



THE ECONOMIC CONTRIBUTION OF THE COPYRIGHT INDUSTRIES

An Overview of the Results from WIPO Studies Assessing the Economic Contribution of the Copyright Industries

2021

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1. Background

Over the past two decades, the World Intellectual Property Organization (WIPO) has been actively involved in and supported research on assessing the economic contribution of industries that are dependent on copyright and related rights protection – the so-called copyright industries.¹ In 2015, WIPO published a second edition of its guidelines on carrying out such research throughout the world.ⁱ This methodology (the Guide) suggests a classification of the copyright industries based on the level of their dependence on copyright material, establishes a set of major indicators, and lays out research standards and approaches with different options.

The WIPO guidelines were developed based on best international practises by a group of renowned economists. They were piloted in a group of countries and validated through practise. More than 50 countries have applied the WIPO methodology, confirming its applicability in different development contexts. This enables comparability of the results of the research.

Studies undertaken based on the WIPO methodology have largely been implemented upon request of interested governments. Their primary objective has been to provide empirical evidence on the size and performance of the creative sector underpinned by copyright and related rights protection. An important characteristic of this research has been its close link to government policies on copyright and creativity. Research on the copyright industries seeks to provide additional reliable statistical information in an area of growing interest, where data are generally insufficient.

This report provides an update to the overview of studies on the economic contribution of the copyright industries that was published by WIPO in 2015. The analysis covers 50 countries that have implemented research in this area and takes into account the most recent data, which was available up to December 2019.ⁱⁱ It considers the following four groups of copyright industries: core industries, whose main products are capital assets protected by copyright; interdependent industries, which produce capital equipment used for the production and consumption of output protected by copyright; partial industries, which produce copyright-

¹ For ease of reference, the term copyright industries throughout the text includes subject matter protected by related rights, as well. The “copyright industries” form the backbone of the “creative industries” and these terms are used interchangeably in the text of this report.

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protected output as a secondary joint product, integrated with other output; and non-dedicated support industries, which produce the distributive services that facilitate production and consumption of output protected by copyright.

The main indicators presented in this report identify how the contribution of the copyright industries to value generation and employment relate to the general process of economic growth and development. The update is guided by the general principle that, normally, a sector or cluster of industries tends to be a significant contributor to growth when it makes a significant contribution to output and employment and is closely associated with a large and important growing source of output. That is, two factors combine to define the percentage contributions to overall growth and development of a particular sector, namely: the share of the sector in gross domestic product (GDP); and the real growth generated by the sector. In this case, the sector with which the copyright industries are closely associated is the capital sector, defined as the cluster of industries that can produce output that is used as input into the production of goods and services.

The report uses the available data on the contributions of the copyright industries to examine their relationships with the following growth and development indicators:

- Output of industries that can produce capital output – manufactured capital goods plus non-manufactured capital services. Of importance are:
 - the growth of capital output
 - the capital output share of GDP
- Long-term real GDP growth, measured as the real growth rate over the period 2010–2019
- Real GDP per capita and growth of real GDP per capita.
- Capacity to innovate, as measured by the Global Innovation Index (GII) and the Index of Global Innovation Output (GIO).
- Capacity to compete, as measured by the Global Competitiveness Index (GCI)
- Industrial competitiveness, as measured by the Competitive Industrial Performance Index (CIP).
- The institutional foundations of the economy, as measured by the Government Effectiveness Index (GEI) and the Corruption Perception Index (CPI).

While the current report follows the basic structure and methodology of the 2015 report, it introduces several new elements:

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- The report expands the geographical scope of the analysis and updates existing national data while adding other relevant data mostly produced by international organizations.
- The analysis considers the long-term effects of copyright protection on real output growth, innovation and competitiveness over the years 2010–2019, before the advent of demand shocks caused by the COVID-19 pandemic. The emphasis is placed on the role of the copyright industries as elements of the capital sector, which is the main growth engine of every economy. This seeks to align data on the productive activities of the creative sector with other WIPO publications providing data in innovative and intellectual property (IP)-based activities.
- The available data are presented in a harmonized manner to facilitate further research in this area. The data base includes indicators from the national studies and data from other relevant sources that enhance reporting and analysis on the contribution of copyright to economic performance. The macroeconomic indicators available from national studies are linked to other independently reported data on capital production and related indicators of the industrial engine that drives growth and characterizes the economic development path of countries. Patterns of association that provide a more detailed analysis of the dimensions of the economic contribution of the copyright industries, especially from a comparative development perspective, are reported. The strength of the associations identified also lend substantial independent support to the usefulness of the measures produced by the WIPO studies.
- The report provides a detailed data analysis that clarifies the contribution of the copyright industries and performance to output, employment and productivity, with disaggregation according to the development classification of countries. This analysis subsequently extends to the relationships between copyright contribution and the capacity to innovate and compete, as well as the underlying development of the institutional foundations of the economy. Regional patterns are summarized based on national data, which are provided.
- A new feature of the report is the categorization of countries by their development classification, adopting standard approaches applicable up to 2019 by international institutions, in particular the World Bank (various years),ⁱⁱⁱ IMF (various years),^{iv} and UN/DESA (2014).^v

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- The report offers a more perceptive analysis, indicating the different dynamics in the four groups of countries, namely developed, emerging economies, transition and developing. Table 1 in annex 1 identifies the countries in each development class, along with the most recently reported contributions of the copyright industries to GDP and employment.

2. Copyright Industries in a Development Context

2.1. Interpreting the development classifications

Data on the average real rate of long-run GDP growth between 2010 and 2019 reported by the United Nations Statistics Division (UNSD) allow the distinguishing structural characteristics of the development classes of economies specified to be identified.^{vi} These distinguishing features are:

- The abundance of capital, which depends on the extent to which an integrated cluster of sectors produces capital that serves as the primary economic growth engine.
- The quality of the supporting institutions, especially their capacity to facilitate innovation for competition in local and global markets.

Here, capital means output that is used as input into the production of other goods and services, under institutional arrangements in which some of the capital is owned by the organizers of production, who thereby own the output produced. The capital sector produces three broad types of capital:

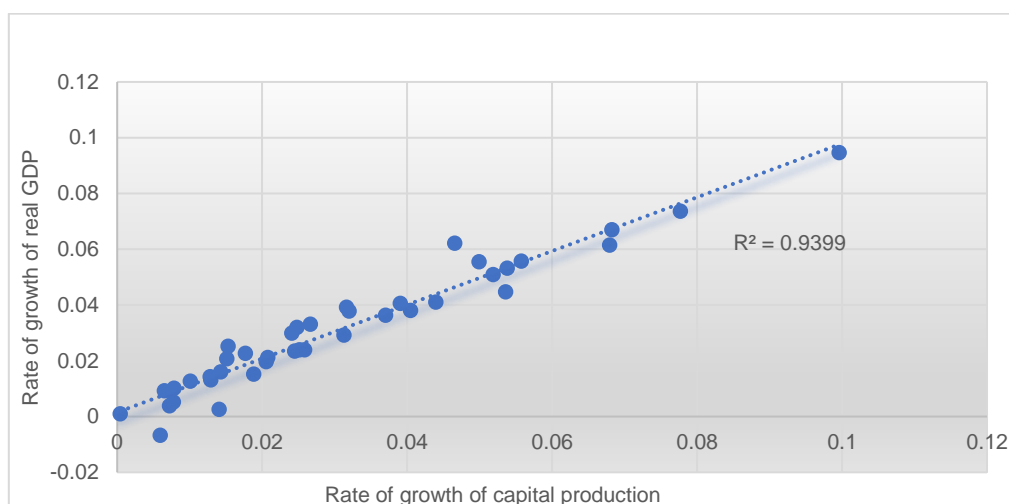
- Physical capital, in the form of manufactured equipment, tools, plant, intermediate inputs and infrastructure.
- Human capital, such as knowledge, skills, creativity, self-confidence and the health and labour power of workers.
- Financial capital and associated financial intermediation services, which make funds available to conduct market transactions to acquire physical and human capital for improvement or expansion.

The proxy measure of the output of the capital sector used for this report is the sum of the output of two sectors that can produce capital, specifically the manufacturing industries and the industries that produce financial intermediation, education, health care and social work, community, social and personal services, and a range of outputs produced by private households, as employers and otherwise. The latter industries are referred to as other capital industries for convenience. Using United Nations Statistics Division (UNSD) data from 2010–2019, table 2 in annex 1 documents the real size and structure of the capital sector of reporting countries, their real GDP and real GDP growth rates, and the capital sector shares in 2015 US dollars.

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Looking across all reporting economies, the general compelling evidence is that there was an extremely high correlation of 0.97 between the rate of growth of the output of the sector with capacity to produce capital (gK) and the rate of real growth of GDP (gGDP) over the 10-year period considered. Figure 1 summarizes that relationship in a scatter plot, including the best-fitting line. This suggests that capital production is an engine of growth and should consistently distinguish the reporting economies.

Figure 1 Cross-country correlation of rate of growth of capital production and rate of growth of real GDP



Source: Computed from UNSD country profiles data, 2021.

Accordingly, table 1 summarizes how the four types of economies compare in share of capital in GDP (KShare) and the strength of the correlation between the rate of growth of capital production and the rate of growth of real GDP (gK/gGDP). These characteristics are represented graphically in figure 2. The data affirm that the capital share of GDP is a defining indicator of the development status of the economy.

Developed economies featured capital-producing industries with a high share of 60.4 percent of GDP and the highest correlation of 98.3 percent between the rate of growth of capital output and the rate of growth of real GDP. This is followed by the emerging economies, with 50.5 percent of GDP produced by the capital sector and a high correlation of 98.2 percent between the rate of growth of capital output and the rate of growth of real GDP. The transition economies featured 47.9 percent of GDP produced by their capital sector and a correlation of 96.9 percent between the rate of growth of capital output and the rate of growth of real GDP. The corresponding figures for developing economies were 41.7 percent and 95.3 percent.

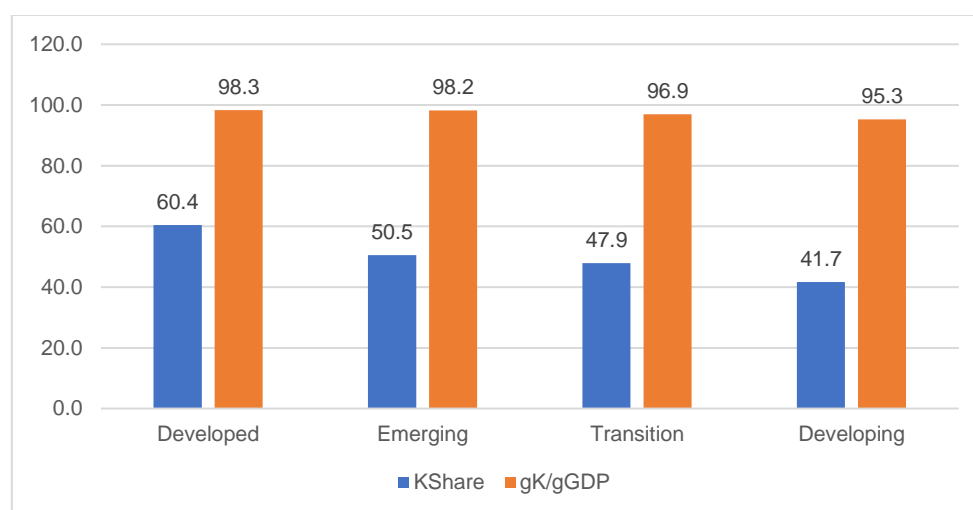
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Table 1: Capital share of GDP and the correlation of capital sector growth and GDP growth by development classification

Distinguishing characteristics (%)		
Development class	Capital share	Correlation of rate of growth of capital output and rate of growth of GDP
Developed	60.4	98.3
Emerging	50.5	98.2
Transition	47.9	96.9
Developing	41.7	95.3

Source: Computed from UNSD Country Profiles, 2010–2019.

Figure 2: Capital share of GDP and the correlation between capital sector growth and real GDP growth, by development classification (%)



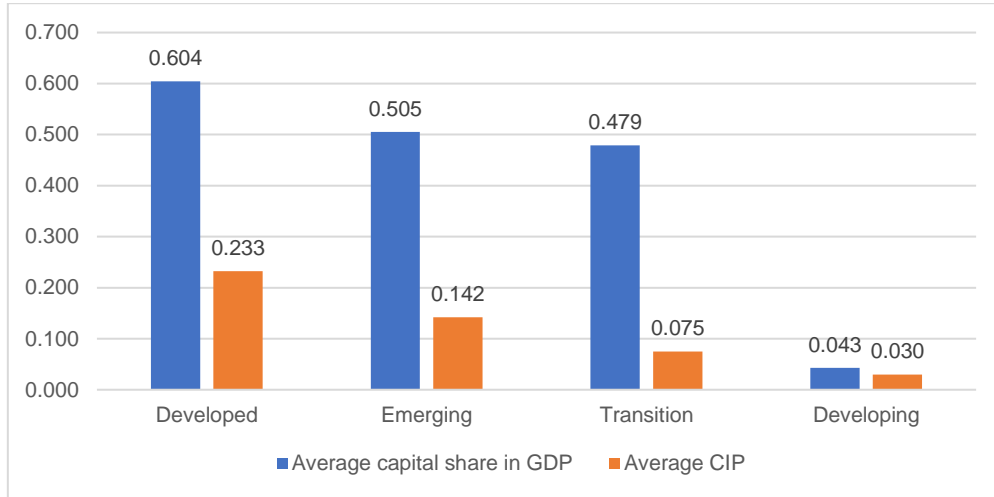
Source: Computed from UNSD Country Profiles, 2010–2019.

Differences between economies by development status are further clarified by the relationship between the capital share and the industrial competitiveness of economies, as measured by the UNIDO (2021) Index of Competitive Industrial Performance for 2018.^{vii} The index essentially summarizes the impact of the capacity to produce capital and develop industrial sectors and activities with increasingly higher value-added and technological content (medium- and high-technology goods) on the capacity of countries to increase their presence in international and domestic markets.^{viii} Figure 3 indicates that the average industrial competitiveness of the development classes has the same ordering as the capital share in GDP, with the highest characterizing the developed economies, followed by the emerging economies and the transition economies, and with the lowest characterizing the developing

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economies. Higher levels of industrial competitiveness arise from greater concentration of production on high value-added and technological advanced output.

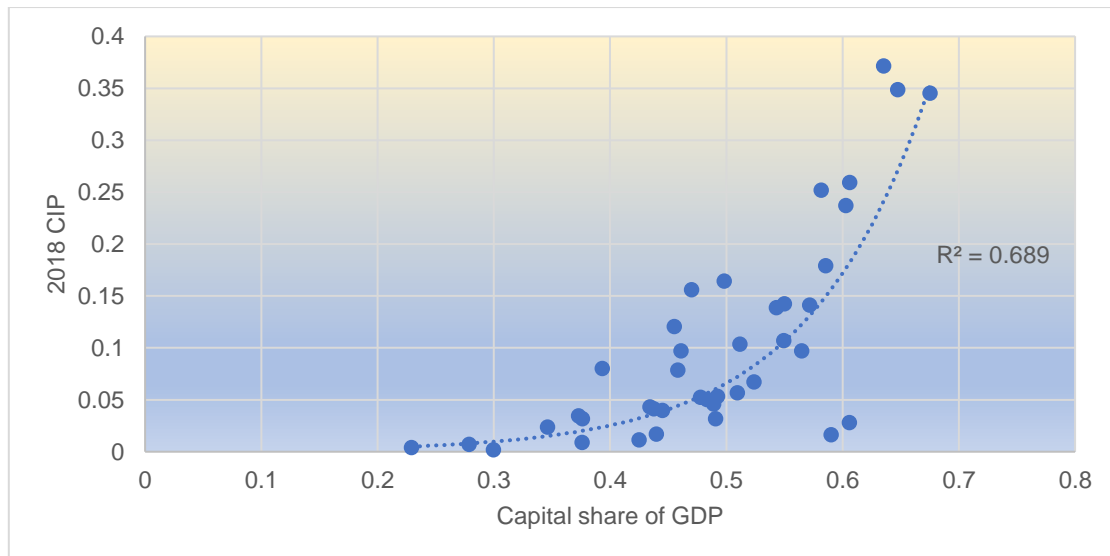
Figure 3: Capital share of GDP and industrial competitiveness, by development class



Source: UNSD Country Profiles, 2019-2019 and UNIDO CIP, 2018.

Looked at in more detail, across all economies, there is a high correlation of 0.73 between the capital share of GDP and industrial competitiveness. Further, figure 4 reports the scatterplot of these variables, summarized by an exponential relationship between the variables. Thus, as the capital share of GDP grows, industrial competitiveness grows exponentially faster.

Figure 4: Relationship of capital share of GDP and industrial competitiveness



Source: UNSD Country Profiles, 2010-2019 and UNIDO CIP, 2018.

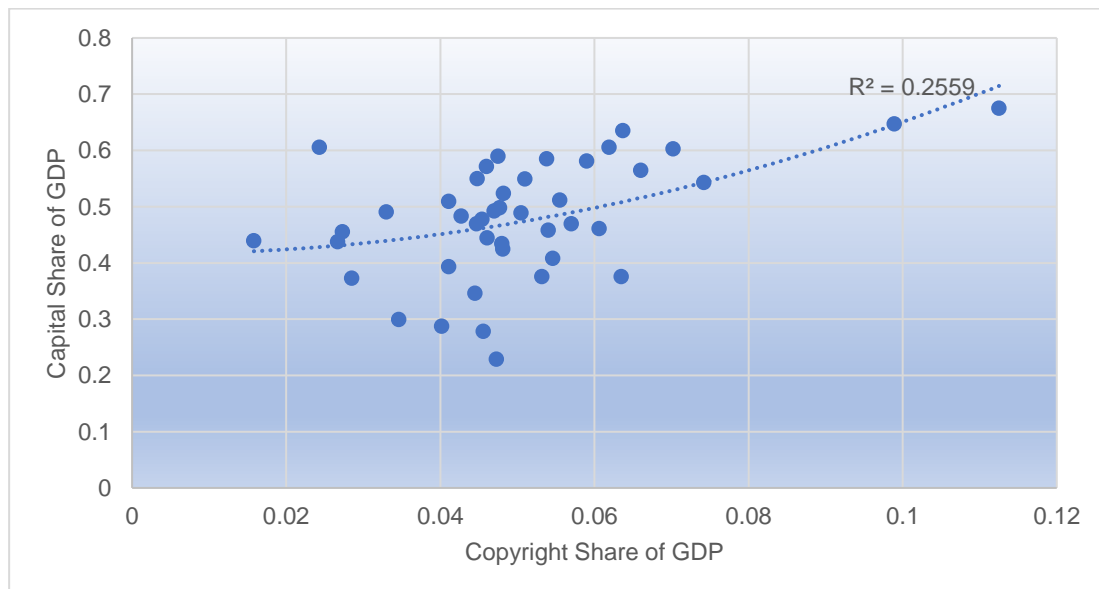
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To achieve a high share of capital in GDP as in Figure 4 and high industrial competitiveness, a country must generally move up the value chain from production of low-quality capital to production of high-quality capital that can solve problems in the local and global markets. The substantive advantage of such a move is summarized in the observation of the United Nations Industrial Development Organization (UNIDO) (2021: 16) that “a country that is specialized in the production of high-technology goods has a higher likelihood to benefit from strong productive linkages and knowledge spillovers across different activities than a country specialized in low-technology manufacturing industries”. The correlations reported above suggest that the observation generalizes to all capital production.

2.2. Contribution of the copyright industries

The copyright industries are important elements of the capital sector and important contributors to the growth effects it generates. The importance of the contribution of the copyright industries to the process is summarily represented by a correlation of 0.49 between the copyright share of GDP and the share of capital output in GDP. The graph of the relationship between these variables, portrayed in figure 5, indicates that growth of the copyright industries is associated with relatively faster growth of the capital sector of the economy.

Figure 5: Relationship of copyright share and capital share of GDP

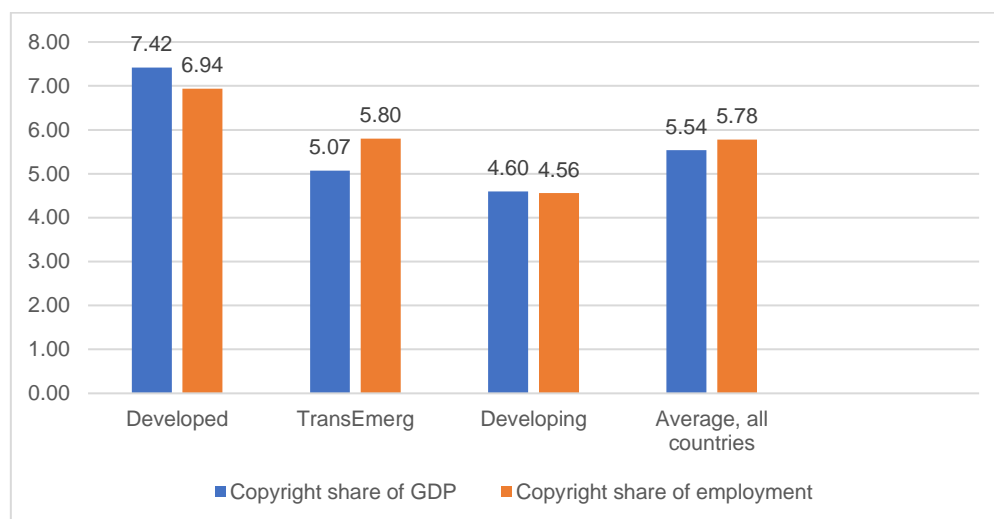


Source: WIPO Country Studies Database, 2021 and UNSD Country Profiles, 2010-2019.

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The reported contributions of the copyright industries to output and employment in the developed economies were 7.42 percent and 6.94 percent respectively. These were considerably higher than for the transition and emerging economies (TransEmerg) (5.07 percent and 5.80 percent), which in turn were higher than for developing economies (4.60 percent and 4.56 percent) (see figure 6).

Figure 6: Percentage contributions of copyright industries to GDP and employment in developed, developing and emerging/transition economies (%)

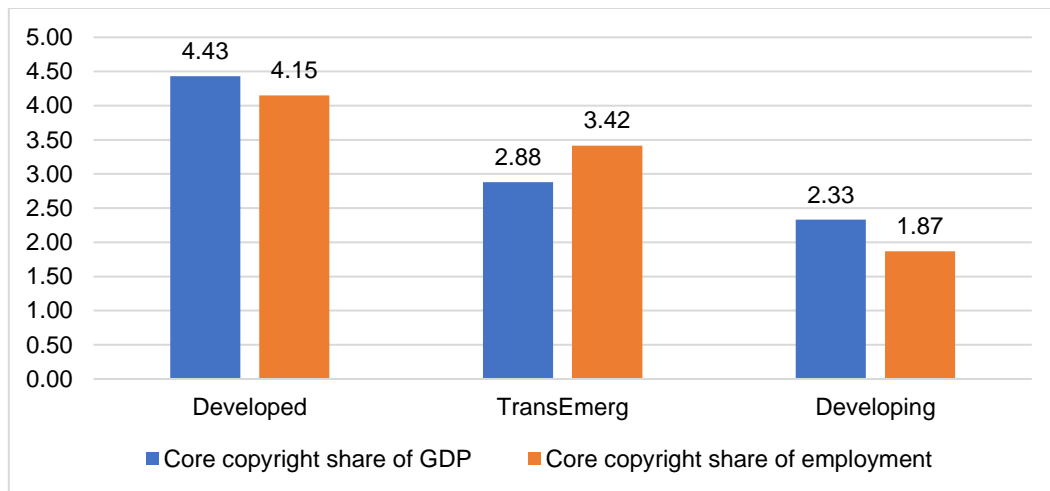


Source: WIPO Country Studies Database, 2021.

The core copyright industries are the main direct producers of capital in the form of output used as inputs into other productive activities, with the contribution varying with the development status of the economies. Summarized in figure 7, the data in table 1 of annex 1 indicate that the core industries of the developed economies contributed more value and jobs than those of other development classes. In particular, the core industries contributed a share of GDP (4.43 percent) that was 514 percent higher than that for the transition/emerging economies, and 90 percent higher than that for developing economies. Similarly, the core industries contributed a share of employment (4.15 percent) that was 22 percent higher than that for the transition/emerging economies and more than twice as high as that for the developing economies.

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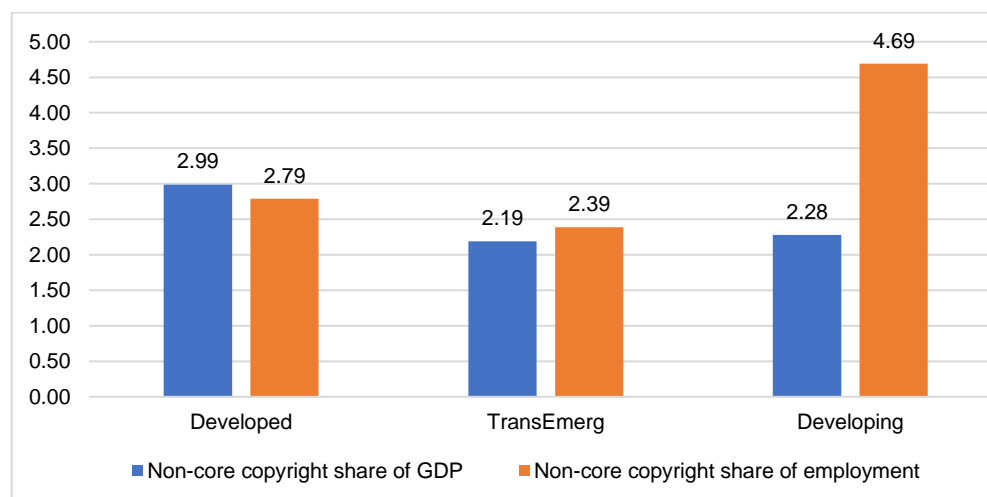
Figure 7: Contributions of core copyright industries to GDP and employment in developed, developing and emerging/transition economies (%)



Source: WIPO Country Studies Database, 2021.

Figure 8 indicates that, by comparison, the non-core copyright industries of the developing countries accounted for the highest share of employment (4.69 percent). The non-core share of employment of the developing economies was 68 percent higher than that of the developed economies and nearly twice that of the transition/emerging economies.

Figure 8: Contributions of non-core copyright industries to GDP and employment in developed, developing and emerging/transition economies

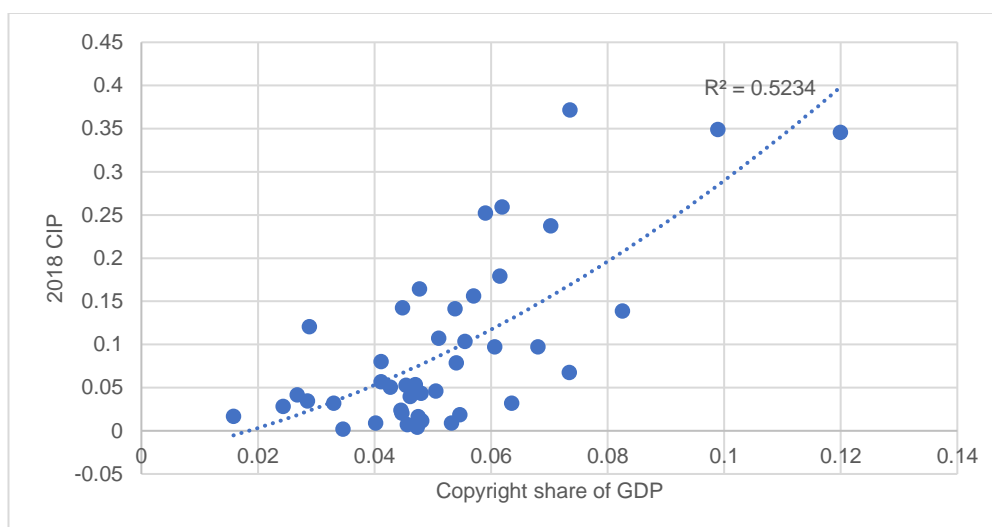


Source: WIPO Country Studies Database, 2021.

Across economies, there was a correlation of 0.71 between the copyright share of GDP (CShare) and industrial competitiveness (CIP). Figure 9 reports the scatterplot of the variables and indicates that, in this case, growth of the copyright share was associated with relatively faster growth of industrial competitiveness.

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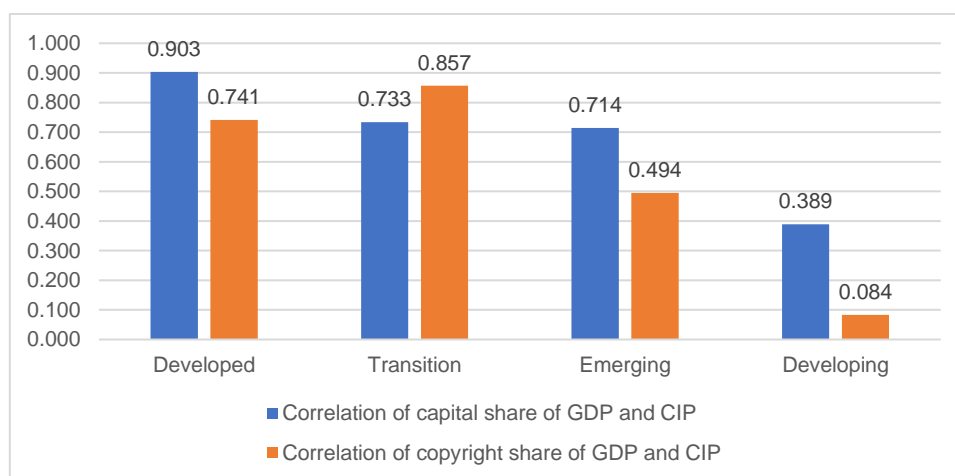
Figure 9: Relationship of copyright share of GDP and industrial competitiveness, all economies



Source: WIPO Country Studies Database, 2021 and UNIDO CIP, 2018.

