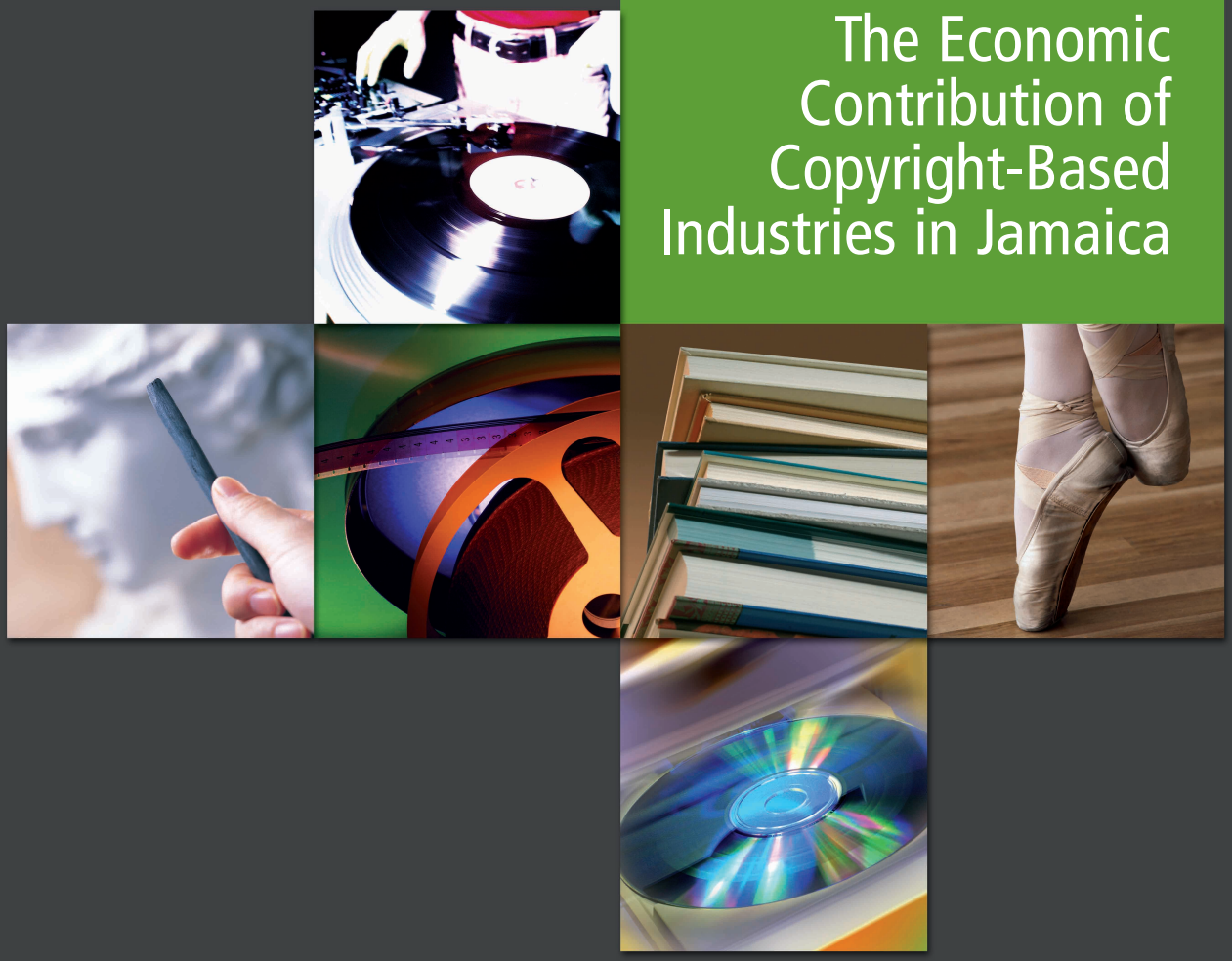
The Economic Contribution of Copyright-Based Industries in Jamaica



