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## Economic Contribution of Copyright-based Industries in Pakistan

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The copyright-based industries contribute substantially to the national economy in the form of value addition, tax revenues, trade and employment. This study highlights both the core and non-core copyright-based industries in Pakistan. With the technical guidance of World Intellectual Property Organisation (WIPO) and National Institute of Cultural Studies (NICS), we conducted the first ever survey of the copyright-based industries in Pakistan. The estimates of contribution to GDP, tax revenues, trade and employment were also validated through focus group discussions and key informant interviews. Our findings reveal that copyright-based industries contributed Rs 136 billion to GDP (on 1999-2000 base year prices of Pakistan Bureau of Statistics). These industries also contributed Rs 18 billion to the government in indirect taxes. On the trade side, the exports of these industries totalled \$ 943 million and imports amounted to \$2130 million in 2007-08. In terms of job creation one of the core sub-sectors i.e. electronic media employed around 47,000 persons by the end of 2011.

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*Keywords:* Copyright, Economic Growth, Trade and Employment

### 1. INTRODUCTION

Trade Related Intellectual Property Rights (TRIPS) are one of the milestone achievements of the World Trade Organisation (WTO). The most significant development of the Uruguay Round of Trade Negotiations (1986-94) was the inclusion of intellectual property rights (IPRs) issue on the agenda of the multilateral trading system. Before the TRIPS agreement, this issue was regulated by Paris Agreement (1863), Berne Convention (1886), Madrid Agreement (1891), Universal Copyright Convention (1952), Rome Convention (1961), Geneva Convention (1971) and IPIC Treaty (1989) [Bagchi (2007)]. The agreement has five important components, namely: patents, trademarks, copyrights, geographical indications and industrial designs.<sup>1</sup>

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<sup>1</sup>Defined in Annex-I. The various types of copyright-based industries are also given in Annex-I.

TRIPS had opened a new avenue for countries wishing to pursue comparative advantages in copyright-based industries. WIPO (2003) categorised the copyright-based industries into four types i.e. core, interdependent, partial and non-dedicated support industries. The enterprises, which are entirely employed in the creation, production, manufacturing, performance, broadcasting and communications, are core copyright-based industries. This includes press and literature, music, theatrical production and opera, motion pictures and videos, radio and television, photography, software and databases, visual and graphic arts and advertising services.

The interdependent copyright industries are those industries, which have equipment or activities related to copyright industries like TV sets, Radios, VCRs, CD players, DVD players, cassette players, electronic game equipment, computers and musical instruments. The partial copyright industries are those in which activities and production depend on the activities and materials protected by copyright and neighbouring rights e.g. textile, leather and footwear, wood, metal crafts, sports, jewellery. Finally, the non-dedicated copyright industries provide support to the copyright industries e.g. transportation, telephony and general retailing.

The protection of copyright industries is now gaining importance in national regulations; therefore WIPO is concerned to find their economic contribution in the form of trade, employment and GDP contribution. In this regard the pioneering work was done by Arnold (1934), published in a book *Economica*.<sup>2</sup> After 1970s several countries including Canada, Sweden, USA, New Zealand, Germany, the United Kingdom, Holland, Austria, Finland, Japan, Argentina, Chile, Brazil, Paraguay and Uruguay have conducted studies using their own methodologies and classifications to a large extent. More recently a number of countries like the Philippines, Mexico, Jamaica, Bulgaria, Lebanon and Singapore followed WIPO (2003), which harmonises the methodology for assessing the economic contribution of copyright industries.

It will be pertinent to mention here a few of the recent efforts in this area. Pickard and Toivonen (2000) used Gross Value Addition to GDP as an economic indicator to measure the contribution of copyright-based industries, and it also presents share of the total employment and value of the foreign trade in copyright-based industry. ACG (2001) measured the economic contribution of copyright industries using industry value added (IVA).<sup>3</sup> State University of Campinas and WIPO (2002)<sup>4</sup> conducted a study on economic importance of industries and activities, protected by copyright and related rights in MERCOSUR (Argentina, Brazil, Paraguay and Uruguay) and Chile using the share in GDP, employment and foreign trade. For estimating the economic contribution of the copyright based sector in Netherlands, Tueeuwes (2004) used the same methodology. The author estimated value addition, job creation in copyright based industries, exports and imports. Canadian Heritage (2006) used value addition to measure economic contribution. In addition it examined employment and trade levels (with the shortcoming of not considering services contribution in total exports like exhibition rights) and provided comparisons with respect to other industries (agriculture, accommodation and food services, utilities etc.). In most of the above studies both the secondary and primary data collection has been carried out.

<sup>2</sup>New series of the books "Economica" 1(2):167-195

<sup>3</sup>IVA is the net contribution of an industry to GDP after deducting the cost of raw materials, fuel, power and other purchases.