Figure 10 indicates how these patterns of association vary by development status. Among developed economies, the cross-country correlation of the capital share and industrial competitiveness was 0.903, while that between the copyright share and industrial competitiveness was 0.741. Among transition economies, the cross-country correlation of the capital share and industrial competitiveness was lower, at .733, and that between the copyright share and industrial competitiveness was 0.857. The emerging economies featured respective correlations of 0.714 and 0.494, while the corresponding correlations for the developing economies were 0.389 and 0.084.

Figure 10: Correlations of the capital and copyright shares of GDP and industrial competitiveness, by development status



Source: WIPO Country Studies Database, 2021; UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018.

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These correlations confirm that the relatively high shares of copyright industries in developed economies were closely associated with the existence of a well-developed and fully integrated capital sector with strong backward and forward linkages between its industries. This means the domestic supply of physical capital and the supply of knowledge, skills, creativity, self-confidence and health and labour power, grew in response to demand by the copyright industries (backward linkages). Similarly, the supply of the copyright industries grew in response to growing demand from the producers of skills, creativity, self-confidence and health and labour power, and from the producers of physical capital (forward linkages). This integrated process was supported by institutional arrangements – including those that lead to high government effectiveness and low corruption – that facilitated piecewise continuous innovation to compete for profit in local and global markets. The integrated capital sector endowed the economy with abundant capital in the sense of capacity to produce as much capital as desired, and to enable accumulation of a stock that is sufficient to ensure full employment of the available labour force when the supply of money (and associated effective demand) facilitates its full utilization.

The lower average share of copyright industries in the output and employment of the developing economies, and the associated high share of non-core industries in employment, reflected a capital sector with inadequate capacity to produce many forms of the physical and human capital deployed in production. The copyright industries accounted for a relatively high share of the capital sector. This means that backward linkages were weak; domestic production of physical capital and human capital did not grow significantly in response to demand by the copyright-based industries. Forward linkages were also weak; the subsectors supplying physical capital and non-copyrighted human capital were too weak to generate substantial demand that could stimulate growth of the supply of the copyright industries. This weakly integrated process was underpinned by relatively ineffective government and a relatively high perception of corruption that limited the capacity to innovate for competition in local and global markets.

The contributions of the copyright industries in the transition and emerging economies lie between these two extremes. These economies were also distinguished by their comparatively large supplies of surplus labour that could be used to increase production of exportable capital goods and services other than the copyright industries. Accordingly, they possessed a growing capacity to produce all forms of capital, and the backward and forward linkages between the components were also evolving rapidly. This integration process was supported by increasingly effective governments that were evolving to facilitate increasing capacity for piecewise continuous innovation to compete in solving the problems of the local

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and global markets. As the capital sector developed and integrated, it enabled a growing share of copyright-protected output to be produced in medium- to high-technology activities, even as a growing share of employment was provided by the other elements of the developing capital sector.

These comparative differences in the structural features help to clarify why the shares of copyright in GDP and employment, and in particular the shares of the core, in developed economies were relatively and correspondingly higher than in the developing, transition and emerging economies. Similarly, they clarify why the share of copyright in GDP and employment in the developing economies were lowest when compared to the developed economies and the transition/emerging economies. The differences also help to clarify why the share of employment in the developing economies was relatively higher than the share of output, and why the share of the non-core industries in the employment of these economies was the highest among all development groups. Finally, the differences in the structural features associated with development status, in particular the relatively high reliance of the developing economies on non-core copyright activity, underscore the importance of applying the WIPO methodology when measuring the contribution of the copyright industries to the economy. This methodology includes non-core sectors in the analysis of the copyright contribution, including indirect impacts that could more comprehensively capture the economic linkages and spillover effects of copyright. The structural differences also underscore differences in the growth stimulus generated by copyright industries, the resulting patterns of association between the copyright shares, growth and productivity performance, and the institutional characteristics reported in subsequent sections of this report.

3. Analysis of the Contribution of the Copyright Industries to GDP and Employment

The data analysis in this section is based on the two major indicators employed to measure the economic performance of the copyright industries, namely the contribution to GDP (percent) and the share of employment (percent). The contribution to foreign trade is not considered because most countries did not report this indicator.

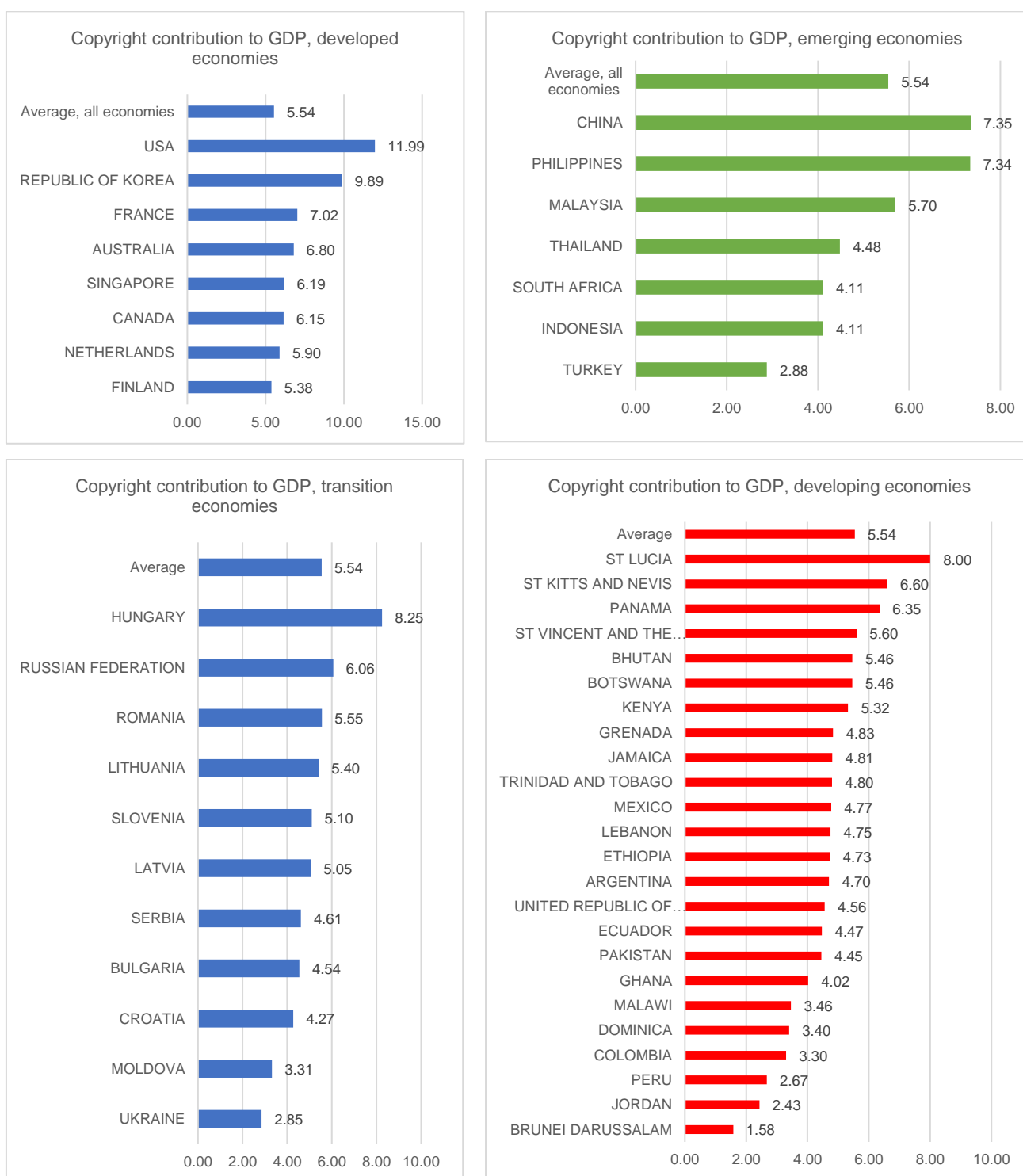
The overall performance of the copyright industries in the countries surveyed indicates a sizeable sector, which in most countries was found to be comparatively high. The data suggests copyright industries make an economic contribution often exceeding that of traditional sectors of the economy, and this also helps to explain why the sector makes a substantial contribution to economic growth. In fact, copyright has often been perceived predominantly as a legal category but this report confirms that it is an influential factor in social and economic development. In particular, analysis of the overall economic contribution focuses attention on the potential of copyright industries to contribute to achieving the development objectives of countries and serve as an important element of the engines of growth – the capital-producing sectors.

3.1. Contribution to national GDP and growth performance

The output produced by the copyright industries, expressed as a percentage of the GDP, is a central indicator used in numerous studies to project the importance of an industry. The contribution of copyright industries to GDP varied significantly across countries and development classifications; from more than 11 percent in the United States of America, within the class of developed economies, to less than 2 percent for Brunei Darussalam, within the class of developing economies. Figure 11 shows that 87.5 percent of the developed economies had a contribution above the mean of 5.54 percent, while 66 percent of transition economies and 57 percent of emerging economies had a contribution below the mean. Among developing economies, 83 percent had contributions below the mean.

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Figure 11: Copyright contribution to GDP, by development classification (%)



Source: WIPO Country Studies Database, 2021.

Data on the average rate of real GDP growth between 2010 and 2019 reported by the United Nations Statistics Division (UNSD) indicate that the growth achieved by reporting countries was generally driven by the capital sector.

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Table 2 indicates that across all economies classified by development status, the developed economies reported the highest average real GDP per capita at \$48,040.10 over the decade 2010–2019. The emerging economies reported an average of \$7,551.70, the transition economies an average of \$12,453.70, and the developing economies an average of \$8,639.70. The rate of GDP growth was highest for emerging economies at 4.9 percent, followed by that for developing economies at 3.0 percent and that for transition economies at 2.4 percent. The developed economies grew at the slowest rate of 2.2 percent. The faster growth of the emerging, developing and transition economies generate a correspondingly faster growth of GDP per capita, setting in motion a process by which they would eventually catch up with the GDP per capita of the developed economies. The GDP per capita of the emerging economies grew at an average rate of 3.8 percent over the decade, driven by a 5 percent average annual rate of growth of their capital sector. The GDP per capita of the transition economies grew at 2.9 percent, stimulated by a capital sector that grew at 1.9 percent per annum over the decade. The GDP per capita of the developing economies grew at 1.7 percent, supported by a capital sector that grew at an average annual rate of 3 percent over the decade. The GDP per capita of the developed economies grew at the slowest rate of 1.4 percent, led by a capital sector that grew at 2.1 percent. Figure 12 summarizes the comparative growth performances.

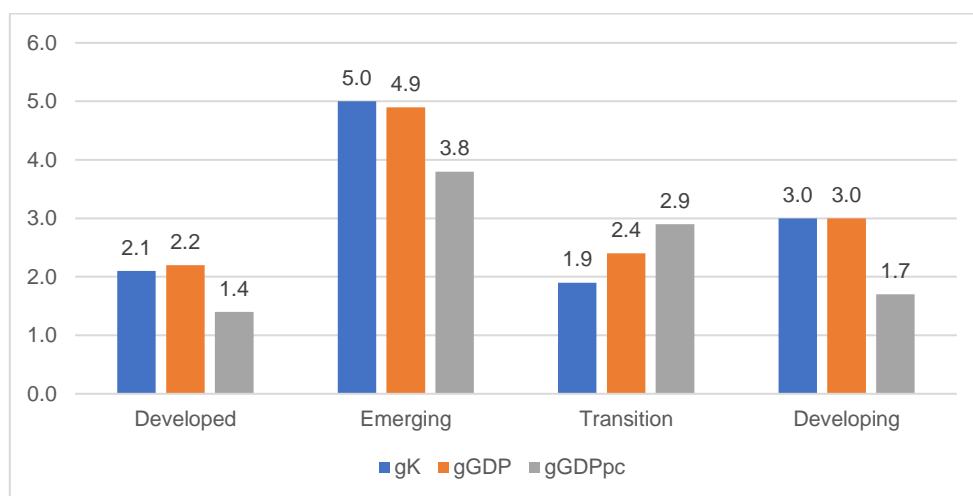
Table 2: GDP per capita and growth performance by development classification, 2010–2019 (%)

Development classification	GDPpc	gK	gGDP	gGDPpc
Developed	48040.1	2.1	2.2	1.4
Emerging	7551.7	5.0	4.9	3.8
Transition	12453.7	1.9	2.4	2.9
Developing	8639.0	3.0	3.0	1.7

Source: UNSD Country Profiles, 2010-2019.

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Figure 12: Comparative growth of capital output (gK), GDP (gGDP), and GDP per capita (gGDPpc), by development classification (%)



Source: UNSD Country Profiles, 2010-2019.

Further, as indicated in table 3 and figure 13, the strength of the correlation of the growth of GDP per capita (gGDPpc) and the growth of capital output (gK) ($\text{Corr}(gK, gGDPpc)$) also varied with the development classification of the economies. The correlation was highest among the transition economies at 0.903. For the developed economies and the emerging economies, the correlation was similar at 0.831 and 0.827, respectively. It was weakest for the developing economies at 0.743, most likely a consequence of the low level of industrial competitiveness documented in section 2.

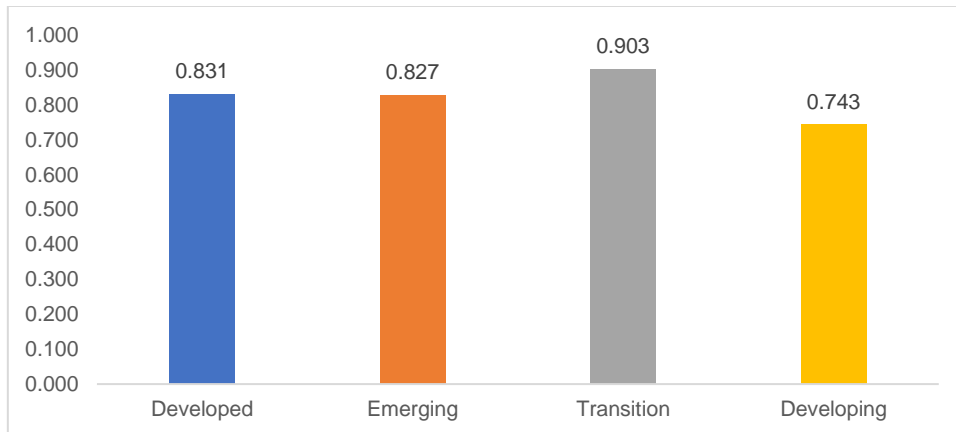
Table 3: Correlation of capital sector growth and growth of GDP per capita by development classification (%)

Development Classification	gK	gGDPpc	$\text{Corr}(gK, gGDPpc)$
Developed	2.1	1.4	0.831
Emerging	5.0	3.8	0.827
Transition	1.9	2.9	0.903
Developing	3.0	1.7	0.743

Source: UNSD Country Profiles, 2010-2019.

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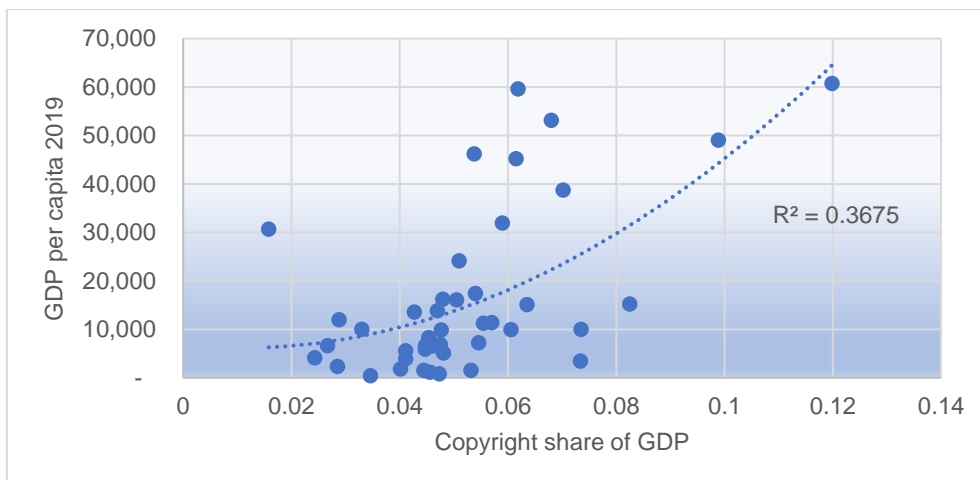
Figure 13: Correlation of rate of growth of capital production and rate of growth of GDP per capita, by development classification, 2010-2019



Source: UNSD Country Profiles, 2010-2019.

The importance of the copyright industries is further reflected in a correlation of 0.58 between the copyright share of GDP and GDP per capita. The relationship between the variables is summarized in the scatterplot of figure 14.

Figure 14: Relationship of copyright share of GDP and GDP per capita



Source: WIPO Country Studies Database, 2021 and UNSD Country Profiles, 2010-2019.

In this regard, the impact of the copyright industries on growth performance also differed according to the development status of the countries, as indicated by figure 15.

Among the developed economies, the growth driver was underpinned by highly competitive capital sectors featuring: a high average share of 7.4 percent of copyright industries in GDP; a high correlation of 0.93 between the share of the copyright industries and the share of the

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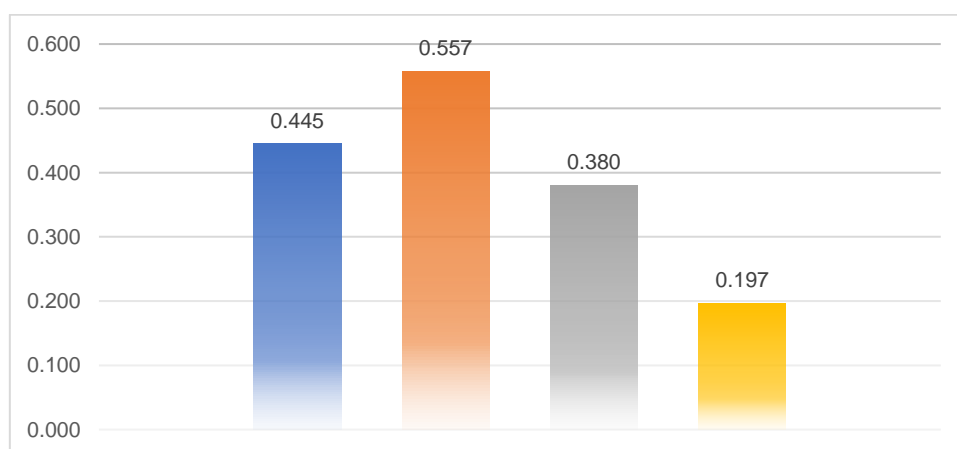
capital sector in GDP; and a corresponding substantial correlation of 0.45 between the share of the copyright industries and the rate of growth of real GDP per capita.

For the emerging economies, the growth driver was underpinned by very competitive capital sectors featuring: a modest share of 5.1 percent of the copyright industries in GDP; a modest correlation of 0.63 between the share of the copyright industries and the share of the capital sector in GDP; and a significant correlation of 0.56 between the share of the copyright industries and the rate of growth of real GDP per capita.

Among the transition economies, the growth driver was underpinned by very competitive capital sectors, featuring: a modest share of 5.0 percent of the copyright industries in GDP; a substantial correlation of 0.70 between the share of the copyright industries and the share of the capital sector in GDP; and a modest but significant correlation of 0.38 between the output of the copyright industries and rate of growth of real GDP per capita.

In the case of the developing economies, the growth driver was underpinned by weakly competitive capital sectors, featuring: a modest share of 4.6 percent of the copyright industries in GDP; an absence of a significant positive correlation between the share of the copyright industries and the share of the capital sector in GDP; and a relatively weak correlation of 0.20 between the share of the copyright industries in GDP and the rate of growth of GDP per capita. The absence of a substantial positive correlation between the share of the copyright industries and the share of capital in GDP was likely a consequence of the concentration of manufacturing capacity on production of low-technology consumer goods as compared to medium- to high-technology capital goods and the resulting underdeveloped nature of the capital industries driving growth within the class of developing economies.

Figure 15: Correlation of copyright share and growth of GDP per capita by development classification



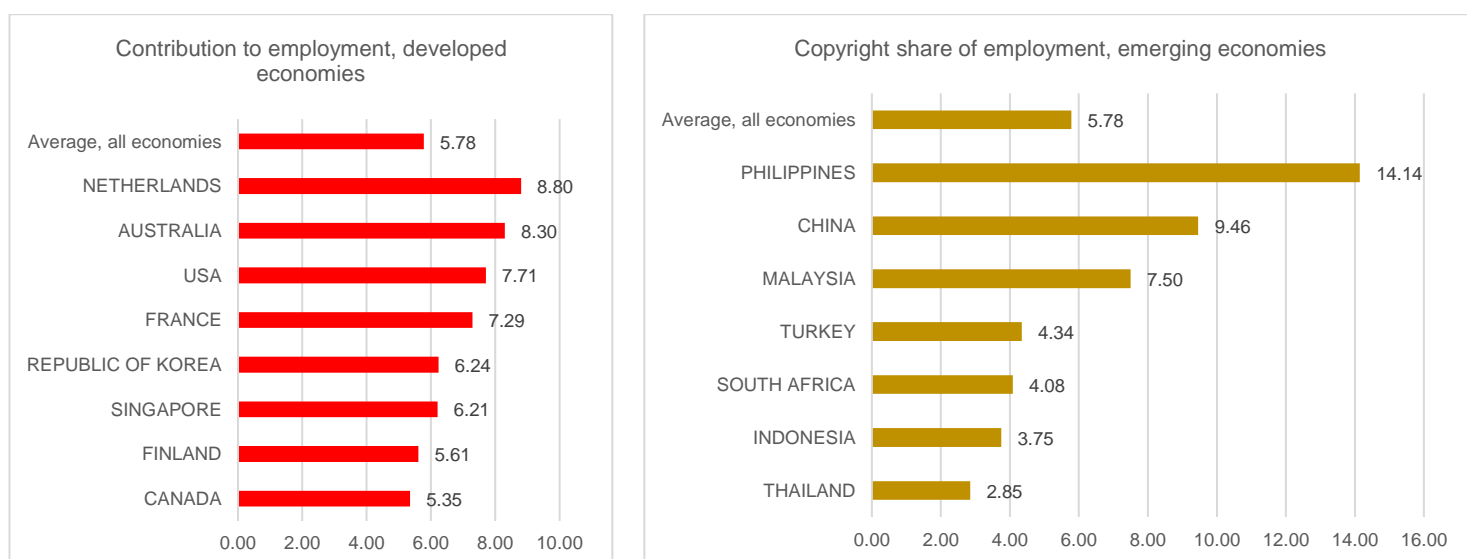
Source: WIPO Country Studies Database, 2021 and UNSD Country Profiles, 2010-2019.

Looking across all development classes, evidence suggests that an increase in the share of the copyright industries as the capital sector grows is likely to be an important contributor to the process of development of the capital sector and ultimately to successful catch-up with the developed economies.

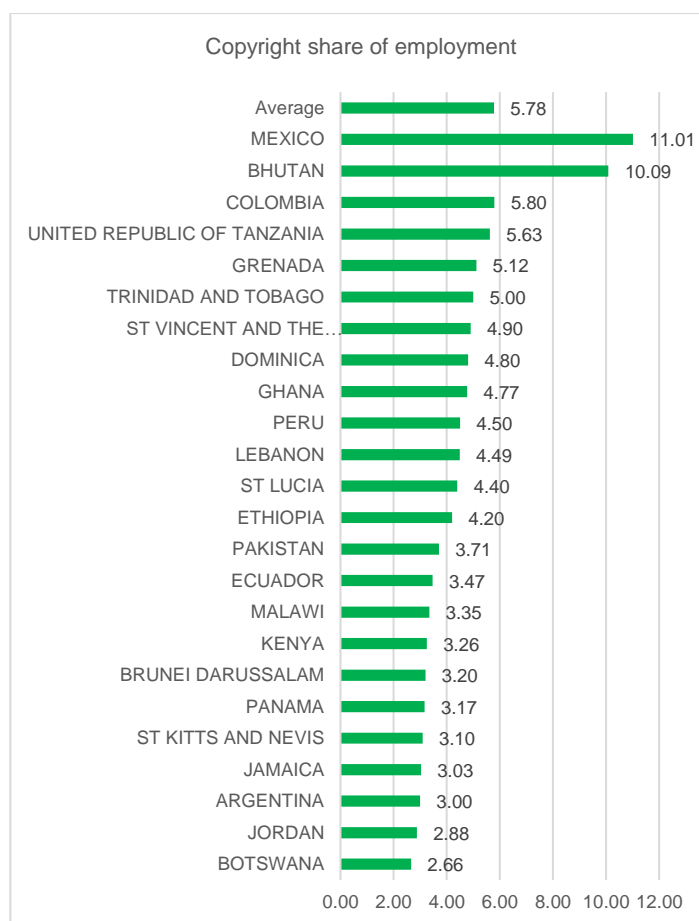
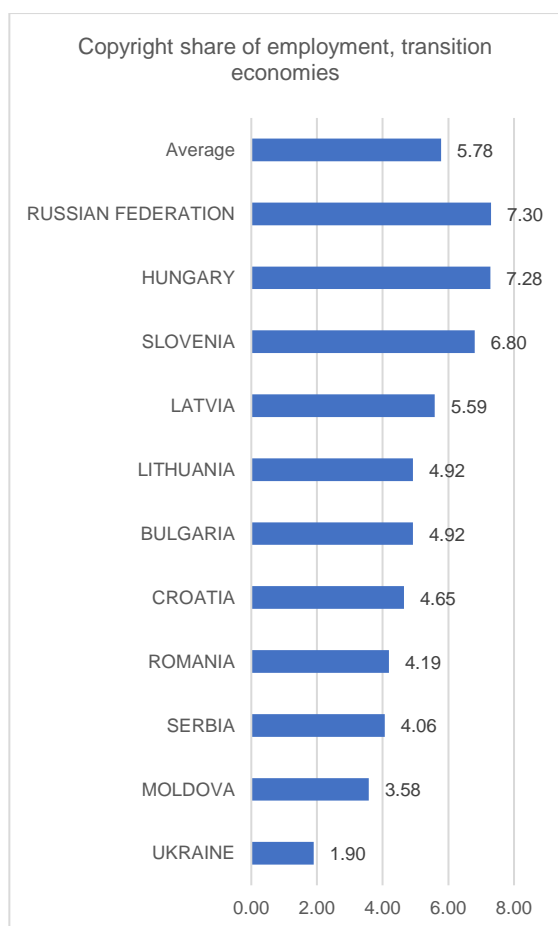
3.2. Contribution to national employment

Employment generation is an important indicator for the socioeconomic importance of the copyright sector. The contribution of copyright industries to national employment was slightly higher than the share of GDP and stood at an average of 5.78 percent. As represented in figure 16, the contributions to employment of 70 percent of the 50 reporting countries fell below the mean, and contributions also varied with development classification. Mexico, within the class of developing economies, and the Philippines, within the class of emerging economies, had by far the highest share of their labour force in the copyright industries. Most countries with above average share of the copyright industries in GDP also exhibited above average share of employment. Two countries (Finland and Canada) among the developed economies reported a share of employment below the mean share of 5.78 percent. Among the transition economies, 73 percent had a share below the mean, while among the emerging economies four of seven (57 percent) had a share above the mean. Among the developing economies, 88 percent had a share of employment below the mean of 5.78 percent.

Figure 16: Contribution of copyright industries to employment, by development classification (%)



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Source: WIPO Country Studies Database, 2021.

3.3. Labour productivity contribution

Labour productivity growth is an important indicator that a country is achieving its objectives of developing its economy and growing GDP per capita. It is straightforward that the overall productivity level of an economy depends on the sectoral composition of output (value added) and employment, and in particular on the extent to which the output and employment structure favours higher productivity sectors. In general, productivity grows as the structure of output and employment shifts in favour of high-productivity sectors. Moreover, productivity also grows as the sectors of the economy employ increasingly efficient and innovative methods and produces more innovative output, which is the characteristic of the copyright industries.