Prepared by
Vanus James

World Intellectual Property Organization

The Economic Contribution of Copyright-Based Industries to the Jamaican Economy

Final Report

Prepared by
Vanus James
Mona School of Business, UWI

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The preparation of the report was greatly facilitated by Lonnette Fisher-Lynch, who, as the national coordinator of the study at JIPO, contributed substantively to the information on copyright law in the report. The study also benefited enormously from frequent technical discussions about the methods of economic analysis and the substance of copyright law, competition policy and the underlying jurisprudence with Dr. Rosalea Hamilton, Chief Adviser to the Prime Minister. Lorna Reid and Carol Coy of the National Accounting Unit in STATIN clarified the nature and strength of the data, assisting with speedy access to it as well as with the development of the method of the study, urging appropriate caution with the estimates. Hugh Beckford (General Manager, JACAP) facilitated access to relevant data, Dr. Heather Rickets (UWI) and Richard Murray (Ministry of Finance) helped identify the cases profiled and commented on sections of the report, as did Dr. Jonathan Greenland of the National Gallery of Jamaica. Finally, the visit to Jamaica by the World Intellectual Property Organization's (WIPO) Oversight Team of Dimiter Gantchev (Acting Director, Creative Industries Division), Donna Ghelfi (Program Officer, Creative Industries Division) and Stephen Siwek (WIPO International Consultant) represented a turning point in the preparation of the report, both in terms of the technical clarity brought to the process and the cooperation from a wide range of stakeholders in the public and private sectors. In particular, Stephen Siewek's comments on the various drafts of the study and his recommended solutions greatly helped me to sharpen measurement and interpretation of the contribution of key sub-sectors.

To all, very special thanks.

Vanus James

Executive Summary

The specific purpose of this study is to measure the contribution of the copyright-based industries to GDP, employment and trade. The general aim is to update the indicators and framework for policy design, implementation, monitoring, and evaluation that seek to give the copyright-based industries an optimal place in transforming the structure, growth performance, and the internal and external balances of the Jamaican economy. The measures provided are economic in focus but it should be noted that copyright output such as music and art have significant non-economic benefits and it is also worthwhile for stakeholders to consider this in designing future studies.

I.1. Definition of Copyright-Based Industries

The copyright-based industries are defined as those industries in which copyright plays an identifiable role in creating tradable private economic (property) rights and income from use of these economic rights (WIPO, 2003:18, 22). That is, they use the protection of original expression provided by copyright and related rights, and, in particular, their protection by actual enforcement or threat of it, as the basis for investment, employment, and, ultimately, generation of income from the sale of a product or service or the sale of the (economic) rights themselves. The definition takes account of the role of government as regulator.

According to WIPO (2003), these industries are appropriately classified for statistical measurement into four broad groups of copyright activities:

1. **Core Copyright Industries,** which exist to create, produce, and/or distribute copyright materials. Creation and production include performance, broadcasting, communication, and exhibition (WIPO, 2003: 28), which themselves sub-categorize into the following products and services:

   a. Press and Literature
   b. Music, Theatrical Productions and Opera
   c. Motion Picture, Video and Sound
   d. Radio and Television
   e. Photography, Visual and Graphic Arts, Related Professional and Technical Services
   f. Software, Databases and New Media
   g. Advertising Services
   h. Copyright Collective Management Societies

2. **Interdependent Copyright Industries,** which are engaged in the production, manufacture and sale of equipment that facilitate copyright activity (WIPO, 2003: 33). Such equipment includes TV sets, radios, DVD players, electronic game consoles, computers, musical instruments, photographic instruments, blank recording material, and paper.

3. **Partial Copyright Industries,** whose main activities may not be copyright but include a significant component of products and services that are based on copyright as defined in (1). These include museums, jewelry, coins, architecture, engineering, surveying, interior design, and furniture design.

4. **Non-Dedicated Support Industries,** which are the distribution industries that facilitate broadcasting, communication, and distribution or sales of copyright-based activities that are not classified as core copyright activities. These industries serve to measure spillover effects of the core,

interdependent and partial copyright industries. They deal in wholesale and retail, general transportation, and telephony and the Internet.

I.2. Method of the Study

By the above definition, the method of quantification is inherently sector-wide. It covers core and related activities in a way that exhibits the main externalities generated by the production of copyright output. To estimate the contribution to income and employment, the study uses data from the Jamaica 2001 Population Census and the 10 percent Census of Economic Activity (labor market) along with basic national accounting data on selected sectors provided by STATIN.

Two main imputation techniques are used. First, there are earnings multipliers computed as the reciprocal of the "wage share", using the basic data that STATIN has provided on the structure of national income in selected sectors. The purpose of the multipliers is to replicate the structure of income in various copyright sub-sectors, based on the nearest identifiable classification code for which STATIN data are available. The availability of more details from STATIN would most likely improve these estimates. Second, copyright factors are estimated to identify the copyright component of each relevant class of activity under the JSIC codes. Since this is the first study of its kind in Jamaica, these copyright factors are based primarily on figures available from various data sources, especially the earnings data of Census 2001, the Survey of Living Conditions (SLC) and factors available from international best practice sector-wide studies of similar creative and copyright sectors conducted in Mexico and Hungary by WIPO (2003; 2006), UIS (2005) and Marquez-Mees, Funes and Yaber (2007). The Mexican indicators also benefited from the data published about the US economy (2006). The economies of Mexico and Hungary have been chosen because relevant studies are available and also because they, like Jamaica, have a significant pool of surplus (underemployed) labor and a tendency for members from this pool to pursue and develop commercial creative arts as a way to earn income. These studies provide the main guide to the copyright factors of the partial copyright activities. All factors for core copyright are set at one to indicate that 100 percent of these activities are assigned to copyright. Similar activities in interdependent copyright are also given a factor of one.

