP contribution among the group of core copyright industries, while it ranked in the fourth place in the group's job creation. The sub-sector made up 14.02 percent of the group's value-added and 6.96 percent of the group's employment. The radio and television sub-sector also was significant. Note that this subgroup includes the activities of the national radio and television broadcasting companies, other radio and television broadcasters, independent producers, cable television (systems and channels), satellite television and allied services. It is one fast growing industries due to the advanced broadcasting technology and the promulgation of the 2008 Radio and Television Broadcasting Act. The sub-sector constituted 10.44 percent of the group's value-added and added up to 4.51 percent of the group's employment contribution.

Regarding the sub-sector of Copyright Collecting Societies, the data is not available since the copyright collecting societies sub-sector is not categorised in the NSO database system.

**Figure 3.5: Value-Added of Core Copyright Industries by Sub-Sector, 2006**



**Figure 3.6: Employment in Core Copyright Industries by Sub-Sector, 2006**



Furthermore, the press and literature sub-sector, the music, theatrical productions and opera sub-sector, together with the visual and graphic arts sub-sector and the software and database sub-sector absorbed almost 80 percent of the core copyright industries' employment. Each of them accounts for 40.52, 24.62, 7.70 and 6.96 percent of the group's total value, respectively as shown in figure 3.6.

Note that if the broadcasting and entertainment business are considered, the employment in the motion picture and video sub-sector, the music, theatrical production and opera sub-sector, the radio and television sub-sector and the advertising services sub-sector would be added up. The employment share of the broadcasting and entertainment business made up 40.13 percent of the total employment in the core copyright industry group.

### *Interdependent Copyright Industries*

The interdependent copyright industry group is defined as the industry which produces the goods to be used in the production and consumption of copyrighted works. According to the WIPO Guide, seven sub-sectors are classified into interdependent copyright industry group as follows:

- TV sets, Radios, VCRs, DVD Players, Electronic Game Equipment
- Computer and Equipment
- Musical Instruments
- Photographic and Cinematographic Instruments
- Photocopiers
- Blank Recording Material
- Paper



**Table 3.4: Economic Contribution of Interdependent Copyright Industries by Sub-Sector, 2002 and 2006**

Industries	Value-added (billion baht)		Employment (persons)	
	2002	2006	2002	2006
1. TV sets, Radios, VCRs, DVD Players, Electronic Game Equipment	2.44 (0.04)	2.64 (0.03)	6,765 (0.02)	6,157 (0.02)
2. Computer and Equipment	39.92 (0.73)	29.15 (0.37)	447 (0.00)	470 (0.00)
3. Musical Instruments	9.98 (0.18)	3.63 (0.05)	41,399 (0.13)	6,820 (0.02)
4. Photographic and Cinematographic Instruments	6.34 (0.12)	18.24 (0.23)	26,891 (0.08)	40,752 (0.11)
5. Photocopiers	8.44 (0.15)	6.39 (0.08)	6,825 (0.02)	13,685 (0.04)
6. Blank Recording Material	4.32 (0.08)	5.66 (0.07)	9,711 (0.03)	9,423 (0.03)
7. Paper	11.04 (0.20)	14.25 (0.18)	21,135 (0.06)	25,598 (0.07)
8. Total	82.49 (1.51)	79.97 (1.02)	113,173 (0.34)	102,905 (0.29)

Source: Authors' calculation.

Note: Data in parentheses indicates percentage of national value.

**Figure 3.7: Value-Added of Interdependent Copyright Industries by Sub-Sector, 2006**

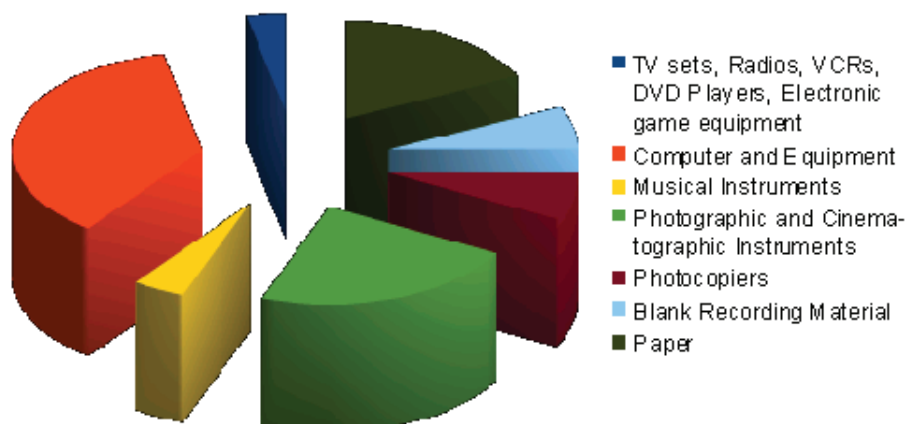
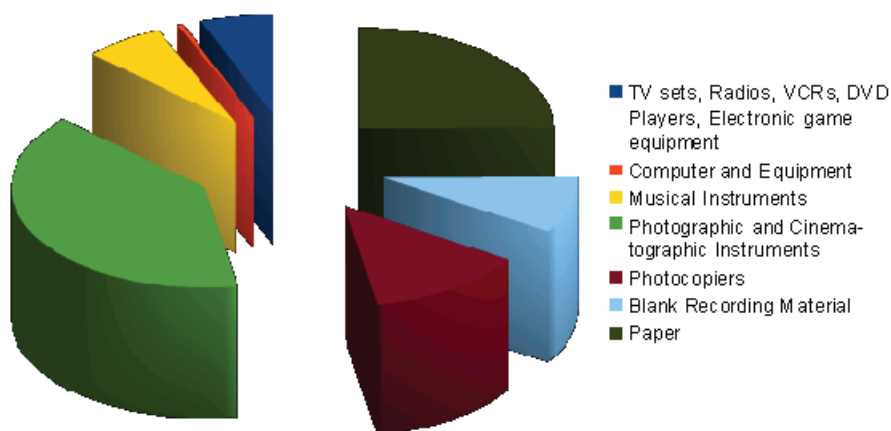


Table 3.4 shows the economic contribution of interdependent copyright industries in 2002 and 2006. The data revealed that there are only two sub-sectors in this group which presented a positive trend in their economic contribution between 2002 and 2006. They are the photographic and cinematographic instrument sub-sector and the paper sub-sector. Among the sub-sectors, the computer and equipment sub-sector and the photographic and cinematographic instrument sub-sector ranked first and second in terms of value-added generated. As shown in figure 3.7, they constituted 36.45 percent and 22.81 percent of the total value-added in the group of interdependent copyright industries, respectively. The combination of these two sub-sectors explained almost 60 percent of interdependent industries' value-added. In the third place is the paper sub-sector with 17.83 percent of the group's value-added contribution.

Attention should be drawn also to the blank recording material and paper sub-sector since their productions involves in the supply chain of the core copyright industries. These two sub-sectors' value-added creation was a little more than that of the radios and television sub-sector while the combination of their employment is as much as that of the software and database sub-sector in the group of core copyright industries. The

government's support put into these sub-sectors could be, in effect, conducive to an improvement in the core copyright industry group, since their products mainly facilitates the usage of the copyrighted works.

**Figure 3.8: Employment in Interdependent Copyright Industries by Sub-Sector, 2006**



The composition of the employment in the interdependent copyright industries is depicted in figure 3.8. The sub-sector hiring the largest part of employment in the group is the photographic and cinematographic instrument sub-sector which made up 39.60 percent of the total of the interdependent copyright industry group's workers. The second highest portion of the group's employment was in the paper sub-sector. The share is 24.87 percent of total employment in interdependent copyright industries.

### *Partial Copyright Industries*

The WIPO Guide defined the partial copyright industry group as the industries which is only partially involved in the production of copyright and copyrighted works. There are ten categories under the partial copyright industries as follows:

- Apparel, Textiles and Footwear
- Jewellery and Coins
- Other Crafts
- Furniture, Fittings and Furnishing
- Household Goods, China and Glass
- Wall Coverings and Carpet
- Toys and Games
- Architecture, Engineering and Surveying
- Interior Design
- Museum

The partial copyright industries consist of a variety of products. Most of them are consumer goods, in which parts of copyrighted works are included. The data for the 2006 value-added and employment is presented in table 3.5. The positive trend in the economic contribution of many sub-sectors was observed between 2002 and 2006. They are, for instance, the jewellery and coins sub-sector, the toys and games sub-sector and the other crafts sub-sector.

Within the group of partial copyright industries, the apparel, textiles and footwear sub-sector, the jewellery and coins sub-sector, the other crafts sub-sector together with the furniture, fittings and furnishing sub-sector represented three-quarters of the group's value-added, as shown in figure 3.9. Note that those four sub-sectors are the manufacturing factors of high competitiveness and export values of the country. The toys and games sub-sector is another sub-sector of high value-added creation in this group. The sub-sector generated up to 10 percent of the group's value-added. The apparel, textiles and footwear sub-sector is one

among the top five sub-sectors creating the highest employment in the Thai economy. The sub-sector alone represented 0.31 percent of the national employment and made up 0.25 percent of 2006 GDP.

**Table 3.5: Economic Contribution of Partial Copyright Industries by Sub-Sector, 2002 and 2006**

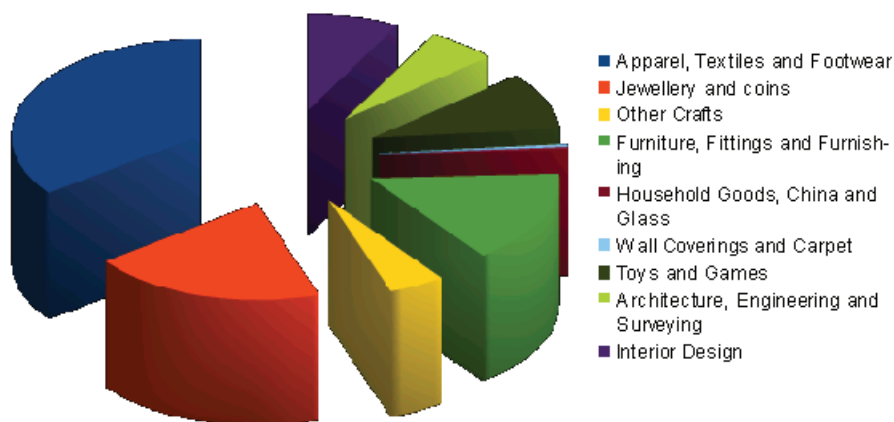
Industries	Value-added (billion baht)		Employment (persons)	
	2002	2006	2002	2006
1. Apparel, Textiles and Footwear	13.18 (0.24)	19.32 (0.25)	103,431 (0.31)	111,487 (0.31)
2. Jewellery and Coins	4.94 (0.09)	11.03 (0.14)	23,993 (0.07)	37,372 (0.10)
3. Other Crafts	1.20 (0.02)	2.65 (0.03)	5,028 (0.02)	7,449 (0.02)
4. Furniture, Fittings and Furnishing	6.38 (0.12)	8.56 (0.11)	45,439 (0.14)	48,676 (0.14)
5. Household Goods, China and Glass	0.17 (0.00)	0.27 (0.00)	502 (0.00)	1,098 (0.00)
6. Wall Coverings and Carpet	0.04 (0.00)	0.18 (0.00)	181 (0.00)	546 (0.00)
7. Toys and Games	2.28 (0.04)	5.31 (0.07)	8,406 (0.01)	12,494 (0.03)
8. Architecture, Engineering and Surveying	1.31 (0.02)	3.26 (0.04)	3,614 (0.01)	6,848 (0.02)
9. Interior Design	0.99 (0.02)	4.30 (0.05)	6,699 (0.02)	16,754 (0.05)
10. Museum *	n/a	n/a	n/a	n/a
Total	30.50 (0.39)	54.87 (0.71)	197,292 (0.60)	242,723 (0.68)

Source: Authors' calculation.

Note: Data in parentheses indicates percentage of national value.

\* The data for Museum sub-sector is not available in the NSO data set after 2000.

**Figure 3.9: Value-Added of Partial Copyright Industries by Sub-Sector, 2006**



**Figure 3.10: Employment in Partial Copyright Industries by Sub-Sector, 2006**

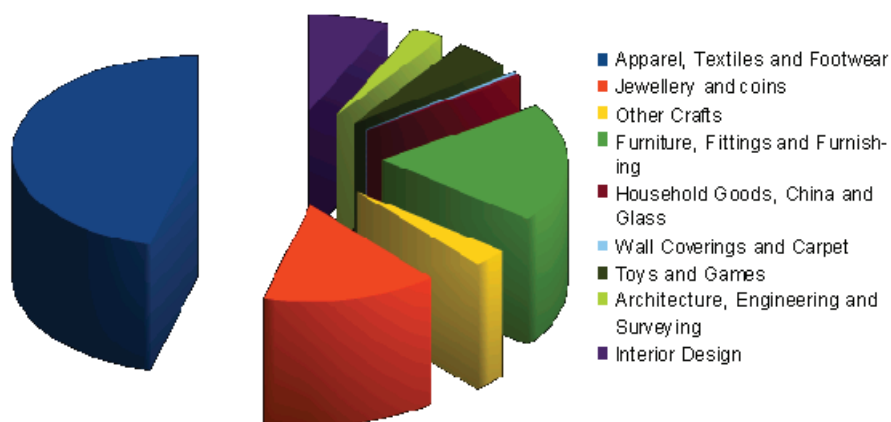


Figure 3.10 illustrates the composition of employment in the partial copyright industries by sub-sector. As mentioned earlier, the apparel, textiles and footwear sub-sector was one of the sub-sectors with the highest number of employment among all sub-sectors in the copyright-based industries. The employment in the apparel, textiles and footwear sub-sector alone explained almost as much as that of the music, theatrical productions and opera sub-sector, which was approximately 10 percent of total employment of the copyright-based industries.

Note that several sub-sectors in partial copyright industries are major export sectors of Thailand and are commonly known as labour intensive sectors. The data indicates that the apparel, textiles and footwear sub-sector made up 45.93 percent of the total employment of the group. The second place was the sub-sector of furniture, fittings and furnishing, which constituted 20.05 percent of the group's employment. The jewellery and coins sub-sector added up 15.40 percent of the total employment in partial copyright industries.