Using the data collected on the output and employment shares of the copyright industries, an informative Productivity Contribution Index was constructed that can guide how a country pursues its productivity growth objectives. The copyright share of output divided by the copyright share of employment is equivalent to the ratio of copyright sector productivity to economy-wide productivity. Thus, it provides an index of the contribution of the copyright

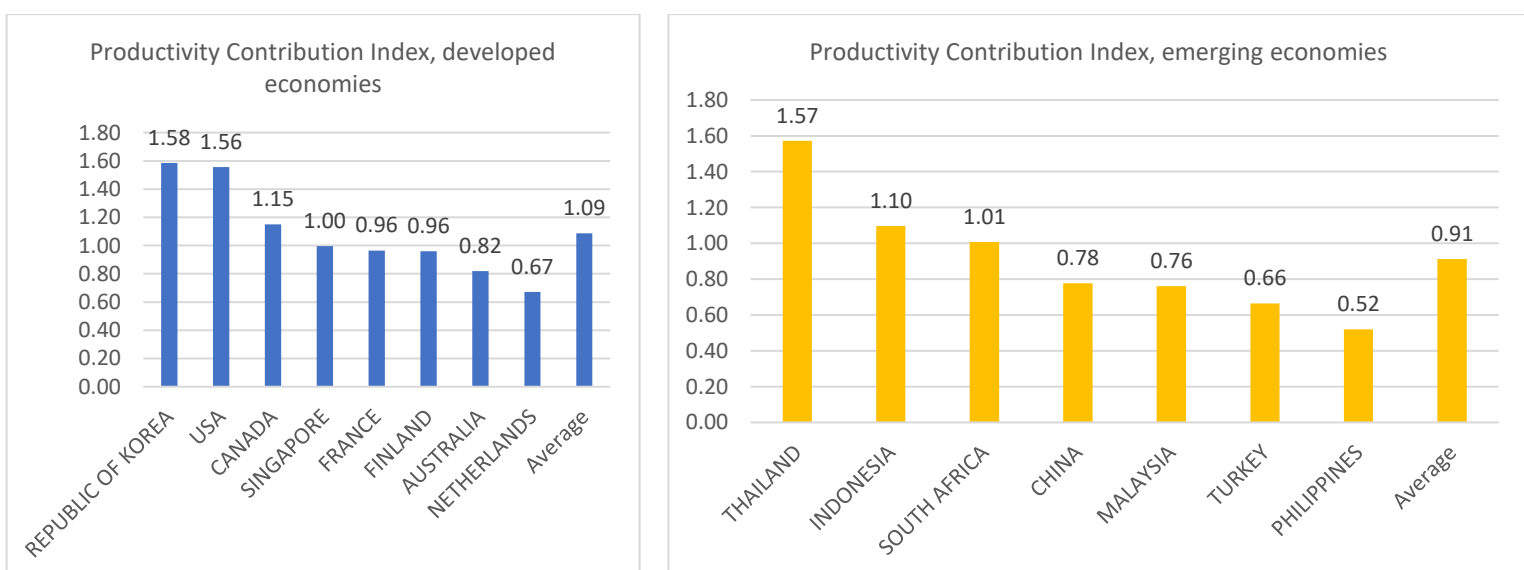
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industries to economy-wide productivity. When the index exceeds 1, productivity is higher in the copyright industries than in the economy. In that case, policies to grow the share of GDP and employment contributed by the copyright industries helps to increase the rate of productivity growth in the economy as a whole.

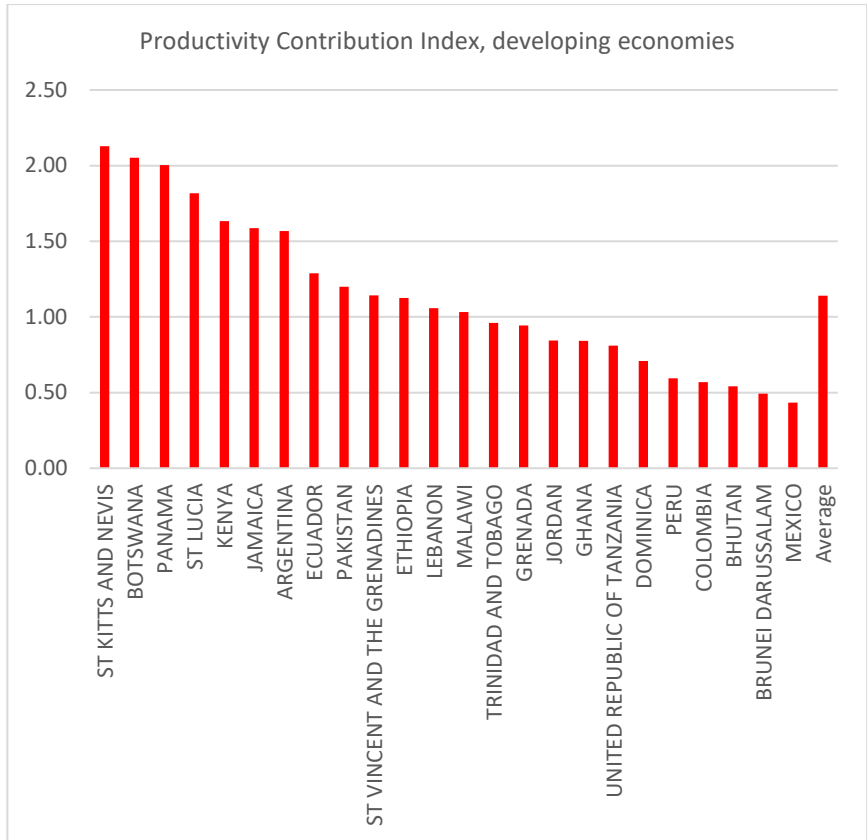
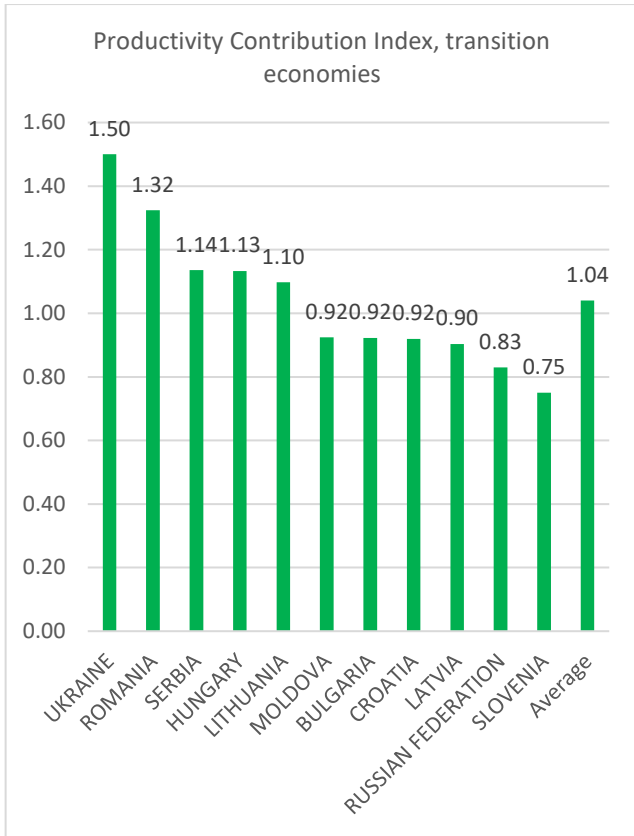
Figure 17 documents the Productivity Contribution Index of countries grouped by development class. The data show that, among the developed economies, three of eight countries had an index above 1, indicating that productivity in the copyright industries exceeded that in the economy. Three countries had indices that approximated 1, and on average, the developed economies featured an index of 1.08. In the case of the emerging economies, three of seven countries had an index above 1. As a group, the average index was 0.91, indicating that productivity in other sectors tended to exceed that in the copyright industries. For the transition economies, 5 of the 11 economies had an index above 1 and the group index was 1.04, suggesting an overall tendency for productivity in the copyright industries to be greater than in other sectors of the economy. In the case of the developing economies, 13 of the 24 reporting economies (58 percent) had an index above 1 and the overall group index was 1.14, again indicating an overall tendency for productivity in the copyright industries to be greater than in the economy as a whole (see table 3 of annex 2).

These data suggest that, in general, when pursuing their development and productivity growth objectives, countries can benefit from implementing policies to grow the share of GDP relative to the share of employment contributed by the copyright industries.

Figure 17: Contribution of copyright industries to productivity



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Source: WIPO Country Studies Database, 2021.

4. Relationships to Key Performance Indicators – Innovation, Competition, and Institutions

Technological progress and innovation play a central role in the development process of all economies and are closely related to both capital production and the development of the underlying institutions of the economy.^{ix} In particular, it is known that capital production is a key determinant of the capacity to innovate; that is, to introduce new solutions to the problems thrown up by local and global markets. This capacity to innovate underlies the capacity to compete for profits in the modern marketplace. This section provides evidence on how the copyright industries contribute to the development of the capacity to innovate and compete, including the link to underlying institutional development.

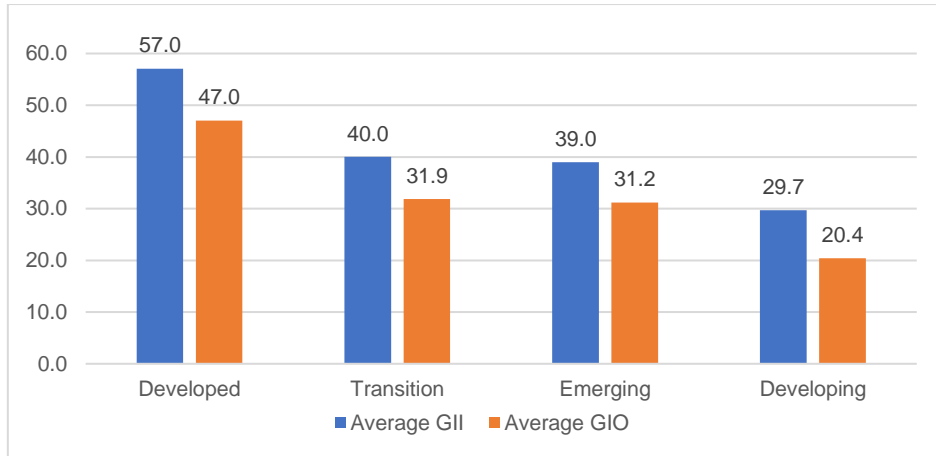
4.1. Copyright industries and the capacity to innovate

Country progress with innovation as a driver of economic growth and prosperity is now monitored annually through the Global Innovation Index (GII) published by WIPO. The GI is evolving into a valuable benchmarking tool to facilitate public-private dialogue, whereby policymakers, business leaders and other stakeholders can evaluate progress annually.^x The GI is a simple average of two subindexes: the index of Global Innovation Outputs (GIO), reporting on knowledge and technology outputs and creative outputs; and the index of Global Innovation Inputs (GIIN), reporting on institutions, human capital and research, infrastructure (including information communications technology, or ICT, and energy), and market and business sophistication.

As elements of the capital sector, the copyright industries contribute to the capacity to innovate by creating new and winning solutions to problems thrown up by the markets. Using GI data for 2019, figure 18 reports that the development classes differed substantially in the capacity to innovate. The developed economies reporting on the copyright industries achieved an average GI score of 57, compared with 40 for the transition economies, 39 for the emerging economies and 29.7 for the developing economies. On the underlying flow of innovative output as measured by the average Innovative Output Index (GIO), the developed economies achieved an average GIO score of 47.0, compared with 31.9 for the transition economies, 31.2 for the emerging economies and 20.4 for the developing economies.

Figure 18: Indicators of the capacity to innovate, by development classification

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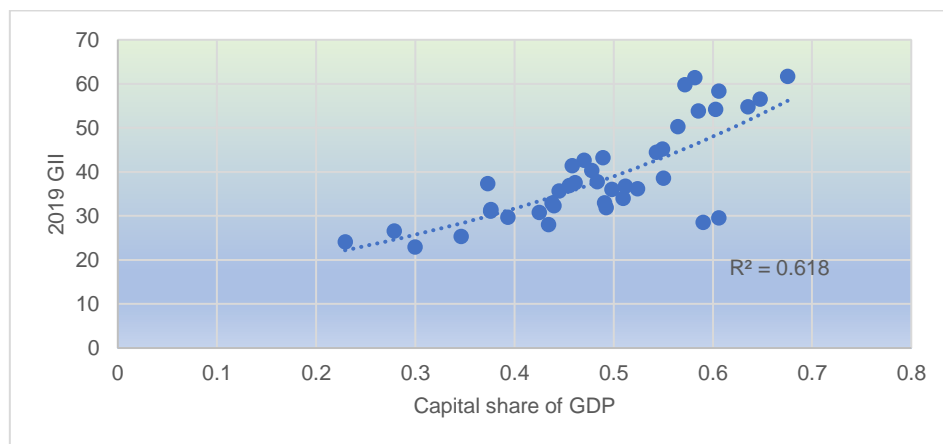


Source: Global Innovation Index, Cornell and INSEAD (2019).

Since the copyright share reported to WIPO is primarily an output share, the role of capital production in the capacity to innovate is summarized mainly by using the cross-country correlation of the capital share of GDP (KShare), the GII and the GIO, while the role of copyright-protected output is summarized using the cross-country correlations of the copyright share of GDP (CShare), the GII and the GIO.

There was an observed correlation of 0.77 between the capital share of GDP and the GII across all economies. Figure 19 reports the scatterplot of the association. It indicates that as the capital share grew, the capacity to innovate grew significantly faster. Similarly, across all economies, there was an observed substantial correlation of 0.64 between the copyright share of GDP and the GII. Figure 20 reports the corresponding scatter plot. Here, too, as the copyright share of GDP grew, innovation inputs and outputs increased relatively faster.

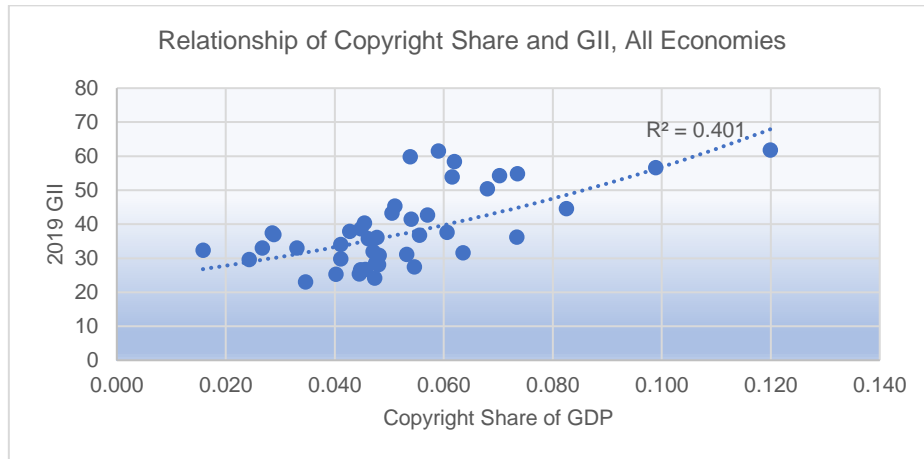
Figure 19: Relationship of capital share of GDP and GII, all economies



Source: UNSD Country Profiles, 2010-2019 and Global Innovation Index, Cornell and INSEAD (2019).

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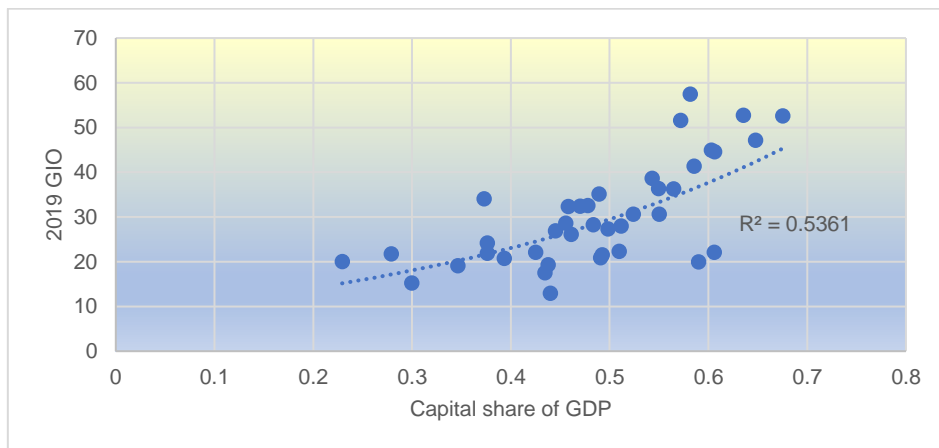
Figure 20: Association of copyright share and GII, all reporting economies



Source: WIPO Country Studies Database, 2021 and Global Innovation Index, Cornell and INSEAD (2019).

Corresponding to these patterns of association with the GII, there was an observed high correlation of 0.7 across all economies between the capital share of GDP and the GIO. Figure 21 reports the corresponding scatterplot, which indicates that as the capital share grew, the output of innovative products grew even faster. Similarly, across all economies, there was an observed significant correlation of 0.65 between the copyright share of GDP and achievement on the GIO. This pattern of association is summarized in figure 22 by the corresponding scatterplot of the variables, which indicating that the production of innovative outputs grew with the copyright share of GDP.

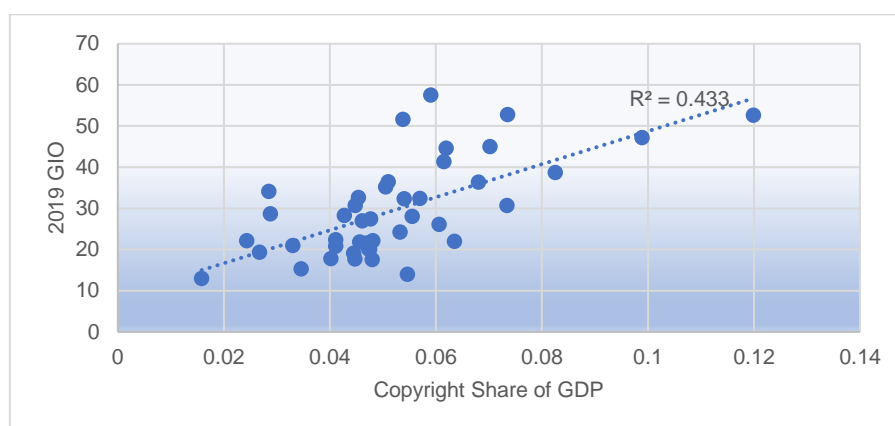
Figure 21: Association of capital share and GIO, all economies



Source: UNSD Country Profiles, 2010-2019 and Global Innovation Index, Cornell and INSEAD (2019).

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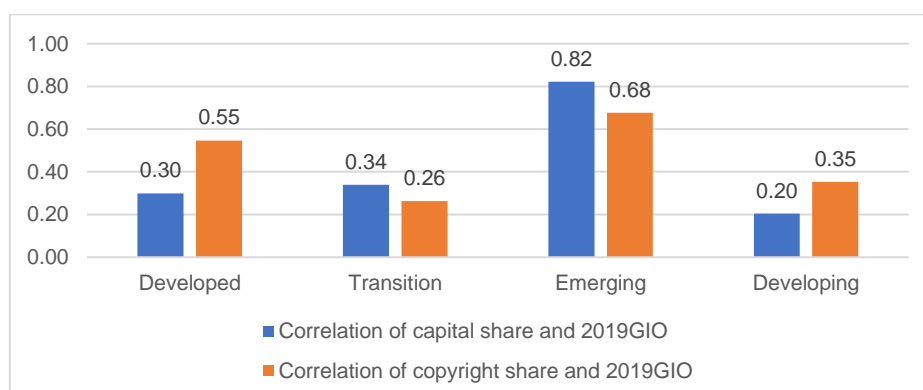
Figure 22: Association of copyright share and GIO, all economies



Source: WIPO Country Studies Database, 2021 and Global Innovation Index, Cornell and INSEAD (2019).

Figure 23 indicates that the correlation with GIO varied with the development status of the economies. With their highly competitive industrial sectors, the developed economies featured a modest cross-country correlation of 0.30 between the capital share and the GIO, and a higher correlation of 0.55 between the copyright share and the GIO. As their capital goods industries developed, the transition economies showed a higher correlation of 0.34 between the capital share and the GIO, matched by a modest correlation of 0.26 between the copyright share and the GIO. The strongest correlations were exhibited by the emerging economies with their rapidly growing and increasingly competitive industrial sectors producing and trading substantial amounts of both capital goods and copyright-based output. Across these economies, there was a high correlation of 0.82 between the capital share and the GIO, matched by a correlation of 0.68 between the copyright share and the GIO. Among the developing economies, the correlation of the capital share and the GIO was 0.20 and the correlation between the copyright share and the GIO was 0.35.

Figure 23: Comparative correlations of shares of capital and copyright industries on innovation output, by development class



Source: WIPO Country Studies Database, 2021, UNSD Country Profiles, 2010-2019, and Global Innovation Index, Cornell and INSEAD (2019).

4.2. Copyright industries and the capacity to compete

In section 2, attention has already been drawn to the strong relationship between the copyright share of GDP and the industrial competitiveness of economies. The World Economic Forum Global Competitiveness Report, as the world's most comprehensive and respected assessment of countries' competitiveness, monitors the business operating environment and implied competitiveness of over 140 economies worldwide. The Competitiveness Report identifies advantages as well as impediments to national growth, thereby offering a unique benchmarking tool to the public and private sectors as well as academia and civil society.

In its *Global Competitiveness Report*, the World Economic Forum publishes annually the Global Competitiveness Index (GCI) measuring the overall national competitiveness of economies. Data for this report comes from World Economic Forum (2019).^{xi} National competitiveness is defined as “the set of institutions, policies and factors that determine the level of productivity” (World Economic Forum, 2019^{xiii}). The GCI uses 12 competitiveness pillars: institutions; infrastructure; ICT adoption; macroeconomic stability; health; skills; product market; labour market; financial system; market size; business dynamism; and innovation capability. In addition to independently published statistical data, the GCI is based on data from an Executive Opinion Survey of more than 13,000 business leaders from the countries represented in the report. The GCI captures the effects of both enablers and impediments to national productivity growth and is consistent with the general picture that a country's competitiveness depends on the capacity of its industries to innovate, upgrade and solve problems thrown up by local and international markets.

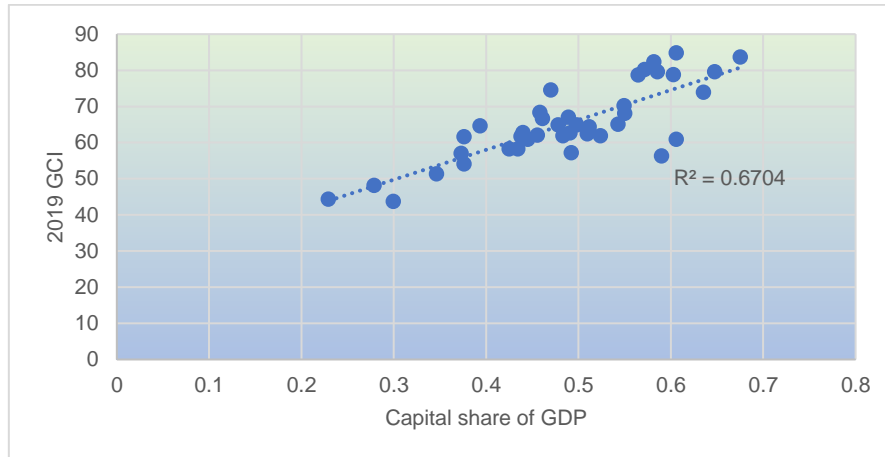
Based on GCI data for 2019, there was a high positive correlation of 0.82 between the capital share of GDP and the global competitiveness of an economy. Figure 24 reports the scatterplot of these two variables, including the best fitting line that indicates that global competitiveness grew with the share of capital in GDP. Similarly, there was a substantial positive correlation of 0.57 between the copyright share of GDP and the global competitiveness of an economy. Figure 25 reports the scatterplot of the variables and the best fitting line which demonstrates that the global competitiveness of an economy grew with its copyright share of GDP.

Given the high correlation between the capital share and the copyright share of GDP, and the reasonably good fit of the defining relationships associated with the correlations, the overall result is reinforcement of a strong and positive relationship between the contribution of copyright industries to GDP and the GCI. Given that the GCI measures the effects of institutions, policies and factors that determine the level of productivity, and hence

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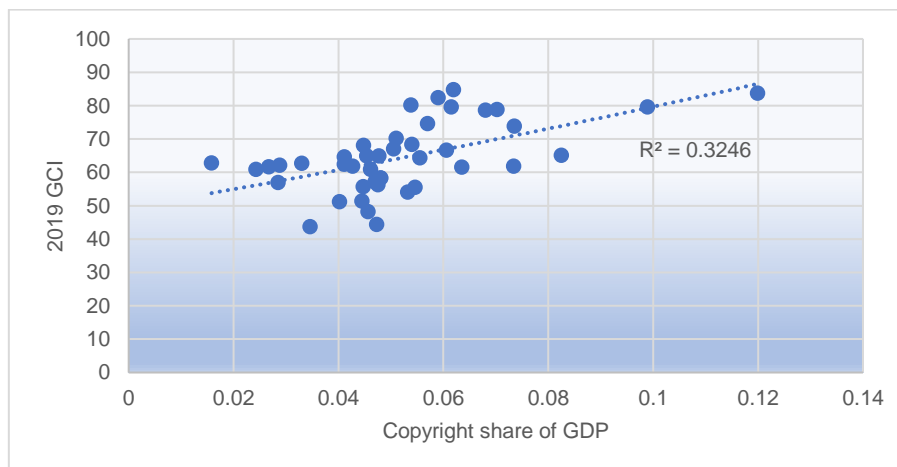
competitiveness, the correlations support the inference that policies that boost the share of the copyright industries in the economy will tend to increase its knowledge, new expressions of ideas and innovation, and hence, also increase its productivity and competitiveness in the global economy.

Figure 24: Correlation of capital share and GCI, all reporting economies



Source: UNSD Country Profiles, 2010-2019 and World Economic Forum (2019).

Figure 25: Correlation of copyright share and GCI, all economies



Source: WIPO Country Studies Database, 2021 and World Economic Forum (2019).

4.3. Copyright industries and government effectiveness

One of the World Bank's Worldwide Governance Indicators,^{xii} the index of Government Effectiveness (GEI), captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. The data used in this report are the normalized World Bank indicator reported by the

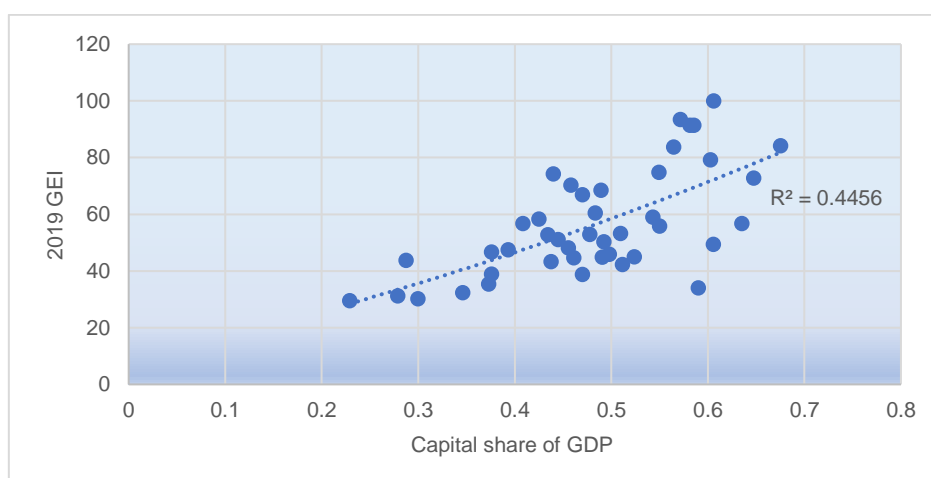
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GII, 2019, with normalization designed to generate scores between 0 and 100 and with higher scores representing greater government effectiveness.

From the data, a substantial correlation of 0.67 was identified between the capital share of GDP and the GEI, reflecting the link between the general development status of the economy and the effectiveness of government. The associated scatterplot reported in figure 26 indicates a general tendency for an increase in the capital share to be associated with a relatively faster increase in government effectiveness. The data also yielded a significant correlation of 0.44 between the copyright share of GDP and the GEI. The scatterplot of these variables and the best-fitting line implied by the simple correlation are reported in figure 27.

The strong correlations across countries between copyright share and the capital share of GDP support the conclusion that the effectiveness of government is reflected in the contribution of the copyright industries to GDP. Countries that take steps to upgrade the effectiveness of government will also tend to experience an improvement in the copyright contribution to capital production and GDP, and hence, an improvement in their productivity, national competitiveness, and general development.

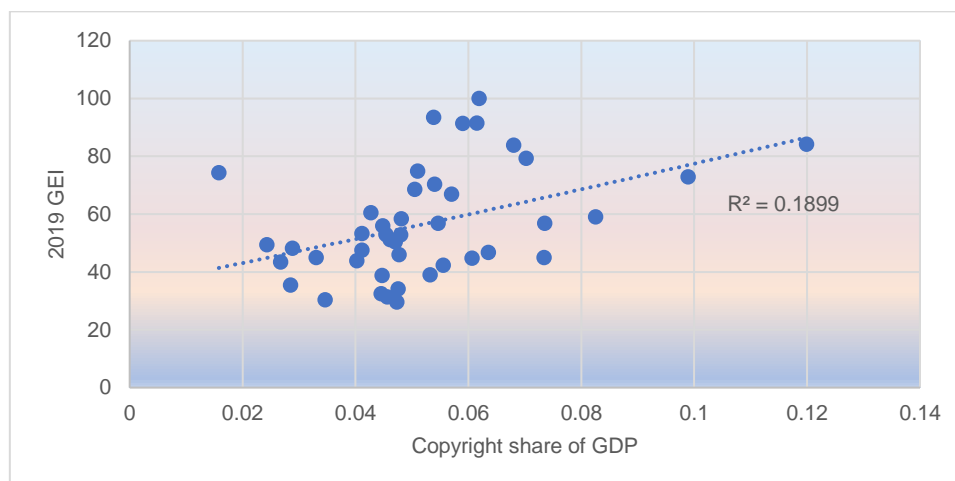
Figure 26: Correlation of capital share and the 2019 GEI, all economies



Source: UNSD Country Profiles, 2010-2019, and Global Innovation Index, Cornell and INSEAD (2019).

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Figure 27: Correlation of copyright share and government effectiveness, all economies



Source: WIPO Country Studies Database, 2021 and Global Innovation Index, Cornell and INSEAD (2019).