The main guide to the copyright factors for non-dedicated support for copyright comes from the SLC, which indicates that 0.6 percent of all consumption is recreational, the main driver of the copyright sector. This information is used to set a general factor of 0.005 for non-dedicated copyright and for several other sectors in partial copyright that have been judged to have only a minimal copyright component.

Employment is estimated either based on the data directly provided by stakeholder institutions or by dividing estimated earnings by the average earnings per employee in a sector. Perhaps the most important aspect of the employment data provided in this study is the assessment of whether the copyright sector also exhibits high levels of underemployment. This is determined by estimating the elasticity of earnings with respect to the supply of labor in the sector, with labor supply defined by hours worked per week and weeks worked. Estimates of the returns on investment in education in the copyright sector are provided in that same context. These estimates provide information on whether the general macroeconomic condition of underemployment and significant externalities affecting factor pricing in Jamaica is replicated in the copyright sector. The findings are that such conditions are replicated and that the marginal product of labor deviates from the wage rate. This justifies using the ratio of GDP to factor payments as the basis for estimating the relevant partial productivities that should guide policy formation. With regard to capital, the relevant capital productivity measure is the ratio of sector output to the claims for depreciation and operating surplus. The majority of the physical capital employed by the typical sector is imported, so the estimates are proxies for the productivity of imported capital inputs or the efficiency of the use of foreign

exchange. In the case of indirect taxes, it is the ratio of indirect taxes to GDP that provides the relevant indicator of the tax recovery rate yielded to support public policy.

I.3. Content of the Report

The report comprises eight sections. Section I introduces the report. Section II provides the background and context that identify the copyright sector and the macroeconomic context in which it operates. It is shown that the macro economy features high levels of underemployment in a context of growing demand and trade opportunity in the markets related to the copyright sectors. Section III presents a profile of the Jamaican core copyright sector, in the context of which other segments are measured. The profile focuses on the leading personnel and types of firms driving their creative activities, and it provides some evidence of the level of education and the share of self-employment in the sectors. Section IV summarizes the methods of implementation of the WIPO (2003) guidelines. A multiplier based on the earnings share is justified in light of the data available from STATIN and Census 2001, and the use of the copyright factors is explained, together with justifications for the guidelines adopted from international studies from Mexico (Marquez-Mees, Funes and Yaber, 2007) and Hungary (WIPO, 2006). The section also clarifies the projection of earnings data from Census 2001 to 2005 as well as the method of adjusting selected STATIN national accounting components to reflect underemployment in the labor market.

Adjustments are applied only in cases where STATIN indicates that estimates are weak in that respect and Census 2001 provides no better alternative. Section V reports the results of application of the method to estimation of the GDP by type of copyright sector, and Section VI does the same for estimates of employment. In this section, evidence is provided that the labor market in the copyright sector features substantial underemployment and significant externalities, and thus that the marginal product of labor diverges from the going wage rate. In Section VII, a very broad picture is provided of trade patterns in the copyright sector, based on data obtained from UIS (2005) and Nurse, (2007) as well as on data collected from selected stakeholders participating in the international trade in the sector. Section VIII summarizes the policy perspectives. These focus on the necessary domestic capital formation to eliminate underemployment, with attention to both fixed and working capital. The results of Section VI are used to justify computation of partial productivities, using the claims paid to factor inputs. The partial (average) productivities are used to compare gains from investment in various segments of the copyright sector and thus to summarize the resulting perspectives regarding priority allocation of investment support.

I.4. Limitations

The main limitation of the sector-wide measure provided in this study is the use of the Survey of Living Conditions and the best-practice data from cases such as Mexico and Hungary as the basis on which to estimate the copyright factors. Future studies should employ a well-designed survey and all the details of the income distribution available for all 4-digit sectors on which STATIN collects data. The second most important limitation is that modern information technology makes the measure of trade in copyrighted products sketchy and inadequate and the measure of domestic sale of copyright output quite weak in many cases, such as music and publication of books and papers. In addition, the copyright-based industries involve significant levels of piracy and other negatives that are addressed by diverting resources to policing and offsetting their impact. These have not been netted out in our calculations. In the context of Jamaica, there is substantial underreporting of incomes because of the existence of the so-called informal economy and its hidden transactions. In reporting to STATIN, operators in the copyright sector might conceal transactions for several reasons: avoidance of taxes, evasion of applicable laws and regulations, concealment of illegal activity, and the like. The effect is usually underestimation of the contribution to GDP and employment, and uncertainty regarding the contribution to indirect taxes. Nonetheless, the estimates are sufficiently strong to form a starting point for policy formulation and to provide guidelines on how surveys might be designed for more accurate estimates of the copyright factors and the distribution of income.