<sup>4</sup>[http://www.wipo.int/edocs/pubdocs/en/copyright/889/wipo\\_pub\\_889\\_1.pdf](http://www.wipo.int/edocs/pubdocs/en/copyright/889/wipo_pub_889_1.pdf)

The methodology which has been used in this study is borrowed from UN-WIPO. We have used the methodology defined/developed by UN-WIPO. Every country study is using the same methodology; therefore, there is no disagreement about the usefulness of this methodology. Unfortunately, the critical review of this existed methodology is also not available.

Despite respectable macroeconomic performance of Pakistan (Table 1), intellectual property (IP) enforcement situation in Pakistan is very weak, that in turn curtails the growth of creative entrepreneurs and foreign investment. Even a decade ago (in 2001), International Intellectual Property Alliance (IIPA) filed a petition, and questioned Pakistan's eligibility for preferential duty free treatment, under the generalised system of preferences (GSP) program due to their concern about piracy in books and software.<sup>5</sup> Simultaneously they also blamed Pakistan for export of these pirated discs (this is obsolete stuff now), which are costing their economy hugely; therefore, they are uncomfortable with the weak IP situation in Pakistan. The existing weak IP situation in Pakistan is resulting in gradual lowering of intellectual activities that make it to mainstream production processes. This has implied brain drain of intellectual and creative workforce over the long run, which in turn means low future export receipts and weak prospects for foreign direct investments Ahmed, *et al.* (2010).

Table 1

*Macroeconomic Performance of Pakistan 1960s – 2000s*

Indicators	1960s	1970s	1980s	1990s	2000s
Economic Growth					
GDP	6.8	4.8	6.5	4.6	4.8
Agriculture	5.1	2.4	5.4	4.4	3.2
Manufacturing	9.9	5.5	8.2	4.8	7.0
Services	6.7	6.3	6.7	4.6	5.3
Government Revenue to GDP Ratio	13.1	16.8	17.3	17.1	14.2
Government Expenditure to GDP Ratio	11.6	21.5	24.9	24.1	18.7
Fiscal Balance to GDP Ratio	1.5	-4.7	-7.6	-7.0	-4.5
Consumer Price Index (% Growth)	3.2	12.5	7.2	9.7	7.7
Exports (% Growth)	–	13.5	8.5	5.6	9.9
Imports (% Growth)	–	16.6	4.5	3.2	13.7
Current Account Deficit (% of GDP)	–	–	3.9	4.5	1.5

Source: Pakistan Economic Survey 2010-11.

It is the weak enforcement of IP laws over time that has also curtailed the growth of creative businesses in Pakistan. The Business Software Alliance (BSA) showed in 2008 that a 10 percent reduction in computer software piracy would deliver 11,700 new jobs, \$23 million in tax revenue and additional \$160 million in economic growth of Pakistan [BSA (2008)].

In order to address these issues the government created Intellectual Property Organisation (IPO) in 2005 with the support of WIPO. The IPO Pakistan greatly revised and brought reforms in IP management, like empowering the Federal Investigation

<sup>5</sup>Particularly for textbooks.

Agency (FIA), activating Pakistan Customs and bringing all their office operations under one window. The present IPO Pakistan is one of the few organisations in the world which are integrated with the FIA and the Customs departments.<sup>6</sup> However, this organisation still faces challenges in the form of improvement in the expertise of the IP laws; preparation for access to Madrid Protocol and Patent Cooperation Treaty; aligning IP laws with IPO Pakistan Ordinance; establishment of technology incubation centres and technology licenses offices.

The next section explains in detail the methodology used and data sources. Section 3 provides the estimated results and Section 4 concludes with policy recommendations.

## 2. DATA AND METHODOLOGY

Our key source of data on value addition of the core and non-core copyright sectors is the Pakistan Bureau of Statistics (PBS) supply and use tables which were updated for 2007-08.<sup>7</sup> State Bank of Pakistan (SBP)<sup>8</sup> made the disaggregated data on export and import available for this study. Data on employment has been taken from both the primary and secondary sources. For primary sources, questionnaires were developed and sent to copyright relevant industries and associations for primary level information. For secondary sources, the Labour Force Survey and Census of Manufacturing Industries were used. With the technical guidance of WIPO and leading role of the National Institute of Cultural Studies, Islamabad, we conducted the first ever survey of the copyright and related Rights Industries in Pakistan. For policy issues, labour market reforms and related matters we conducted focus group discussions and key informant interviews.

The questionnaire was initially sent to producer and trade associations. These include Pakistan Handicrafts (25 registered firms), Associated Press of Pakistan (APP, 243 registered firm), Pakistan Association of Printing and Graphic Arts Industry (PAPGAI, 594 registered firm), Pakistan Electronic Media Regulatory Authority (PEMRA, 2400 registered firms), Pakistan Film Producers Association (PFPA, 376 registered firms), Pakistan Advertising Association (PAA, 90 registered firms) and Photographic Society of Pakistan (PSP, 70 registered firms). Similarly, to validate the questionnaire information and overcome the low response rate we interviewed the heads of these institutions, including the Pakistan Bureau of Statistics (PBS), Federal Board of Revenue (FBR) and the State Bank of Pakistan (SBP). Moreover, we conducted the focus group discussions with the executive bodies of the above mentioned organisations.