#### *Non-dedicated Support Industries*

The non-dedicated support industries comprise the industries which deal with distribution, measure spillover effects and in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries. There are three sub-sectors in the group:

- General Wholesale and Retail
- General Transportation
- Telephony and Internet

All sub-sectors in non-dedicated support industry group are services-based industries. The activities in this group support the operation of the business. Its contribution accounted for 0.54 percent of GDP and the group engaged 0.39 percent of national employment. In addition, the group made up 23.8 percent of the copyright and related rights industries' employment.

**Table 3.6: Economic Contribution of Non-Dedicated Support Industries by Sub-Sector, 2002 and 2006**

Industries	Value-added (billion baht)		Employment (persons)	
	2002	2006	2002	2006
1. General Wholesale and Retailing	28.13 (0.52)	42.43 (0.54)	533,727 (0.33)	138,886 (0.39)
2. General Transportation *	n.a.	n.a.	n.a.	n.a.
3. Telephony and Internet	n.a.	0.02 (0.00)	n.a.	37 (0.00)
Total	28.13 (0.52)	42.44 (0.54)	533,727 (0.33)	138,923 (0.39)

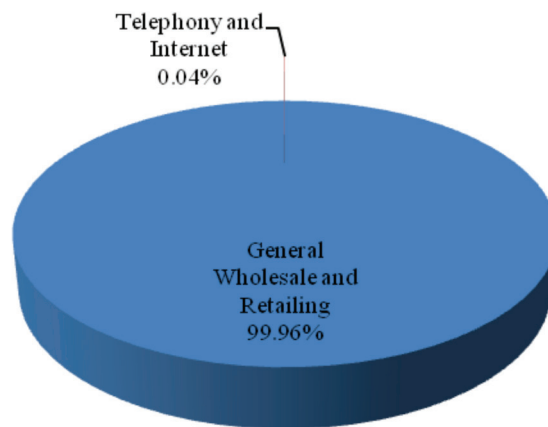
Source: Authors' calculation.

Note: Data in parentheses indicates percentage of national value.

\* The NSO data set does not have the data for the general transportation sub-sector.

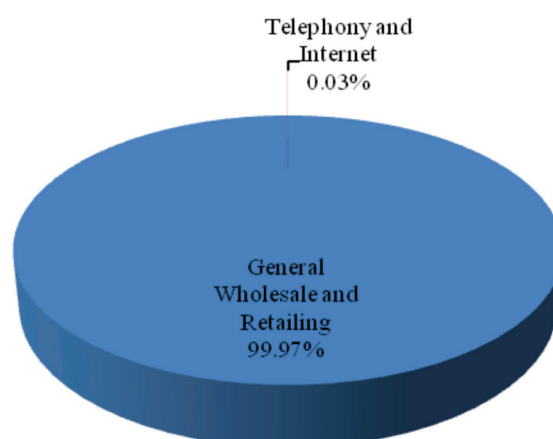
The economic contribution of the non-dedicated support industries to the Thai economy is summarised in table 3.6. The data demonstrates that the general wholesale and retailing sub-sector was the largest sub-sector in the non-dedicated support industry group in both value-added share and share of employment to the total number of the group. It represented almost all the economic contribution of the group.

**Figure 3.11: Value-Added of Non-Dedicated Support Industries by Sub-Sector, 2006**



Figures 3.11 and 3.12 depicted the share of value-added and share of employment by sub-sector, respectively. The sub-sector of general wholesale and retailing dominated other sub-sectors in copyright-based industries in terms of value-added creation. This sub-sector accounted almost 100 percent of total value-added generated by the group of non-dedicated support industries. As far as the employment is concerned, the sub-sector created the highest employment compared to other sub-sectors that belong to non-dedicated support industries. The number of employment accounted for almost 100 percent of all employment created in this group of copyright-based industries.

**Figure 3.12: Employment in Non-dedicated Support Industries by Sub-Sector, 2006**



### 3.3 Foreign trade

In the analysis of the international trade of copyright-based industries, the authors mapped the ISIC, which corresponded to the WIPO classification in the WIPO Guide, with the SITC classification by using the guide in the correspondence table from the European Commission website with some modification.<sup>12</sup> The mapping between ISIC and SITC is included in appendix 1. According to the correspondence table, there is no sector in the group of non-dedicated support industries that can be classified in SITC classification. Therefore, it should be noted at the beginning that the analysis in the Foreign Trade section will discuss the export value in three groups, namely, core copyright industries, interdependent copyright industries and partial copyright industries. The copyright factor for each group is multiplied to obtain the export data for each category.

**Table 3.7: Thai Copyright-Based Industries' Export Value with Growth Rate and Share to Total Thai Export (2004-2008)**

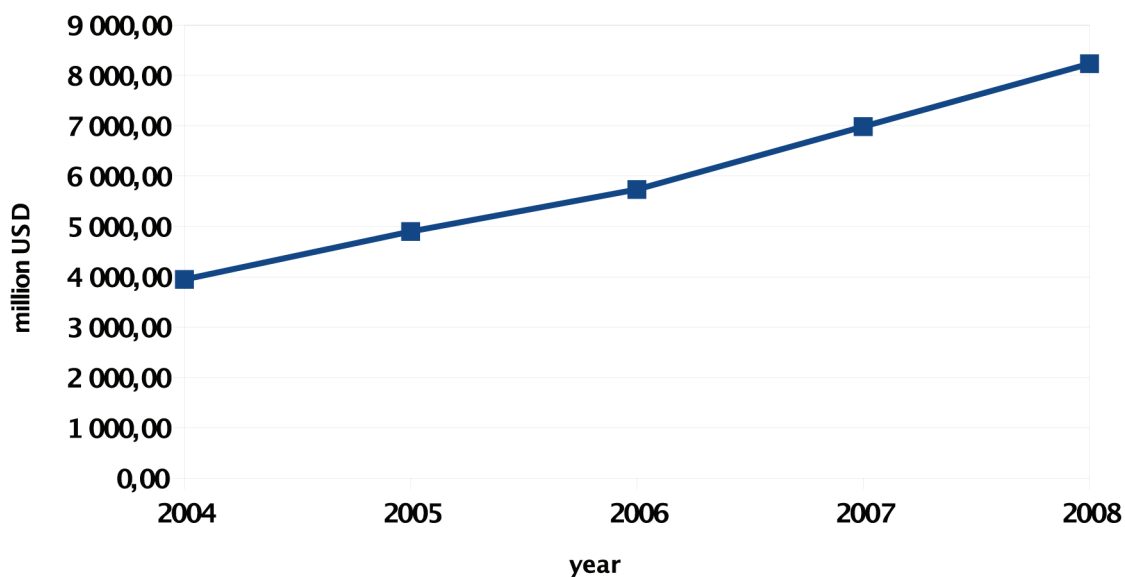
	2004	2005	2006	2007	2008
<b>Copyright-based Industries</b>					
Export value (million USD)	3,946.23	4,899.40	5,734.53	6,984.59	8,232.71
Growth rate by year (%)	-	24.15	17.05	21.80	17.87
% of export value to total Thai export	4.21	4.59	4.56	4.55	4.68
<b>Core copyright</b>					
Export value (million USD)	127.79	179.57	207.8	881.44	1,506.69
Growth rate by year (%)	-	40.52	15.72	324.18	70.94
% of export value to total Thai export	0.14	0.17	0.17	0.57	0.86
<b>Interdependent copyright</b>					
Export value (million USD)	2,220.69	2,917.83	3,683.72	4,075.50	4,387.98
Growth rate by year (%)	-	31.39	26.25	10.64	7.67
% of export value to total Thai export	2.37	2.73	2.93	2.65	2.49
<b>Partial copyright</b>					
Export value (million USD)	1,597.75	1,802.00	1,843.01	2,027.65	2,338.03
Growth rate by year (%)	-	12.78	2.28	10.02	15.31
% of export value to total Thai export	1.70	1.69	1.46	1.32	1.33
<b>Non-dedicated support</b>	n/a	n/a	n/a	n/a	N/a

Source : Authors' calculation from UN Comtrade database system

<sup>12</sup>[http://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST\\_REL&StrLanguageCode=EN&IntCurrentPage=6](http://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL&StrLanguageCode=EN&IntCurrentPage=6)

As far as the international trade is concerned, the Thai copyright-based industries have played their role as the growing export sectors for many years, as seen in table 3.7. For the overall copyright-based industries, the industries' export value increased with a double-digit growth rate over the observed time period. The average annual growth rate of the exports during 2004-2008 was approximately 20 percent. The 2006 export value as a percentage of the total export was 4.56 percent. Such share is considered high as compared to those of other export products of Thailand. The trend of export value of copyright-based industries is presented in figure 3.13.

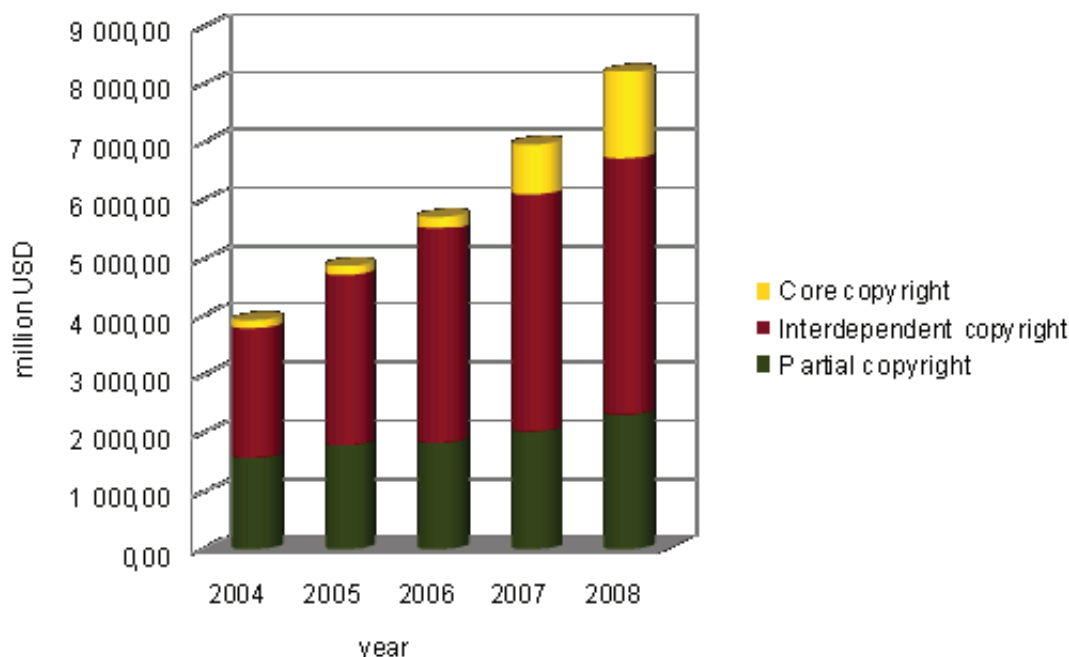
**Figure 3.13: Total Export Values of Copyright-Based Industries during 2004-2008**



In details, the export value of core copyright industries has been growing much more than those of the group of interdependent copyright industries and the group of partial copyright industries. This positive trend implies a good signal of the development of the copyright-based industries in Thailand. The reason is that the activities in the group of core copyright industries are the principal sources of pure copyright activities and creative industries. The pure copyright related activities are important since they are closely related to creativity and originality in the arts and creative works.

As for the export value of the group of interdependent copyright industries, the value ranks first among all copyright-based industries. However, the growth of its export value experienced a sharp downturn in recent years, in contrast with the trend of the group of core copyright industries. This is partly a result of the global financial crisis. This group's export share to total export of Thailand during 2004-2008 is roughly 2.4-3 percent. The partial copyright industries added up the export revenue of 1,843.01 million USD in 2006 (1.46 percent of the total export). Their export value was approximately half of the interdependent copyright industries' export value. However, the positive trend of partial copyright industries' export value was observed over the period of 2004 to 2008.

**Figure 3.14: Composition of Export Value of Thai Copyright-Based Industries during 2004-2008**

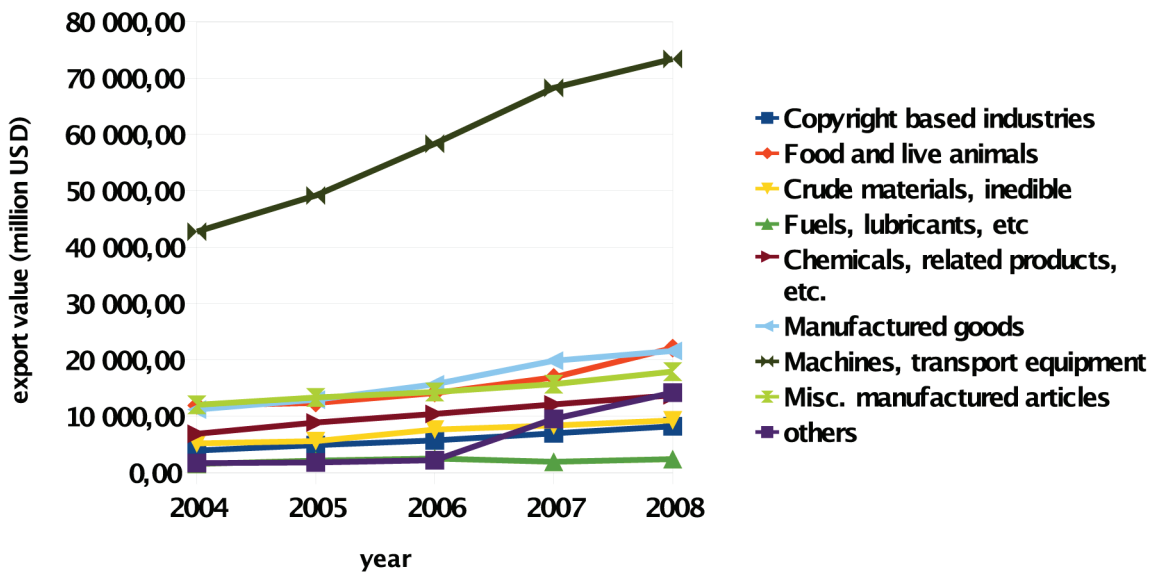


To consider the composition of the export of the copyright-based industries, the data is depicted in figure 3.14. The figure showed that the core copyright industries group has generated the smallest export revenue in comparison to the interdependent copyright industries and the partial copyright industries. Interestingly its export and export share to total export increased dramatically in 2007 and 2008. Meanwhile the export from the group of interdependent copyright industries has played outstanding role among all copyright-based industries during 2004-2008. Export from the group of partial copyright industries, however, was in the middle place and maintained its position for the whole period. Although the export value in the group of core copyright industries are low in relation to the other two groups, its better performance in terms of annual growth rate is significant from policy-makers' point of views. The trend signifies the success of the Thai government's policies to support the creative industries. Such policies are so called the policy of "Creative Thailand". The policies are to mainly assist the entrepreneurs in the group of core copyright industries to enhance their competitiveness.