4.4. Freedom from corruption

Corruption erodes economic freedom by introducing insecurity and uncertainty into economic relationships. The score for this component is derived from Transparency International's Corruption Perceptions Index (CPI), which measures annually the level of corruption in 180 countries.^{xiii} The Index is based on a 10-point scale in which a score of 10 indicates very little corruption and a score of 0 indicates existence of widespread corruption. The score is then normalized to yield a value in the (0,100) range, with 0 indicating widespread corruption and 100 indicating little corruption.

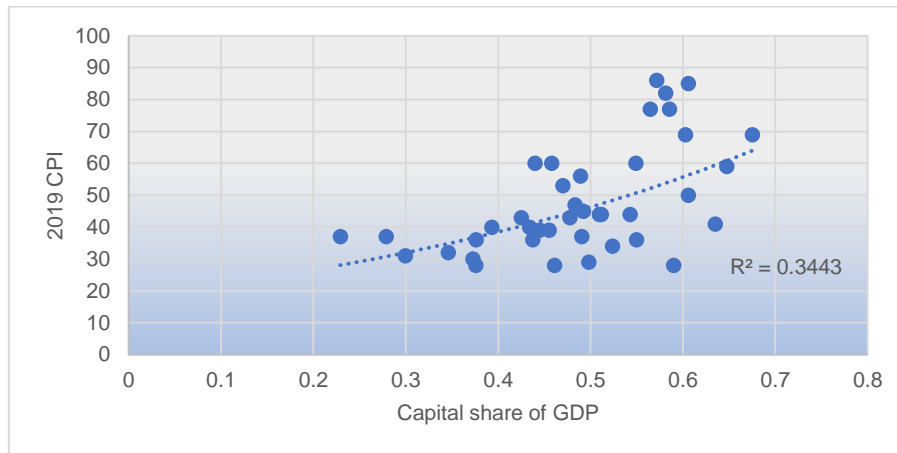
The CPI data for 2019 reveals a substantial correlation of 0.54 across economies between the capital share of GDP and the perception of freedom from corruption in a country. Figure 28 reports the scatterplot of these variables and indicates that as the capital share improved, the perception of freedom from corruption improved relatively faster. Associated with this was a correlation of 0.36 across economies between the share of the copyright industries in GDP and the perception of freedom from corruption. Figure 29 reports the associated scatterplot with the best-fitting line implied by the correlation, providing a visual representation of how the perception of freedom from corruption improved with the share of the copyright industries in GDP.

These correlations indicate that, underpinned by a significant contribution from the copyright industries, there is a strong and positive relationship between the development status of an economy and the extent to which it is perceived as corrupt. Further, investment to grow the

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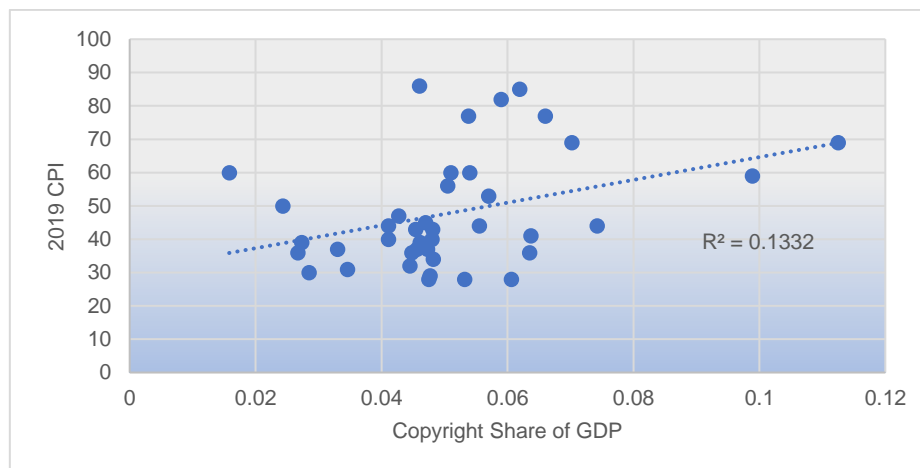
contribution of the copyright industries and improve the development status of a country will also be buttressed by efforts to increase freedom from corruption, which is closely associated with greater institutional transparency and predictability that are important for investment in creative industries and the general development process they help to drive.

Figure 28: Association of capital share and corruption perception, all economies



Source: UNSD Country Profiles, 2010-2019 and Transparency International (2019).

Figure 29: Association of copyright share and corruption perception, all economies



Source: WIPO Country Studies Database, 2021 and Transparency International (2019).

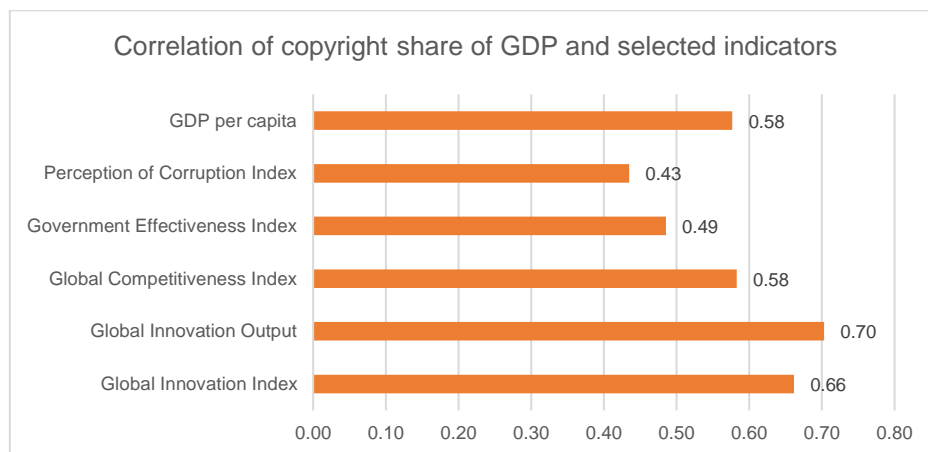
4.5. Summary of key reported correlations with copyright share of GDP and employment

The reported correlations of the copyright share of GDP and the selected performance indicators of the economy are summarized in figure 30. Figure 31 documents correspondingly strong though generally lower correlations between the contribution of the copyright industries

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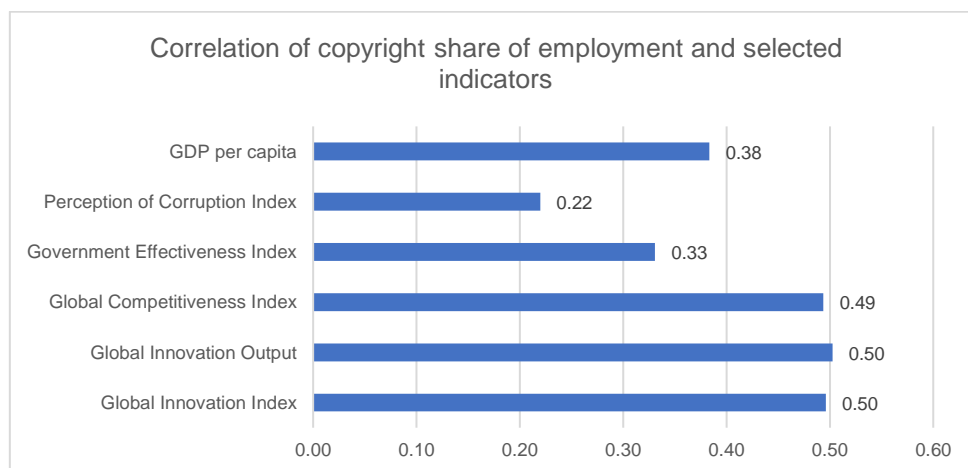
to employment and the identified performance indicators. Taken together, all the reported correlations indicate that, underpinned by a significant contribution from the capital industries, there was a strong and positive relationship between the copyright shares of an economy and the extent to which it can innovate and compete, as well as with the extent to which its institutions are perceived to be effective and free from corruption. Countries can significantly boost their capacity to achieve their development goals by investing in ways that increase the share of the copyright industries in GDP and the creation of good jobs.

Figure 30: Correlation of copyright share of GDP and selected indicators



Source: UNSD Country Profiles, 2010-2019; Transparency International (2019); Global Innovation Index, Cornell and INSEAD (2019); World Economic Forum (2019) and WIPO Country Studies Database, 2021.

Figure 31: Correlation with copyright share of employment and selected indicators



Source: UNSD Country Profiles, 2010-2019; Transparency International (2019); Global Innovation Index, Cornell and INSEAD (2019); World Economic Forum (2019) and WIPO Country Studies Database, 2021

5. Breakdown of the Contribution by Group and Industry

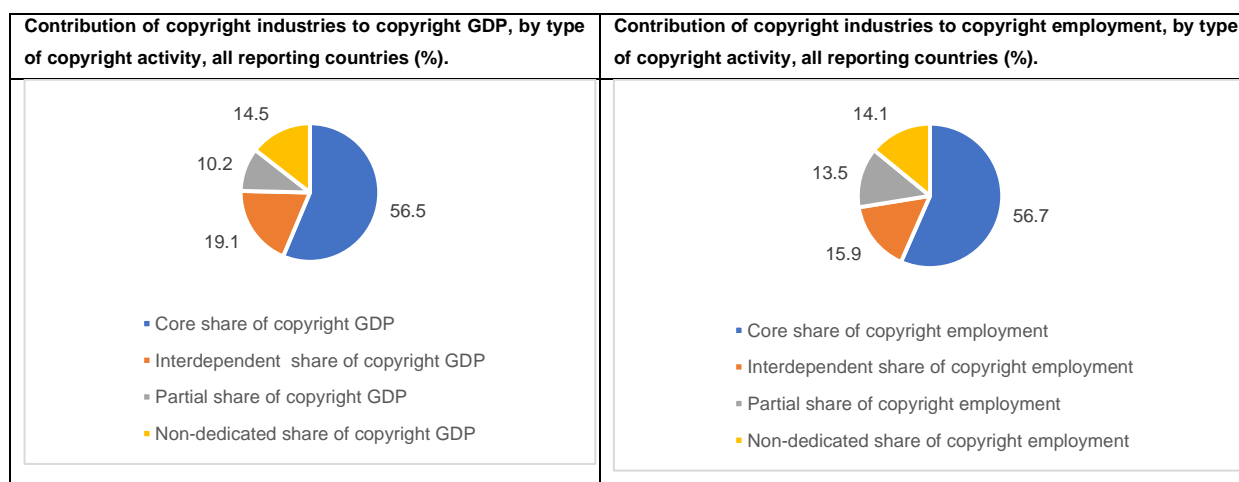
The WIPO methodology distinguishes between four different groups of copyright industries in function of the level of dependence on copyright material: core, interdependent, partial, and non-dedicated support industries. This report clarifies which industrial sectors generate the copyright contribution identified in each group, and thus, will align the contribution of the copyright industries with country capacity to produce medium- to high-technology capital products and therefore to the source of its capacity to innovate and compete, as documented in previous sections.

This section will review in detail the industrial foundations of the contribution of the core copyright industries. The foundations of the remaining three groups of industries representing the non-core copyright industries are reviewed in the next section.

5.1. The contribution of the copyright industries to GDP and employment

Figure 32 shows that, across all economies, more than half of the total contribution of the copyright industries to GDP (56.5 percent) and employment (56.7 percent) came from the core copyright industries, whose main products are copyright-based capital assets. Thus, the core copyright industries were the main producers of copyright-based capital assets across all reporting countries. Figure 33 reports the share contributed by the core industries to GDP, by country. Figure 34 reports the share contributed by the Core industries to employment.

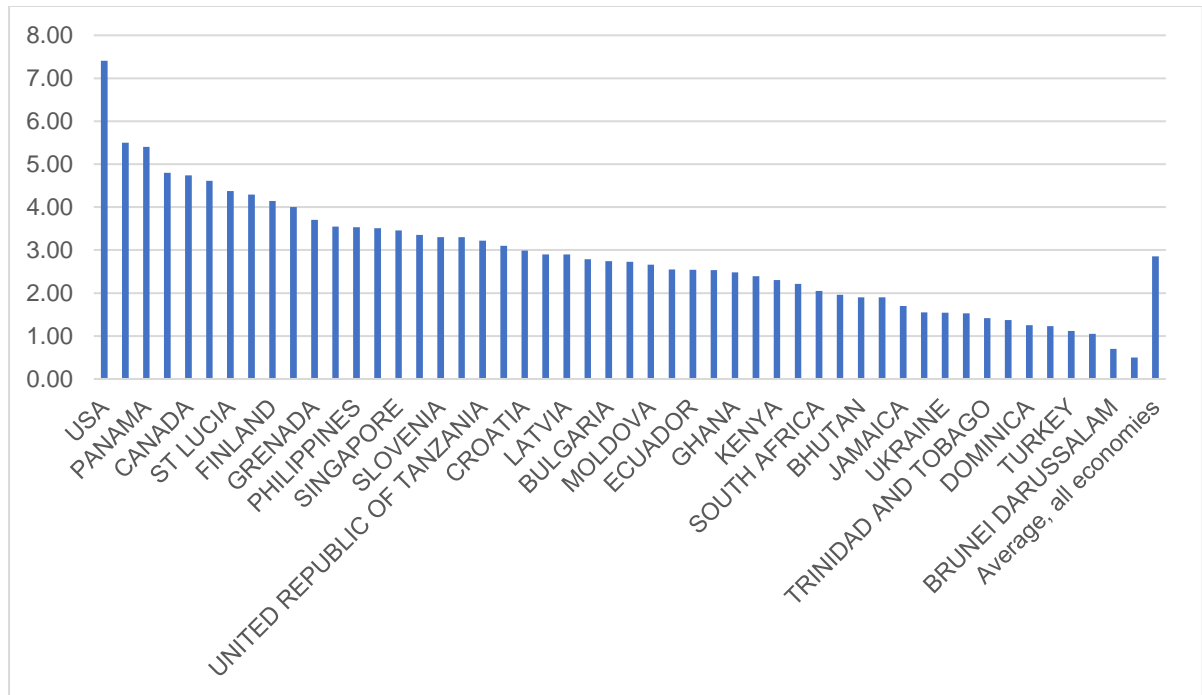
Figure 32: Contribution of copyright industries to copyright GDP and employment, by type of copyright activity (%)



Source: WIPO Country Studies Database, 2021.

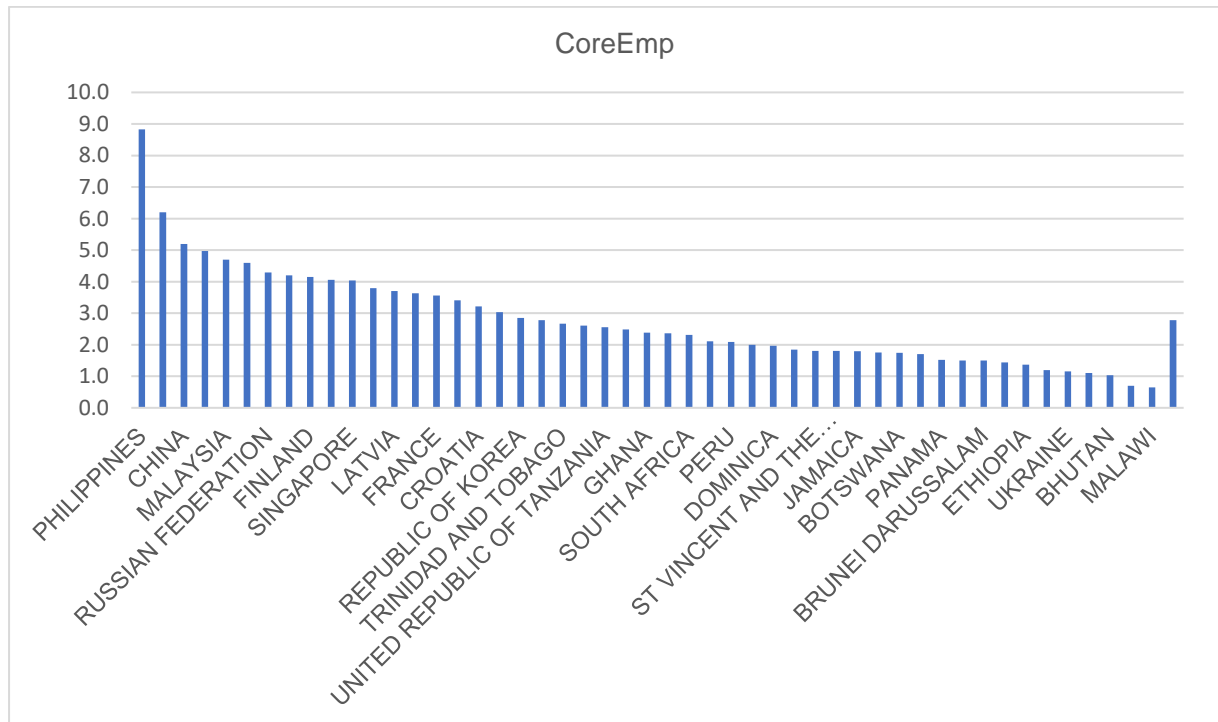
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Figure 33: Contribution of core copyright industries to GDP, all reporting countries



Source: WIPO Country Studies Database, 2021.

Figure 34: Contribution of core copyright industries to employment, all reporting countries (%)



Source: WIPO Country Studies Database, 2021.

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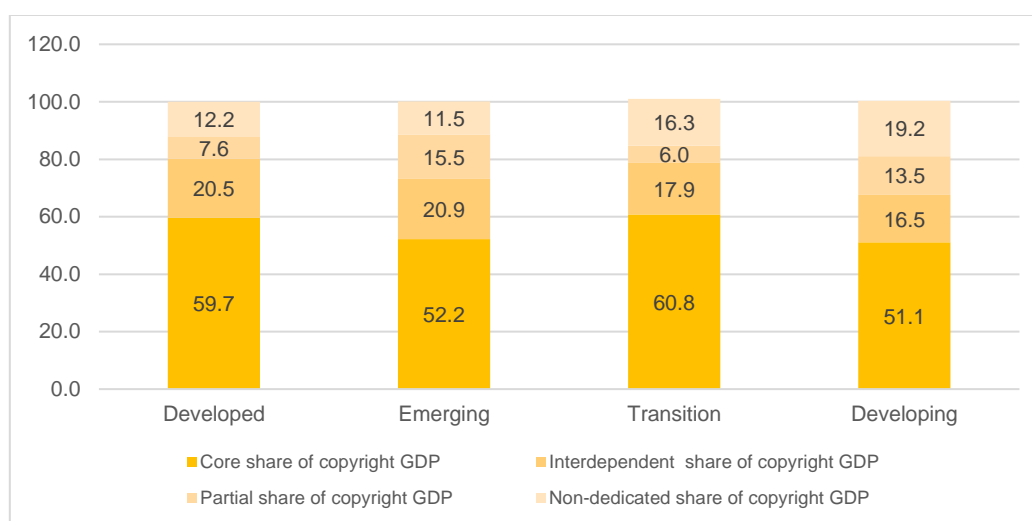
However, as reported in figure 35 and figure 36, the share contributed by the core industries varied with the development status of countries. Among the developed economies, 59.7 percent of the copyright output and 59.8 percent of the jobs came from the core, compared with 52.2 percent and 57.9 percent for emerging economies, 60.8 percent and 64.9 percent for transition economies and 51.1 percent and 41.3 percent for developing economies. The ordering found for the interdependent copyright industries is somewhat expected, since they produce the medium- to high-technology capital equipment needed to use intangible copyrighted output. In the case of developed economies, 20.5 percent of the copyrighted output and 16.0 percent of the jobs came from interdependent activity, compared with 20.5 percent and 15.8 percent for emerging economies, 17.9 percent and 14.9 percent for transition economies, and 16.5 percent and 17.1 percent for developing economies. Developed economies generated 7.6 percent of their copyrighted output and 9.3 percent of their copyright-based jobs through the partial copyright industries, which incorporate copyrighted output as important joint integrated elements of a wide range of main products. This compares with 15.5 percent of output and 16.9 percent of jobs in the emerging economies; 6.5 percent of output and 8.1 percent of jobs in the transition economies; and 13.5 percent of output and 21.1 percent of jobs in the developing economies.

With their high concentration on low-technology products, the developing economies stood out as having 19.2 percent of their copyright-based output and 21.5 percent of their jobs coming from the supporting non-dedicated distribution activities. By comparison, the transition economies generated 16.3 percent of output and 13.8 percent of jobs, the developed economies 12.2 percent of output and 14.2 percent of jobs, and the emerging economies 11.5 percent of output and 9.0 percent of jobs.

The general principle that arises from these comparisons is that in the pursuit of the development goals of economies, there are development benefits to be gained from efforts to shift production of copyrighted output, and related employment, towards the core industries where most of the creativity and innovation occurs.

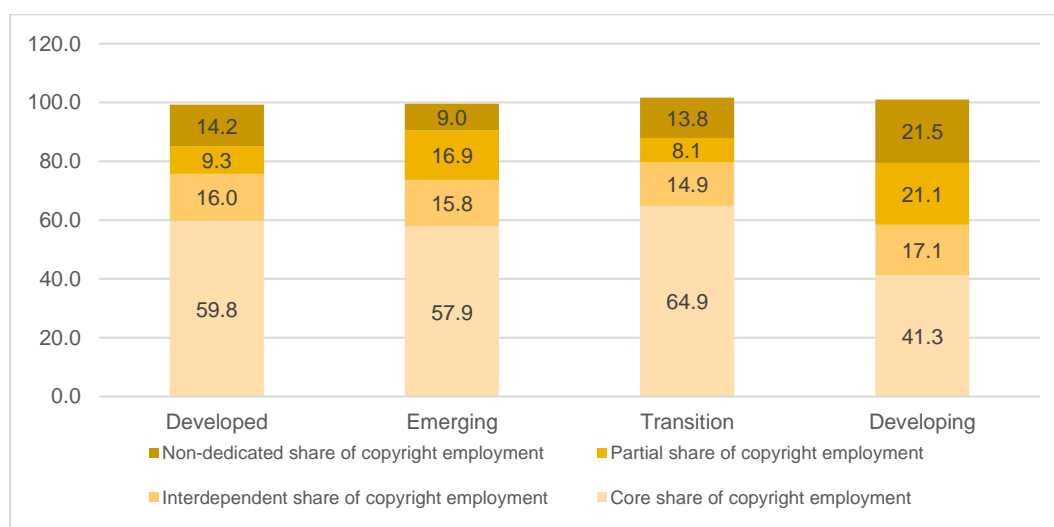
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Figure 35: Contribution of copyright industries to copyright GDP, by development status and type of copyright activity (%)



Source: WIPO Country Studies Database, 2021.

Figure 36: Contribution of copyright industries to copyright employment, by development status and type of copyright activity (%)



Source: WIPO Country Studies Database, 2021.

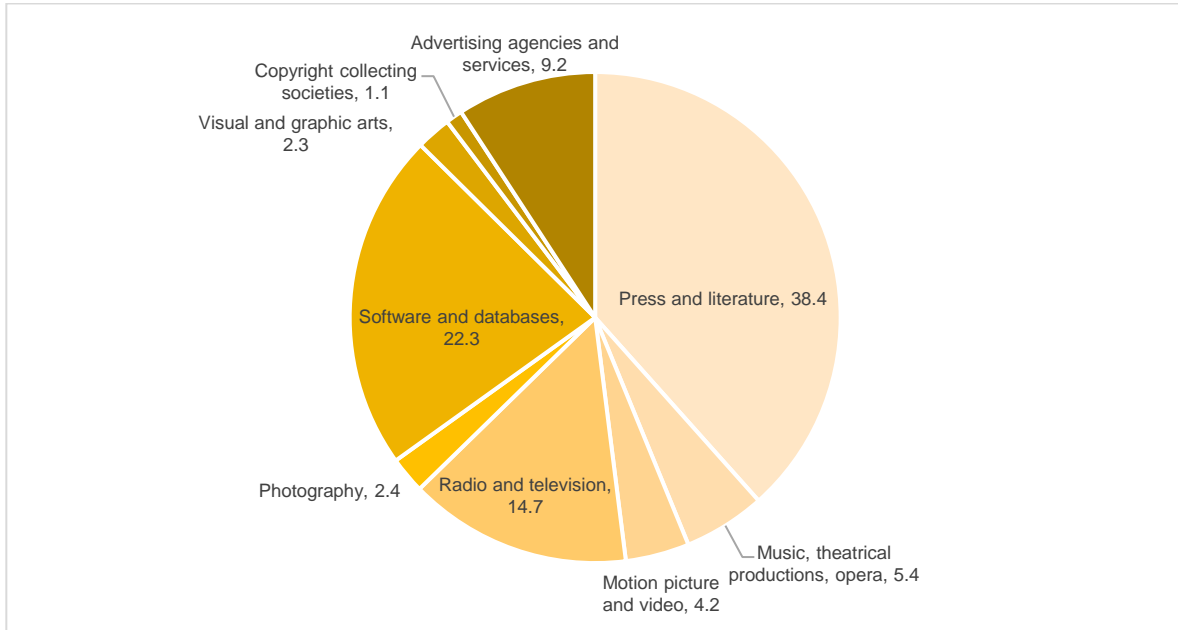
5.2. Industries contributing to core copyright output

Figure 37 reports the industries producing core copyright output using data from countries reporting up to 2014. With 38.4 percent, press and literature was by far the biggest single industrial contributor to core output. The other key contributing industries in order of importance were software and databases (22 percent), radio and television (15 percent), advertising agencies and services (9 percent), music and theater (6 percent), and motion picture and video (4 percent). Figure 38 reports the industries contributing to core copyright

THE ECONOMIC CONTRIBUTION OF THE COPYRIGHT INDUSTRIES

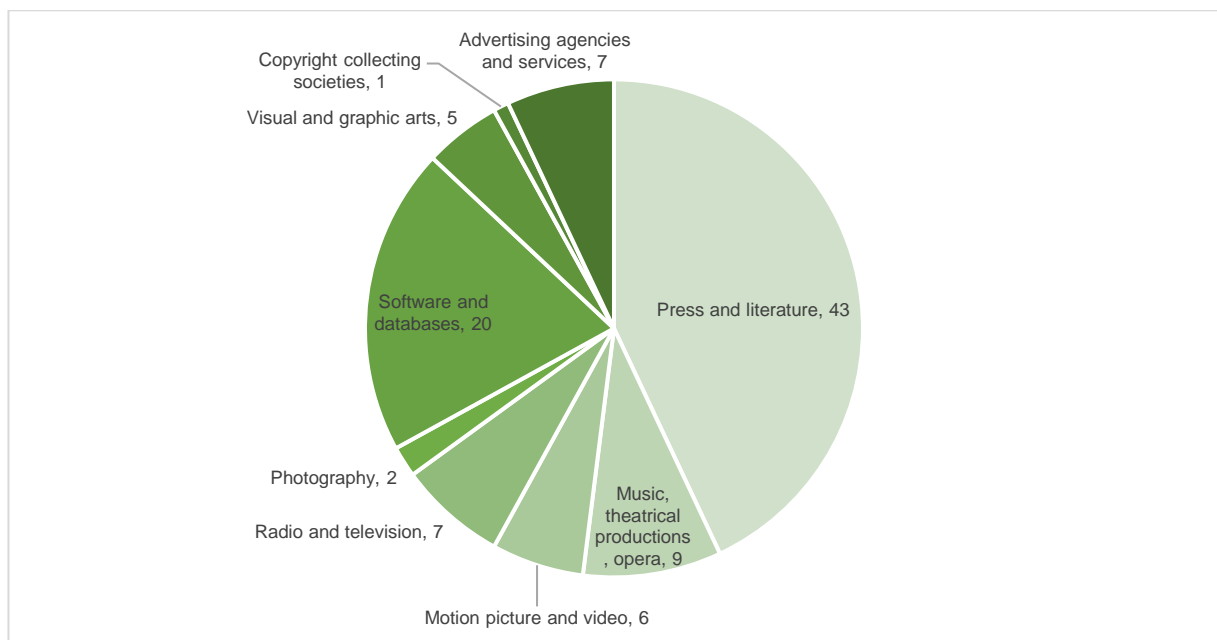
employment. In this case, press and literature contributed 43 percent of the jobs. This was followed in order of importance by software and databases (20 percent), music and theater (9 percent), radio and television (7 percent), advertising agencies and services (7 percent), and motion picture and video (6 percent).

Figure 37: Contribution to core copyright output, by industry (%)



Source: WIPO Country Studies Database, 2015.