Using data from Federal Board of Revenue, another effort was made to consolidate the contribution of copyright-based industries in Pakistan towards overall tax revenues. It has been easier to get a one-point estimate for net indirect taxes (i.e. indirect taxes minus subsidies) from the 1999-2000 supply use tables; however, for the years beyond 2000 and for detailed tax classification, the team contacted Pakistan Revenue Automation Ltd. which is a data warehouse arm of Federal Bureau of Revenue. Monthly statistics were available on sectoral and client-wise sales tax receipts. However, information on corporate and personal income tax was not provided due to data security protocols.

<sup>6</sup>IPO Pakistan Annual Report, 2008-09.

<sup>7</sup>Input-out tables (2008) from Pakistan Bureau of Statistics.

<sup>8</sup>Multiple reports (2007-08) on exports and imports.

In Pakistan sales tax is a single levy tax on total sale (consumer price) of goods or services and is levy-able on copyright based industries too. The data was up to date and it was also possible for us to calculate an estimate of tax evasion in copyright-based industries.

Once our primary information was compiled, an important step was the mapping of WIPO categories with classifications currently followed by Pakistan (i.e. International Standard Industrial Classification ISIC-rv.3.1).<sup>9</sup> However, such mapping involves estimation and segregation by ‘copyright factors’, which are explained below.

### **Estimation of ‘Copyright Factors’**

It is difficult to eliminate the elements that cannot be fully attributed to copyright.<sup>10</sup> As a starting point we benefited from Boey and Mun (2005), who derived the copyright content factors using methodology from Watt (2004). Both studies use the guidelines framed by WIPO.

In order to make copyright factors country-specific we referred to the productivity estimates, provided by the industry or association members/experts during our consultative sessions (Table 2). Studies such as Kemal (1993) and Kemal, *et al.* (2003) provide some help in organising the industries in terms of their relative creative content. Other methodologies include Kwan (2002) who proposed the estimation of “sophistication index” for exported goods, where the sophistication of product equals weighted average of the exporting country’s per capita GDP.

The biggest challenge in establishing the copyright factor is how to eliminate elements that are not fully attributed to copyright. It was a challenging task to establish how to measure and assess exactly, if a copyright component exists in a product. The WIPO guide (2003) explains this as a problem of inclusiveness and exclusiveness. To reduce these uncertainties to an acceptable minimum, we first categorise industries in Pakistan into core copyright, interdependent, partial and non-dedicated copyright based industries. According to the WIPO guide (2003), the core and interdependent copyright-based industries have 100 copyright factors, because in these industries all of the components are 100 percent attributed to copyright. It was difficult to exactly assign copyright factors to partial and non-dedicated industries. We conducted key informant interviews with the expert in related fields to try to assign the values, which are acceptable to the experts. These values are subjective and might vary but we, at all stages, took guidance from WIPO experts and national experts to measure adequately the proportion of the copyright-based component of an industry.

The copyright factors mentioned above have been validated in the light of WIPO guidelines and published literature from other countries. It is expected as a consequence of this study that IPO Pakistan will conduct sector specific studies in order to refine the estimates of copyright content factors.

<sup>9</sup>See Annex II.

<sup>10</sup>WIPO Guide on Surveying the Economic Contribution of Copyright-Based Industries, Geneva 2003.

Table 2

<i>Copyright Factors</i>		
Sector ID <sup>11</sup>	Activities	Copyright Factor (%)
	Core Copyright Industries	
70	Newspaper and printing	100
149	Data processing and IT	100
151	Social and cultural services	100
154	Recreation services	100
155	Radio and TV broadcasts	100
	Interdependent Copyright Industries	
69	Manufacturing of Paper and paper products	100
112	Manufacturing of Musical instrument	100
	Partial Copyright Industries	
59	Art silk	5
61	Made up textiles	5
62	Knitwear	3
63	Carpets	3.5
64	Garments	3
65	Leather and footwear	25
67	Wood and wood products	10
68	Wooden furniture	20
109	Handicrafts	70
110	Sports goods	10
111	Jewelery	25
	Non Dedicated Copyright Industries	
131	Wholesale and retail trade	3.80
133 – 37	Transport	4.10
138	Communication services	4.10

### **Economic Contributions of Copyright Based Industries**

This section has been split in four levels of contribution by copyright based industries. First using the copyright factors discussed above, we estimate the creative value addition in core, interdependent and non-dedicated copyright based industries. This is done in real terms i.e. using base year prices of 1999-2000 as used by Pakistan Bureau of Statistics.