Furthermore, the export value trend of copyright-based industries' products in comparison with other export commodities is exhibited in figure 3.15. The data showed that export of copyright-based industries has increased over the years. The growth pattern of Thai copyright-based industries was the same as those of other main export commodities.

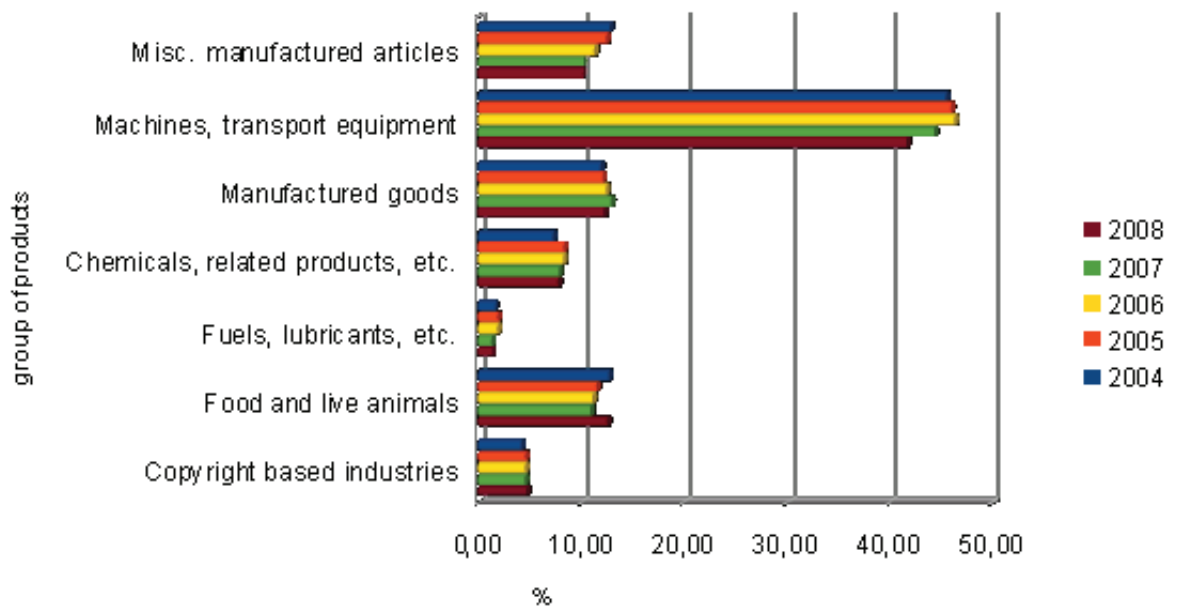


**Figure 3.15: Trend of Export Value of Copyright-Based Industries in Comparison with Other Export Commodities during 2004-2008**



Regarding the export share of copyright-based industries, the trend of export value of copyright-based industries in comparison with other exports is presented in figure 3.16. The pattern of the share of copyright-based industries export value to total export over the period of 2004-2008 seemed to be moderate. This situation also happened to almost all exporting commodities in that period. Note that 2006 export share of copyright-based industries was almost half of that of the food and live animal sector, which is one of the significant industries of Thailand.

**Figure 3.16: Export Value as a Percentage of Total Thai Export during 2004-2008**



	2004	2005	2006	2007	2008
Copyright based industries	4.21	4.59	4.56	4.55	4.68
Food and live animals	12.72	11.59	11.23	11.02	12.58
Fuels, lubricants, etc.	1.66	2.01	2.00	1.27	1.37
Chemicals, related products, etc.	7.37	8.34	8.30	7.90	7.82
Manufactured goods	11.96	12.13	12.47	12.93	12.28
Machines, transport equipment	45.61	46.06	46.38	44.47	41.73
Misc. manufactured articles	12.84	12.50	11.38	10.23	10.20

## 4. Profile of Selected Core Copyright Industries

### 4.1 Press and Literature

In the group of press and literature, there are several subgroups' activities and people related. They are, for example, newspapers, authors, writers, translators, magazine and periodicals, book publishing, wholesale and retail of press and literature. All activities are in the printing industry. The Thai printing industry has been developed under the government's driving force during the past decade. The main development plans which are adopted are the Master Plan for Major Industrial Sectors (Printing Industry) in 2004 and Competitive Benchmarking for Paper and Printing Industry in 2008. The most recent plan is the follow-up study of the previous two plans. It is called Implementing Strategies for the Development of Printing Industry 2010. The printing industry has successfully developed since 2004 and Sinsakorn Printing City and Industrial Estate was established subsequent to the implementation of the 2004 Master Plan. A few years after this, the Thai Print Association launched the Thai Print Awards in 2006. The Association at the meantime supported Thai people to participate in the Asian Print Awards (Ministry of Industry, Thailand, 2010). Apart from the Thai Print Association, other associations related to press and literature activities are, for example, the Press Association of Thailand, Thai Journalists Association, Writers' Association of Thailand and The Translators and Interpreters Association of Thailand. Currently, there are more than 30 newspapers and a hundred of periodicals in Thailand. They are released on daily, weekly or monthly basis. Some are launched every few days or twice a month. There are also English and Chinese newspapers in Thailand. However, they are well-recognised in specific groups of readers. The newspaper readership of daily newspapers during 2007-2009 is exhibited in table 4.1.

**Table 4.1: Newspaper Readership of Daily Newspaper, 2007-2009**

Newspaper	2007	2008	2009
Thai Rath	1,2669,000	12,526,000	9,759,000
Daily News	7,073,000	6,910,000	5,303,000
Khaosod	1,157,000	960	747
Matichon	998	955	717
Krungthep Turakij	179	95	90
Post Today	84	81	85
Bangkok Post (English)	71	115	70
The Nation (English)	55	33	29

Source: AGB Nielsen Media Research.

With respect to the book publishers which are the key players in the Thai printing industry, some publishers are listed companies in the Stock Exchange of Thailand while the others are small and medium sized businesses. Many listed book publishers not only run business in book publishing, they also do wholesaling and retail press and literature. They are, for instance, Se-Education Public Company Limited and Matichon Public Company Limited. In addition, Matichon PCL also issues daily newspapers and a number of periodical newspapers. Meanwhile, several book publishers have main activities in publishing textbooks, workbooks and reference books for schools and universities. Most of them are either known as university press or the book publishers who are subcontracted by the Ministry of Education.

Commercial printing is another key business in the Thai printing industry. They are mostly small and medium sized businesses and unlisted companies. Their activities include printing cards, maps, calendars, envelopes, writing paper, notebooks, designed paper, decorative packaging, commercial packaging and advertising materials. According to the study for Implementing Strategies for the Development of Printing Industry (2010), the study reported that all three groups in the scope of study had a constant growth during 2004-2009. In addition, the package printing sector showed the biggest growth among all three sectors due to the expansion of the food export. On the contrary, the book and commercial printing and cut-out printing sectors are negatively affected by data dissemination via the digital media. Notwithstanding, these two sectors still presented some growth due to their product variety.

Considering the characteristics and competitiveness of the Thai printing industry, there are many small companies and the competition is normally based on price since the products are not much differentiated. It is said that price competition in the market might hinder the industry's development since the entrepreneurs have to push down the cost and could not put emphasis on research and development. There are several weak points and threats in the industry: 1) the concentration of the industry in Bangkok and the central region, 2) the price competition which might slow down the quality development progress in the industry, 3) insufficient skilled labour to improve the printing technique, 4) the low productivity and lack of printing engineer knowledge, 5) limited overseas market development, probably due to the potential local market demand, 6) reliance on foreign technologies and machines and 7) political unrest. Nonetheless, the Thai printing industry has a number of strength and opportunities. They are: 1) big local market, 2) available local resources, 3) the developed cluster and supply chain which support the image of Thailand as the "Printing Hub" due to the collaboration between the public and private sectors in necessary infrastructure<sup>13</sup>; 4) strong educational institutes, 5) strong growth in digital printing, 6) exporting opportunities to free trade agreement partner countries, 7) government supporting policies and realisation of the industry's importance to the country and 8) Thai people's values towards a reading habit and education including parent's prioritisation of preschool education for children.

The analysis in weak points and threats including strength and opportunities of the Thai printing industry suggested that the potential of Thai printing industry could be improved, especially with several government supporting policies and earlier mentioned positive factors. The government supporting policies could include tax reduction on imported paper, promoting the reading habit campaign in school, Creative Economy policies and policies to promote life-long education and knowledge-based economy in the 11th National Economic and Social Development Plan. The policy sets of Creative Economy helps stimulate people's creativity and give rise to the press, literature and printing industry. Apart from those, annual book exhibition and International Book Fair are the popular events which are held annually in Thailand. These two events attract more than 100,000 people a year and create an appropriate forum for all levels of people to get inspired by the well-known authors and translators. This could help drive forward the development of the press and literature in the future.

From an economic point of view, the press and literature sub-sector employed 216,283 persons and created 70.41 billion baht of value-added in 2006. The sub-sector contributed most in both value-added and employment among all copyright-based industries. In addition, the industry is considered significant to the Thai economy since it also employs a great number of Thai people. Nonetheless, many of them may not be included in the reported statistics.<sup>14</sup> In addition, the industry has interlinkages with many sectors in the economy.<sup>15</sup> Relatively, it has high coefficients which demonstrated high forward and backward linkages with the sectors in the Thai economy.

## 4.2 Music, Theatrical Production and Opera

Among all sub-sectors in core copyright industries, music industry together with theatrical productions and operas is the second biggest sub-sector. In 2006, their value-added accounted for 19 percent of the total value-added in core copyright industries. While the employment in this sub-sector represented 22.5 percent of total employment in core copyright industries. According to the statistical data from the Department of Intellectual Property, the number of notified musical works has been increasing significantly since 1999, as illustrated in figure 4.1. The notification for musical works has been dominating those for all other categories of copyrighted works. In 2009, the total number of copyright notifications is 207,689, as shown in table 2.2. The number of notified music works is 134,322, which represents 64.7 percent of total notifications of copyright works. Such large number of notifications reflects both the increasing confidence of music creators on the enforcement of copyright law and, ironically, the greater extent of music piracy in the local market over the years. Based on the data from IP&IT court shown in table 2.3, the number of criminal cases on retailing, distributing or importing musical works has increased from 701 cases in 2008 to 753 cases in 2009.

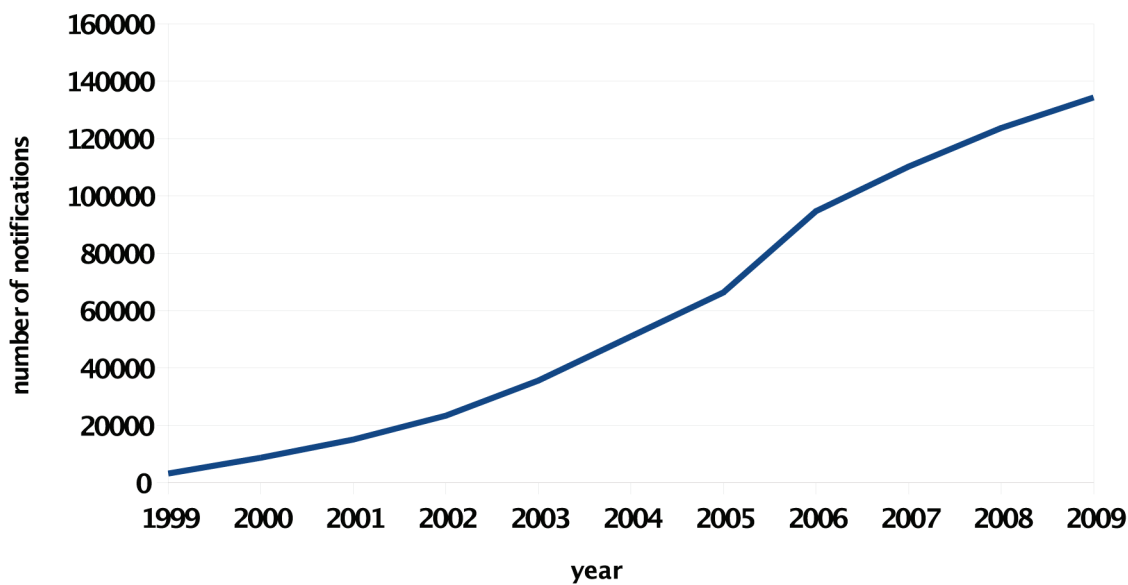
<sup>13</sup>The collaborations cover establishing printing industrial estate, laboratories and training institutions.

<sup>14</sup>As earlier mentioned in section 1.2, there are some limitations in data collection process which result in underestimation in employment figures.

<sup>15</sup>Ariyasajakorn D. and Sakhornrad P. (2010). Creative Economy and Macroeconomics. In *Creative Economy and Development Issues in Thailand*, a research project (in Thai) commissioned by the International Institute for Trade and Development (Public Organisation), Thailand.

The number in the latter year ranks first among all types of copyright infringements. This figure represents 32.2 percent of total number of copyright infringement cases in 2009.