Figure 38: Contribution to core copyright employment, by industry (%)

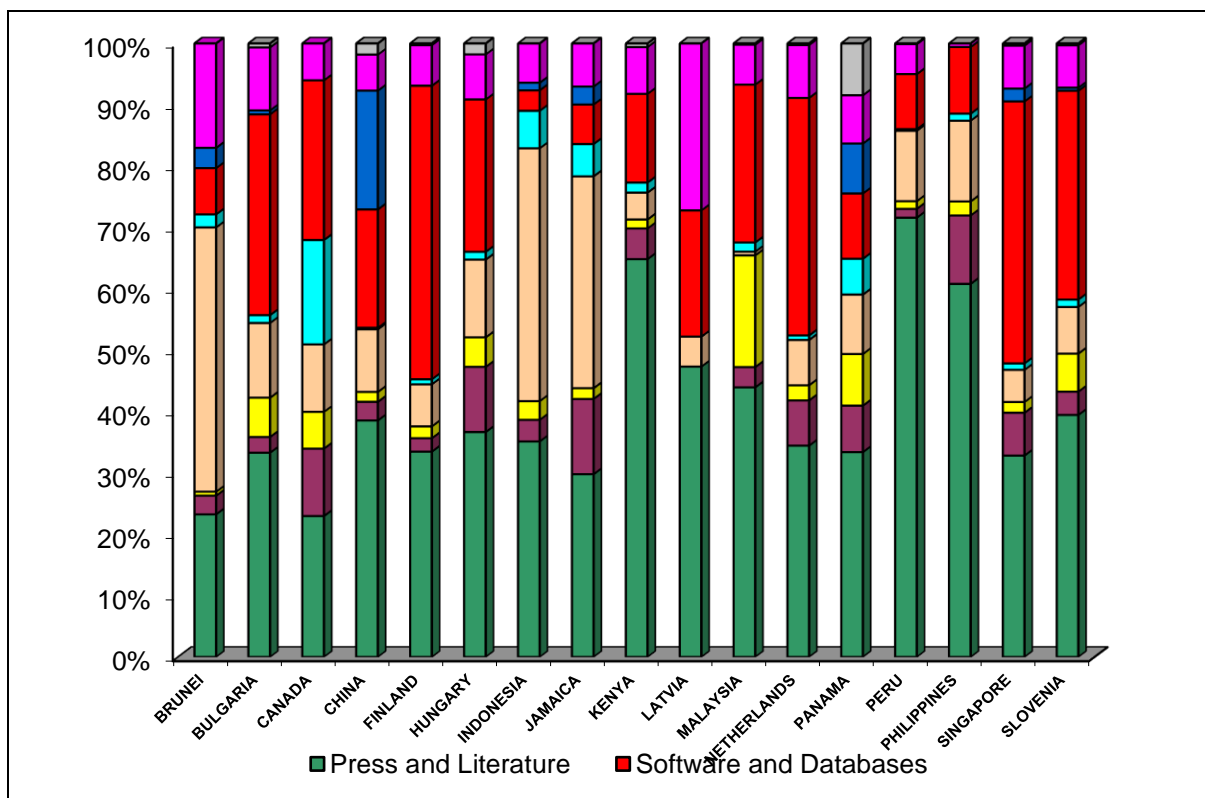


Source: WIPO Country Studies Database, 2015.

5.3. Diversity of industrial foundations of the core copyright industries

Overall, the evidence suggests that the modern medium- to high-technology capital sectors that the economy succeeds in developing were important among the core industries that rely directly on copyright and related rights protection. Thus, there was corresponding diversity in the industrial foundations of core copyright output among countries according to their development status, as evident in figure 39. The evidence from a selected subset of reporting countries suggests the contribution of the high-technology industry of software and databases was very high in developed economies; some 48 percent in Finland, 43 percent in Singapore, 39 percent in the Netherlands, and 26 percent in Canada. The contribution of software and databases was generally lower in the transition economies; 33 percent in Bulgaria, 34 percent in Slovenia, and 25 percent in Hungary. The high-performing emerging economies followed, such as the People’s Republic of China at 19 percent. The contribution of software and databases was much lower among the developing economies, such as Kenya with 14.4 percent, Panama with 10.5 percent and Jamaica with 6.4 percent. Correspondingly, medium- to low-technology industries, such as press and literature, tended to be comparatively less important among developed economies and more important among developing, emerging and transition economies, such as Kenya, Philippines and Latvia.

Figure 39: Contribution to core copyright output, by industry of selected countries (%)

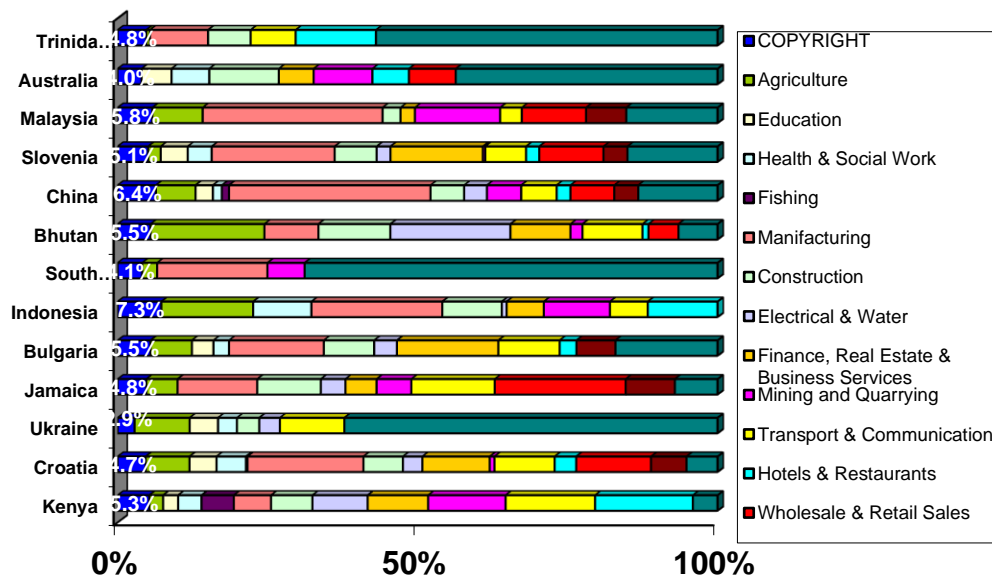


Source: WIPO Country Studies Database, 2015.

5.4. Comparison between the contributions of the copyright industries with other key industries in selected countries

Figure 40 suggests that the copyright industries can be relatively more important contributors to output than many other sectors. In the data collection period, in many countries it contributed a larger share of output than traditionally important economic sectors such as agriculture, and hotels and restaurants. In other cases, its contribution was fully comparable with key capital sectors such as education and construction.

Figure 40: Comparison of contribution of copyright industries and other economic sectors, selected countries

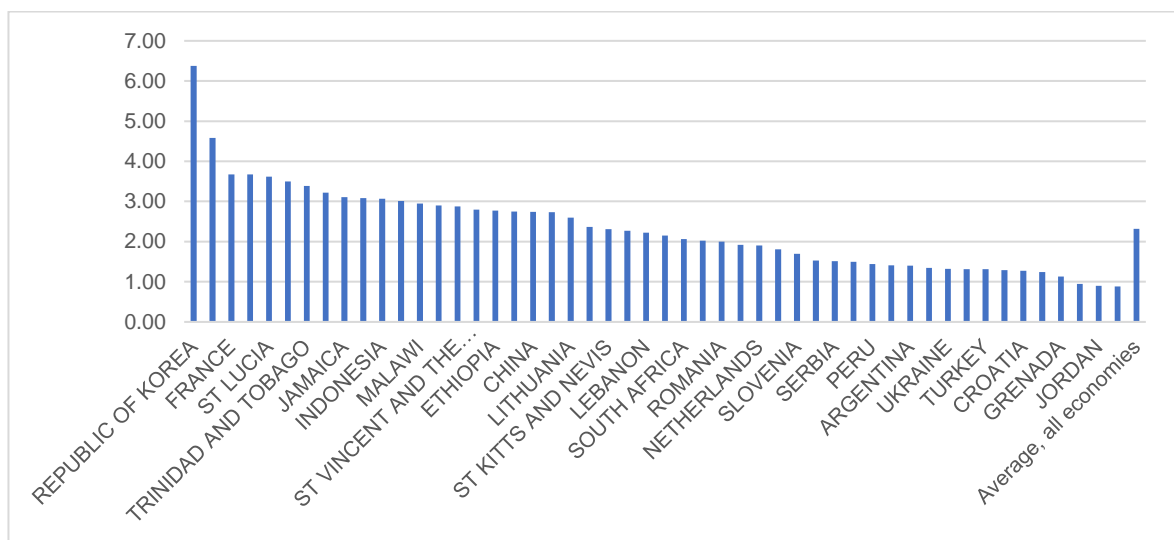


Source: WIPO Country Studies Database, 2015.

6. Contribution of the Non-Core Copyright Industries

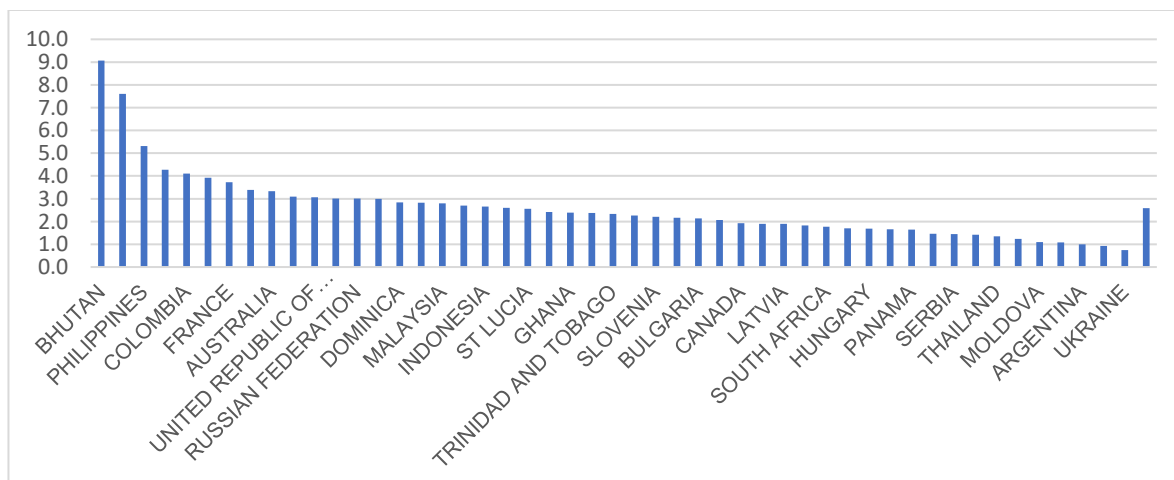
The non-core copyright industries comprise three sets of industries: interdependent industries; partial industries and non-dedicated support industries. The reported data suggest a high degree of variability among countries on the overall contribution of the non-core copyright industries to GDP and employment. Figure 41 reports the contribution of the non-core copyright industries to GDP. Figure 42 reports the contribution of non-core industries to employment.

Figure 41: Contribution of the non-core copyright industries to GDP, all reporting countries (%)



Source: WIPO Country Studies Database, 2021.

Figure 42: Contribution of non-core copyright industries to employment, all reporting countries (%)

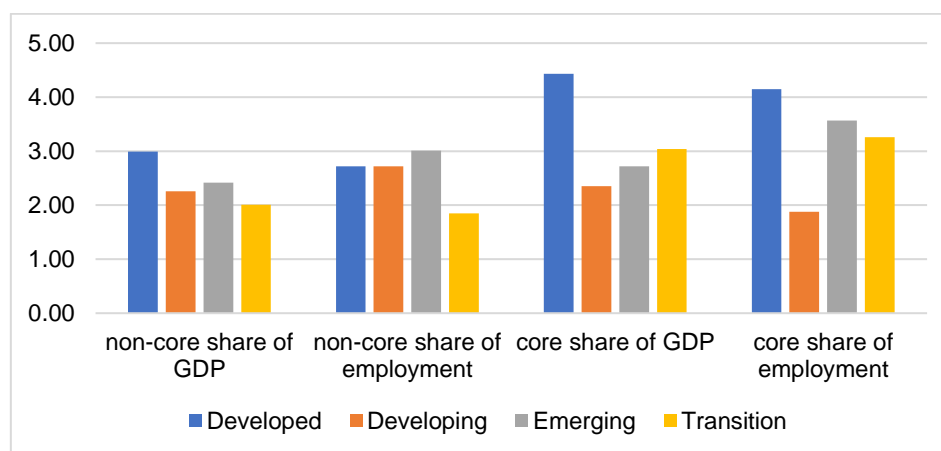


Source: WIPO Country Studies Database, 2021.

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Figure 43 indicates a substantive differentiation in contribution among countries according to development status, which also differed from the pattern evident for the core industries. The non-core industries made the highest contribution to GDP in developed economies, but this was followed by the transition economies, the developing economies and the emerging economies in that order. The non-core industries also made the highest contribution to employment in developed economies, but in this case was followed by the developing economies, the transition economies and the emerging economies, in that order. By comparison, the core industries made the highest contribution to GDP in developed economies, but this was followed by the transition economies, the developing economies, and the emerging economies, in that order. The core industries also made the highest contribution to employment in the developed economies, followed by the emerging economies, the transition economies, and the developing economies, in that order. In general, the developed economies represent an empirical performance standard that suggests all other classes of economies should seek to increase the share of some elements of the non-core copyright industries in both GDP and employment.

Figure 43: Comparative contributions of the non-core and core industries to GDP and employment, all reporting economies (%)



Source: WIPO Country Studies Database, 2021.

6.1. Contribution of interdependent industries

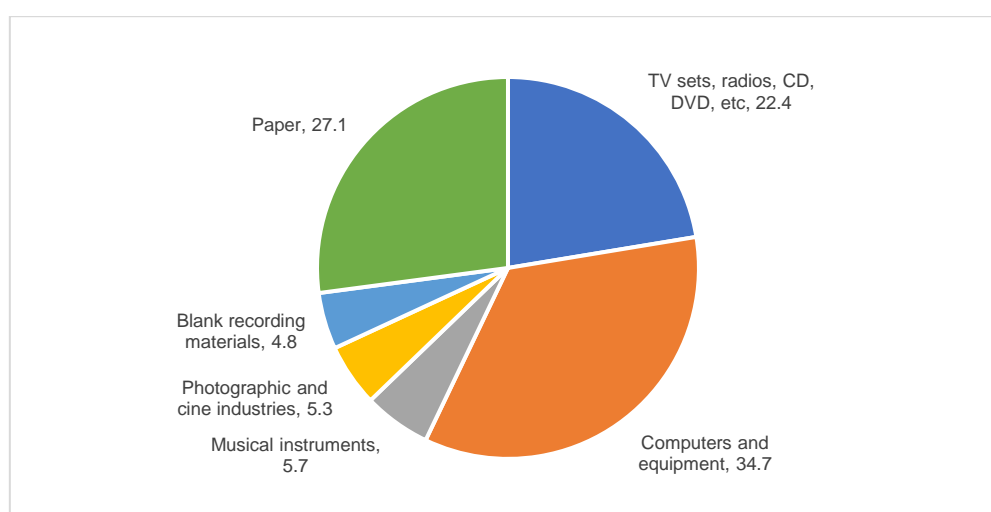
The interdependent copyright industries are an important element of the copyright-based industries, second only to the core industries in their contributions to output and employment.

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6.1.1. Contribution of interdependent industries to GDP

Figure 44 reveals the general structure of the interdependent copyright industries, showing the industries that produced the capital equipment used to produce and consume copyrighted output. The leading contributor was computers and equipment, high-technology capital products that accounted for 35 percent of the output of the interdependent industries. This was followed by paper production at 27 percent, and television sets, radios, CDs and related equipment at 22 percent. Musical equipment accounted for 6 percent of all the output of the interdependent industries.

Figure 44: Contribution to output of the interdependent copyright industries, all economies (%)



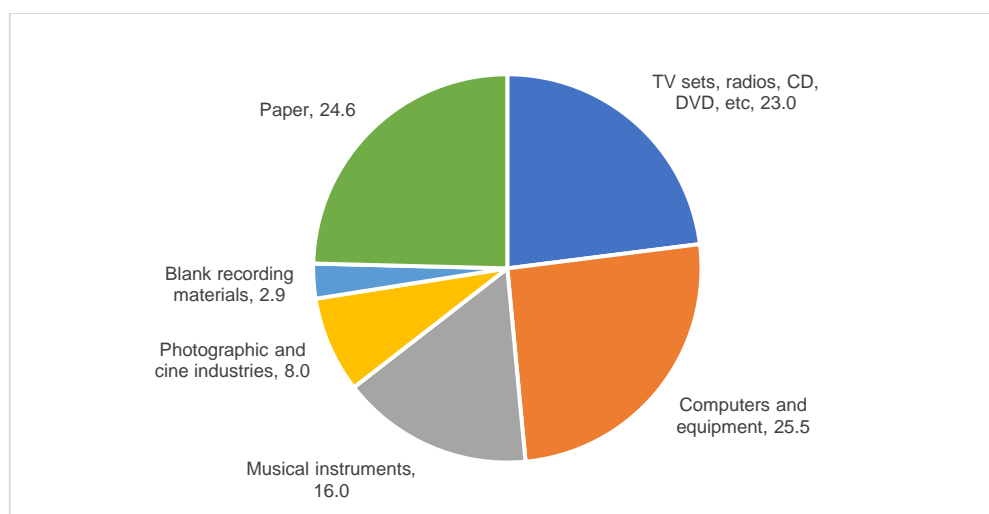
Source: WIPO Country Studies Database, 2015.

6.1.2. Contribution of interdependent industries to employment

Figure 45 reports the average contribution of the composite industries to employment among the interdependent industries. Computers and equipment contributed the highest share, 25 percent, which is substantially lower than the 35 percent industry share of output and suggests that it is a relatively capital-intensive industry. Paper also contributed 25 percent of interdependent employment, while television sets, radios, CDs and related equipment contributed 23 percent, both approximately on par with the contributions to output. It is striking that musical instruments contributed 16 percent of employment, compared with only 6 percent of output, suggesting that this is a very labour-intensive industrial activity on which countries rely heavily to create jobs in the copyright industries.

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Figure 45: Contribution to employment among interdependent copyright industries (%)



Source: WIPO Country Studies Database, 2015.

6.2. Contribution of the partial copyright industries

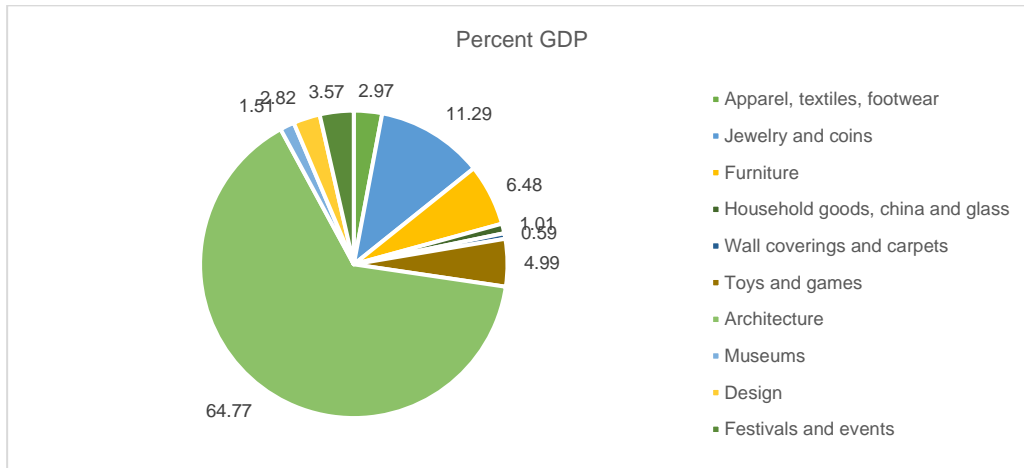
The partial copyright industries are a set of industries that produce copyright-protected output as a joint product integrated into other industrial output. The generally applicable observation provided by the evidence collected is that many of the contributing partial copyright industries provide an important basis on which an economy can upgrade its industrial structure and grow its capacity to innovate, and thus, its industrial competitiveness.

6.2.1. Contribution of the partial copyright industries to GDP

Figure 46 reports the contributions of the composite industrial activities to the partial copyright industries. Architecture was by far the most important of the contributing industries, accounting for 65 percent of total output. This was followed by jewellery and coins, which accounted for 11 percent, and then by furniture and toys and games, which accounted for 6 percent and 5 percent of total output, respectively.

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Figure 46: Contribution of industries to output of the partial copyright industries (%)

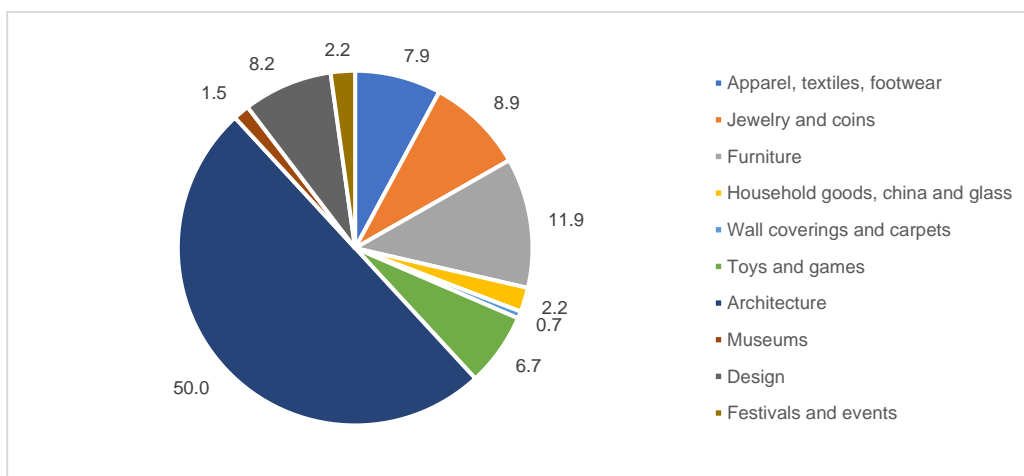


Source: WIPO Country Studies Database, 2015.

6.2.2. Contribution of the partial copyright industries to employment

Figure 47 reports the contributions to employment of the composite elements of the partial copyright industries. Architecture contributed 50 percent of the total jobs, compared with 65 percent of total output, indicating it was both a high-skilled and high-technology capital-intensive activity. The next most important contributor to job creation was furniture production, which accounted for 12 percent of all jobs, compared with 6 percent of output, an indication the industry is highly labour- and skill-intensive. Jewellery and coins contributed 9 percent of jobs, followed by apparel, textiles and footwear at 8 percent. The latter industry is known to be highly labour-intensive, as indicated by its contribution of only 3 percent of partial copyright output.

Figure 47: Contribution of industries to employment by the partial copyright industries (%)



Source: WIPO Country Studies Database, 2015.

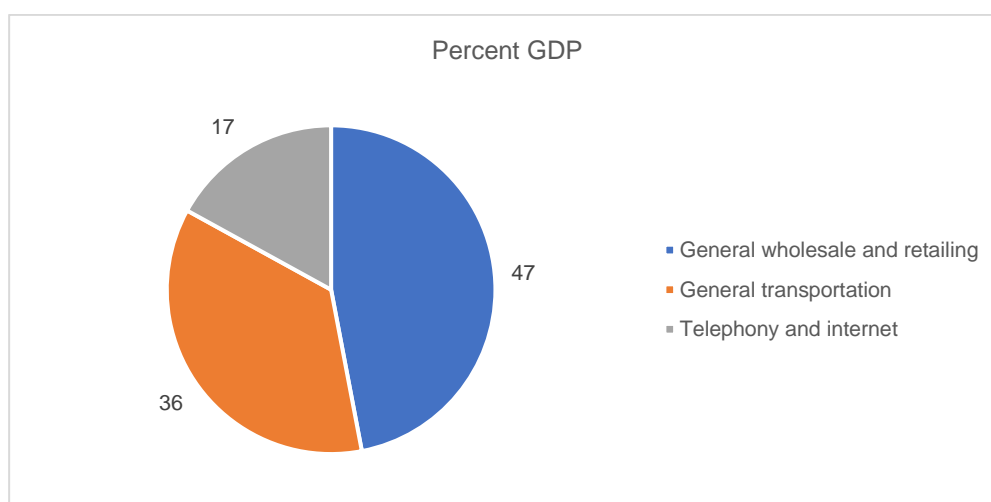
6.3. Contribution of non-dedicated copyright industries

Non-dedicated industries provide support to the other elements of the copyright sector through their distributive activities of wholesaling and retailing, transportation and information sharing and communication. They are important means by which the copyright-protected industries generate and spread secondary impacts and spillover effects throughout the economy.

6.3.1. Contribution of non-dedicated industries to GDP

Figure 48 reports the contributions of the elements of the sector to total non-dedicated copyright activity. As could be expected, general wholesaling and retailing accounted for most, 47 percent, of the output of the non-dedicated copyright industries, followed by general transportation, 36 percent, and telephony and the Internet, 17 percent.

Figure 48: Contributions to the output of the non-dedicated support industries, all economies (%)



Source: WIPO Country Studies Database, 2015.

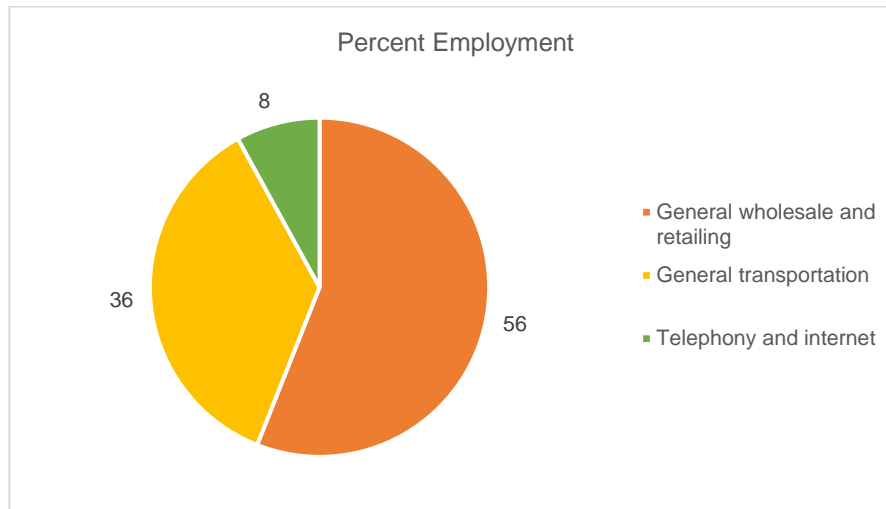
6.3.2. Contribution of non-dedicated industries to employment

Figure 49 reports the contributions to the total employment of the non-dedicated copyright industries. General wholesaling and retailing accounted for 56 percent of total sector employment, compared with 47 percent of output, an indication of the labour-intensity of the activity. Next in importance, general transportation accounted for 36 percent of sector employment, the same as the share contributed to output. Finally, telephony and the Internet contributed 8 percent of the jobs, compared with 17 percent of output, reinforcing that this is

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a highly skill- and capital-intensive technology element of the non-dedicated copyright industries. Given recent trends towards increasing use of the Internet in the distributive activities of the modern globalized economy, it is reasonable to expect these shares to increase over time.

Figure 49: Contributions to the employment generated by the non-dedicated support industries, all economies



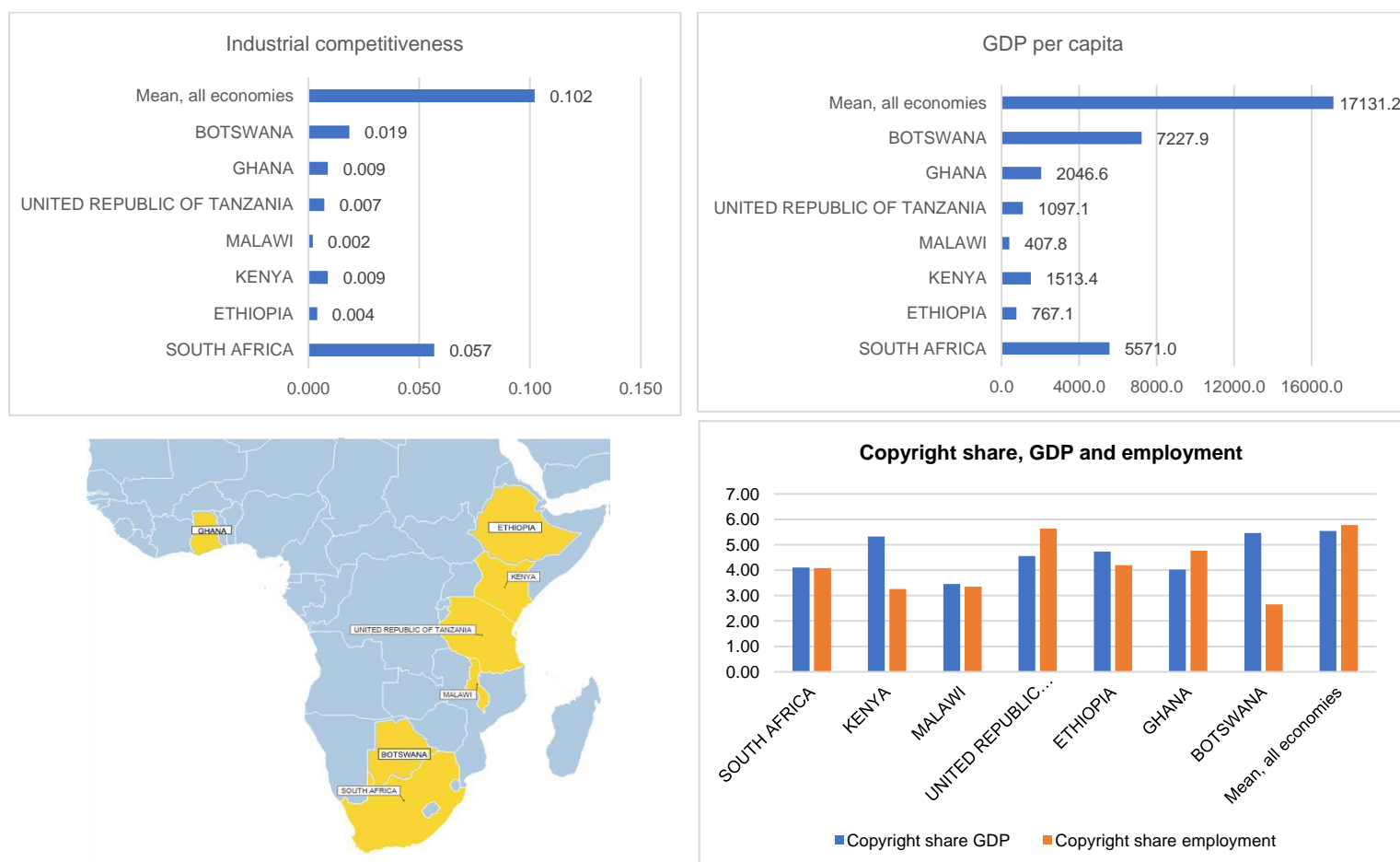
Source: WIPO Country Studies Database, 2015.