Once the value added estimates are known, one moves on to calculate the tax contribution of copyright based industries. We split the indirect taxes into general sales tax (at local purchase and import stage), federal excise duty and customs duty at import stage. This is followed by the contribution of copyright based industries towards exports and imports. The data on selected categories was made available for the period 2003–2008 by the State Bank of Pakistan. Finally jobs created in copyright industries have been extrapolated, based on labour force survey, census of manufacturing industries, 2006 employment survey values, provided by Pakistan Electronic Media Regulatory Authority (PEMRA).

<sup>11</sup>International Standard Industrial Classification (ISIC) code.

**Creative Value Addition of Copyright Based Industries**

Table 3 depicts the creative proportion of value added elements in the core, interdependent and non-dedicated copyright sectors.

Table 3  
*Creative Value Addition in Core, Interdependent and Non-Dedicated Industries  
(on Real Base Year Prices of 1999-00)*

Sector ID	Activities	Value Added (Rs Million)	Copyright Factor (%)	Creative Value Addition (Rs Million)
<b>Core Copyright Industries</b>				
70	Newspaper and printing	3408	100	3408
149	Data processing and IT	20225	100	20225
151	Social and cultural services	17381	100	17381
154	Recreation services	3366	100	3366
155	Radio and TV broadcasts	4255	100	4255
	Total	48635	100	48635
<b>Interdependent Copyright Industries</b>				
69	Paper and paper products	14560	100	14560
112	Musical instrument	3507	100	3507
	Total	18067	100	18067
<b>Partial Copyright Industries</b>				
59	Art silk	17891	5	894.55
61	Made up textiles	7032	5	351.60
62	Knitwear	12080	3	362.40
63	Carpets	2706	3.5	94.71
64	Garments	27084	3	812.5
65	Leather and footwear	19885	25	4971.25
67	Wood and wood products	9858	10	986
68	Wooden furniture	1874	20	375
109	Handicrafts	285	70	200
110	Sports goods	33184	10	3318
111	Jewellery	1885	25	471.25
	Total	133764	180	12837
<b>Non Dedicated Copyright Industries</b>				
131	Wholesale and retail trade	638235	3.80	24253
133-37	Transport	721946	4.10	29599.79
138	Communication services	61657	4.10	2527.93
	Total	1421838	12	56380.65
<b>Sum of Core + Non-Core Sectors</b>		1622304		135919

Source: Federal Bureau of Statistics, Authors' own estimations.

\*Value added of advertising stands already taken in the heading of Newspaper and printing and Radio and TV broadcast.

In the light of the calculations mentioned above, it can be observed that core copyright sector contributes 35 percent in the creative value addition. The data processing and information technologies have the largest share of 42 percent in the total value addition by this category, followed by social and cultural services with 36 percent. Furthermore, the interdependent copyright sector contributes 13 percent in the creative value addition and the most important contributor in this category is the paper and paper products with 81 percent contribution followed by musical instrument with 19 percent. Paper and Paper products have a strong forward linkage with most services sectors.

The partial copyright sector contributes 9.4 percent in creative value addition. In this category leather and footwear, wood and wood products and art silk are the major contributors. Finally, the non-dedicated sector alone has a creative value of 41 percent; all the three sub-categories like wholesale and retail trade, transport and communication are important sectors with significant backward and forward linkages. It can be concluded that for the base year 1999-00, copyright-based industries contributed Rs 136 billion to Pakistan's GDP.

### **Tax Revenue Contribution of Copyright Based Industries**

In this section the break-up of indirect tax contributions accruing from core and non-core sectors will be explained. Federal Board of Revenue was requested to provide details on contribution towards direct taxes. However, in the interest of data security protocol no such information was made available.<sup>12</sup> Information concerning indirect tax revenues for the year 2007-08 is presented in Table 4. This information has been validated through supply use tables and trade statistics on these categories, as provided by the State Bank of Pakistan.

Customs duty collected, in total, on the import of copyright-based industries, amounted to Rs 9557 million, while the amount of sales tax stood at Rs 8530 million. The receipts from excise duty were negligible. Thus the total tax revenue of over Rs 18 billion (in 2007-08) from copyright based industries shows a sizeable contribution and potential towards future indirect tax revenues.

In consolidated terms interdependent copyright industries have the highest share in tax receipts followed by partial copyright industries. The key reasons for low contribution of core sectors is that many activities under this category operate in the informal economy which on most occasions is undocumented and does not get captured in the formal tax records. The loss of revenue from this sector should act as an evidence for the government to strengthen its IP regime, so that creativity is optimally priced and those operating in the informal sector have an incentive to formalise their ventures.

### **Contribution of Copyright-Based Industries to Exports and Imports**

Exports depend crucially upon global economic growth and the national capacity to produce goods and services. At the time of this study SBP provided us with data on classifications, requested for the period 2003-2008. The copyright sector of Pakistan is lacking in competitiveness and one of the reasons is the poor IP regulation in the country. Still, exports of core copyright sectors between 2003 and 2008 increased by 8 percent, the

<sup>12</sup>While one can estimate the tax contribution based on statutory rates however given various studies on tax evasion we know that effective rate is much lower.