**Figure 4.1: Cumulative Copyright Notifications of Music Works in Thailand during 1999-2009**



Source: Department of Intellectual Property (DIP)

Consider market structure, the music market in Thailand consists of two big music companies and about 95 smaller companies. The two media conglomerate entertainment companies are GMM Grammy and RS. The former is the largest one, it controls approximately 70 percent of music market in Thailand. The company was established in 1983 with the registered capital of 0.5 million baht.<sup>16</sup> In 2009, the registered capital has grown to 530.56 million baht. Besides music business, the company is involved in concert production, artist management, film and television production and publishing. In 2010, GMM Grammy adjusted and developed the music business. So its revenue primarily comes from three business lines, namely digital music, artist management and show business. As for RS, the company was found in 1976. Its music was targeting Thai teenagers. In the mid 1980s, many bands such as Intanin, Fruity, Brandy and Kiriboon became popular. These bands generated quite substantial amounts of revenue for the company from the sales of their albums. RS has expanded its scope to include film and television series production as well as radio programming in the early 1990s. The company underwent a rebranding in 2007 to identify itself as a broader media company rather than just a music recording company.

Nowadays, there has been a tremendous change in the lifestyle of music consumers. This is because of the development of digital technology. A decade ago, it was very difficult and time-consuming for music consumers to download songs from internet. It took quite a long time to download just one song. Even the song could be successfully downloaded, its quality was far below the par and there were a lot of interruptions while listening to it. But these days, music consumers are easily able to download songs from internet for a minimal fee or no fee at all. So there is no need for music consumers to buy CDs. In 2007, it was reported that the value of the purchase of recorded music per person in Thailand was only USD 1. This is why the sale of music albums has gone down drastically. Recorded music sales have been declined at the annual rate of 17.9 percent (Kenan Institute Asia and Fiscal Policy Research Institute, 2009). It is impossible for an artist to sell her or his album more than one million copies of recorded music, like some did in the past. Today, it would be unusual if the sale of any album reached 10,000 copies.

<sup>16</sup>The exchange rate is approximately 31 Thai baht for USD 1.

In 1990, the recorded music sale of the album by Thongchai McIntyre, Thailand's most popular artist, reached two million copies. This is all-time highest sale and the record has not been broken since then. This has proven that the golden age of Thailand's music industry was in the 1990s. During that time, the primary source of revenue came from the sales of recorded music of local music companies in the forms of tape cassettes and CDs. So it was worthwhile for them to put significant amount of investment on the development of artists' skills and music technologies. However, due to the change of market environment today, large music companies such as GMM Grammy and RS have to change their investment strategies by scaling down their investments. As a result, music producers and composers as well as musicians earn less income. The lower payoffs would discourage them to create high-quality music works eventually.

Besides the change in investment strategies, the distribution strategies have been changed as well. The traditional distribution channel, which is selling CD albums in music stores, has become less important. There are a number of modern ways for music companies to distribute and sell their music. Convenient stores such as 7- Eleven and Tesco mini mart are ones of the modern distribution channels. CD singles from different music companies are sold there at very cheap price. Moreover, the on-line market has gained more popularity among teenage music consumers. It is not usual for this group of music consumers to buy CDs, due to their own purchasing power and a number of substituted alternatives. Generally, they download digital music on MP3 and ringtones for mobile phones. Therefore, it is crucial to attract teenage music consumers to do so legally from authorised websites, which partner with music companies.

To strengthen the music industry in Thailand, the government should be more actively coordinating with copyright owners the implementation of enforcement measures of copyright law. This would have a consequence in lessening music piracy in the local market. Better understanding and awareness should be created for Thai music consumers so they would recognise that copyright must be respected and that the purchase of pirated recorded music is a wrongdoing practice. Last but not least, the skill development of new music artists should be financially and technically supported by academic institutions, relevant government agencies and music companies. Music production should be targeted for wider audiences in the region, not just for Thai music consumers. This is to raise demand and further expand the market for Thai music industry beyond the domestic market in the future.

### 4.3 Motion Picture and Video

The activities in motion picture and video include pre-production, mid-production, post-production, marketing and wholesale and retailing including renting VCD, DVD and video. The Thai film industry is composed of production of Thai film as well as marketing and distributing both Thai and foreign films in various forms. It also incorporates the foreign film production in locations in Thailand. The Thai film industry has been evolving for several decades and the industry has been growing year by year, especially after the supportive policies from the government of Thailand under the umbrella called "Creative Thailand". The industry employed 30,204 persons and created 6.92 billion baht of value-added in 2006. A large part of employers in the industry is part-time workers who are employed on the project basis. There are more than 25 film makers in Thailand. Recently, a number of new film makers were established. Some of them formerly run cinema businesses before turning to film production houses. Several small film makers mainly produce short films while few film makers targeted at the production of romantic comedies, comedies and horror films. A major change in cinema pattern has been also observed since 2000. Stand-alone cinemas became less popular and were replaced by multiplex cinemas in shopping centres and big department stores. The trend of cinema goes towards smaller screen and less seat but more stylish. All films are to be inspected and rated by the Ministry of Culture, Thailand before they are launched at the cinema. The Ministry settles the criteria of the rating and censoring. Some films have been banned from being publicised due to some of their traditionally offensive scenes for young people.

The Federation of National Film Association of Thailand (FNFAT) had been established since 1991. The objective of the Association is to facilitate and solve problems in each sector of the Thai Film Industry which is scattered and in various different directions.<sup>17</sup> According to the interview with the representative from the Association, FNFAT is a non-profit organisation whose income mainly comes from distributing the Red Carpet

<sup>17</sup>See the official website of The Federation of National Film Association of Thailand (FNFAT): [www.thainationalfilm.com](http://www.thainationalfilm.com) for more details.

bulletin<sup>18</sup>, arranging the Bangkok Film Festival, organising the Subanahongsa Thai Film Award<sup>19</sup> and partly comes from government support.

The statistics from FNFAT presents that the pre-production and mid-production expenditures are quite high compared to the total value of film industry. Table 4.2 shows the performance and structure of the Thai Film Industry during 2004-2009. Furthermore, the revenue from the box office of the Thai film has increased over the observed period while that accrued from the foreign film decreased. This implies the popularity of Thai films among the audience in Thailand recently. Considering the revenue from sales and renting VCD, DVD and video, it has slowed down over 2004-2009. This downward trend might result from some reasons, for instance, the dissemination of the films in other digital media forms, easier access to cinemas and the consumer behaviour to spend leisure time going out to see films at the cinema.

**Table 4.2: Performance and Structure of Thai Film Industry during 2004-2009 (in million baht)**

Description of market value	2004	2005	2006	2007	2008	2009
<b>1. Pre-production and mid-production</b>	2,398	3,152	4,974	9,622	9,717.12	8,469.58*
1.1 Related business	n.a.	n.a.	n.a.	6,605.80	5,945.22	5,647.96*
1.2 Thai film production	968	814	968	1,943.22	1,748.90	1,923.79*
1.3 Foreign film production in Thailand	1,430	2,338	4,006	1,073	2,023	897.83
<b>2. Post-production</b>	4,609	3,611	5,632	6,790.69	6,451.15	6,128.60*
<b>3. Box office</b>	4,500	4,644	4,520	4,272.98	3,655.15	3,734.26
3.1 Thai film	900	1,044	1,020	1,900.12	1,270.00	1,156.62
3.2 Foreign film	3,600	3,600	3,500	2,372.86	2,385.14	2,577.64
<b>4. Marketing value from distributing film to cinemas in the up-country area including in forms of VCD, DVD and cable TV</b>	3,380	3,034	3,160	3,458.00	3,112.20	2,800.98*
4.1 Thai film	800	444	440	466.00	419.40	377.46*
4.2 Foreign film	2,580	2,590	2,720	2,992.00	2,692.80	2,423.52*
<b>5. Export revenue from selling Thai film abroad</b>	400	1,600	1,200	934.48	887.75	798.98*
<b>6. Selling and renting VCD, DVD and video</b>	15,100	11,840	7,900	8,593.44	6,874.75	5,843.54*
<b>Total Marketing Value</b>	<b>30,387</b>	<b>27,881</b>	<b>27,386</b>	<b>33,671.60</b>	<b>30,698.12</b>	<b>27,775.93*</b>

Source: The authors gathered the data from the website of FNFAT and the FNFAT officer. Data in 1.1, 1.2, 2, 4 and 5 is obtained from Department of Business Development, Ministry of Commerce, Thailand. Data in 1.3 is obtained from Department of Tourism, Ministry of Tourism, Thailand. Data in 3.1 and 3.2 is obtained from [www.boxofficemojo.com](http://www.boxofficemojo.com).

Note: \* indicates forecasted data. The data will be revisited by Department of Business Development, Ministry of Commerce, Thailand

Table 4.3 presents the number of production by type with the total revenue. It shows that the number of the foreign productions and their revenue of 2010 and 2001 (January-September), which has been released by the Department of Tourism from the Ministry of Tourism improved in a great extent. Interestingly, the foreign productions revenue in 2010 increased to 1,869.15 million baht, an increase of 108.19 percent as compared to 897.83 million baht in 2009. In addition, the data at the end of September 2011 revealed that the foreign productions generated 1,231.61 million baht. Such productions concentrate on the productions of documentaries and advertisements.

<sup>18</sup>Red Carpet bulletin is a monthly bulletin owned by the FNFAT. It can be viewed digitally on the website of the FNFAT.

<sup>19</sup>The Bangkok International Film Festival has been held annually since 2003 by the Tourism Authority of Thailand, a Royal Thai government agency, in Bangkok, Thailand ([www.bangkokfilm.org](http://www.bangkokfilm.org)). Subanahongsa Thai Film Award is the national film award in Thailand, which has been awarded since 1992 and organised yearly by the FNFAT. Both festivals are the well known film festivals in Thailand.

**Table 4.3: Number of Foreign Productions by Type and Revenue in Thailand, 2007-2011**

Year	Number of production by type						Revenue*
	Documentary	Advertisement	Film	TV film	Music video	Total production	
2007	229	198	22	32	42	523.00	1,072.62 (n.a.)
2008	197	184	28	48	69	526.00	2,023.24 (+88.63%)
2009	181	166	37	52	60	496.00	897.83 (-55.62%)
2010	178	255	49	46	50	578.00	1,869.15 (+108.19%)
2011	128	249	27	65	29	498.00	1,231.61 (-34.11%)

Source: Department of Tourism, Ministry of Tourism, Thailand.

Note: \* The numbers in parentheses indicates the change of revenue over the year.

**Table 4.4: Number of Foreign Productions Filming in Thailand by Country of Origin, 2007-2011**

Year	Number of production by country of origin										Total production
	Japan	Europe	US	Australia	China	Republic of Korea	Hong Kong	Taiwan	India	Others	
2007	154	102	22	18	8	39	25	6	92	57	523.00
2008	134	106	25	10	8	26	23	3	123	68	526.00
2009	108	96	25	8	16	27	20	10	108	78	496.00
2010	123	91	22	8	22	41	24	16	128	103	578.00
2011	95	82	27	13	27	45	23	8	83	82	485.00

Source: Department of Tourism, Ministry of Tourism, Thailand.

Table 4.4 shows the number of foreign productions filming in Thailand by country of origin during 2007-2011. The data presents that Thailand is the popular location for Japanese and European film producers. Apart from FNFAT and the Ministry of Culture, there are several other authorities, which are involved in the film industry. For example, the Department of Tourism is responsible for foreign film production in Thailand. According to the Film Act B.E. 2551 (2008), any foreign film maker wishing to shoot a film including documentary, music video, commercial, TV program and docudrama in Thailand, has to apply for permission from the Thailand Film Office at the Department of Tourism. Failure to seek the permission will subject violators to punitive fines and prison terms as stated in the Act.<sup>20</sup> Universities, both public and private, have designed the curriculum for film production and related activities. Submission of the short films created by groups of university students to the contests for new-face film makers has been becoming more prevalent.

As for the difficulties in running film production and related business in Thailand, the data from the interviews with FNFAT and the Motion Picture Association of America (Thailand) revealed that Thai film makers share the common obstacles. Firstly, many film makers are not able to obtain enough production funds. Secondly, from the point of view of the entrepreneurs, copyright infringement cases, which hinder the development of film production due to the leakage of the film industry's revenue, are not effectively managed. They also discourage the film makers and creators from producing and creating high-quality films. In addition, government actions to pass the Anti-Camcording Law and its enforcement by the authorities are the issues that do concern the film makers. The law is currently in the process of deliberation by the Council of State. The authorities and industry players are deemed to provide necessary information when required.

<sup>20</sup>The website of the Department of Tourism: [www.tourism.go.th](http://www.tourism.go.th).



## 4.5 Radio and Television

The industries of radio and television comprise the activities of the national radio and television broadcasting companies, other radio and television broadcasters, independent producers, cable television (systems and channels), satellite television and allied services. Radio and television broadcasting in Thailand has evolved with advanced technology and developed network. At the beginning, the broadcasting was owned and operated by the government. Private entrepreneurs later joined the business and helped spur the industry's development. The broadcasting via radio and television are prevalent in almost every areas in Thailand. Table 4.5 shows the penetration of radio, television and PC in the Thai households during 2007-2009. The data demonstrates that television is the most popular equipment among Thai households. In addition, the number of households who own a television set increased year by year through the whole period observed.

**Table 4.5: Household Owning Equipment in Thailand**

	2007		2008		2009	
	Household (million)	% of Thai household	Household (million)	% of Thai household	Household (million)	% of Thai household
TV set	17.7	96.3	18.6	97.2	19.2	97.4
Radio set	11.6	63.9	11.4	60.3	n.a.	n.a.
PC	3.18	17.5	3.58	19.6	3.87	20.3

Source: Data for TV are from AGB Nielsen Media Research and data for radio and PC are from the National Statistical Office of Thailand (NSO).