7. Regional overview

7.1. Africa

Among the seven reporting economies in Africa (Figure 50), six fall in the class of developing economies, while South Africa is classified as an emerging economy. Every reporting African economy had an index of industrial competitiveness below the global mean, suggesting a concentration of industrial production in low-technology consumer products. Correspondingly, every African economy had GDP per capita below the global mean. The general tendency was for the African economies to have relatively low copyright shares of GDP and employment. These data suggest that a substantial underutilized opportunity exists to use the potential of the copyright industries to meet the challenge of shifting industrial production to medium- to high-technology capital inputs and the challenge of catching up with the output performance of the developed economies.

Figure 50: Industrial competitiveness, GDP per capita, and the copyright share of GDP and employment, Africa.

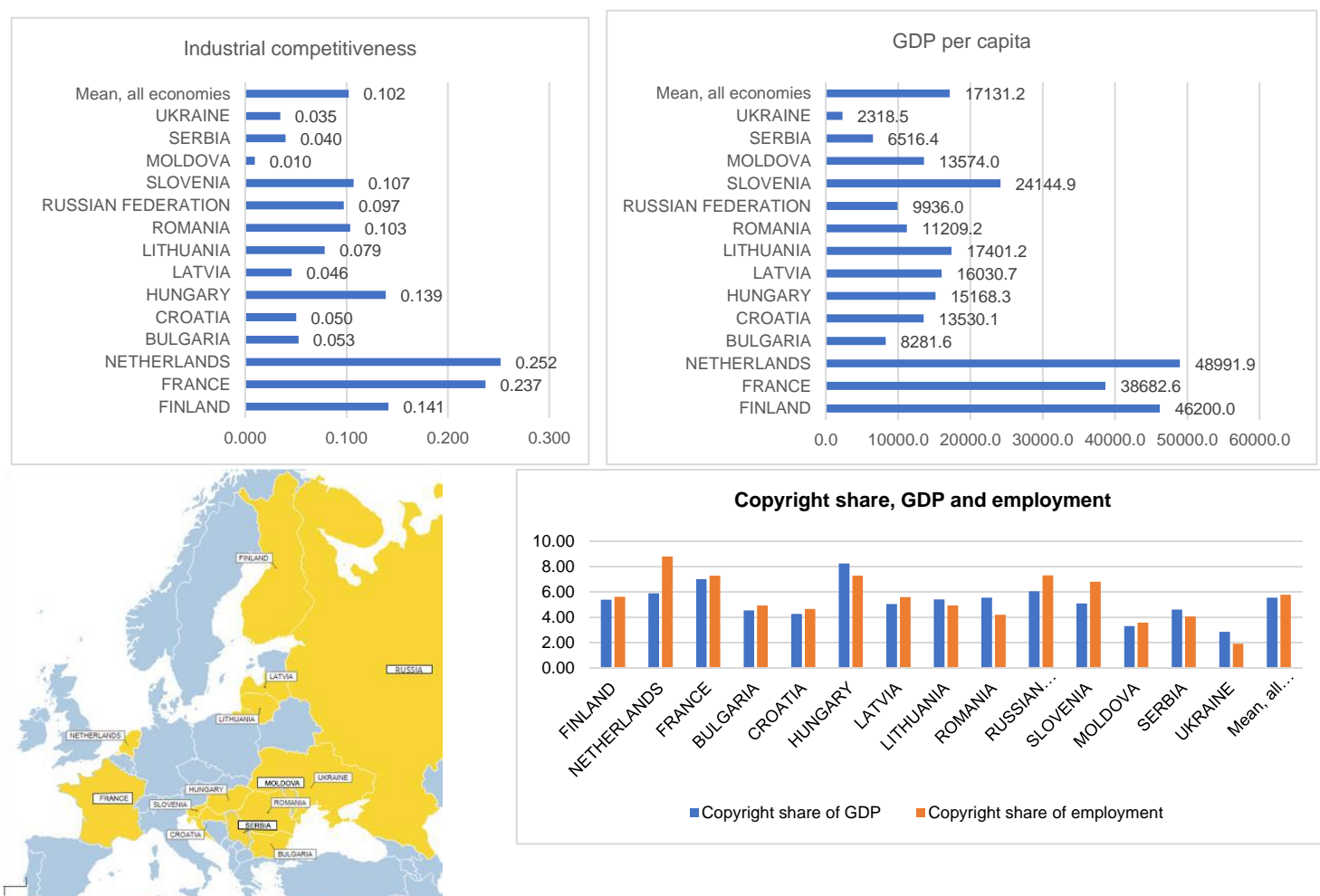


Source: UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018; WIPO Country Studies Database, 2021.

7.2. Europe

In Europe, all reporting economies fall in the Developed or Transition classes (Figure 51). Of these, 5 have indexes of industrial competitiveness above the global mean, indicating significant capacity to manufacture medium-to high-technology capital goods. Of the 13 economies, 5 had GDP per capita above the global average. In that context, while the leading economies had above average shares of copyright industries in GDP and employment, a significant number (8 of 13) had lower copyright shares than the global average. These data indicate that, in Europe, a significant challenge still exists in many economies to exploit the potential of the copyright industries to support the shift of industrial production to medium-to high-technology capital inputs and catch up with the general output performance of the Developed economies.

Figure 51: Industrial competitiveness, GDP per capita, and the copyright share of GDP and employment, Europe.

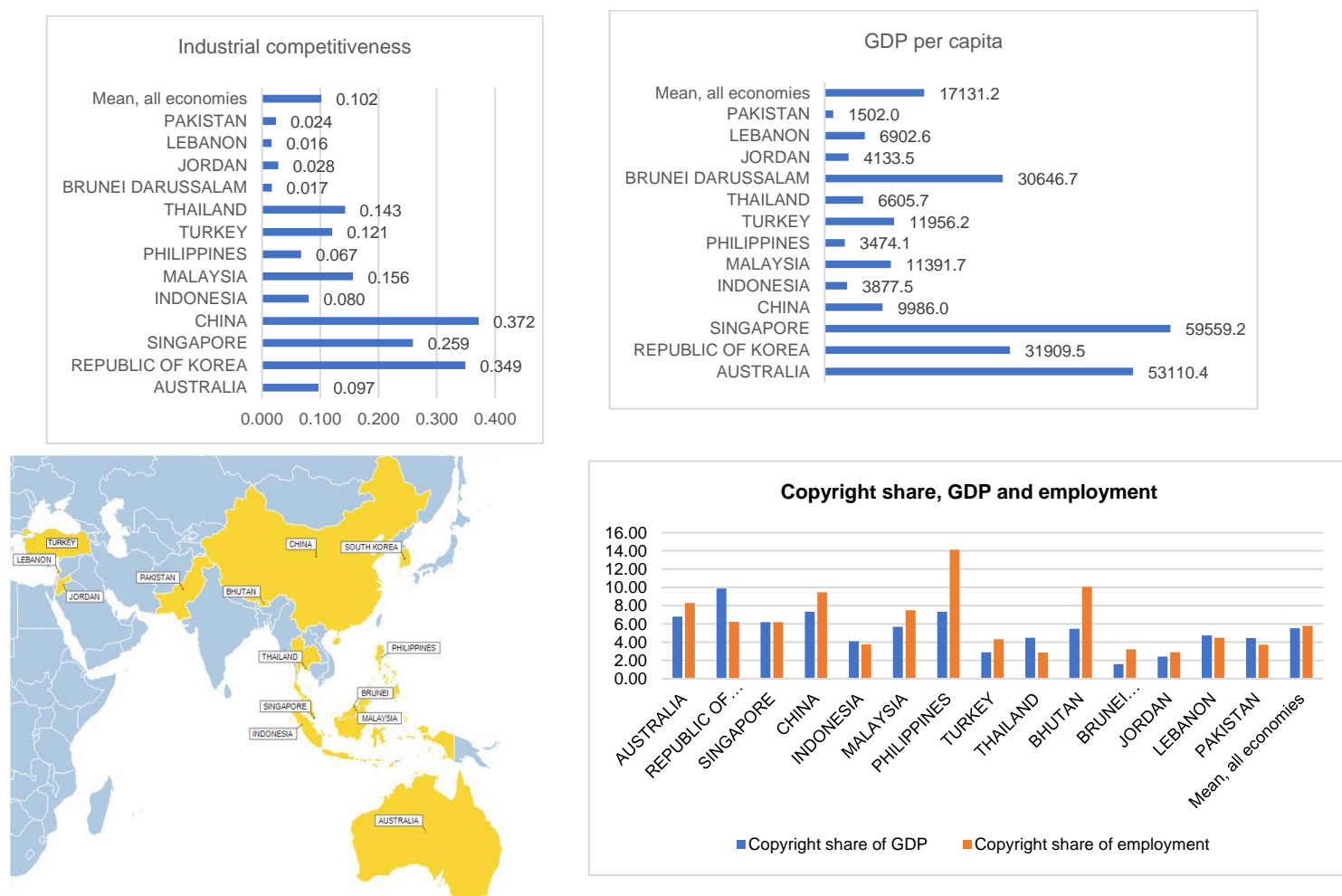


Source: UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018; WIPO Country Studies Database, 2021.

7.3. Asia, Australia, Middle East

Among the reporting economies in the Asia, Australia, Middle East region (Figure 52), a significant number (6) of economies fall in the Developed and Emerging development classes and have indexes of industrial competitiveness above the global mean, suggesting that their manufacturing sector produce a high concentration of medium- to high-technology capital goods. Yet only 4 economies have GDP per capita above the global mean, mainly because of large population size. At least half of the economies have copyright shares in GDP and employment below the global average. The indicators suggest that the region has a substantial underutilized potential in the copyright industries to support the necessary shift of industrial production to medium-to high-technology capital inputs and catch up with the economic performance standards of the Developed economies.

Figure 52: Industrial competitiveness, GDP per capita, and the copyright share of GDP and employment, Asia, Australia, Middle East.

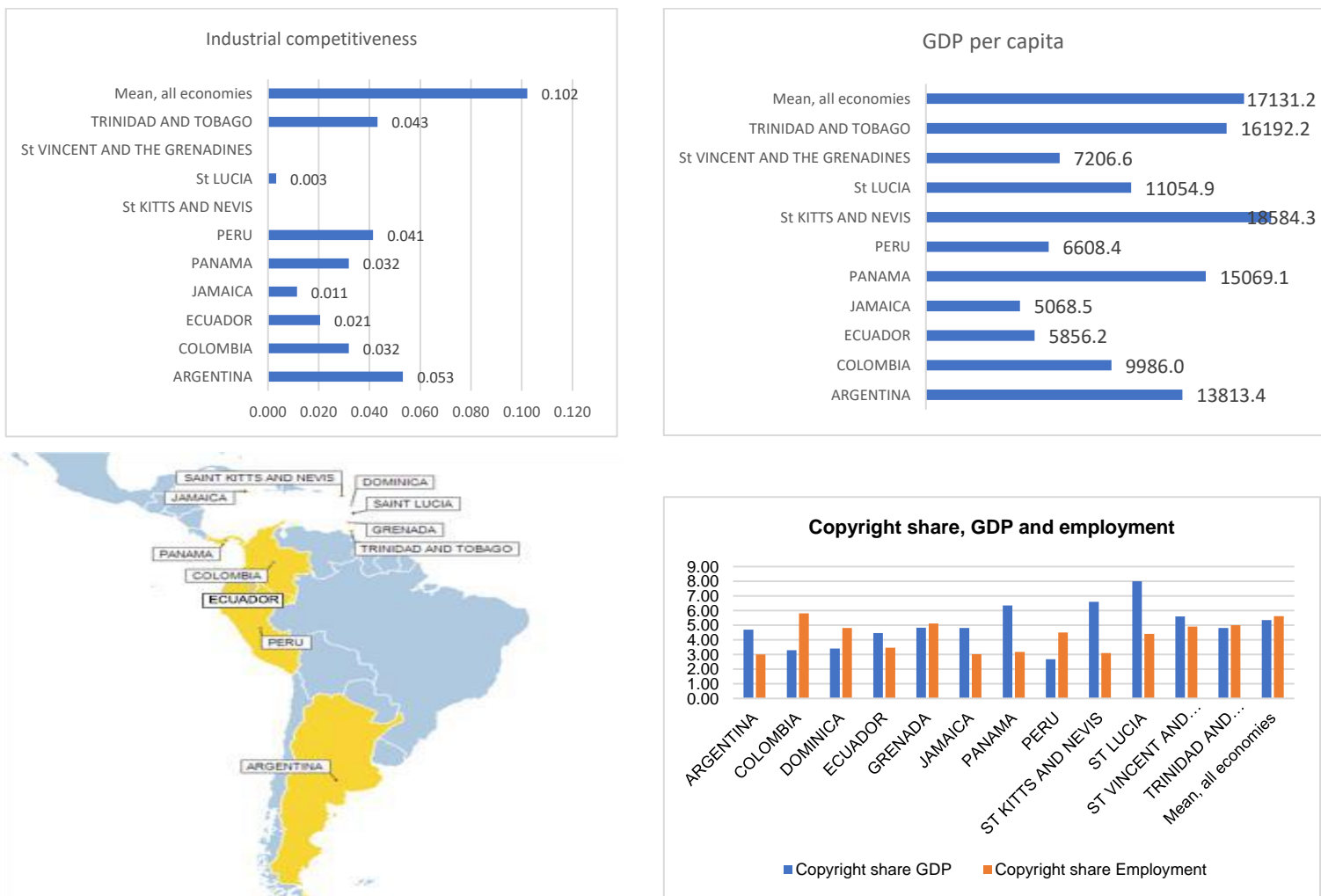


Source: UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018; WIPO Country Studies Database, 2021.

7.4. Latin America, Central America, and the Caribbean

All economies in Latin America, Central America, and the Caribbean fall in the class of Developing economies (Figure 53). All have indexes of industrial competitiveness well below the global mean, suggesting that their manufacturing sectors produced a high concentration of low-technology consumer goods. Correspondingly, except for St Kitts/Nevis (for which no index of industrial competitiveness is available) all economies had GDP per capita below the global mean. While most economies had a copyright share of GDP below the global mean, many had a copyright share of employment above the global mean. Together, these data also reveal a substantial potential in the copyright industries to support the necessary shift of industrial production into medium-to high-technology capital inputs and catch up with the output performance of the Developed economies.

Figure 53: Industrial competitiveness, GDP per capita, and the copyright share of GDP and employment, Latin America, Central America and the Caribbean.

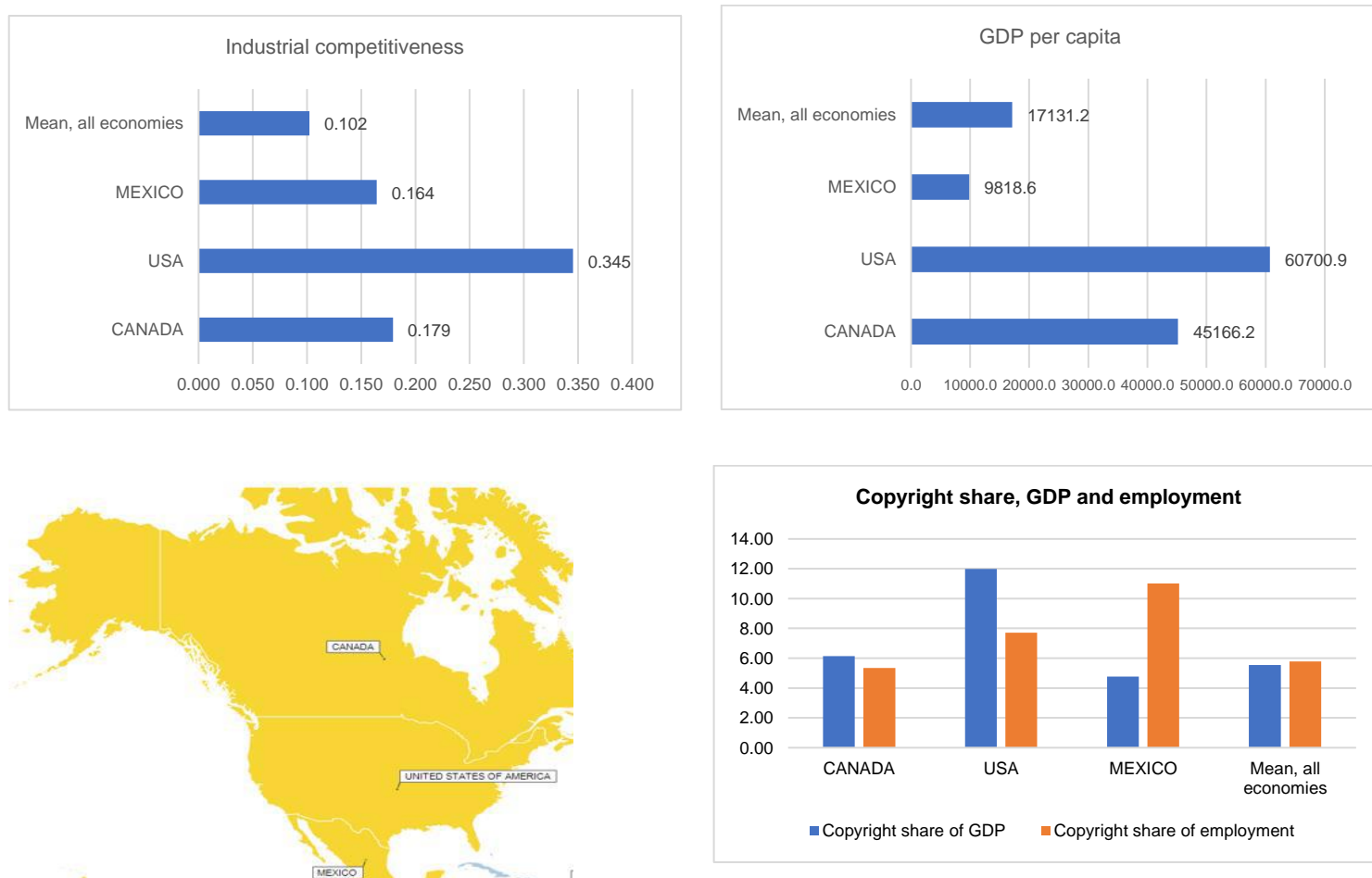


Source: UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018; WIPO Country Studies Database, 2021.

7.5. North America

Two of the three reporting economies in North America (Canada and USA) are classified as Developed economies, and one (Mexico) is classified as a Developing economy (Figure 54). All three economies had indexes of industrial competitiveness above the global mean, suggesting that the region had a manufacturing cluster with a heavy bias towards medium- to high-technology capital goods, with Mexico the least competitive economy but still having a strong position in this respect. Mexico also had GDP per capita below the global average. Further, Mexico had a copyright share of GDP below the global average but a share of employment well above the global average. Both the USA and Canada reported copyright shares in GDP and employment well above the global average. These data suggest that Mexico has substantial opportunity to increase the share of its copyright industries in GDP to support its continuing shift into medium- to high-technology capital goods and bring its GDP per capita in line with its North American neighbors.

Figure 54: Industrial competitiveness, GDP per capita, and the copyright share of GDP and employment, North America.



Source: UNSD Country Profiles, 2010-2019; UNIDO CIP, 2018; WIPO Country Studies Database, 2021.

8. General Summary of the Empirical Findings

The main indicators presented in this report update the 2015 report of the contribution of the copyright industries to GDP and employment to cover an additional set of eight countries reporting between 2014 and 2019. The report focuses on how this contribution relates to average long-run economic growth between 2010 and 2019, and the outcomes on other development indicators for 2018 or 2019, just before the global pandemic that emerged in 2020.

8.1. Significant contribution to economic performance

The update provides evidence of the general principle that a cluster of industries becomes a significant contributor to growth when the following two conditions are met: it contributes a substantial share of total GDP, employment and productivity; and it makes a substantial contribution to real growth and other aspects of economic performance, typically in close association with a larger contributing sector.

In the period 2004–2019, the contribution to GDP of the copyright industries of reporting countries was substantial, varying between 2 percent and 11.2 percent. The contribution to employment varied between 2 percent and 11.1 percent. In many cases, these contributions equal or exceed those of other traditionally important industries, such as agriculture, education and hotels and guest houses that anchor tourism.

8.1.1. Productivity driver

The contribution of the copyright industries to productivity varies widely among reporting countries. In some cases, the copyright industries make a higher than average contribution to national productivity; in other cases, the productivity contribution of the copyright industries is below average. No general pattern is discernible according to the development class of the economy, but the evidence suggests that when pursuing their development and productivity growth objectives, countries can benefit from implementing policies to grow the share of GDP relative to the share of employment contributed by the copyright industries.

8.2. Core copyright industries continue to lead

Across all reporting economies, more than half of the total contribution of the copyright industries to GDP (53.5 percent) and employment (50.9 percent) came from the core copyright

industries, whose main products are copyright-based capital assets. However, the share contributed by the core industries varied with the development status of countries. Among the developed economies, 56 percent of the copyright-based output and 57.4 percent of the jobs came from the core, compared to 49.6 percent and 56.6 percent for emerging economies, 59.4 percent and 62.4 percent for transition economies and 50.8 percent and 40.9 percent for developing economies. The general principle that arises from the evidence is that in the pursuit of the development goals of economies, there are significant benefits to be gained from efforts to shift production of copyrighted output, and related employment, towards the core industries where most of the creativity and innovation occurs.

Across all reporting economies, the largest industry that produces core copyright output is press and literature with 39 percent of the output and 43 percent of the jobs. This is followed by the high-technology industry of software and databases with 22 percent of output and 20 percent of the jobs, radio and television with 15 percent of output and 7 percent of jobs, advertising agencies and services with 9 percent and 7 percent of jobs, music and theater with 6 percent and 9 percent of jobs, and motion picture and video with 4 percent of output and 6 percent of jobs.

8.3. Copyright industries as contributors to capital production

The large sector with which the copyright sector is associated is the capital sector, the cluster of industries that can produce capital. The size of the capital sector and the correlation between its rate of growth and the rate of growth of GDP jointly and consistently identify the development class in which economies fall; that is, whether they are developed, emerging, transition or developing economies. In general, across reporting economies over the 10-year period 2010–2019, there was an extremely high correlation of 0.97 between the rate of growth of the output of the capital sector and the rate of growth of GDP. Developed economies featured capital-producing industries with a high share of 60.4 percent of GDP and the highest correlation of 98.3 percent between the rate of growth of capital output and the rate of growth of GDP. The emerging economies had an average of 50.5 percent of GDP produced by the capital sector and a high correlation of 98.2 percent between the rate of growth of capital output and the rate of growth of GDP. The transition economies featured 47.9 percent of GDP produced by their capital sector and a correlation of 96.9 percent between the rate of growth of capital output and the rate of growth of GDP. The corresponding figures for developing economies were 41.7 percent and 95.3 percent.

The copyright industries are important elements of the capital sector and important contributors to the growth and development effects it generates. Across economies, there was a correlation of 0.49 between the copyright share of GDP and the share of capital output in GDP, and the general evidence suggests that growth of the copyright industries was associated with relatively faster growth of the capital sector of the economy. As a result, there was a cross-country correlation of 0.53 between the copyright share of GDP and GDP per capita. Further, the high correlation of 0.73 between the capital share of GDP and the industrial competitiveness of the economy was matched by a correspondingly high correlation of 0.71 between the copyright share of GDP and industrial competitiveness. These patterns of association vary by development status. Among developed economies, the cross-country correlation of the capital share and industrial competitiveness was 0.903, while that between the copyright share and industrial competitiveness was 0.74. Among transition economies, the cross-country correlation of the capital share and industrial competitiveness was lower at .733 and that between the copyright share and industrial competitiveness was 0.856. The emerging economies featured respective correlations of 0.714 and 0.494, while the corresponding correlations for the developing economies were 0.389 and 0.083.

8.4. Copyright industries drive innovation and competitiveness

The joint influence of the copyright and capital sectors was also observed on other key development indicators, such as the capacity to innovate and the general institutional foundations of the capacity to compete. There was a high correlation of 0.77 between the capital share of GDP and the Global Innovation Index (GII) across all economies, matched by a correlation of 0.64 between the copyright share of GDP and the GII. Similarly, there was a high correlation of 0.82 between the capital share of GDP and the global competitiveness of an economy, and a corresponding correlation of 0.57 between the copyright share of GDP and the global competitiveness of an economy. Global competitiveness measures the effects of institutions, policies and factors that determine the level of productivity. This assessment of the joint association of the share of the copyright and capital industries, and the level of institutional development of the economy, is corroborated by evidence of their joint influence on other measures of the institutional development of the economy. There was a correlation of 0.67 between the capital share of GDP and the effectiveness of government, matched by a correlation of 0.44 between the copyright share of GDP and government effectiveness. Similarly, there was a substantial correlation of 0.54 across economies between the capital share of GDP and the perception of freedom from corruption in a country, and a corresponding correlation of 0.36 across economies between the share of the copyright industries in GDP and the perception of freedom from corruption.

Taken together, all the reported patterns of association indicate that, underpinned by a significant contribution from the larger capital-producing industries, the copyright industries make a substantial contribution to real growth and other aspects of economic performance. There was a strong and positive relationship between the copyright shares of an economy and the extent to which it can innovate, as well as with the extent to which its institutions develop to boost competitiveness. Countries can significantly boost their capacity to achieve their development goals by investing in ways that increase the share of the copyright industries in GDP and the creation of good jobs.

8.5. Regional specifics

Across the regions of the global economy, there was significant variation among reporting countries. The African economies had relatively low copyright shares of GDP and employment. This suggests a substantial underutilized opportunity to use the potential of the copyright industries to meet the challenge of upgrading industrial production and catching up with the output performance of the developed economies.

In the case of Europe, the leading economies had above average shares of copyright industries in GDP and employment, but a significant number had lower copyright shares than the global average. Thus, in Europe, a significant challenge still exists for many economies to exploit the potential of the copyright industries to upgrade industrial production and catch up with the general output performance of the developed economies.

At least half of the economies in Asia, Australia and the Middle East had copyright shares in GDP and employment below the global average. Thus, this region also has a substantial underutilized potential in the copyright industries to support the shift of industrial production necessary to catch up with the economic performance standards of the developed economies.

In Latin America, Central America, and the Caribbean, most economies had copyright shares of GDP below the global mean, but many had a copyright share of employment above the global mean. However, these data also reveal a substantial potential in the copyright industries to support the necessary shift of industrial production into medium- to high-technology capital inputs and catch up with the developed economies.

In North America, Mexico had a copyright share of GDP below the global average but a share of employment well above the global average. Both the United States and Canada reported

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copyright shares in GDP and employment well above the global average. These data suggest that Mexico has substantial underutilized opportunity to increase the share of its copyright industries in GDP to support its continuing shift into medium- to high-technology capital goods and bring its economic performance more in line with its North American neighbors.

9. Limitations of the Methodology Used

The WIPO methodology is only one of the available tools for assessing the economic importance of the creative sector. While this method is gaining acceptance and credibility with each new study, it has some limitations, which need to be considered when interpreting results of studies and the correlation of the reported copyright share with other independently produced development indicators.

The size of the copyright industries is assessed by measuring the value added in the copyright-industries as a percentage of GDP. The value-added approach is a universally adopted industry-centered approach, based on a standardized measurement technique, which identifies the contribution by industry as recorded in national accounts. The value-added method is designed to eliminate double-counting, and the national accounts to which it gives rise are the basis of input-output tables that indicate important linkages among the industries of the economy.

However, the value-added method does not differentiate between copyright-related and non-copyright-related activities within a selected industry. Therefore, it may inevitably also omit some elements that rely on copyright protection in industries that are not included in some studies. The method does not disclose which part of the value is added to the product while creating and producing it, and which part is added in the modification, distribution or consumption phases of the value chain. This may limit a more in-depth and accurate analysis of the contribution of the copyright industries to output and employment.

The methodology is based on official data sources, since it seeks to ensure comparability between the indicators produced by different countries. In many cases, however, creative products are produced and distributed in the informal economy, which may not be adequately accounted for in national income and product accounts. The same applies to job generation, which may not be fully reflected in labor force and census statistics if creative activities fall outside the scope of the adopted statistical survey and census methodologies.

When interpreting the results of the studies, it should also be borne in mind that occasionally the figures may reflect changes in methods adopted by the national statistical organizations. For example, more recent industrial classification systems may group economic activities differently to earlier systems. This may result in higher or lower shares of certain industries or

industry groups, which may not necessarily be linked to a better or worse performance of the industry, but simply reflect a change in the adopted model for statistical reporting.

The surveying of macroeconomic indicators is based on a number of assumptions, the most important being that copyright is enforced; that is, the economic activities measured are based on respect for copyright and related rights. This assumption is needed for measurement purposes, though the results obtained should not be interpreted as a direct indicator of the strength of copyright enforcement in each individual country.