Table 4

*Contribution of Copyright Based Industries in Indirect Taxes (2007-08)*

Items	Customs Duty	Sales Tax	Excise Duty
	Rs Million		
<b>A. Core Copyright Industries</b>			
Printed Materials (Books, Newspaper, Magazines etc.)	78.381	131.649	
Arts and antiques	0.419	1.173	
Total A	78.8	132.822	
<b>B. Interdependent Copyright Industries</b>			
Photographic Goods	104.307	223.897	
Paper and Paperboard	4390.093	4835.249	
Musical Instruments	1.263	2.089	
Optical, Photographic Instruments	893.27	728.219	
Misc Manufactured Articles	420.155	210.387	
Total B	5809.087	5999.841	
<b>C. Partial Copyright Industries</b>			
Silk	104.639	0.068	
Wool and Fabrics	15.757	0.119	
Carpets	187.609	5.376	
Made up Textile Articles	482.19	11.036	
Articles of Stone, Plaster, Cement	252.588	248.522	
Ceramic Products	1432.989	1117.958	
Glass and Glassware	836.492	730.543	
Precious Stones/Metals	32.881	64.5	
Toys and Games	324.175	219.186	
Total C	3669.32	2397.308	
<b>D. Non-Dedicated Copyright Industries</b>			
Advertisement TV Cable			0.306
Total D			0.306
Total Indirect Tax Contribution (2007-08) (A+B+C+D)	9557	8530.2	0.612

Source: Federal Board of Revenue and Authors' own estimations.

interdependent copyright sectors have seen growth of 76 percent, the partial copyright sectors achieved a growth of 48 percent and the non-dedicated support industries grew by almost 100 percent.

Using copyright factors for each of the partial industries we reach a more precise contribution towards trade. In 2007-08 the growth of core copyright sectors have mainly been contributed by computer and information services, advertisements and market research. Similarly, the interdependent copyright sector's exports were mainly through contribution of cinematography, sound recorders and other accessories and paper and paperboard. From the disaggregated data it seems that our exports are heavily dependent on imported raw materials and machinery, notably photographic, cinematographic goods, electrical machinery and parts, optical and precision apparatus and computer and information services. The export trends at disaggregated commodity level are given in Table 5.

Table 5

*Copyright-Based Industries Exports (2003 – 2008) Thousand US \$*

Categories	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
<b>Core Copyright Industries</b>						
Books, Newspapers and Printing Industry	3,622	6,086	4,616	3,909	4,365	3,577
Works of Arts	17,260	6,653	23,233	15,432	6,797	2,125
Computer and Information Services				72,000	106,000	154,000
Advertisement market research and public opinion poll				20,071	24,040	23,987
Personal, Cultural and Recreation Services				1,315	2,000	3,000
<b>Total</b>	<b>20882</b>	<b>12739</b>	<b>27849</b>	<b>112,718</b>	<b>143,202</b>	<b>186689</b>
<b>Interdependent Copyright Industries</b>						
Photographic goods	919	852	779	110	85	44
Paper and Paperboard	10,019	13,613	26,296	43,976	21,833	37,304
Sound Recorders and Reproducers, Television accessories	36,522	44,940	101,892	134,605	145,330	74,128
Cinematographer	172,094	178,287	192,640	222,013	236,621	275,505
<b>Total</b>	<b>219554</b>	<b>237692</b>	<b>321507</b>	<b>400704</b>	<b>403869</b>	<b>386981</b>
<b>Partial Copyright Industries</b>						
Wood and articles of wood	13,47	11,16	15,73	10,26	10,72	16,90
Apparel and Textile	211278	226038	250700	273757	297027	314069
Carpets and other textile Floor coverings	8160	8111	9759	9503	9088	8422
Special Woven Fabrics, Tufted Textiles Fabrics, Lace	11171	19326	23338	26313	26554	16593
Knitted or Crocheted Fabrics	1408	2453	1820	1398	1977	2693
Articles of Apparel and Clothing Accessorised						
Knit	71356	85267	95680	97693	106060	107344
Articles of Apparel/Clothing Access not Knitted	50573	33881	36947	46434	54070	59614
Other Man-Made Textile Articles, Sets, Worm						
Clothing	68610	77000	83156	92416	99278	119403
Footwear, Headgear	4303	4130	6087	6417	5772	5828
Articles of Stone, Plaster, Cement,	825	1339	1156	1340	1339	1832
<b>Total</b>	<b>216406</b>	<b>231507</b>	<b>257943</b>	<b>281514</b>	<b>304138</b>	<b>321729</b>
<b>Non-Dedicated Support Industries</b>						
Transportation				44282	44778	43050
Communication Services				8118	4961	4797
<b>Total</b>				<b>52400</b>	<b>49739</b>	<b>47847</b>
<b>Copyright-Based Industries Exports (Core + Non-Core)</b>	<b>456842</b>	<b>481938</b>	<b>607299</b>	<b>847336</b>	<b>900948</b>	<b>943246</b>