As for radio, two types of radio stations are operated. One is FM radio station and the other is AM radio station. In comparison, AM radio station is more popular in remote areas and up-country provinces since the signal could cover farther distant areas regardless of the existence of the broadcasting station. However, FM radio stations offer much more variety of radio programs. They capture more audience and market shares in urban areas. Currently, there are more than eighty FM radio stations and ten AM radio stations nationwide.

**Table 4.6: Radio Listenership for News Station in Bangkok by Monthly Regular Listeners, 2007-2009**

Frequency	Station	2007	2008	2009
FM 99.0	Muang Thai Kang Rang	262,000	248,000	205,000
FM 96.5	Kluen Kwam Kid	151,000	112,000	149,000
FM 106.0	Family News	100,000	126,000	124,000
FM 90.5	Nation Radio	92,000	63,000	71,000
FM 105.0	Wisdom Radio	74,000	62,000	67,000
FM 100.5	News Station 24 Hr	110,000	62,000	40,000
FM 101.5	Chulalongkorn Radio	69,000	49,000	59,000
FM 99.5	Ruam Duay Chuay Kun	88,000	38,000	48,000
FM 101.0	INN	69,000	45,000	31,000

Source: AGB Nielsen Media Research.

Radio stations could be classified into news stations, entertainment stations and specialist stations. Table 4.6 presents radio listenership for news station in Bangkok by monthly regular listeners during 2007-2009. Some radio programs are operated by government authorities. For example, the radio programs of 106 FM, called Family News Station, are mostly run by the Thai Navy. Few stations are known for their specific services such as 100 FM, which disseminates real time data on traffic and road accidents in Bangkok and vicinities. Meanwhile, many radio stations run the programs to broadcast the content of the television program. The radio programs in Thailand mostly are run in Thai; only some programs during specified time period are operated in English.

With respect to terrestrial free-to-air television, there are five private (commercial) television broadcasters and one public television broadcaster, which is the National Broadcasting Services of Thailand (NBT). As shown

earlier in table 4.5, TV set is the most popular equipment among the Thai households. All five commercial television broadcasters are either directly or indirectly owned by the Thai government. The operation in the channel can be classified into two patterns: 1) state-operated and 2) privately operated/concession agreement. Two private operators have build-transfer-operate (BTO) concession agreements with the owners in exchange for full ownership of airtime and programming. They were required to build-out national coverage through relay stations plus pay annual concession fees (Credit Suisse, Asia Pacific/Thailand, 2011, p.9).

**Table 4.7: Thailand Broadcasting Industry Landscape**

Channel	License Owner	Operator	BTO Concession Expiry	Annual Concession Fee
NBT	Prime Minister's Office	Public Relations Department	n/a	n/a
Channel 3	MCOT	BEC	2020	min BT 188 min/yr until 2020
Channel 5	Royal Thai Army	Royal Thai Army	n/a	n/a
Channel 7	Royal Thai Army	Bangkok Broadcasting & TV Co. (BBTV)	2023	Est. 1-5% of revenue
Channel 9	MCOT	MCOT Plc.	n/a	n/a
Thai PBS*	Prime Minister's Office	Public Relations Department	n/a	n/a

Note: \* Before 2008, Thai PBS was known as iTV, a commercial TV station. Thus, the comparison should be made with care. Source: AGB Nielsen Media Research.

**Table 4.8: Market Share of Free-to-Air Television Stations, 2006-2009**

Channel	2006	2007	2008	2009
NBT	3.0	2.4	4.6	3.4
Channel 3	25.6	29.6	27.3	27.6
Channel 5	7.3	6.7	7.1	8.7
Channel 7	41.2	41.9	44.3	45.6
Channel 9	10.2	9.2	9.7	10.0
Thai PBS*	12.6	10.3	7.0	4.9

Note: The authors modified the data from Credit Suisse, Asia Pacific/Thailand (2011). *Thailand Broadcasting Sector*. Source: Company data, Commission Ministry of Culture. Cited in Credit Suisse, Asia Pacific/Thailand (2011). *Thailand Broadcasting Sector*.

Table 4.7 demonstrates the Thai broadcasting industry landscape and table 4.8 presents the market share of free-to-air TV station during 2006-2009. Among free-to-air television stations, channel 9 positions itself as a knowledge-based TV station. Channel 3 and channel 7, however, position themselves as news and entertainment channels. Channel 5, which is run by the Thai Army, also relays entertainment programs as its majority. Thai Public Broadcasting Service (Thai PBS), on the other hand, has quite similar program content with that of channel 9. In regard to the only public broadcaster in Thailand, NBT broadcasts wholly the knowledge-based TV programs and edutainment programs. No commercial advertisement is shown in the broadcasting time.

Apart from terrestrial free-to-air television station, cable TV and satellite TV are also widespread among households in Thailand. The entrepreneurs in both cable TV and satellite TV business have the association to support their business. These are the Thailand Cable TV Association (TCTA) and Satellite Television Association (Thailand) (STAT). According to the survey by AGB Nielsen Media Research, the market opportunities for cable TV and satellite TV business have been expanding during the past few years and are expected to have developed in good trend, as illustrated in table 4.9.

**Table 4.9: Table 4.9 Platform for the Main TV Reception**

	2007		2008		2009		2010*	
	Household (million)	% of Thai household	Household (million)	% of Thai household	Household (million)	% of Thai household	Household (million)	% of Thai household
Terrestrial reception	13.5	74.4	12.9	68.3	12.8	66.1	11.8	56.3
Cable and satellite reception	4.2	21.9	5.7	28.9	6.4	31.3	9.2	43.7
Internet Protocol TV	0	0	0	0	0	0	0	0
Total	17.7	96.3	18.6	97.2	19.2	97.4	21.0	100.0

Note: \* Forecast by Satellite Association (Thailand).

Source: AGB Nielsen Media Research.

In terms of supportive legal and institutional frameworks, the new Radio and Television Broadcasting Act has been promulgated since 2008. It has stimulated the expansion in cable TV and satellite TV since it allows all cable and satellite TV providers who are qualified with the granted license to operate subject to regulations. In addition, advertising is permitted in cable and satellite TV channels for the first time. The Act sets a limit of advertising up to six minutes per hour. In addition, the National Broadcast and Telecommunications Commission (NBTC) have been recently formed and NBTC commissioners have been selected in September 2011. NBTC's role is to act as the regulator to oversee the broadcasting industry, both private and public players. The Thai broadcasting industry is expected to grow together with the advertising industry since the adoption of the 2008 Act paved the way for the expansion of the advertising and related business.

#### 4.5 Software and Databases

The software and database industry is one of the fast growing and significant copyright-based industries in Thailand. The industry offers various services ranging from programming, data entry, document conversion, geographical information services, creation of graphic games and animation as well as web and software development. As shown in table 3.3, their contribution in terms of value-added is 9.81 billion baht and employment is 13,336 workers in 2006. Among all nine subgroups in the core copyright industries, their contribution to GDP is in the fifth place, the share is 6.15 percent of the total contribution of core copyright industries. As far as the employment is concerned, the industries hire 2.8 percent of the total employment in core copyright industries. The software industry in Thailand has grown at the good rates since 2006. Annual growth rates were 13.09 percent and 11.16 percent in 2007 and 2008, respectively. (NECTEC, 2009)

In terms of market structure, software market in Thailand could be justified as a monopolistic competition market where many competing firms sell the products that are differentiated from one another. There are approximately 1,300 software companies in Thailand. Most of them are small and medium enterprises (SMEs). The companies primarily produce software products for accounting and for renting management. However software solutions for enterprise risk management (ERP) and customer relationship management (CRM) are generally imported. As for the ownership structure of software companies in Thailand, the number of joint venture firms accounts for 14.64 percent of total number of software firms, while the rest 85.36 percent is not joint venture. Most of the companies located in the country produce their products to serve the local market. This is one of the reasons why 89.88 percent of the firms do not meet the requirements for investment promotion (Kenan Institute Asia and Fiscal Policy Research Institute, 2009). Only 10.12 percent of them could get access to the support under the investment promotion scheme whose measures include tax breaks and exemption of import duty for machinery.

The development of information technology in Thailand has started in the late 1980s. IT infrastructure has been built to serve government and private enterprises. Such infrastructure has been offering resources essential to the development of software products. These include reliable and swift broadband internet, network security, low incidence of power outages and excellent research and development as well as production facilities. In 2002, the Ministry of Information and Communication Technology (MICT) was established with main

missions to concretely implement government ICT policies and to support the development of comprehensive electronic processes for government, business and education.

Specifically, to support and strengthen the software industry, the Software Park Thailand was established. It is a government agency under the National Science and Technology Development Agency (NSTDA). Since its inception, the Software Park Thailand has been stimulating the development of software industry and has been helping incubate growing software companies in different regions in Thailand. Its missions also include promoting transfer of technologies through training courses for professionals, promoting quality standard improvement of local companies to international level and promoting the usage of technology to all sectors to help increase productivity and competitiveness.

In 2003, the Software Industry Promotion Agency (SIPA) was established under the administrative supervision of the MICT. It is a leading agency in formulating plans and policies to advocate Thai software industry with a focus on developing software and digital content entrepreneurs, supporting investments and market opportunities as well as supporting measures to protect the rights of software copyright owners. Its goal is to enhance the recognition of Thai software industry in domestic and international levels. The SIPA has been assisting start-up software ventures in obtaining incubation space. So far, there are more than 50 software ventures operating at the facility (BOI: Thailand Investment Review, 2011). Moreover, SIPA has launched a funding scheme entitled “84 projects 84 years of His Majesty anniversary” to celebrate the auspicious occasion of 84 years of His Majesty anniversary. The primary aim is to provide funding for 60 new operators, 20 small operators and 4 medium operators.

Besides software supporting agencies established under the Thai government, there exists a number of business associations representing the interests of their members, who are software entrepreneurs in different sub-sectors. These key players in the industry include the Association of Thai Computer Industry (ATCI), the Association of Thai Software Industry (ATSI), Thai Animation and Computer Graphics Association (TACGA) and Thai Software Export Promotion Association (TSEP), just to name a few. More details on members and primary objectives of these business associations are in the following table.

**Table 4.10: Members and Objectives of Software Business Associations**

Associations	Members	Objectives
Association of Thai Computer Industry (ATCI)	Any company that sees information processing as core to business, including manufacturers and information service providers	<ul style="list-style-type: none"> <li>– Promoting Thai ICT industry through business collaboration</li> <li>– Working with the government to formulate policy to stimulate ICT uses and technological advancement</li> </ul>
Association of Thai Software Industry (ATSI)	Software producers and importers	<ul style="list-style-type: none"> <li>– Strengthening the capacity of the software industry in Thailand</li> <li>– Promoting software related investment from domestic and foreign sources</li> <li>– Fostering practical human resource development to fit the software industry</li> </ul>
Thai Animation and Computer Graphics Association (TACGA)	Animation and computer graphics entrepreneurs Academic institutions	<ul style="list-style-type: none"> <li>– Strengthening the creation and production of animation and computer graphics</li> <li>– Promoting the exports of animation and computer graphics</li> <li>– Enhancing professional skills of human resources in the fields of animation and computer graphics</li> </ul>
Thai Software Export Promotion Association (TSEP)	Software companies that sell their products in international markets	<ul style="list-style-type: none"> <li>– Promoting the exports of domestically produced software</li> <li>– Raising the competitiveness of Thai software products in the global market</li> </ul>

The big challenge faced by software and database industry is piracy. The Business Software Alliance (BSA)<sup>21</sup> reported that in 2010, 73 percent of personal computers in Thailand have illegal unlicensed software installed. The figure has dropped for four consecutive years. It fell from 75 percent in 2009 and 80 percent in 2006. However, it was estimated that the commercial loss incurred from unlicensed software has increased from USD 694 million in 2009 to USD 777 million in 2010. The reduction of the piracy rate for PC software reflects the greater extent of coordination among relevant government agencies and copyright owners in combating software piracy in local market.

In order to strengthen software and database industry in Thailand, the government should negotiate with software producers and encourage them to lower their prices. This is to attract end-users to buy legal software at more affordable prices and to undermine software piracy in local market. In addition, it is crucial to have education campaigns to make youngsters realise that piracy does not differ from stealing. This is to effectively convince the new generation that purchasing pirated software would be unacceptable in our modern society. In doing so, software inventors and creators would be able to receive fair deals on their intellectual investments. These would be incentives for them to continue to product software products to serve the demand in the market.

Furthermore, the government should have a clear direction in increasing the labour participation in Thailand's software industry. By nature of production, mostly people with high-technical skills have been engaging in software and database industry. The payoffs from selling and licensing software products are distributed within a small group of skilled and semi-skilled workers. Therefore, the government and relevant agencies should provide some incentives and implement measures to foster the linkages of software and database industry to other industries. This is to raise the number of people engaged in this particular industry and to further distribute the industry's benefits to the wider group of people.

#### 4.6 Copyright Collecting Societies

Copyright Collecting Societies or known as Collective Management Organization (CMO) are the establishment which operates as the royalty collector for copyright owner in copyright and related rights industries. Currently, Thailand has 29 CMOs (as of January 17th, 2012). Those CMOs collect the royalty for the use of specific types of copyright, including musical works, sound recording works and audio-visual works.

It is important to note that since the Copyright Collecting Societies sub-sector is not categorised in the NSO database system, the statistical data in the sub-sector is poorly recorded. If the data had been collected and reported more systematically, the government would have been able to better design the development plan for the copyright-based industries as well as policies concerning copyright and related rights.

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<sup>21</sup>The Business Software Alliance (BSA) is the voice of the world's software industry and its hardware partners on a wide range of business and policy affairs. BSA's mission is to promote conditions in which the information technology (IT) industry can thrive and contribute to the prosperity, security and quality of life of all people. BSA is the largest and most international IT industry group, with policy, legal and/or educational programs in 80 countries. While several of BSA's initiatives are global in scope, most of its policy, legal and educational efforts are led and conducted at the national level, with a growing emphasis on emerging economies.