All of the studies used were completed at different points in time. To address these differences in the reporting years, the data were used in this report to investigate the long-run effects of copyright production and employment on growth, innovation and competitiveness over the 10-year period from 2010 to 2019. However, these effects are not likely to be generated uniformly over time, as the copyright outputs produced in the earlier years inevitably had a longer period over which to generate effects on the economy. This variation should be considered when interpreting the role of copyright as an element of the engine of growth provided by the capital sector.

10. The Way Forward

The results of the national surveys and the indicators extracted from other independent studies of development performance confirm the importance of copyright industries in the overall performance of economies. Copyright industries are elements of, and closely integrated into, the industrial growth engine provided by the capital sector of the economy. Thus, they are well connected with the rest of the economy and play an important role in economic cycles. In many countries, copyright industries play a more important role than some traditional industries. The performance of the creative industries is enhanced when stimulated by strong economic institutions, such as good governance (economic freedom) and the rule of law (including well-established property rights). Development of the creative industries enhances the businesses environment and increases productivity and the capacity to innovate, and hence grows competitiveness.

National studies confirm the applicability of the WIPO methodology in countries at various levels of development. Further, the close association of the copyright shares with key development indicators produced independently by highly reputable international institutions also suggest that the methodology is generally valid. Indeed, copyright production and employment generate significant long-run effects on growth, innovation and competitiveness.

The performance of developed countries in contributing to GDP is higher in both core copyright industries and non-core copyright industries. This has helped to raise their per capita output and create a catch-up challenge for other economies, whether transition, emerging or developing. The evidence compiled in this study confirms that the catch-up process is boosted by policies that promote development of the copyright industries. New studies being carried out worldwide will enhance this analysis and the general understanding of the performance and developmental impact of creative industries in the global economy.

The sample of reporting economies was quite broad but access to a more broadly representative sample will strengthen the quality and robustness of the analysis. The next steps could involve time series analysis and panel models, cluster/regional comparisons, chain-linking analysis of growth contributions, and the like. Further, beyond the patterns of association identified in this report, deeper examination of the relationships could be undertaken using statistical modelling that seeks to uncover the causal relationships between the performance of the copyright industries and other relevant performance variables driving the growth and development of countries.

The merit of further studies and deeper analysis of the copyright industries lies in improved identification of the potential of copyright as an element of the engine of development, and the underlying role of institutional development, including the link between implementing a robust copyright regime and achieving development objectives. This can be optimally achieved through streamlining collaboration with national statistical organizations to apply more standardized and uniform approaches to future research by participating countries. The evidence assembled in this report indicates that the WIPO measurement methodology is a valuable tool in the context of such efforts.

11. Annex 1: Standard Data Tables

Table 1: Reported Contributions to GDP and Employment by Development Classification of Reporting Countries

Classification	COUNTRY	YEAR OF PUBLICATION	Percentage CONTRIBUTION OF COPYRIGHT-BASED INDUSTRIES TO GDP					Percentage CONTRIBUTION OF COPYRIGHT-BASED INDUSTRIES TO EMPLOYMENT				
			Total Share	Core	Inter-dependent	Partial	Non-dedicated	Total Share	Core	Inter-dependent	Partial	Non-dedicated
Developed	AUSTRALIA	2018	6.80%	4.80%	1.20%	0.40%	0.40%	8.30%	4.97%	1.81%	0.57%	0.65%
Developed	CANADA	2019	6.15%	4.74%	0.90%	0.11%	0.38%	5.35%	3.63%	0.91%	0.16%	0.33%
Developed	FINLAND	2015	5.38%	4.14%	0.60%	0.23%	0.41%	5.61%	4.15%	0.55%	0.40%	0.50%
Developed	REPUBLIC OF KOREA	2012	9.89%	3.51%	4.75%	0.66%	0.97%	6.24%	2.85%	1.59%	0.67%	1.12%
Developed	NETHERLANDS	2009	5.90%	4.00%	0.40%	0.90%	0.60%	8.80%	6.20%	0.60%	1.10%	1.00%
Developed	SINGAPORE	2007	6.19%	3.46%	1.56%	0.09%	1.08%	6.21%	4.04%	1.15%	0.20%	0.82%
Developed	FRANCE	2016	7.02%	3.35%	0.60%	1.87%	1.20%	7.29%	3.56%	0.30%	1.81%	1.62%
Developed	USA	2019	11.99%	7.41%	2.15%	0.23%	2.20%	7.71%	3.79%	1.97%	0.24%	1.71%
Emerging	CHINA	2018	7.35%	4.61%	1.18%	0.55%	1.01%	9.46%	5.19%	2.18%	1.27%	0.85%
Emerging	INDONESIA	2013	4.11%	1.05%	0.65%	2.06%	0.36%	3.75%	1.10%	0.27%	2.05%	0.33%
Emerging	MALAYSIA	2008	5.70%	2.90%	2.10%	0.60%	0.10%	7.50%	4.70%	1.60%	0.90%	0.20%
Emerging	PHILIPPINES	2010	7.34%	5.11%	1.32%	0.51%	0.41%	14.14%	8.83%	3.27%	1.21%	0.82%
Emerging	SOUTH AFRICA	2017	4.11%	2.05%	0.56%	0.21%	1.29%	4.08%	2.31%	0.51%	0.23%	1.03%
Emerging	TURKEY	2018	2.88%	1.12%	0.51%	1.00%	0.25%	4.34%	1.34%	0.56%	1.95%	0.49%
Emerging	THAILAND	2012	4.48%	2.21%	1.02%	0.71%	0.54%	2.85%	1.50%	0.29%	0.68%	0.39%
Transition	BULGARIA	2011	4.54%	2.74%	1.08%	0.29%	0.44%	4.92%	2.78%	1.34%	0.31%	0.49%
Transition	CROATIA	2007	4.27%	2.99%	0.88%	0.32%	0.07%	4.65%	3.22%	0.93%	0.41%	0.08%
Transition	HUNGARY	2013	8.25%	5.50%	1.32%	0.30%	1.13%	7.28%	5.59%	1.11%	0.33%	1.21%
Transition	LATVIA	2004	5.05%	2.90%	1.10%	0.28%	0.77%	5.59%	3.70%	0.70%	0.44%	0.75%
Transition	LITHUANIA	2012	5.40%	2.79%	1.27%	0.26%	1.07%	4.92%	3.03%	0.80%	0.26%	0.82%
Transition	MOLDOVA	2013	3.31%	2.66%	0.50%	0.22%	0.59%	3.58%	2.48%	0.33%	0.23%	0.54%
Transition	ROMANIA	2008	5.55%	3.55%	1.08%	0.53%	0.39%	4.19%	2.36%	0.58%	0.82%	0.43%
Transition	RUSSIAN FEDERATION	2007	6.06%	2.39%	0.76%	0.27%	2.64%	7.30%	4.29%	0.75%	0.56%	1.69%
Transition	SLOVENIA	2010	5.10%	3.30%	0.60%	0.50%	0.60%	6.80%	4.60%	0.80%	0.70%	0.70%
Transition	SERBIA	2014	4.61%	3.10%	0.58%	0.22%	0.71%	4.06%	2.61%	0.44%	0.33%	0.69%
Transition	UKRAINE	2008	2.85%	1.54%	0.68%	0.10%	0.54%	1.90%	1.16%	0.46%	0.08%	0.20%
Developing	ARGENTINA	2013	4.70%	3.30%	0.60%	0.20%	0.60%	3.00%	2.00%	0.30%	0.50%	0.20%
Developing	BHUTAN	2011	5.46%	1.90%	0.60%	2.20%	0.70%	10.09%	1.03%	0.29%	7.16%	1.61%
Developing	BOTSWANA	2016	5.46%	2.55%	1.71%	0.30%	0.89%	2.66%	1.74%	0.17%	0.23%	0.53%

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Developing	BRUNEI DARUSSALA M	2011	1.58%	0.70%	0.10%	0.70%	0.08%	3.20%	1.50%	0.40%	1.10%	0.20%
Developing	COLOMBIA	2008	3.30%	1.90%	0.80%	0.30%	0.40%	5.80%	1.70%	0.70%	1.90%	1.50%
Developing	DOMINICA	2012	3.40%	1.25%	0.30%	0.68%	1.38%	4.80%	1.97%	0.06%	0.28%	2.50%
Developing	ECUADOR	2014	4.47%	2.54%	0.84%	0.77%	0.31%	3.47%				
Developing	GRENADA	2012	4.83%	3.70%	0.47%	0.20%	0.46%	5.12%	4.06%	0.43%	0.25%	0.38%
Developing	GHANA	2016	4.02%	2.48%	0.59%	0.30%	0.64%	4.77%	2.38%	0.16%	0.47%	1.76%
Developing	JAMAICA	2007	4.81%	1.70%	0.74%	0.47%	1.90%	3.03%	1.79%	0.31%	0.23%	0.68%
Developing	JORDAN	2012	2.43%	1.53%	0.12%	0.21%	0.57%	2.88%	1.80%	0.08%	0.20%	0.80%
Developing	KENYA	2009	5.32%	2.30%	2.17%	0.41%	0.43%	3.26%	1.20%	0.75%	1.04%	0.27%
Developing	LEBANON	2007	4.75%	2.53%	0.71%	0.62%	0.89%	4.49%	2.11%	0.73%	0.70%	0.95%
Developing	MALAWI	2013	3.46%	0.50%	2.63%	0.07%	0.25%	3.35%	0.65%	2.43%	0.11%	0.17%
Developing	MEXICO	2006	4.77%	1.55%	1.69%	0.85%	0.68%	11.01 %	3.41%	3.65%	2.53%	1.41%
Developing	PAKISTAN	2010	4.45%	1.37%	0.11%	0.98%	1.99%	3.71%	0.70%	0.04%	1.37%	1.60%
Developing	PANAMA	2009	6.35%	5.40%	0.06%	0.05%	0.84%	3.17%	1.52%	1.20%	0.31%	0.13%
Developing	PERU	2009	2.67%	1.23%	0.28%	0.02%	1.14%	4.50%	2.09%	0.14%	0.07%	2.20%
Developing	ST KITTS AND NEVIS	2012	6.60%	4.29%	0.56%	0.93%	0.82%	3.10%	1.44%	0.45%	0.81%	0.41%
Developing	ST LUCIA	2012	8.00%	4.38%	0.26%	2.13%	1.23%	4.40%	1.85%	0.33%	1.09%	1.14%
Developing	ST VINCENT AND THE GRENADINES	2012	5.60%	2.73%	0.13%	1.09%	1.66%	4.90%	1.81%	0.17%	1.01%	1.81%
Developing	UNITED REPUBLIC OF TANZANIA	2012	4.56%	3.22%	1.24%	0.00%	0.10%	5.63%	2.56%	2.14%	0.29%	0.64%
Developing	ETHIOPIA	2014	4.73%	1.96%	1.39%	0.43%	0.95%	4.20%	1.37%	1.27%	0.33%	1.23%
Developing	TRINIDAD AND TOBAGO	2011	4.80%	1.41%	0.13%	0.97%	2.28%	5.00%	2.67%	1.73%	0.20%	0.41%

Source: WIPO Country Studies Database, 2021

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Table 2, Annex 1: Structural Indicators of Reporting Countries by Development Classification 2010-2019

Category	COUNTRY/YEAR					
Developed	AUSTRALIA	Manufacturing	Other Capital Producers	Real GDP	Real GDP Growth	Capital Share
	2010	8.18E+10	5.41E+11	1.09E+12		57.30%
	2011	8.25E+10	5.58E+11	1.13E+12	3.90%	56.70%
	2012	7.98E+10	5.71E+11	1.16E+12	2.60%	56.20%
	2013	7.90E+10	5.87E+11	1.19E+12	2.50%	56.10%
	2014	7.77E+10	6.02E+11	1.21E+12	2.20%	56.00%
	2015	7.58E+10	6.23E+11	1.25E+12	2.80%	56.00%
	2016	7.55E+10	6.43E+11	1.28E+12	2.30%	56.30%
	2017	7.71E+10	6.63E+11	1.31E+12	2.90%	56.30%
	2018	7.66E+10	6.88E+11	1.34E+12	2.20%	56.90%
2019	7.53E+10	6.98E+11	1.34E+12	-0.30%	57.80%	
Developed	CANADA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.43E+11	6.81E+11	1.40E+12		58.90%
	2011	1.48E+11	6.98E+11	1.44E+12	3.10%	58.70%
	2012	1.50E+11	7.12E+11	1.47E+12	1.80%	58.70%
	2013	1.50E+11	7.25E+11	1.50E+12	2.30%	58.20%
	2014	1.54E+11	7.41E+11	1.55E+12	2.90%	57.90%
	2015	1.55E+11	7.55E+11	1.56E+12	0.70%	58.50%
	2016	1.55E+11	7.69E+11	1.57E+12	1.00%	58.80%
	2017	1.58E+11	7.89E+11	1.62E+12	3.00%	58.50%
	2018	1.63E+11	8.07E+11	1.66E+12	2.40%	58.50%
2019	1.62E+11	8.29E+11	1.69E+12	1.90%	58.70%	
Developed	FINLAND	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.88E+10	9.80E+10	2.34E+11		58.60%
	2011	3.88E+10	1.00E+11	2.40E+11	2.50%	58.00%
	2012	3.43E+10	9.95E+10	2.36E+11	-1.40%	56.70%
	2013	3.46E+10	9.84E+10	2.34E+11	-0.90%	56.80%
	2014	3.43E+10	9.83E+10	2.33E+11	-0.40%	56.90%
	2015	3.44E+10	9.90E+10	2.34E+11	0.50%	56.90%
	2016	3.61E+10	1.01E+11	2.41E+11	2.80%	56.80%
	2017	3.93E+10	1.03E+11	2.49E+11	3.30%	57.00%
	2018	3.83E+10	1.05E+11	2.53E+11	1.50%	56.80%
2019	4.02E+10	1.06E+11	2.56E+11	1.10%	57.30%	
Developed	REPUBLIC OF KOREA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.38E+11	4.73E+11	1.26E+12		64.30%
	2011	3.56E+11	4.90E+11	1.31E+12	3.70%	64.60%
	2012	3.61E+11	5.04E+11	1.34E+12	2.40%	64.50%
	2013	3.72E+11	5.21E+11	1.38E+12	3.20%	64.60%
	2014	3.84E+11	5.42E+11	1.43E+12	3.20%	64.90%
	2015	3.90E+11	5.59E+11	1.47E+12	2.80%	64.80%
	2016	3.99E+11	5.76E+11	1.51E+12	2.90%	64.60%
2017	4.14E+11	5.92E+11	1.56E+12	3.20%	64.60%	

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	2018	4.27E+11	6.15E+11	1.60E+12	2.90%	65.10%
	2019	4.33E+11	6.37E+11	1.63E+12	2.00%	65.40%
Developed	NETHERLANDS	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	7.82E+10	3.51E+11	7.37E+11		58.20%
	2011	8.17E+10	3.55E+11	7.49E+11	1.60%	58.40%
	2012	8.09E+10	3.53E+11	7.41E+11	-1.00%	58.60%
	2013	8.02E+10	3.53E+11	7.40E+11	-0.10%	58.60%
	2014	8.21E+10	3.58E+11	7.51E+11	1.40%	58.60%
	2015	8.27E+10	3.64E+11	7.65E+11	2.00%	58.30%
	2016	8.44E+10	3.69E+11	7.82E+11	2.20%	57.90%
	2017	8.96E+10	3.76E+11	8.05E+11	2.90%	57.80%
	2018	9.31E+10	3.82E+11	8.24E+11	2.40%	57.70%
	2019	9.38E+10	3.87E+11	8.38E+11	1.70%	57.40%
Developed	SINGAPORE	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.20E+10	9.82E+10	2.47E+11		60.80%
	2011	5.61E+10	1.04E+11	2.63E+11	6.30%	60.90%
	2012	5.63E+10	1.09E+11	2.74E+11	4.50%	60.10%
	2013	5.72E+10	1.16E+11	2.88E+11	4.80%	60.30%
	2014	5.87E+10	1.22E+11	2.99E+11	3.90%	60.30%
	2015	5.57E+10	1.28E+11	3.08E+11	3.00%	59.70%
	2016	5.78E+10	1.32E+11	3.18E+11	3.20%	59.80%
	2017	6.38E+10	1.37E+11	3.32E+11	4.30%	60.60%
	2018	6.83E+10	1.43E+11	3.43E+11	3.40%	61.50%
	2019	6.73E+10	1.47E+11	3.46E+11	0.70%	62.00%
Developed	FRANCE	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.40E+11	1.15E+12	2.32E+12		60.10%
	2011	2.50E+11	1.17E+12	2.37E+12	2.20%	60.10%
	2012	2.49E+11	1.19E+12	2.37E+12	0.30%	60.40%
	2013	2.49E+11	1.20E+12	2.39E+12	0.60%	60.50%
	2014	2.53E+11	1.21E+12	2.41E+12	1.00%	60.60%
	2015	2.54E+11	1.22E+12	2.44E+12	1.10%	60.30%
	2016	2.57E+11	1.23E+12	2.46E+12	1.10%	60.40%
	2017	2.62E+11	1.26E+12	2.52E+12	2.30%	60.20%
	2018	2.62E+11	1.28E+12	2.57E+12	1.80%	60.20%
	2019	2.63E+11	1.30E+12	2.61E+12	1.50%	60.00%
Developed	USA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.01E+12	9.28E+12	1.63E+13		69.20%
	2011	2.02E+12	9.44E+12	1.66E+13	1.60%	69.10%
	2012	2.00E+12	9.66E+12	1.69E+13	2.20%	68.90%
	2013	2.06E+12	9.67E+12	1.73E+13	1.80%	68.00%
	2014	2.10E+12	9.89E+12	1.77E+13	2.50%	67.80%
	2015	2.13E+12	1.01E+13	1.82E+13	3.10%	67.00%
	2016	2.11E+12	1.02E+13	1.86E+13	1.70%	66.60%
	2017	2.17E+12	1.04E+13	1.90E+13	2.30%	66.30%

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	2018	2.26E+12	1.07E+13	1.96E+13	3.00%	66.20%
	2019	2.30E+12	1.09E+13	2.00E+13	2.20%	66.20%
Emerging	CHINA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.24E+12	2.51E+12	7.55E+12		62.90%
	2011	2.46E+12	2.73E+12	8.28E+12	9.60%	62.70%
	2012	2.68E+12	2.94E+12	8.93E+12	7.90%	62.90%
	2013	2.88E+12	3.18E+12	9.62E+12	7.80%	63.00%
	2014	3.07E+12	3.43E+12	1.03E+13	7.40%	62.90%
	2015	3.25E+12	3.79E+12	1.11E+13	7.00%	63.60%
	2016	3.43E+12	4.10E+12	1.18E+13	6.80%	63.80%
	2017	3.65E+12	4.45E+12	1.26E+13	6.90%	64.00%
	2018	3.87E+12	4.82E+12	1.35E+13	6.70%	64.40%
	2019	4.09E+12	5.23E+12	1.43E+13	6.10%	65.10%
Emerging	INDONESIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.41E+11	1.16E+11	6.58E+11		39.10%
	2011	1.50E+11	1.25E+11	6.98E+11	6.20%	39.40%
	2012	1.59E+11	1.33E+11	7.41E+11	6.00%	39.40%
	2013	1.65E+11	1.42E+11	7.82E+11	5.60%	39.30%
	2014	1.73E+11	1.49E+11	8.21E+11	5.00%	39.30%
	2015	1.81E+11	1.59E+11	8.61E+11	4.90%	39.50%
	2016	1.88E+11	1.68E+11	9.04E+11	5.00%	39.50%
	2017	1.96E+11	1.77E+11	9.50E+11	5.10%	39.30%
	2018	2.05E+11	1.87E+11	9.99E+11	5.20%	39.20%
	2019	2.13E+11	2.00E+11	1.05E+12	5.00%	39.30%
Emerging	MALAYSIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.31E+10	5.55E+10	2.33E+11		46.60%
	2011	5.60E+10	5.97E+10	2.45E+11	5.30%	47.20%
	2012	5.84E+10	6.43E+10	2.58E+11	5.50%	47.50%
	2013	6.04E+10	6.78E+10	2.71E+11	4.70%	47.40%
	2014	6.41E+10	7.13E+10	2.87E+11	6.00%	47.20%
	2015	6.72E+10	7.36E+10	3.01E+11	5.10%	46.70%
	2016	7.01E+10	7.70E+10	3.15E+11	4.40%	46.80%
	2017	7.44E+10	8.12E+10	3.33E+11	5.80%	46.70%
	2018	7.81E+10	8.57E+10	3.49E+11	4.80%	46.90%
	2019	8.10E+10	9.00E+10	3.64E+11	4.30%	47.00%
Emerging	PHILIPPINES	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	4.21E+10	6.90E+10	2.20E+11		50.60%
	2011	4.41E+10	7.30E+10	2.28E+11	3.70%	51.40%
	2012	4.65E+10	7.81E+10	2.43E+11	6.70%	51.30%
	2013	5.13E+10	8.42E+10	2.60E+11	7.10%	52.10%
	2014	5.55E+10	8.94E+10	2.76E+11	6.10%	52.50%
	2015	5.87E+10	9.52E+10	2.93E+11	6.10%	52.60%
	2016	6.28E+10	1.03E+11	3.13E+11	6.90%	52.90%

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	2017	6.81E+10	1.10E+11	3.34E+11	6.70%	53.40%
	2018	7.15E+10	1.19E+11	3.55E+11	6.20%	53.60%
	2019	7.42E+10	1.27E+11	3.76E+11	5.90%	53.50%
Emerging	SOUTH AFRICA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.59E+10	1.07E+11	2.85E+11		50.30%
	2011	3.70E+10	1.12E+11	2.94E+11	3.30%	50.60%
	2012	3.78E+10	1.15E+11	3.01E+11	2.20%	50.80%
	2013	3.82E+10	1.18E+11	3.08E+11	2.50%	50.80%
	2014	3.83E+10	1.21E+11	3.14E+11	1.80%	50.90%
	2015	3.82E+10	1.23E+11	3.17E+11	1.20%	50.80%
	2016	3.85E+10	1.25E+11	3.19E+11	0.40%	51.20%
	2017	3.84E+10	1.26E+11	3.23E+11	1.40%	51.00%
	2018	3.88E+10	1.28E+11	3.26E+11	0.80%	51.30%
	2019	3.85E+10	1.31E+11	3.26E+11	0.20%	51.90%
Emerging	TURKEY	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	9.56E+10	1.85E+11	6.14E+11		45.70%
	2011	1.15E+11	1.97E+11	6.83E+11	11.20%	45.70%
	2012	1.17E+11	2.06E+11	7.16E+11	4.80%	45.20%
	2013	1.29E+11	2.23E+11	7.76E+11	8.50%	45.30%
	2014	1.36E+11	2.35E+11	8.15E+11	4.90%	45.60%
	2015	1.44E+11	2.47E+11	8.64E+11	6.10%	45.30%
	2016	1.50E+11	2.60E+11	8.93E+11	3.30%	45.90%
	2017	1.64E+11	2.72E+11	9.60E+11	7.50%	45.40%
	2018	1.66E+11	2.83E+11	9.88E+11	3.00%	45.50%
	2019	1.62E+11	2.94E+11	9.97E+11	0.90%	45.70%
Emerging	THAILAND	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.04E+11	8.99E+10	3.47E+11		56.00%
	2011	9.93E+10	9.42E+10	3.50E+11	0.80%	55.30%
	2012	1.06E+11	1.03E+11	3.75E+11	7.20%	55.70%
	2013	1.08E+11	1.07E+11	3.85E+11	2.70%	55.80%
	2014	1.08E+11	1.10E+11	3.89E+11	1.00%	56.00%
	2015	1.10E+11	1.13E+11	4.01E+11	3.10%	55.60%
	2016	1.12E+11	1.18E+11	4.15E+11	3.40%	55.40%
	2017	1.16E+11	1.22E+11	4.31E+11	4.00%	55.10%
	2018	1.20E+11	1.16E+11	4.49E+11	4.10%	52.60%
	2019	1.22E+11	1.19E+11	4.60E+11	2.40%	52.50%
Transition	BULGARIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.29E+09	1.72E+10	4.64E+10		48.50%
	2011	5.91E+09	1.71E+10	4.75E+10	2.40%	48.60%
	2012	6.22E+09	1.71E+10	4.76E+10	0.40%	49.00%
	2013	6.01E+09	1.66E+10	4.78E+10	0.30%	47.30%
	2014	6.38E+09	1.70E+10	4.87E+10	1.90%	48.00%
	2015	6.74E+09	1.75E+10	5.06E+10	4.00%	47.90%

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	2016	7.15E+09	1.79E+10	5.26E+10	3.80%	47.70%
	2017	7.57E+09	1.87E+10	5.44E+10	3.50%	48.40%
	2018	7.65E+09	1.99E+10	5.61E+10	3.10%	49.10%
	2019	7.79E+09	1.78E+10	5.80E+10	3.40%	44.20%
Transition	CROATIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	6.39E+09	1.75E+10	6.39E+09		374.00%
	2011	6.40E+09	1.77E+10	6.40E+09	0.10%	376.70%
	2012	6.10E+09	1.77E+10	6.10E+09	-4.80%	390.00%
	2013	5.93E+09	1.76E+10	5.93E+09	-2.80%	396.30%
	2014	6.16E+09	1.77E+10	6.16E+09	3.90%	387.10%
	2015	6.42E+09	1.78E+10	6.42E+09	4.20%	377.50%
	2016	6.83E+09	1.82E+10	6.83E+09	6.50%	366.00%
	2017	7.00E+09	1.85E+10	7.00E+09	2.50%	364.20%
	2018	6.95E+09	1.88E+10	6.95E+09	-0.80%	371.20%
	2019	6.95E+09	1.92E+10	6.95E+09	0.00%	376.50%
Transition	HUNGARY	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.24E+10	3.96E+10	1.13E+11		54.90%
	2011	2.25E+10	4.04E+10	1.15E+11	1.90%	54.70%
	2012	2.22E+10	4.05E+10	1.13E+11	-1.40%	55.30%
	2013	2.17E+10	4.17E+10	1.16E+11	1.90%	54.90%
	2014	2.33E+10	4.21E+10	1.20E+11	4.20%	54.30%
	2015	2.53E+10	4.30E+10	1.25E+11	3.80%	54.60%
	2016	2.54E+10	4.42E+10	1.28E+11	2.10%	54.50%
	2017	2.62E+10	4.59E+10	1.33E+11	4.30%	54.10%
	2018	2.71E+10	4.80E+10	1.40E+11	5.40%	53.50%
	2019	2.78E+10	4.89E+10	1.47E+11	4.60%	52.20%
Transition	LATVIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.61E+09	8.98E+09	2.28E+10		50.80%
	2011	2.75E+09	9.35E+09	2.43E+10	6.50%	49.80%
	2012	2.86E+09	9.65E+09	2.53E+10	4.30%	49.40%
	2013	2.81E+09	9.88E+09	2.59E+10	2.30%	49.00%
	2014	2.73E+09	1.02E+10	2.62E+10	1.10%	49.30%
	2015	2.85E+09	1.04E+10	2.72E+10	4.00%	48.80%
	2016	2.90E+09	1.06E+10	2.79E+10	2.40%	48.60%
	2017	3.10E+09	1.07E+10	2.88E+10	3.30%	47.80%
	2018	3.33E+09	1.10E+10	3.00E+10	4.00%	47.80%
	2019	3.40E+09	1.13E+10	3.06E+10	2.10%	48.00%
Transition	LITHUANIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.48E+09	1.07E+10	3.44E+10		47.00%
	2011	6.03E+09	1.09E+10	3.65E+10	6.00%	46.40%
	2012	6.33E+09	1.11E+10	3.79E+10	3.80%	46.00%
	2013	6.63E+09	1.14E+10	3.92E+10	3.60%	46.00%
	2014	6.92E+09	1.16E+10	4.06E+10	3.50%	45.60%
	2015	7.13E+09	1.19E+10	4.14E+10	2.00%	45.90%