The consolidated figures for exports of copyright sectors are presented in Table 6. We observe that a substantial amount has been exported by interdependent copyright industries, which maintained their average share at 47 percent. The important feature is the growing share of core copyright sector exports which secured a share of 20 percent in 2007-08. One of the main reasons is the creation of IPO Pakistan in 2005 and their rigorous export promotion efforts (in collaboration with the Trade Development Authority of Pakistan), are commendable for ensuring the protection of copyright sectors and especially the core copyright sectors. The partial copyright industries on average contributed 36 percent in total core and non-core exports of copyright industries. Finally, the non-dedicated sector contributed 5 percent on average.

Table 6

*Consolidated Export Share (%) of Copyright Based Industries, 2002-03 to 2007-08*

Categories	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Core Copyright Industries	5 %	3%	5%	13%	16%	20%
Interdependent Copyright Industries	48%	49%	53%	47%	45%	41%
Partial Copyright Industries	47%	48%	42%	33%	16%	34%
Non-Dedicated Support Industries				6%	6%	5%
Copyright-Based Industries Exports (Core + Non-Core)	100	100	100	100	100	100

Source: Own Calculation.

In Table 7 one observes the imports of disaggregated copyright sectors between 2006-08, which shows a growth of 55 percent in import of core copyright sectors, 14 percent in interdependent sectors, 150 percent in partial and 40 percent in non-dedicated sectors. These figures present a relatively high share of imports in overall external transactions; Pakistan has a trade deficit in overall as well as in core sectors.

Table 7

*Copyright-Based Industries Imports (2006 – 2008) Thousand US \$*

Categories	2005-06	2006-07	2007-08
<b>Core Copyright Industries</b>			
Books, Newspapers and Printing Industry	31,584	33,693	23,404
Works of Arts	825,982	1,074,809	1,266,535
Computer and Information Services	44,034	90,000	129,000
Advertisement market research and public opinion poll	14,593	11,396	14,804
Personal, Cultural and Recreation Services	6,000	1,070	1000
Total	922193	1210968	1434743
<b>Interdependent Copyright Industries</b>			
Paper and Paperboard, Articles of Paper Pulp	275,944	333,769	410,277
Sound Recorders and Reproducers, Television accessories	43,976	21,833	37,304
Cinematographer (Inter Copyright)	134,605	145,330	74,128
Total	454525	500932	521709
<b>Partial Copyright Industries</b>			
Wood and articles of wood	61,59	6568	7053
Apparel and Textile	1855	1867	2186
Carpets and other textile Floor coverings	258	245	284
Special Woven Fabrics, Tufted Textiles Fabrics, Lace	411	377	462
Knitted or Crocheted Fabrics	152	166	181
Articles of Apparel and Clothing Accessorised Knit	195	285	217
Articles of Apparel/Clothing Access not Knitted	112	147	280
Other Man-Made Textile Articles, Sets, Worm Clothing	727	647	762
Footwear, Headgear	509	656	719
Articles of Stone, Plaster, Cement,	2582	2591	2769
Total	4946	11682	12727
<b>Non-Dedicated Support Industries</b>			
Transportation	117384	128535	151085
Communication Services	4141	4018	4387
Total	121525	132553	155472
<b>Copyright-Based Industries Imports (Core + Non-Core)</b>	<b>1514081</b>	<b>1861315</b>	<b>2130490</b>

Source: SBP Statistics on Import of Goods and Services (Various Issues).

Table 8 shows that in total core copyright industries contributed 68 percent in 2007-08 imports. This was followed by interdependent sectors which contributed 25 percent. It may be noted here that Pakistan's weak position in ensuring IP titles, hinders quality standards in production which are the key factors towards achieving product sophistication. Therefore Pakistan's exports use significant imported content which has foreign certification and established IP titles. In this manner Pakistani exporters in fact try to get acceptance for their finished products abroad.

Table 8

*Consolidated Imports Share (%) of Copyright Based Industries 2005-06 to 2007-08*

Categories	2005-06	2006-07	2007-08
Core Copyright Industries	61%	65%	68%
Interdependent Copyright Industries	30%	27%	25%
Partial Copyright Industries	1%	1%	1%
Non-Dedicated Support Industries	8%	7%	7%
Copyright-Based Industries Imports (Core + Non-Core)	100	100	100