## 5. International Comparison

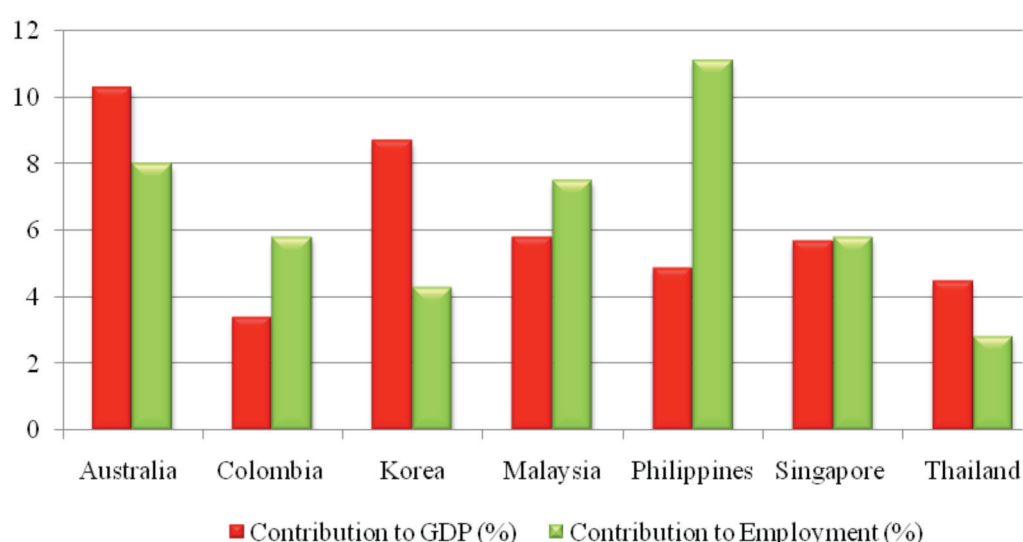
The studies on economic contribution of copyright-based industries and related rights to national economies have been carried out in several countries since 1999. Generally, there is no clear evidence that the contributions of copyright-based industries to GDP in developed countries are larger than those of developing countries. In this study, the research team conducted the comparison between Thailand and other six countries, namely Australia, Colombia, Korea, Malaysia, the Philippines as well as Singapore. Even though the methodologies and approaches to assess the economic contribution of copyright-based industries are not exactly the same, the findings could be comparable and could reveal broad picture on the significance of the industries in these countries. Besides the comparison for overall contributions, the comparison has been performed for all four copyright groups, which include core copyright industries, interdependent industries, partial copyright industries and non-dedicated support industries.

**Table 5.1: International Comparison of Copyright-Based Industries' Contribution to GDP and Employment**

Country	Contribution to GDP (%)	Contribution to Employment (%)
Australia	10.3	8.0
Colombia	3.4	5.8
Korea	8.7	4.3
Malaysia	5.8	7.5
The Philippines	4.9	11.1
Singapore	5.7	5.8
Thailand	4.48	2.85

Source: Authors' compilation from the series of WIPO studies and combined with the results from the Thai study.

**Figure 5.1: Contribution of Copyright-Based Industries to GDP and Employment**



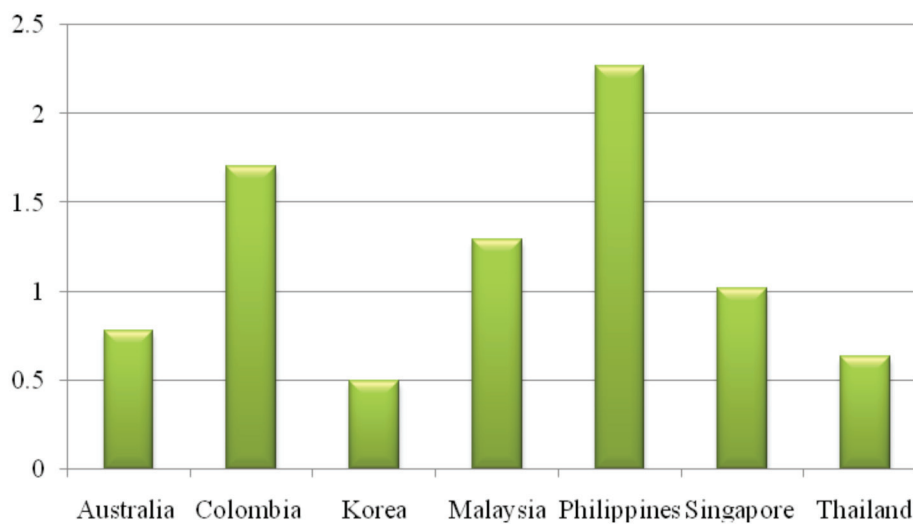
Source: Authors' compilation from the series of WIPO studies and combined with the results from Thailand's study.

To consider the overall contributions of copyright-based industries to the GDP, table 5.1 and figure 5.1 show that the numbers range from 3.4 percent to 10.3 percent. Among seven countries, the share of copyright-based industries to the GDP is the highest in Australia. The industries created about 10.3 percent of the GDP. While the copyright-based industries accounted for 8.7 percent for Korea. Thailand is in the sixth place, the industries generated 4.48 percent of the GDP. Among ASEAN member countries, Thailand's share of copyright-based industries to the GDP is lower than the others. The shares for Malaysia, the Philippines and

Singapore are about the same. Their shares are between 4.9 - 5.8 percent. As far as Colombia is concerned, its copyright-based industries generated only 3.4 percent, which is the lowest among all seven countries.

Regarding the contributions to employment, the copyright-based industries in these seven countries' contribution range from 2.85 percent to 11.1 percent. In terms of percentage, employment created by the Philippines' copyright-based industries is the highest compared to other six countries. Then it is followed by Australia whose share of employment in copyright-based industries is 8.0 percent. Malaysia ranks third, its employment in copyright-based industries accounted for 7.5 percent. In Colombia and Singapore, the employment in copyright-based industries represented 5.8 percent of total employment in their respective countries. Next to the bottom is Korea, the share of employment in Korea's copyright-based industries is 4.3 percent. Moreover, in comparison among seven countries, the employment in Thailand is lowest, it represents only 2.85 of total employment. This result tells us that the benefit from copyright-based industries in Thailand is concentrated in a very small group of people. Therefore, more works need to be done with the partnership between the government and private sector so as to push forward and raise employment level in these particular industries.

**Figure 5.2: Ratio of the Employment Contribution to the GDP Contribution**



Source: Authors' calculation.

The ratio of employment contribution to GDP contribution reflects the degree of labour-absorption of copyright-based industries in the country. Figure 5.2 implies that the copyright-based industries in Thailand are less labour-absorptive than the same industries in five countries, namely Australia, Colombia, Malaysia, the Philippines and Singapore. The figure is only 0.64. Australia and Korea are in the fifth and last places, respectively. To consider the Philippines, the ratio of the GDP contribution to the employment contribution in the Philippines is 2.27, which is the highest among seven countries. In Colombia, the ratio is 1.71, which is the second highest. This is an evidence to show that copyright-based industries are the significant sources of employment in the Philippines and Colombia. Therefore, the governments' policy instruments to promote copyright-based industries would largely raise employment level. In turn, the benefits from the industries would be distributed to large groups of copyright-related employment.

**Table 5.2: International Comparison of Economic Contribution of Copyright and Related Right Industries to GDP by Group**

	Core Copyright	Interdependent Copyright	Partial Copyright	Non-Dedicated Support
Australia	7.30	2.00	0.40	0.70
Colombia	1.90	0.95	0.26	0.43
Korea	4.04	2.79	0.36	1.49
Malaysia	2.90	2.10	0.60	0.10
The Philippines	3.54	0.96	0.04	0.29
Singapore	2.85	1.76	0.09	0.97
Thailand	2.21	1.02	0.71	0.54

Source: The authors compiled the data from the series of WIPO studies and combined with the results from the Thai study.

As far as the comparative study on all groups of copyright-based industries' economic contribution by group is concerned, their shares of economic contributions are illustrated in table 5.2 and table 5.3. Among seven countries, the size of core copyright industries in Australia is the biggest. The industries generated 7.3 percent of the GDP. For Korea and the Philippines, the numbers are 4.04 percent and 3.54 percent, respectively. The size of Thailand's core copyright industries is lower than the other countries, but Colombia. These particular industries constituted 2.21 percent of the country's GDP. As for interdependent copyright, Thailand's share is in the fifth place. In the Philippines and Colombia, their interdependent copyright industries are less significant, the shares are 0.96 percent and 0.95 percent, respectively. The contribution of partial copyright industries in Thailand to GDP is more than that of other six countries. This group of industries generated 0.71 percent of the country's GDP. While Malaysia is in the second place and its share is 0.60 percent. As for non-dedicated support industries, the share in Korea ranks the highest. The number is 1.49 percent, which is far more than other six countries. The second in the rank is Singapore, the industries' contribution accounted for 0.97 percent of the GDP. Thailand is in the fourth place, the contribution represented 0.54 percent of the GDP. Malaysia's non-dedicated support industries contributed, in terms of percentage to GDP, less than those of other six countries. The number is only 0.1 percent.

**Table 5.3: International Comparison of Economic Contribution of Copyright and Related Right Industries to Employment by Group**

	Core Copyright	Interdependent Copyright	Partial Copyright	Non-Dedicated Support
Australia	4.97	1.80	0.57	0.65
Colombia	1.69	0.74	1.87	1.49
Korea	2.15	1.06	0.31	0.79
Malaysia	4.70	1.60	0.90	0.20
The Philippines	8.81	1.40	0.20	0.60
Singapore	3.64	1.24	0.18	0.75
Thailand	1.50	0.29	0.68	0.39

Source: The authors compiled the data from the series of WIPO studies and combined with the results from the Thai study.

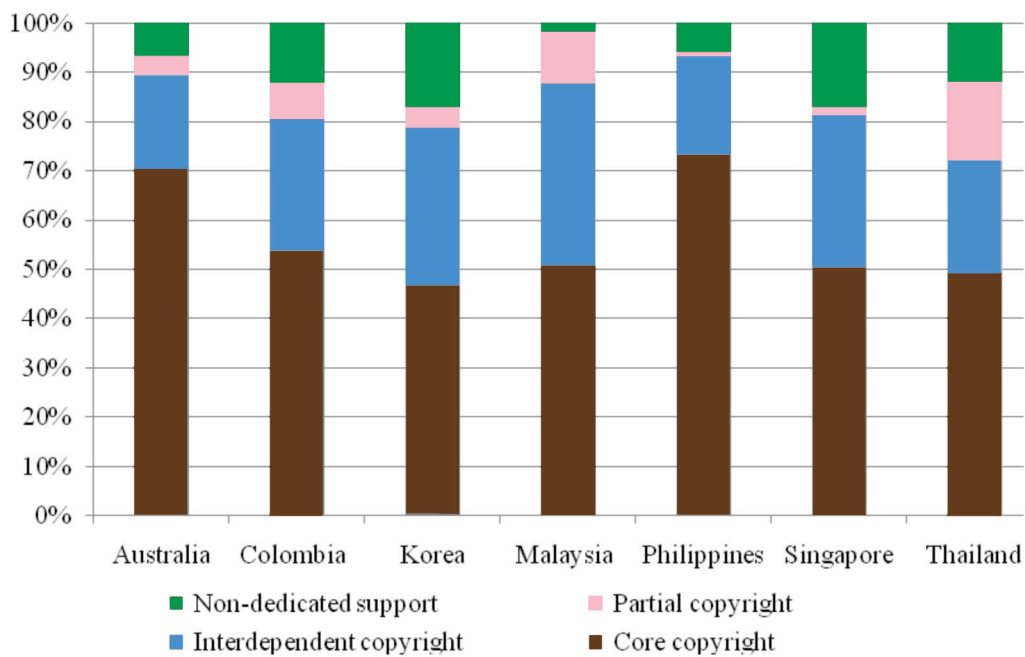
With regard to the contribution of all four groups of copyright-based industries to employment, the employment in core copyright industries in the Philippines accounted for 8.81 percent, which is greater than the shares of the same industries in other countries. This confirms that the core copyright industries are the important sources of employment in the Philippines. As for Thailand, its share of employment of core copyright industries to total employment is 1.50 percent. This figure is very small in comparison with those of other countries. To consider the percentage of employment in interdependent copyright industries, the shares to total employment in respective countries range from 0.29 percent to 1.80 percent. The figure in Australia is the highest while again Thailand's share of employment in interdependent copyright industries is the lowest among seven countries.



Interestingly, Colombia creates bigger shares of employment in partial copyright industries and non-dedicated support industries than other countries. Its employment in partial copyright industries accounted for 1.87 percent in Colombia, whereas the shares range from only 0.18 percent to 0.9 percent in other countries. On this particular aspect, Thailand is in the third place; while Australia is in the fourth place. As for the non-dedicated support industries, the share of employment in Thailand is 0.39 percent, which is next to the bottom of the ranks. This figure is lower than those of Australia and the Philippines. Their non-dedicated support industries created the employment of 0.65 percent and 0.60 percent of national value, respectively. But it is higher than Malaysia's contribution, which represents only 0.20 percent of the country's employment.