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	2016	7.35E+09	1.22E+10	4.25E+10	2.50%	46.00%
	2017	7.76E+09	1.24E+10	4.43E+10	4.30%	45.50%
	2018	8.06E+09	1.27E+10	4.60E+10	3.90%	45.10%
	2019	8.39E+09	1.31E+10	4.80E+10	4.30%	44.70%
Transition	ROMANIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.16E+10	4.81E+10	1.54E+11		51.90%
	2011	3.39E+10	4.99E+10	1.57E+11	2.00%	53.50%
	2012	2.90E+10	5.23E+10	1.60E+11	2.10%	50.80%
	2013	3.13E+10	5.57E+10	1.66E+11	3.50%	52.50%
	2014	3.33E+10	5.68E+10	1.71E+11	3.40%	52.60%
	2015	3.48E+10	5.64E+10	1.78E+11	3.90%	51.30%
	2016	3.71E+10	5.71E+10	1.86E+11	4.80%	50.50%
	2017	4.00E+10	6.08E+10	2.00E+11	7.10%	50.50%
	2018	4.10E+10	6.25E+10	2.09E+11	4.40%	49.70%
	2019	4.00E+10	6.51E+10	2.17E+11	4.10%	48.40%
Transition	RUSSIAN FEDERATION	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.61E+11	4.25E+11	1.26E+12		46.60%
	2011	1.71E+11	4.28E+11	1.31E+12	4.30%	45.70%
	2012	1.79E+11	4.48E+11	1.36E+12	3.70%	46.10%
	2013	1.80E+11	4.70E+11	1.38E+12	1.80%	46.90%
	2014	1.73E+11	4.67E+11	1.39E+12	0.70%	46.00%
	2015	1.70E+11	4.58E+11	1.37E+12	-2.00%	46.00%
	2016	1.75E+11	4.57E+11	1.37E+12	0.30%	46.10%
	2017	1.77E+11	4.65E+11	1.39E+12	1.80%	46.00%
	2018	1.80E+11	4.75E+11	1.43E+12	2.50%	45.80%
	2019	1.83E+11	4.81E+11	1.45E+12	1.30%	45.80%
Transition	SLOVENIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	8.03E+09	1.48E+10	4.22E+10		54.10%
	2011	8.29E+09	1.48E+10	4.26E+10	0.90%	54.30%
	2012	8.05E+09	1.48E+10	4.14E+10	-2.60%	55.10%
	2013	7.99E+09	1.47E+10	4.10E+10	-1.00%	55.40%
	2014	8.36E+09	1.50E+10	4.22E+10	2.80%	55.50%
	2015	8.59E+09	1.52E+10	4.31E+10	2.20%	55.10%
	2016	9.07E+09	1.55E+10	4.45E+10	3.20%	55.30%
	2017	9.78E+09	1.60E+10	4.66E+10	4.80%	55.30%
	2018	1.01E+10	1.64E+10	4.86E+10	4.40%	54.50%
	2019	1.08E+10	1.66E+10	5.02E+10	3.20%	54.60%
Transition	SERBIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.49E+09	1.15E+10	3.80E+10		44.60%
	2011	5.57E+09	1.16E+10	3.87E+10	2.00%	44.20%
	2012	5.71E+09	1.17E+10	3.85E+10	-0.70%	45.20%
	2013	6.07E+09	1.20E+10	3.96E+10	2.90%	45.60%
	2014	5.68E+09	1.20E+10	3.90E+10	-1.60%	45.50%
	2015	5.86E+09	1.19E+10	3.97E+10	1.80%	44.70%

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	2016	6.03E+09	1.21E+10	4.10E+10	3.30%	44.20%
	2017	6.30E+09	1.24E+10	4.18E+10	2.10%	44.70%
	2018	6.40E+09	1.26E+10	4.37E+10	4.50%	43.60%
	2019	6.41E+09	1.30E+10	4.56E+10	4.20%	42.50%
Transition	UKRAINE	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.54E+10	2.30E+10	1.02E+11		37.60%
	2011	1.59E+10	2.28E+10	1.08E+11	5.50%	35.90%
	2012	1.55E+10	2.43E+10	1.08E+11	0.20%	36.90%
	2013	1.40E+10	2.53E+10	1.08E+11	0.00%	36.40%
	2014	1.28E+10	2.49E+10	1.01E+11	-6.60%	37.30%
	2015	1.08E+10	2.40E+10	9.10E+10	-9.80%	38.30%
	2016	1.12E+10	2.39E+10	9.33E+10	2.40%	37.70%
	2017	1.18E+10	2.43E+10	9.56E+10	2.50%	37.80%
	2018	1.19E+10	2.51E+10	9.88E+10	3.40%	37.50%
	2019	1.20E+10	2.63E+10	1.02E+11	3.20%	37.60%
Developing	ARGENTINA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	9.01E+10	2.01E+11	5.99E+11		48.50%
	2011	9.70E+10	2.10E+11	6.35E+11	6.00%	48.40%
	2012	9.42E+10	2.15E+11	6.29E+11	-1.00%	49.20%
	2013	9.56E+10	2.19E+11	6.44E+11	2.40%	48.80%
	2014	9.08E+10	2.19E+11	6.28E+11	-2.50%	49.40%
	2015	9.15E+10	2.24E+11	6.45E+11	2.70%	49.00%
	2016	8.63E+10	2.25E+11	6.31E+11	-2.10%	49.40%
	2017	8.86E+10	2.31E+11	6.48E+11	2.70%	49.20%
	2018	8.41E+10	2.35E+11	6.32E+11	-2.50%	50.40%
	2019	7.89E+10	2.31E+11	6.19E+11	-2.20%	50.00%
Developing	BHUTAN	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.33E+08	3.46E+08	1.56E+09		30.70%
	2011	1.43E+08	3.83E+08	1.68E+09	7.90%	31.20%
	2012	1.52E+08	3.57E+08	1.77E+09	5.10%	28.80%
	2013	1.44E+08	3.49E+08	1.81E+09	2.10%	27.30%
	2014	1.57E+08	3.68E+08	1.88E+09	4.00%	27.90%
	2015	1.64E+08	3.90E+08	2.00E+09	6.60%	27.70%
	2016	1.68E+08	4.26E+08	2.17E+09	8.10%	27.40%
	2017	1.79E+08	4.31E+08	2.27E+09	4.70%	26.90%
	2018	1.86E+08	4.62E+08	2.34E+09	3.00%	27.70%
	2019	1.94E+08	4.90E+08	2.42E+09	3.80%	28.20%
Developing	BOTSWANA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	6.53E+08	3.92E+09	1.16E+11		3.95%
	2011	7.27E+08	4.20E+09	1.23E+11	6.05%	4.02%
	2012	7.54E+08	4.49E+09	1.28E+11	4.46%	4.09%
	2013	8.03E+08	4.83E+09	1.43E+11	11.34%	3.95%
	2014	8.07E+08	5.01E+09	1.49E+11	4.15%	3.91%

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	2015	8.33E+08	5.20E+09	1.46E+11	-1.70%	4.13%
	2016	8.46E+08	5.35E+09	1.52E+11	4.30%	4.07%
	2017	8.65E+08	5.51E+09	1.57E+11	2.90%	4.06%
	2018	8.94E+08	5.73E+09	1.64E+11	4.48%	4.05%
	2019	9.20E+08	5.99E+09	1.69E+11	2.97%	4.10%
Developing	BRUNEI DARUSSALAM	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.91E+09	3.38E+09	1.30E+10		40.80%
	2011	2.04E+09	3.55E+09	1.35E+10	3.70%	41.50%
	2012	2.00E+09	3.68E+09	1.36E+10	0.90%	41.70%
	2013	1.97E+09	3.81E+09	1.33E+10	-2.10%	43.40%
	2014	1.83E+09	3.86E+09	1.30E+10	-2.50%	43.90%
	2015	1.88E+09	3.81E+09	1.29E+10	-0.40%	44.00%
	2016	1.87E+09	3.78E+09	1.26E+10	-2.50%	44.80%
	2017	2.03E+09	3.81E+09	1.28E+10	1.30%	45.70%
	2018	2.02E+09	3.83E+09	1.28E+10	0.10%	45.80%
	2019	2.07E+09	3.93E+09	1.33E+10	3.90%	45.20%
Developing	COLOMBIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.21E+10	8.34E+10	2.33E+11		49.50%
	2011	3.39E+10	8.81E+10	2.50E+11	6.90%	48.90%
	2012	3.42E+10	9.24E+10	2.59E+11	3.90%	48.80%
	2013	3.47E+10	9.73E+10	2.73E+11	5.10%	48.40%
	2014	3.57E+10	1.03E+11	2.85E+11	4.50%	48.60%
	2015	3.64E+10	1.07E+11	2.93E+11	3.00%	48.80%
	2016	3.76E+10	1.10E+11	3.00E+11	2.10%	49.10%
	2017	3.69E+10	1.13E+11	3.04E+11	1.40%	49.30%
	2018	3.75E+10	1.17E+11	3.11E+11	2.50%	49.70%
	2019	3.81E+10	1.22E+11	3.22E+11	3.30%	49.80%
Developing	DOMINICA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.49E+07	1.73E+08	5.44E+08		36.40%
	2011	2.34E+07	1.70E+08	5.43E+08	-0.20%	35.70%
	2012	2.48E+07	1.70E+08	5.37E+08	-1.10%	36.20%
	2013	2.56E+07	1.70E+08	5.32E+08	-1.00%	36.80%
	2014	2.38E+07	1.80E+08	5.56E+08	4.40%	36.60%
	2015	2.16E+07	1.83E+08	5.41E+08	-2.70%	37.90%
	2016	1.71E+07	1.89E+08	5.55E+08	2.60%	37.20%
	2017	1.39E+07	1.89E+08	5.17E+08	-6.80%	39.30%
	2018	1.23E+07	1.54E+08	5.29E+08	2.30%	31.40%
	2019	1.33E+07	1.60E+08	5.48E+08	3.60%	31.60%
Developing	GHANA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	4.663E+09	6.011E+09	1.28E+11		8.32%
	2011	5.456E+09	6.492E+09	1.46E+11	14.0%	8.17%
	2012	5.562E+09	7.225E+09	1.60E+11	9.29%	8.00%
	2013	5.535E+09	7.832E+09	1.72E+11	7.3%	7.79%
	2014	5.393E+09	8.301E+09	1.77E+11	2.90%	7.76%

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	2015	5.590E+09	8.584E+09	1.80E+11	2.2%	7.86%
	2016	6.033E+09	9.006E+09	1.87E+11	3.45%	8.06%
	2017	6.607E+09	8.819E+09	2.02E+11	8.1%	7.64%
	2018	6.881E+09	8.985E+09	2.14E+11	6.26%	7.40%
	2019	7.316E+09	9.534E+09	2.28E+11	6.5%	7.38%
Developing	GRENADA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.32E+07	4.04E+08	8.56E+08		51.10%
	2011	3.32E+07	4.11E+08	8.63E+08	0.80%	51.50%
	2012	3.31E+07	4.16E+08	8.51E+08	-1.30%	52.80%
	2013	3.24E+07	4.18E+08	8.72E+08	2.50%	51.60%
	2014	3.29E+07	4.28E+08	9.37E+08	7.40%	49.20%
	2015	3.41E+07	4.45E+08	9.97E+08	6.40%	48.00%
	2016	3.56E+07	4.55E+08	1.03E+09	3.70%	47.40%
	2017	3.66E+07	4.67E+08	1.08E+09	4.40%	46.60%
	2018	4.01E+07	4.63E+08	1.12E+09	4.10%	44.70%
	2019	4.28E+07	4.75E+08	1.15E+09	2.00%	45.20%
Developing	JAMAICA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.10E+09	4.84E+09	1.37E+10		43.20%
	2011	1.12E+09	4.84E+09	1.40E+10	1.70%	42.60%
	2012	1.12E+09	4.85E+09	1.39E+10	-0.60%	42.90%
	2013	1.12E+09	4.85E+09	1.40E+10	0.50%	42.70%
	2014	1.11E+09	4.88E+09	1.41E+10	0.70%	42.50%
	2015	1.13E+09	4.90E+09	1.42E+10	0.90%	42.50%
	2016	1.15E+09	4.93E+09	1.44E+10	1.40%	42.30%
	2017	1.17E+09	4.97E+09	1.45E+10	1.00%	42.30%
	2018	1.18E+09	5.01E+09	1.48E+10	1.90%	41.80%
	2019	1.21E+09	5.09E+09	1.49E+10	0.90%	42.10%
Developing	JORDAN	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	6.34E+09	1.39E+10	3.37E+10		60.00%
	2011	6.59E+09	1.42E+10	3.46E+10	2.70%	60.10%
	2012	6.74E+09	1.48E+10	3.55E+10	2.40%	60.70%
	2013	6.88E+09	1.53E+10	3.64E+10	2.60%	60.90%
	2014	6.99E+09	1.58E+10	3.76E+10	3.40%	60.40%
	2015	7.08E+09	1.63E+10	3.86E+10	2.50%	60.50%
	2016	7.18E+09	1.67E+10	3.94E+10	2.00%	60.80%
	2017	7.25E+09	1.71E+10	4.02E+10	2.10%	60.70%
	2018	7.36E+09	1.75E+10	4.10E+10	1.90%	60.80%
	2019	7.45E+09	1.80E+10	4.18E+10	2.00%	60.90%
Developing	KENYA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.01E+09	1.38E+10	4.89E+10		38.50%
	2011	5.38E+09	1.44E+10	5.19E+10	6.10%	38.10%
	2012	5.35E+09	1.52E+10	5.43E+10	4.60%	37.90%
	2013	5.65E+09	1.60E+10	5.75E+10	5.90%	37.70%
	2014	5.79E+09	1.71E+10	6.05E+10	5.40%	37.70%

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	2015	6.00E+09	1.81E+10	6.40E+10	5.70%	37.70%
	2016	6.18E+09	1.93E+10	6.78E+10	5.90%	37.60%
	2017	6.23E+09	2.02E+10	7.10E+10	4.80%	37.20%
	2018	6.50E+09	2.13E+10	7.55E+10	6.30%	36.80%
	2019	6.70E+09	2.25E+10	7.96E+10	5.40%	36.70%
Developing	LEBANON	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	4.08E+09	2.26E+10	4.53E+10		58.90%
	2011	4.13E+09	2.30E+10	4.57E+10	0.90%	59.40%
	2012	4.22E+09	2.33E+10	4.69E+10	2.50%	58.60%
	2013	4.45E+09	2.39E+10	4.86E+10	3.80%	58.30%
	2014	4.22E+09	2.48E+10	4.98E+10	2.50%	58.20%
	2015	4.03E+09	2.52E+10	4.99E+10	0.20%	58.40%
	2016	3.80E+09	2.62E+10	5.07E+10	1.50%	59.10%
	2017	3.73E+09	2.64E+10	5.11E+10	0.90%	58.90%
	2018	3.59E+09	2.65E+10	5.01E+10	-1.90%	60.00%
	2019	3.56E+09	2.49E+10	4.73E+10	-5.60%	60.20%
Developing	MALAWI	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	5.25E+08	1.04E+09	5.29E+09		29.50%
	2011	5.32E+08	1.10E+09	5.55E+09	4.90%	29.50%
	2012	5.27E+08	1.15E+09	5.52E+09	-0.60%	30.40%
	2013	5.57E+08	1.20E+09	5.86E+09	6.30%	29.90%
	2014	5.91E+08	1.25E+09	6.23E+09	6.20%	29.60%
	2015	6.14E+08	1.31E+09	6.43E+09	3.30%	29.90%
	2016	6.22E+08	1.38E+09	6.60E+09	2.70%	30.30%
	2017	6.35E+08	1.45E+09	6.95E+09	5.20%	29.90%
	2018	6.57E+08	1.53E+09	7.22E+09	3.90%	30.20%
	2019	6.91E+08	1.61E+09	7.60E+09	5.20%	30.30%
Developing	MEXICO	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.75E+11	3.30E+11	1.01E+12		49.90%
	2011	1.80E+11	3.40E+11	1.05E+12	3.70%	49.60%
	2012	1.87E+11	3.53E+11	1.09E+12	3.60%	49.70%
	2013	1.88E+11	3.61E+11	1.10E+12	1.40%	49.80%
	2014	1.96E+11	3.68E+11	1.13E+12	2.80%	49.70%
	2015	2.02E+11	3.80E+11	1.17E+12	3.30%	49.70%
	2016	2.05E+11	3.93E+11	1.20E+12	2.90%	49.60%
	2017	2.11E+11	4.02E+11	1.23E+12	2.10%	49.80%
	2018	2.15E+11	4.12E+11	1.26E+12	2.10%	49.90%
	2019	2.15E+11	4.16E+11	1.25E+12	-0.30%	50.40%
Developing	PAKISTAN	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.84E+10	4.43E+10	2.19E+11		33.10%
	2011	2.91E+10	4.70E+10	2.25E+11	2.70%	33.70%
	2012	2.97E+10	4.99E+10	2.33E+11	3.50%	34.10%
	2013	3.11E+10	5.34E+10	2.44E+11	4.40%	34.70%
	2014	3.29E+10	5.57E+10	2.55E+11	4.70%	34.80%

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	2015	3.42E+10	5.86E+10	2.67E+11	4.70%	34.70%
	2016	3.54E+10	6.26E+10	2.82E+11	5.50%	34.80%
	2017	3.75E+10	6.68E+10	2.97E+11	5.60%	35.10%
	2018	3.95E+10	7.22E+10	3.15E+11	5.80%	35.50%
	2019	3.94E+10	7.67E+10	3.25E+11	3.30%	35.70%
Developing	PANAMA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.72E+09	1.27E+10	3.73E+10		41.40%
	2011	2.87E+09	1.35E+10	4.15E+10	11.30%	39.40%
	2012	3.11E+09	1.42E+10	4.55E+10	9.80%	37.90%
	2013	3.23E+09	1.49E+10	4.87E+10	6.90%	37.20%
	2014	3.34E+09	1.57E+10	5.12E+10	5.10%	37.20%
	2015	3.46E+09	1.65E+10	5.41E+10	5.70%	36.90%
	2016	3.50E+09	1.74E+10	5.68E+10	5.00%	36.90%
	2017	3.59E+09	1.82E+10	5.99E+10	5.60%	36.30%
	2018	3.62E+09	1.90E+10	6.21E+10	3.60%	36.50%
	2019	3.59E+09	1.97E+10	6.40E+10	3.00%	36.30%
Developing	PERU	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.31E+10	4.34E+10	1.50E+11		44.20%
	2011	2.50E+10	4.59E+10	1.60E+11	6.30%	44.40%
	2012	2.54E+10	4.88E+10	1.70E+11	6.10%	43.70%
	2013	2.67E+10	5.15E+10	1.80E+11	5.90%	43.60%
	2014	2.64E+10	5.45E+10	1.84E+11	2.40%	44.00%
	2015	2.62E+10	5.72E+10	1.90E+11	3.30%	43.90%
	2016	2.62E+10	5.95E+10	1.97E+11	4.00%	43.40%
	2017	2.63E+10	6.12E+10	2.02E+11	2.50%	43.30%
	2018	2.78E+10	6.38E+10	2.10E+11	4.00%	43.60%
	2019	2.73E+10	6.64E+10	2.15E+11	2.20%	43.60%
Developing	ST KITTS AND NEVIS	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	7.24E+07	3.58E+08	8.19E+08		52.60%
	2011	6.58E+07	3.53E+08	8.34E+08	1.80%	50.20%
	2012	6.03E+07	3.58E+08	8.16E+08	-2.20%	51.30%
	2013	6.15E+07	3.68E+08	8.60E+08	5.40%	49.90%
	2014	6.27E+07	3.82E+08	9.14E+08	6.30%	48.70%
	2015	6.27E+07	3.74E+08	9.23E+08	1.00%	47.30%
	2016	5.60E+07	3.94E+08	9.49E+08	2.80%	47.40%
	2017	5.48E+07	3.93E+08	9.30E+08	-2.00%	48.20%
	2018	5.92E+07	4.08E+08	9.58E+08	2.90%	48.80%
	2019	6.00E+07	4.18E+08	9.82E+08	2.50%	48.60%
Developing	ST LUCIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	4.56E+07	6.32E+08	1.75E+09		38.80%
	2011	4.63E+07	6.68E+08	1.82E+09	4.30%	39.20%
	2012	4.93E+07	6.65E+08	1.82E+09	-0.10%	39.30%
	2013	5.37E+07	6.64E+08	1.78E+09	-2.00%	40.30%
	2014	5.36E+07	6.53E+08	1.81E+09	1.30%	39.10%

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	2015	5.40E+07	6.56E+08	1.81E+09	0.10%	39.20%
	2016	5.57E+07	6.82E+08	1.87E+09	3.40%	39.50%
	2017	5.64E+07	6.93E+08	1.94E+09	3.50%	38.70%
	2018	6.02E+07	7.07E+08	1.99E+09	2.60%	38.60%
	2019	6.53E+07	7.16E+08	2.02E+09	1.70%	38.60%
Developing	ST VINCENT AND THE GRENADINES	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	3.54E+07	2.64E+08	7.16E+08		41.80%
	2011	3.72E+07	2.71E+08	7.13E+08	-0.40%	43.20%
	2012	3.56E+07	2.78E+08	7.23E+08	1.40%	43.30%
	2013	3.41E+07	2.85E+08	7.37E+08	1.80%	43.40%
	2014	3.62E+07	2.91E+08	7.45E+08	1.20%	43.80%
	2015	3.68E+07	2.96E+08	7.55E+08	1.30%	44.10%
	2016	3.57E+07	2.99E+08	7.70E+08	1.90%	43.50%
	2017	3.62E+07	3.04E+08	7.77E+08	1.00%	43.70%
	2018	3.87E+07	3.05E+08	7.94E+08	2.20%	43.20%
	2019	3.10E+07	3.10E+08	7.97E+08	0.30%	42.80%
Developing	UNITED REPUBLIC OF TANZANIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	2.74E+09	6.71E+09	3.45E+10		27.40%
	2011	2.93E+09	7.27E+09	3.72E+10	7.90%	27.40%
	2012	3.05E+09	7.80E+09	3.92E+10	5.10%	27.70%
	2013	3.16E+09	8.19E+09	4.18E+10	6.80%	27.10%
	2014	3.47E+09	8.98E+09	4.46E+10	6.70%	27.90%
	2015	3.72E+09	9.72E+09	4.74E+10	6.20%	28.40%
	2016	4.12E+09	1.04E+10	5.06E+10	6.90%	28.70%
	2017	4.46E+09	1.09E+10	5.41E+10	6.80%	28.40%
	2018	4.83E+09	1.14E+10	5.78E+10	7.00%	28.00%
	2019	5.11E+09	1.20E+10	6.19E+10	7.00%	27.70%
Developing	ETHIOPIA	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	1.31E+09	7.10E+09	3.81E+10		22.10%
	2011	1.54E+09	8.76E+09	4.31E+10	13.20%	23.90%
	2012	1.72E+09	9.42E+09	4.69E+10	8.60%	23.80%
	2013	2.01E+09	9.98E+09	5.18E+10	10.60%	23.20%
	2014	2.35E+09	1.07E+10	5.71E+10	10.30%	22.80%
	2015	2.78E+09	1.13E+10	6.31E+10	10.40%	22.30%
	2016	3.29E+09	1.20E+10	6.78E+10	7.60%	22.50%
	2017	4.10E+09	1.29E+10	7.43E+10	9.50%	22.90%
	2018	4.38E+09	1.38E+10	7.94E+10	6.90%	22.90%
	2019	4.72E+09	1.49E+10	8.60E+10	8.30%	22.80%
Developing	TRINIDAD AND TOBAGO	Manufacturing	Other Capital	GDP	GDP Growth	Capital Share
	2010	4.11E+09	5.93E+09	2.40E+10		41.80%
	2011	3.96E+09	6.12E+09	2.40E+10	-0.30%	42.00%
	2012	3.85E+09	6.23E+09	2.43E+10	1.30%	41.50%
	2013	3.86E+09	6.53E+09	2.48E+10	2.20%	41.90%
	2014	3.76E+09	6.55E+09	2.46E+10	-0.90%	41.90%

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	2015	3.85E+09	6.61E+09	2.50E+10	1.50%	41.90%
	2016	3.76E+09	6.69E+09	2.36E+10	-5.60%	44.40%
	2017	3.69E+09	6.81E+09	2.29E+10	-3.00%	46.00%
	2018	3.70E+09	6.84E+09	2.29E+10	0.10%	46.10%
	2019	3.59E+09	6.99E+09	2.26E+10	-1.20%	46.90%

Source: UNSD Country Profiles, 2021

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Annex 2: Copyright Productivity Contribution Index of Reporting Economies

Table 3: Productivity Contribution Index of Reporting Countries

Classification	Country	YEAR OF PUBLICATION	Share of GDP	Share of Employment	Productivity Contribution Index
Developed	AUSTRALIA	2018	6.80%	8.30%	0.82
Developed	CANADA	2019	6.15%	5.35%	1.15
Developed	FINLAND	2016	5.38%	5.61%	0.96
Developed	REPUBLIC OF KOREA	2012	9.89%	6.24%	1.58
Developed	NETHERLANDS	2009	5.90%	8.80%	0.67
Developed	SINGAPORE	2007	6.19%	6.21%	1.00
Developed	FRANCE	2016	7.02%	7.29%	0.96
Developed	USA	2019	11.99%	7.71%	1.56
Ave Developed			7.42%	6.94%	1.09
Emerging	CHINA	2018	7.35%	9.46%	0.78
Emerging	INDONESIA	2013	4.11%	3.75%	1.10
Emerging	MALAYSIA	2008	5.70%	7.50%	0.76
Emerging	PHILIPPINES	2010	7.34%	14.14%	0.52
Emerging	SOUTH AFRICA	2017	4.11%	4.08%	1.01
Emerging	TURKEY	2018	2.88%	4.34%	0.66
Emerging	THAILAND	2012	4.48%	2.85%	1.57
Ave Emerging			5.14%	6.59%	0.91
Transition	BULGARIA	2011	4.54%	4.92%	0.92
Transition	CROATIA	2007	4.27%	4.65%	0.92
Transition	HUNGARY	2013	8.25%	7.28%	1.13
Transition	LATVIA	2004	5.05%	5.59%	0.90
Transition	LITHUANIA	2012	5.40%	4.92%	1.10
Transition	MOLDOVA	2013	3.31%	3.58%	0.92
Transition	ROMANIA	2008	5.55%	4.19%	1.32
Transition	RUSSIAN FEDERATION	2007	6.06%	7.30%	0.83
Transition	SLOVENIA	2010	5.10%	6.80%	0.75
Transition	SERBIA	2014	4.61%	4.06%	1.14
Transition	UKRAINE	2008	2.85%	1.90%	1.50
Ave Transition			5.00%	0.05	1.04
Developing	ARGENTINA	2013	4.70%	3.00%	1.57
Developing	BHUTAN	2011	5.46%	10.09%	0.54
Developing	BRUNEI DARUSSALAM	2011	1.58%	3.20%	0.49
Developing	BOTSWANA	2016	5.46%	2.66%	2.05
Developing	COLOMBIA	2008	3.30%	5.80%	0.57
Developing	DOMINICA	2012	3.40%	4.80%	0.71
Developing	ECUADOR	2014	4.47%	3.47%	1.29
Developing	GRENADA	2012	4.83%	5.12%	0.94
Developing	GHANA	2016	4.02%	4.77%	0.84
Developing	JAMAICA	2007	4.81%	3.03%	1.59
Developing	JORDAN	2012	2.43%	2.88%	0.84

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Developing	KENYA	2009	5.32%	3.26%	1.63
Developing	LEBANON	2007	4.75%	4.49%	1.06
Developing	MALAWI	2013	3.46%	3.35%	1.03
Developing	MEXICO	2006	4.77%	11.01%	0.43
Developing	PAKISTAN	2010	4.45%	3.71%	1.20
Developing	PANAMA	2009	6.35%	3.17%	2.00
Developing	PERU	2009	2.67%	4.50%	0.59
Developing	ST KITTS AND NEVIS	2012	6.60%	3.10%	2.13
Developing	ST LUCIA	2012	8.00%	4.40%	1.82
Developing	ST VINCENT AND THE GRENADINES	2012	5.60%	4.90%	1.14
Developing	UNITED REPUBLIC OF TANZANIA	2012	4.56%	5.63%	0.81
Developing	ETHIOPIA	2014	4.73%	4.20%	1.13
Developing	TRINIDAD AND TOBAGO	2011	4.80%	5.00%	0.96
Ave Developing			4.61%	4.56%	1.14

Source: WIPO Country Studies Database, 2021

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- ⁱ WIPO (2015). *Guide on Surveying the Economic Contribution of the Copyright-Based Industries*. Geneva: WIPO. Publication No 893 (E), ISBN 978-92-805-1225-7.
- ⁱⁱ Results from WIPO studies are published in *National Studies on Assessing the Economic Contribution of the Copyright-Based Industries*. *Creative Industries Series*. Available at http://www.wipo.int/ipdevelopment/en/creative_industry/economic_contribution.html.
- ⁱⁱⁱ World Bank (various years). *World Development Indicators*. Washington, D.C.: World Bank Group.
- ^{iv} IMF (various years). *World Economic Outlook*. Washington, D.C.: International Monetary Fund.
- ^v UN/DESA (2014). *World Economic Situation and Prospects 2014*. New York: United Nations Department of Economic and Social Affairs.
- ^{vi} These features have been identified since the work of Nobel Laureate Arthur Lewis. See Lewis, W. A. (1954). Economic development with unlimited supplies of labour. *Manchester School of Economics and Social Studies*, 22: 417-419; Lewis, W.A. (1955). *The Theory of Economic Growth*. London: Allen and Unwin.
- ^{vii} UNIDO (2021). *Competitive Industrial Performance Report 2020*. Vienna: UNIDO.
- ^{viii} Index scores range from 0 to 1 and capture three dimensions of industrial competitive capacity: the capacity to produce and export manufactured goods; technological deepening and upgrading; and world impact, on manufacturing exports and manufacturing value-added.
- ^{ix} This has been known since the founding ideas about development and the laws of growth published by Lewis (1954, 1955) and later Kaldor (1957, 1967). See Kaldor, N. (1957). A model of economic growth, *Economic Journal*, December, 67 (268), 591-624; Kaldor, N. (1967). *Strategic Factors in Economic Development*. New York: Ithaca.
- ^x Data for this study come from the 12th edition of the GII. Cornell University, INSEAD and WIPO (2019). *The Global Innovation Index 2019: Creating Healthy Lives—The Future of Medical Innovation*. Ithaca: Cornell University, Fontainebleau: INSEAD, Geneva: WIPO.
- ^{xi} World Economic Forum (2019). *The Global Competitiveness Report 2019*. Geneva: World Economic Forum. Available at https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf.
- ^{xii} World Bank (2018). *Worldwide Governance Indicators*. Washington, D.C.: World Bank. Available at <http://info.worldbank.org/governance/wgi/#home>.
- ^{xiii} Transparency International (2019). *Corruption Perceptions Index*. Berlin: Transparency International. Available at <https://www.transparency.org/en/cpi/2019/index>