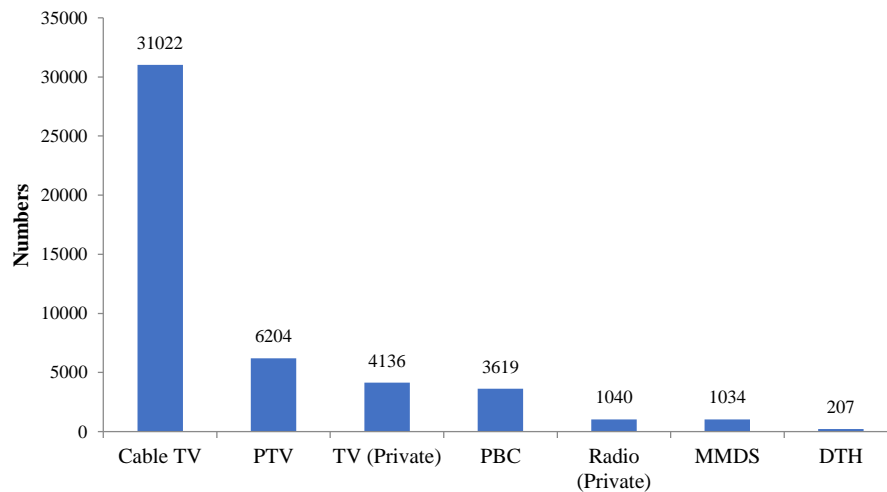
The trade balance for the year 2007-08 is negative for the core copyright sector amounting to \$1,248,054 thousands, interdependent copyright sector is \$ 134,728 thousands and non-dedicated sector is \$107,625 thousands. Only the partial copyright sector is positive in trade balance of \$309,002 thousands. The reason for a favourable trade balance in partial copyright sector is Pakistan's high and recognised comparative advantage in textile, particularly readymade garments.

### Employment in Copyright-Based Industries

Stable employment in copyright-based industries is predominantly established in cable TV, followed by Pakistan Television (PTV), private television channels and Pakistan Broadcasting Corporation (PBC).

Figure 1 reports the employment in the electronic media, which has been extrapolated for the year 2007, using growth rates from labour force survey, census of manufacturing industries and base values for 2006 employment survey provided by PEMRA.

**Fig. 1. Employment in Core Copyright-Based Industry (Electronic Media) 2007**



The surge in employment in the electronic media is due to the deregulation of print and electronic media during 2000s. The most eminent sector having operational licensing is the Cable TV with largest share of 92 percent, followed by FM Radio with the growth of 6 percent. The recent additions to electronic media, including multi-channel multi-point distribution system (MMDS) and direct-to-home technology (DTH) has minor contribution with percentage growth of 5 percent and 2 percent respectively for the year 2006.

Table 9 indicates that while there is growth in employment across all core copyright sectors. However there are two categories, namely data processing and TV broadcasts and graphics designing, where employment has grown many folds. Primarily the growth in these sectors is driven by the IT boom and availability of new technologies that allow handling of large amounts of data in a relatively short time.

Table 9

*Employment Contributions by Core Copyright Sectors 1999 and 2007*

Sector	Number of Enterprises		Estimated Employment	
	1999	2007	1999	2007
Newspaper and Printing	1344	1820	26160	38780
Data processing and IT	50	1101	990	24222
Cultural and Recreation services	–	–	175000	205000
Radio and TV broadcasts	20	1422	6500	44700
Graphic Designing	30000	67000	90000	268000
Photography	15000	18000	45000	54000
Total	71414	124343	243650	535002

*Source:* Information from Pakistan Media Regulating Authority-PEMRA, Pakistan Film Producers Association-PFPA, Pakistan Software Houses Association-PASHA, Pakistan Association of Printing and Graphic Industry-PAPGAI, Audit Bureau of Circulation-ABC, Photographers Society of Pakistan-PSP, Associated Press of Pakistan-APP, Face to face Interviews with professional leaders, internet search and provisional estimation.

It was difficult to determine the accurate employment levels of cultural and recreational places like hotels, cinemas, clubs, music, shrines, marriage halls, dance-theatre and other functional places. Efforts were made to gather information regarding value and contribution of these sectors. Data regarding the 4 or 5 star hotels is available in national statistics but it is difficult to account for local guest-houses and 2 and 3 star hotels. In 2007-08 the total number of hotels, cinemas, clubs and music places was around 998.

Desh (1995), using the employment per entity formula, multiplies the number of all these places by category with their respective employment levels, to estimate the total employment. Then using the copyright factors the employment contribution of all categories is obtained; we adopt the same approach. Total employment comes to around 1.73 million and the creative employment comes to around 0.259 million. Thus, the share of creative employment in the overall employment of hotels and restaurants stands around 15 percent. This is represented by the persons working in hotel industry linked with music, either live or by playing pre-recorded CDs/DVDs etc., theatre or showing TV dramas and other shows in the hotels or restaurants.

#### 4. CONCLUSION AND POLICY RECOMMENDATIONS

The core and non-core copyright industries show a lot of potential to contribute to country's value addition, tax revenues, trade and employment. Understanding the importance of protecting these industries is important, if Pakistan is to promote innovative entrepreneurs who can in turn help in product sophistication and promotion of copyright based exports.