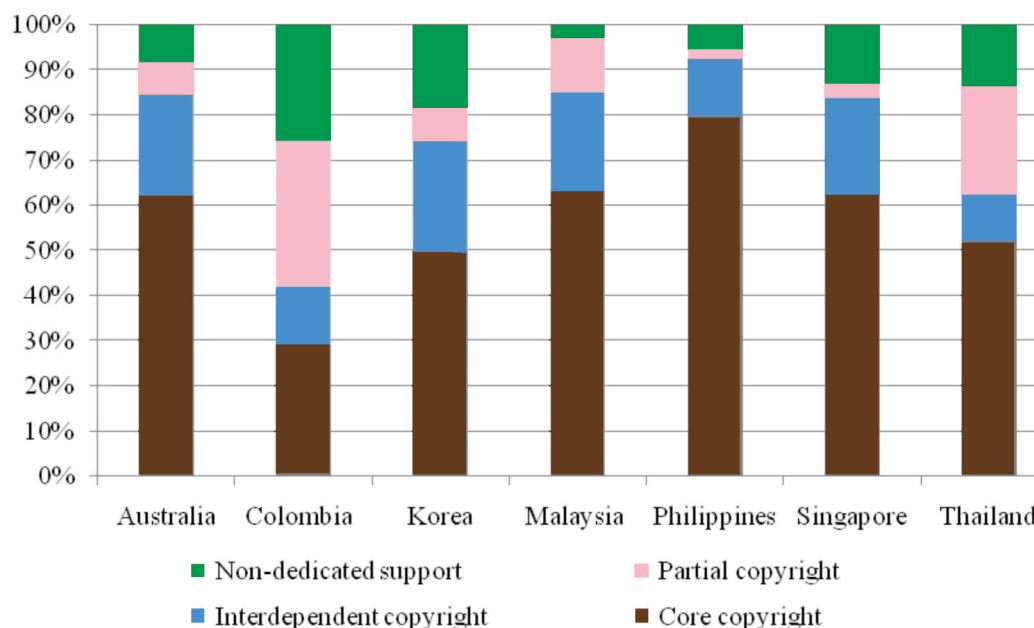
Figure 5.3 and figure 5.4 show the contributions of core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated support industries as percentages of total contributions of copyright-based industries to GDP and employment in Thailand and the other six countries. As shown in figure 5.3, the core copyright industries are the most important group of copyright-based industries in Australia, Colombia, Korea, Malaysia, the Philippines and Singapore as well as Thailand. The contributions of this group of industries range from 46 percent to 72 percent of total contributions of copyright-based industries to GDP. The share for Korea is the lowest, whereas the share for the Philippines is the highest among seven countries. Australia comes second followed by Colombia. The shares for these two countries are 70 percent and 56 percent, respectively. Such numbers for Malaysia, Singapore and Thailand are about the same. They are around 50 percent of total contributions of copyright-based industries to GDP of respective countries. This indicates that similar to other six countries, core copyright industries in Thailand are more significant than other copyright industries.

**Figure 5.3: International Comparison of Composition of Copyright-Based Industries' Economic Contribution to GDP**



Source: Authors' calculation based on WIPO studies

**Figure 5.4: International Comparison of Composition of Copyright-Based Industries' Economic Contribution to Employment**



Source: Authors' calculation based on WIPO studies.

Comparing interdependent copyright industries to other groups of copyright industries, this group is the second most important copyright-based industries in every selected country including Thailand. The shares of interdependent copyright industries to total GDP contribution of copyright-based industries range from 19.4 percent to 36.2 percent. Malaysia's interdependent copyright industries are more significant than those of other six countries. While Thailand ranks the fifth, the number for Thailand is 22.79 percent. As for the contribution of partial copyright industries, the degree of significance varies among seven countries. The share of partial copyright industries' contribution to total copyright-based contribution to GDP in the Philippines is only 0.82 percent, while it is 15.63 percent in Thailand. Generally speaking, partial copyright industries play an important role in Thailand compared to other countries.

Regarding the contribution of non-dedicated support industries, the result indicates that the role of these industries in Malaysia is minimal. Its contribution constitutes less than 2 percent of the total GDP contribution of copyright-based industries in Malaysia. The number is lowest in comparison to other six countries. However for Korea, this group of industries is more significant than those of other countries in terms of percentage to copyright-based industries' contribution to the GDP. The share is 17.1 percent. This is followed by Singapore, whose number is slightly lower and it is 17.0 percent. As far as Thailand is concerned, this group of industries is less significant than other groups of copyright-based industries. The contribution of non-dedicated support industries to total contribution of copyright industries accounted for 12 percent, which is about the same level as that of Colombia.

In terms of the contributions of all four groups in copyright-based industries to employment, figure 5.4 shows that Colombia has more diversified sources of employment in copyright-based industries, while the employment in copyright-based industries in the Philippines is concentrated on core copyright industries. In the Philippines, approximately 80 percent of copyright-based industries' workers are employed in core copyright industries. With regard to Thailand, the majority of Thai workers in copyright-based industries are employed in core copyright industries as well. However, the share of workers in core copyright industries to total workers in copyright-based industries is far less than that number in the Philippines. It is only 52.41 percent for the case of Thailand.

In relation to other groups of copyright-based industries, the group of partial copyright industries is considered another big source of employment. This industrial group employs 23.84 percent of total number of workers in copyright-based industries. Among seven countries, this particular group of industries in Colombia is the important industrial group that generates employment. Nonetheless the data does not display the same pattern in some countries, namely, Australia, Korea, Malaysia, the Philippines and Singapore. The shares of employment in partial copyright industries show 1.8 percent and 3.1 percent, respectively.

As far as the non-dedicated support industries are concerned, this industrial group in Colombia contributes to the employment more than those of other countries in terms of percentage to total employment in copyright-based industries. The share in Colombia is 25.7 percent. This is followed by Korea, its non-dedicated support industries employ approximately 19 percent of total employment of copyright-based industries. While this industrial group in Singapore and Thailand employ only 12.9 percent and 13.64 percent, respectively. The share of employment for Thailand ranks third in comparison to other selected countries. The lowest is Malaysia, the share is only 2.7 percent of total employment in copyright-based industries.

In summary, the comparative analysis of copyright-based industries shows that the economic contribution, in terms of percentage of copyright-based industries to GDP in Thailand is in the sixth place among seven countries. The share is 4.48 percent of the country's GDP. In Australia and Korea, the copyright-based industries are very important. Their shares to GDP rank first and second, respectively. As far as the contribution to employment is concerned, the employment created by copyright-based industries in Thailand is quite low in comparison to other six countries. The share to total employment is only 2.85 percent in Thailand, while it is 11.1 percent in the Philippines. To consider the degree of labour-absorption of copyright-based industries, such industries in Thailand are less labour-absorptive than those in Australia, Colombia, Malaysia, the Philippines and Singapore. Looking into more details on all four groups of copyright-based industries, the finding shows that the core copyright industries in Thailand are the most important industrial group among all four groups of copyright-based industries. While interdependent copyright industries are the second most significant. This is in line with the findings for all other six countries. In terms of employment creation, the data for Thailand and other countries except Colombia shows that core copyright industries create more employment than other three groups. However, for Thailand, partial copyright industries are the second most important employment source compared to the other three groups. This finding is not consistent with those of Australia, Colombia, Korea, Malaysia, the Philippines and Singapore.

## 6. Conclusion

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In Thailand, copyrights and related rights are increasingly recognised as tools to fulfil the government's Creative Economy goal. Over the years, the copyright law has been modified several times to better fit modern technology. In terms of economic contribution, the copyright-based industries generated jobs for 1.02 million people. This represents 2.85 percent of total employment in the country. In addition, such industries created roughly 350.96 billion baht worth of total value-added. This is equivalent to 4.48 percent of Thailand's GDP. With regard to international trade, the copyright-based industries generated the export revenue of USD 3.95 billion to the country in 2004. The volume of exports has grown to USD 5.73 billion in 2006. These industries have experienced high export growth during the period between 2005 and 2008 with the average annual growth rate of 20.22 percent. The export data also shows that the export value of these industries accounted for 4.56 percent of the total value of exports from Thailand in 2006.

According to the WIPO Guide, the copyright and related rights industries are classified into four groups which include core copyright industries, interdependent copyright industries, partial copyright industries and non-dedicated support industries. Among the four groups of copyright-based industries, the group of core copyright industries is the group that has the biggest contribution to the country in terms of GDP contribution and job creation. Nonetheless, the group's export revenue was the lowest among all four groups, worth only USD 0.20 billion in 2006, which represented 0.17 percent of the country's export revenue. The group of interdependent copyright industries, on the other hand, ranked first in terms of export revenue. The group's export valued USD 3.68 billion in 2006, which accounted for 2.93 percent of the total of Thai exports.

When considering the percentage of contribution to the GDP, not surprisingly, the economic contribution of core copyright industries is the highest. This group of industries contributed the most in terms of value-added creation. Their contribution represented 2.21 percent of GDP and the employment in these industries accounted for 1.50 percent of the total employment in the country. The contribution of interdependent copyright industries to GDP comes second but the industries employ fewer workers than the other three groups do. This incidence could imply that the workers in interdependent copyright industries get good pays in comparison to the other three groups. Therefore, the policy instrumental in supporting copyright-based industries should be targeted on how to increase the payments in all three industrial groups, especially in the core copyright industries, and distribute them fairly. Currently, the Thai government has been on the right track in supporting "Creative Industries". This particular policy would potentially raise the demand for core copyright products and in turn, would eventually raise the payoffs of copyright workers. Moreover, the government and relevant private enterprises should play appropriate roles in supporting the development of Collective Management Organizations in the country. Collective Management Organisations will be a link between copyright owners and users of copyright works. Copyright owners will be ensured that they will receive remuneration for the uses of their works. The increase in their payoffs would give them incentives to continue creating high-quality copyrighted works.

The comparative analysis shows that the percentage of the contribution of copyright-based industries to the GDP in Thailand is relatively lower compared to the six selected countries, namely Australia, Colombia, Korea, Malaysia, the Philippines and Singapore. The industries contribution to employment is considered low as well. The copyright-based industries in other countries generate jobs in the range of 4.3 to 11.1 percent of their respective total employment. The findings also indicates that the copyright-based industries are less labour-intensive compared to other countries. This is reflected by the ratio of employment contribution to GDP contribution. Such ratio for Thailand is only 0.64, whereas, those of Colombia, Malaysia, the Philippines and Singapore range from 1.02 to 2.27. This evidence would raise the concern of policy-makers on which type of industries should be prioritised in supporting copyright-based industries. The choices of priority are either technologically dependent copyright-based industries or labour-dependent copyright-based industries. If the goal is to enhance the employment level of copyright-based industries, the government should place more focus on labour intensive copyright-based industries so that the level of employment in the country would be improved and the benefits of copyright-based industries could be shared more widely with the bigger groups of people. It is expected that the positive trends on economic contributions of these particular industries will carry on in the long run.

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## Appendix 1 Conversion Table of Copyright and Related Right Industries' WIPO Classification, ISIC and SITC

WIPO	ISIC	Economic activity description	SITC
Core Copyright Industries	2211	Publishing of books, brochures and other publications	892.12
			892.13
			892.14
			892.15
			892.16
			892.19
			892.85
	2212	Publishing of newspaper, journals and periodicals	892.21
			892.29
	2213	Publishing the music	898.6
			898.61
			898.65
			898.67
			898.71
			898.79
	2219	Other publishing	892.41
			892.42
			892.83
			892.84
			892.87
			892.89
	2221	Printing	892.86
			642.31
			642.32
			642.33
			642.34
			642.35
			642.39
	2222	Service activities related to printing	726.35
	2230	Reproduction of recorded media	-
	5151	Wholesale of computers, computer peripheral equipment and software	-
	7221	Software publishing	-
	7229	Other software consultancy and supply	-
	7230	Data processing	-
	7240	Database activities and on-line distribution of electronic content	-
	7430	Advertising	-
	7494	Photographic activities	882.5
			882.6
	7499	Other business activities n.e.c.	-
	9112	Activities of professional organisations	-
	9211	Motion picture and video production and distribution	883.1

WIPO	ISIC	Economic activity description	SITC
			883.9
	9212	Motion picture projection	-
	9213	Radio and television activities	-
	9214	Activities by authors, music composers and other independent artists n.e.c.	896.11
			896.12
			896.2
			896.3
			896.4
			896.5
			896.6
	9219	Other entertainment activities n.e.c	-
	9220	News agency activities	-
	9231	Library and archives activities	-
	9249	Other recreational activities	-
Interdependent Copyright Industries	2101	Manufacture of pulp, paper and paperboard	251.2
			251.3
			251.41
			251.42
			251.51
			251.52
			251.61
			251.62
			251.91
			251.92
			641.1
			641.21
			641.22
			641.23
			641.24
			641.25
			641.26
			641.27
			641.29
			641.31
			641.32
			641.33
			641.34
			641.41
			641.42
			641.46
			641.47
			641.48
			641.51
			641.52



WIPO	ISIC	Economic activity description	SITC
			641.53
			641.54
			641.55
			641.56
			641.57
			641.58
			641.59
			641.61
			641.62
			641.63
			641.69
			641.71
			641.72
			641.73
			641.74
			641.75
			641.76
			641.77
			641.78
			641.79
			641.91
			641.92
	2429	Manufacture of other chemical products n.e.c.	431.1
			551.31
			551.32
			551.33
			551.35
			551.41
			551.49
			592.22
			592.23
			592.24
			592.25
			592.27
			592.29
			593.11
			593.12
			593.2
			593.31
			593.33
			597.21
			597.25
			597.29
			597.31

WIPO	ISIC	Economic activity description	SITC
			597.33
			597.71
			597.72
			597.73
			597.74
			598.41
			598.45
			598.5
			598.63
			598.64
			598.67
			598.69
			598.81
			598.83
			598.85
			598.89
			598.91
			598.93
			598.94
			598.95
			598.96
			598.97
			882.1
			882.2
			882.3
			882.4
			895.91
			898.41
			898.43
			898.45
			898.51
			898.59
	3000	Manufacture of office, accounting and computing machinery	726.55
			751.13
			751.15
			751.16
			751.18
			751.19
			751.21
			751.22
			751.23
			751.24
			751.28
			751.31

WIPO	ISIC	Economic activity description	SITC
			751.32
			751.33
			751.34
			751.35
			751.91
			751.92
			751.93
			751.99
			752.1
			752.2
			752.3
			752.6
			752.7
			752.9
	3230	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	761.1
			761.2
			762.11
			762.12
			762.21
			762.22
			762.81
			762.82
			762.89
			763.31
			763.33
			763.35
			763.81
			763.82
			763.83
			763.84
			764.21
			764.22
			764.23
			764.24
			764.25
			764.26
			764.81
			764.92
			764.99
	3320	Manufacture of optical instruments and photographic equipment	871.11
			871.15
			871.19
			871.41