The key policy recommendations from this study are:

- (1) A realistic level of understanding regarding the significance of copyright industries in the economic development is important. These industries are being underestimated and their contribution is not regarded tangible in production process.
- (2) The System of the National Industrial Classification of the copyright categories should go from six or eight digit levels of classifications. The input-output table which helps in identifying the contributions of various industries has not been updated for a decade. PBS should embark on updating this table as well as improve its compliance with the UN System of National Accounts 1993.

## ANNEX-I

Idris (2003), briefly defines the following as, Patent is an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something, or offers a new technical solution to a problem. Trademark is a distinctive sign, which identifies certain goods or services as those produced or provided by a specific person or enterprise. Geographical indication is a sign used on goods that have a specific geographical origin and possess qualities or a reputation that are due to that place of origin. Most commonly, a geographical indication consists of the name of the place of origin of the goods. Industrial design is the ornamental or aesthetic aspect of an article. The design may consist of three-dimensional features, such as the shape or surface of an article, or of two-dimensional features, such as patterns, lines or color. Copyright is the body of laws which grants authors, artists and other creators protection for their literary and artistic creation, which are generally referred to as “works” a closely associated field of right related to copyright is “related rights”, which provides rights similar or identical to those of copyright, although sometimes more limited and of shorter duration.

Types of copyright industries and their main groupings are given below:

**Core Copyright Industries**

Type of Copyright Industry	Main Grouping of Industries	Subgroups
Core Copyright Industry	Press and Literature	Authors, writers, translators
		Newspapers
		News and feature agencies
		Cards and maps, directories and other published material
		Pre-press, printing and post-press of books, magazines, newspapers and advertising materials
		Wholesale and retail of press and literature
		Libraries
	Music, theatrical productions and opera	Composers, lyricists, arrangers, choreographers, directors, performers and other personnel
		Printing and publishing of music
		Production/manufacturing of recorded music
		Wholesale and retail of recorded music
		Artistic and literary creation and interpretation
	Motion picture and Video	Performances and allied agencies
Writers, directors, actors etc. and distribution		
Motion picture and video production and distribution.		
Motion picture exhibition		
Video rentals and sales, video on demand		
Radio and Television	Allied services	
	National radio and television broadcasting companies	
	Other radio and television broadcasters	
	Independent producers	
Photography	Cable television (systems and channels)	
	Satellite television	
Software and databases	Allied services	
	Studios and commercial photography	
	Photo agencies and libraries	
Visual and graphic arts	Programming, development and design, manufacturing	
	Wholesale and retail of pre-packaged software	
Advertising Services	Database processing and publishing	
	Art galleries, other wholesale and retail	
	Picture framing and other allied services	
	Agencies, buying services	

**Interdependent Copyright Industries**

Type of Copyright Industry	Main Grouping of Industries	Subgroups
Interdependent Copyright Industries	TV sets, Radios, VCRs, CD players, DVD players, Cassette players, Electronic game equipment, and other similar equipment	Manufacture Wholesale and retail
	Computers and Equipments	Manufacture Wholesale and retail
	Musical Instruments	Manufacture
		Wholesale and retail

**Partial Copyright Industries**

Type of Copyright Industry	Main Grouping of Industries	Subgroups
Partial interdependent copyright industries	Photographic and cinematographic instruments	Manufacture Wholesale and retail
	Photocopiers	Manufacture Wholesale and retail
	Blank recording material	Manufacture Wholesale and retail
	Paper	Manufacture
		Wholesale and retail
		Wholesale and

**ANNEX-II****Data Requirement under ISIC**

Division	Group	Classes	Explanation	Type
22	221	2211	Publishing of books, brochures and other publications	Core
		2212	Publishing of newspapers, journals and periodicals	Core
		2213	Publishing of music	Core
		2219	Other publishing	Core
	222		Printing and service activities related to printing	Core
		2221	Printing	Core
		2222	Service activities related to printing	Core
	223		Reproduction of recorded media	Core
	322		Manufacture of television and radio transmitters and apparatus for line telephony	Non-Core
		642	6420	Telecommunications
	722	7221	Software publishing	
	723	7230	Data processing	
	724	7240	Database activities and online distribution of electronic content	
73		Research and development	Non-Core	
74		Other business activities	Non-Core	
	742		Architectural, engineering and other technical activities	Non-Core
7421				
7422		Technical testing and analysis	Non-Core	
743	7430	Advertising	Non-Core	
749	7494	Photographic activities	Non-Core	
92			Recreational, cultural and sporting activities	
	921	9211	Motion picture and video production and distribution	Core
		9212		Core
		9213	Radio and television activities	Core
		9214		Core
		9219		Core
	922	9220	News agency activities	Core
		923	9231	Library, archives, museums and other cultural activities

Source: International Standard Industrial Classification, UN 2002.

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