WIPO	ISIC	Economic activity description	SITC
			871.43
			871.45
			871.49
			871.91
			871.92
			871.93
			871.99
			881.11
			881.13
			881.21
			881.22
			881.23
			881.24
			881.31
			881.32
			881.33
			881.34
			881.35
			881.36
			884.11
			884.15
			884.17
			884.19
			884.21
			884.22
			884.23
			884.31
			884.32
			884.33
			884.39
	3692	Manufacture of musical instruments	898.13
			898.15
			898.21
			898.22
			898.23
			898.24
			898.25
			898.26
			898.29
			898.9
	5149	Wholesale of other intermediate products, waste and scrap	-
	5151		-
	5152	Wholesale of electronic and telecommunications parts and equipment	-
	5159	Wholesale of other machinery, equipment and supplies	-

WIPO	ISIC	Economic activity description	SITC
	5233		-
	7123	Renting of office machinery and equipment (including computers)	-
	7129	Renting of other machinery and equipment n.e.c.	-
Partial Copyright Industries	173	Manufacture of knitted and crocheted fabrics and articles	655.11
			655.12
			655.19
			655.21
			655.22
			655.23
			655.29
			845.3
			845.4
			846.21
			846.22
			846.29
	1721	Manufacture of made-up textile articles	658.11
			658.12
			658.13
			658.19
			658.21
			658.22
			658.23
			658.24
			658.29
			658.31
			658.32
			658.33
			658.39
			658.41
			658.42
			658.43
			658.44
			658.45
			658.46
			658.47
			658.48
			658.51
			658.52
			658.59
			658.91
			658.92
			658.93
			658.99
			821.27

WIPO	ISIC	Economic activity description	SITC
			899.96
	1722	Manufacture of carpets and rugs	659.21
			659.29
			659.3
			659.41
			659.42
			659.43
			659.49
			659.51
			659.52
			659.59
			659.61
			659.69
	1810	Manufacture of wearing apparel	657.61
			657.62
			841.11
			841.12
			841.19
			841.21
			841.22
			841.23
			841.3
			841.4
			841.51
			841.59
			841.61
			841.62
			841.69
			842.11
			842.19
			842.21
			842.22
			842.3
			842.4
			842.5
			842.6
			842.7
			842.81
			842.82
			842.89
			843.1
			843.21
			843.22
			843.23

WIPO	ISIC	Economic activity description	SITC
			843.24
			843.71
			843.79
			843.81
			843.82
			843.89
			844.1
			844.21
			844.22
			844.23
			844.24
			844.25
			844.26
			844.7
			844.81
			844.82
			844.83
			844.89
			845.11
			845.12
			845.21
			845.22
			845.23
			845.24
			845.51
			845.52
			845.61
			845.62
			845.63
			845.64
			845.81
			845.87
			845.89
			845.91
			845.92
			845.99
			846.11
			846.12
			846.13
			846.14
			846.19
			846.91
			846.92
			846.93

WIPO	ISIC	Economic activity description	SITC
			846.94
			846.99
			848.11
			848.12
			848.13
			848.19
			848.41
			848.42
			848.43
			848.48
			848.49
	1920	Manufacture of footwear	851.11
			851.13
			851.15
			851.21
			851.22
			851.23
			851.24
			851.25
			851.31
			851.32
			851.41
			851.42
			851.48
			851.49
			851.51
			851.52
			851.59
			851.7
	2029	Manufacture of other products of wood	244.02
			244.04
			633.11
			633.19
			633.21
			633.29
			635.91
			635.99
			899.71
			899.73
			899.74
			899.79
	2109	Manufacture of other articles of paper and paperboard	641.93
			641.94
			642.21



WIPO	ISIC	Economic activity description	SITC
			642.22
			642.23
			642.41
			642.42
			642.43
			642.44
			642.45
			642.48
			657.35
			659.11
			892.81
	2610	Manufacture of glass and glass products	651.95
			654.6
			664.11
			664.12
			664.31
			664.39
			664.41
			664.42
			664.51
			664.52
			664.53
			664.71
			664.72
			664.81
			664.89
			664.91
			664.92
			664.93
			664.94
			664.95
			664.96
			665.11
			665.12
			665.21
			665.22
			665.23
			665.29
			665.91
			665.92
			665.93
			665.94
			665.95
			665.99

WIPO	ISIC	Economic activity description	SITC
			773.22
			813.91
	2899	Manufacture of other fabricated metal products n.e.c.	692.41
			692.42
			693.11
			693.12
			693.13
			693.2
			693.51
			693.52
			694.1
			694.21
			694.22
			694.31
			694.32
			694.33
			694.4
			697.41
			697.42
			697.43
			697.44
			697.51
			697.52
			697.53
			697.81
			697.82
			699.12
			699.13
			699.14
			699.21
			699.22
			699.31
			699.32
			699.33
			699.41
			699.42
			699.51
			699.52
			699.53
			699.54
			699.55
			699.61
			699.62
			699.63

WIPO	ISIC	Economic activity description	SITC
			699.65
			699.67
			699.69
			699.71
			699.73
			699.75
			699.76
			699.77
			699.78
			699.79
			895.11
			895.12
	3610	Manufacture of furniture	821.11
			821.12
			821.13
			821.14
			821.15
			821.16
			821.17
			821.18
			821.19
			821.21
			821.23
			821.25
			821.31
			821.39
			821.51
			821.53
			821.55
			821.59
			821.71
			821.79
	3691	Manufacture of jewellery and related articles	277.19
			277.21
			667.13
			667.29
			667.39
			667.49
			897.31
			897.32
			897.33
			897.41
			897.49
			961

WIPO	ISIC	Economic activity description	SITC
	3694	Manufacture of games and toys	894.21
			894.22
			894.23
			894.24
			894.25
			894.26
			894.27
			894.29
			894.31
			894.33
			894.35
			894.37
			894.39
	5131	Wholesale of textiles, clothing and footwear	-
	5232	Retail sale of textiles, clothing, footwear and leather goods	-
	7130	Renting of personal and household goods n.e.c.	-
	7421	Architectural and engineering activities and related technical consultancy	892.82
	9199	Activities of other membership organisations n.e.c.	-
	9232	Museums activities and preservation of historical sites and buildings	-
Non-dedicated Support Industries	61		-
	62		-
	511		-
	513		-
	515		-
	519		-
	521		-
	523		-
	525		-
	601		-
	602		-
	5139		-
	5233		-
	5239		-
	6301		-
	6302		-
	6303		-
	6304		-
	6309		-
	6411		-
	6412		-
	6420		-
	7240		-

## Appendix 2 Copyright Factor

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The copyright factor is the number which reflects the concentration of copyright related activities in each group of copyright industries in a particular country and it is to be used in computing and adjusting the value of the economic contribution of WIPO copyright industries to the national economy. The factor values vary from one industry to another in a country and may be different between countries. More specifically, the core copyright industries are the sectors which are most relevant to copyright and in effect have the highest value of copyright factor among all four groups which normally is set to be equivalent to 1. It implies that the activities, production and revenue in core copyright industries are attributable to copyright and related rights and their activities by 100 per cent.

With respect to the other three groups of copyright industries, namely, the group of interdependent, partial and non-dedicated support industries, there is an assumption following the WIPO series of similar studies that copyright and related rights do not result in the entire amount of those three copyright industries' production value, as well as revenue. Consequently, their copyright factors are less than one and will be used as a deflator to be multiplied by the value of production, employment as well as export value to obtain the economic contribution of the aforesaid three copyright industries. In this case, there need to be a process to investigate the copyright factor to be used as such deflator. This study mainly acquires the copyright factors from 3 sources: 1) the survey 2) the Malaysian study and 3) the estimation according to the WIPO Guide.

The copyright factors which are utilised to adjust the value-added and employment are derived from the survey from the Thai entrepreneurs whose business related to the copyright industries, including the interviews with the copyright related associations. The research team received the survey results from 100 copyright and related rights companies within 5 business associations. Even though the number of the companies who responded seems to be small compared to the overall population of the copyright companies in Thailand, the research team acquired the necessary information and pertinent answers to conclude the copyright factors for each group of copyright industries from the questionnaire questions. However, a copyright factor of non-dedicated support industries is derived from the methodology suggested in the WIPO Guide<sup>22</sup> because the number of respondent sample companies in this group of industries in Thailand is very limited. The formula for the copyright factor of the non-dedicated support industries is written below. The nominator is the aggregate of value-added of the group of core copyright industries, the group of interdependent copyright industries and the group of partial copyright industries. The denominator is the country's GDP less the summation of the value-added of the sub-sector wholesale and retail and that of the transportation sub-sector.

$$\text{Copyright factor of non-dedicated support industries} = \frac{\text{value-added (core+interdependent+partial)}}{\text{GDP – value-added (wholesale and retail+ transportation)}}$$

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<sup>22</sup>WIPO (2003) p. 59 "a ratio has been calculated of the sum of the value-added for all other copyright-based industries (core, interdependent and partial) to the GDP less the transportation and trade sectors."

The copyright factor of each sub-sector of copyright-based industry is presented as follows:

	Description	Thai Copyright Factor (%)
2.1	TV sets, Radios, VCRs, DVD Players, Electronic Game Equipment	20
2.2	Computer and Equipment	22.50
2.3	Musical Instruments	30
2.4	Photographic and Cinematographic Instruments	40
2.5	Photocopiers	20
2.6	Blank Recording Material	20
2.7	Paper	15
3.1	Apparel, Textiles and Footwear	15
3.2	Jewellery and Coins	30
3.3	Other Crafts	30
3.4	Furniture, Fittings and Furnishing	30
3.5	Household Goods, China and Glass	0.38
3.6	Wall Coverings and Carpet	1.08
3.7	Toys and Games	40
3.8	Architecture, Engineering and Surveying	30
3.9	Interior Design	30
3.10	Museum	10
4.1	General Wholesale and Retail	4.94
4.2	General Transportation	4.94
4.3	Telephony and Internet	4.94

## Appendix 3 Questionnaire on Economic Contribution of Copyright-Based Industries to the Thai Economy

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Name of Contact Person: \_\_\_\_\_

Telephone No. \_\_\_\_\_

### Part 1: Company Information

**A1.** Year of Establishment: \_\_\_\_\_

**A2.** Number of Years in Copyrights Activities: \_\_\_\_\_

**A3.** Ownership (Please tick one only):

- Wholly local       Majority local  
 Wholly foreign       Majority foreign  
 Equal share of Foreign and Thai

**A4.** Primary Business Activity: \_\_\_\_\_

(Classified into one among four of the followings:

- Core copyright       Interdependent copyright  
 Partial copyright       Non-dedicated support)

**A5.** Detailed business activity

1. Produce copyrighted works
  - a. 100 percent of the product and/or services are produced on your own
  - b. Majority of copyrighted works are produced on your own and partly are outsourced
  - c. Partly of copyrighted works are produced on your own and the majority are outsourced
  - d. 100 percent of the product and/or services are outsourced
2. Distribute and sale of copyrighted works
  - a. Distribute and sell product and/or services of copyrighted works directly and collect royalty fee and other fee on your own
  - b. Distribute and sell product and/or services of copyrighted works directly and outsource other companies to collect royalty fee and other fee for your company
  - c. Outsource other companies to distribute and sell product and/or services of copyrighted works; and collect royalty fee for your company
3. Produce and distribute copyrighted works
4. Related to producing media and distribution of copyrighted works
5. Copyrighted works is attached with the products and services of your company
6. The product and/or services of your company support the distribution of copyrighted works
7. Others: please specify \_\_\_\_\_

**A6.** Knowledge in copyright and related rights

Question	Answer	
1. Do you know that the owner of the copyrighted works possess the exclusive right in his/her copyrighted works?	Yes	No
2. Do you know that copyright could be transferred to the designated person wholly or partly?	Yes	No
3. Do you know that making business and/or reaping benefit from the copyrighted works of other people is copyright infringement?	Yes	No
4. Do you know that duration for the protection of copyrighted works is until the end of the fiftieth year after the death of the author?	Yes	No

**Part 2: Estimation of copyright and related rights' contribution to the company**

**B1.** How important is copyright in the daily operations of your firm?

(Please circle one of the following options below.)

- |                         |                  |
|-------------------------|------------------|
| 1. Very Significant     | 2. Significant   |
| 3. Slightly Significant | 4. Insignificant |

**B2.** Turnover/Revenue

**B2-1.** How much is the company's turnover/revenue in 2009?

**B2-2.** How much is the turnover/revenue in the company from copyright and related rights in 2009?

**B2-3.** What is the proportion of the turnover/revenue from copyright and related rights to the total revenue of the company in 2009?

**B3.** Employment : Workers

**B3-1.** How many workers do work in your company in 2009?

**B3-2.** How many workers in the company are working closely in producing and/or distributing copyrights works and related rights in 2009?

**B3-3.** What is the proportion of the number of workers who works closely with copyright and related rights to the total workers in the company in 2009?

**B4.** Please specify the difficulties related to employing and managing the workers who works closely with copyright and related rights (if any).

- |                                |                                   |
|--------------------------------|-----------------------------------|
| 1. High turnover rate          | 2. Inadequate knowledge and skill |
| 3. Inadequate workers          | 4. Brain drain                    |
| 5. Other, please specify _____ |                                   |

**B5.** How do you think of the adequacy of the personnel who works closely with copyright and related rights (if any).

1. Adequate
2. Inadequate, please specify the specific kind of personnel \_\_\_\_\_



**B6.** Expenditure

**B6-1.** What is the proportion of the expenditure for the workers who works closely with copyright and related rights to the total expenditure of the company in 2009?

**B6-2.** Does your company set the budget for public relation to promote the turnover/revenue from copyrighted works and other related rights in 2009?

**Part 3: Other opinion on Copyright and related rights**

**C1.** Does the company need any support from the government?

*(Please describe.)*

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**C2.** How do you think of the trend in copyright-based industries in Thailand?

*(Please choose one of the following options below.)*

1. Growing \_\_\_\_\_ % as compared to the previous year
2. Same as last year
3. Slowing down \_\_\_\_\_ % as compared to the previous year

*(Please describe the reason.)*

---

**C3.** Please specify the difficulties in running business in copyrighted based industries.

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**C4.** In your opinion, what percentage of turnover in the company of the same kind as you is attributable to copyright or creative activities? \_\_\_\_\_ %

**Thank you very much for your cooperation to this questionnaire.**