I.5. Findings

Our estimates reveal that in 2005 Jamaica's copyright sector contributed about J$29 billion in producers' values at constant (1996) prices to the Jamaican economy, in the neighborhood of US$464.7 million or 4.8 percent of GDP. Approximately 35.6 percent of the total contribution was from the core copyright sector, 15.5 percent from the interdependent copyright sector, 9.8 percent from the partial copyright sector, and 39 percent from the non-dedicated support sector. To produce this output, the copyright sectors accounted for 3.03 percent of the employees in the economy or 32,032 persons, with 59.3 percent of these employed in core copyright activity, 10.4 percent in interdependent copyright, 7.8 percent in partial copyright and 22.5 percent in non-dedicated support. Education and skills are the principal forms of capital employed in the copyright sector, and this asset is distributed unevenly among the sub-sectors. Estimates indicate that the earning productivity relating to education in the copyright sector is well above average for the economy. The best-known international sectors are also the least well-endowed with formal education but they are perhaps the best endowed with the domestic tacit knowledge and skills that foster creation of new knowledge and applicable skills as well as international market penetration. This suggests a case for mainstreaming of the copyright sector in the education system, with adequate attention to the traditionally neglected segments of music, dance and theater. The sector is actively involved in international trade and payments, but strong estimates are not available. At best, it can be claimed that the sector runs a general trade deficit, with the exception of press and literature, which appears to run an overall trade surplus. It is likely that music also runs a positive payments balance.

The general Becker-Chiswick-Mincer earnings function indicates that, without distinguishing the levels of university degrees and such relevant issues, the core copyright sectors yield a higher average rate of return on investment in education than do other sectors of the economy. There is an added premium for job-specific training but it is lower in the copyright sector than in the rest of the economy. Together, the data show that it is comparatively very beneficial for the economy to re-allocate resources to invest in education for the copyright sector and to sustain the allocations for job-specific training. Underemployment conditions prevail in the sector and imply a shortage of capital and a sparse technology set in the copyright sector, which can only be remedied by the production and accumulation of domestic capital with both fixed and working capital. Further, there are significant positive pecuniary and non-pecuniary externalities and, therefore, a related divergence of the marginal product of labor from the going wage rate. This finding necessitates and validates use of the average return to the claims of factors when computing average factor productivities. It is worth observing that in the case of labor productivity; this is the same as the multipliers referred to above.

I.6. Policy Perspectives for the Copyright Sector

At the same time, the copyright sectors are high-productivity sectors, especially as defined in terms of the returns on investment in capital formation, which is also a measure of the productivity of imports (or the efficiency of use of foreign exchange) since most real capital used in Jamaica is imported. Indeed, these sectors tend to outperform most other sectors on the basis of this indicator, which is the one that is relevant in a situation of a substantial and binding imbalance on the external account. The data show that each dollar of foreign exchange invested in the leading elements of the core copyright sector contributes about J$6.18 of value added to Jamaica, mainly in the form of wages and indirect taxes. These elements are: authors, music composers, and independent artistes in allied activities (not music); authors, music composers, and independent artistes in the core music industry; dance studios; and theater and related entertainment services. Each dollar invested yields as much as J$6.57 in certain partial copyright sectors, such as manufacture of other leather products, luggage and handbags, footwear made of rubber, plastic and other materials and boots and shoes from leather fabrics and other materials except wood, rubber and plastic. On the other hand, the same dollar of foreign exchange in communications (say, cable television)

yields only J$1.49. This simple arithmetic is compelling in terms of policy direction: re-prioritizing support for the leading partial and core copyright sectors.

Underemployment conditions and externalities in the copyright sector imply that there exists a supply of labor and tacit knowledge that is being employed to exploit the domestic comparative advantage and create capital on a viable, creative and cost-effective basis. Both fixed and working capital are being accumulated, and policy should focus on supporting this process since, on this evidence, the copyright sector, broadly defined, can become one of the main sectors leading the Jamaican economy to sustainable reintegration into the rapidly changing world economy. Notwithstanding, the paradox of entrepreneurship persists. Entrepreneurs with substantial capital are usually not drawn to invest in the key creative activities of the copyright sector, such as music; those entrepreneurs who are drawn typically have only small amounts of capital and policies should focus on addressing this paradox.

1.6.1. Policies to Address the Paradox of Entrepreneurship

To address the paradox of investment identified in the study and to increase the flow of entrepreneurs into the sector, it is necessary to employ policies that build on its high productivity and focus on making the incentives to invest in domestic capital formation in the sector more attractive than in other sectors of the economy. The boost given to import productivity and profitability would be the main attraction to investors. The relevant policies include the following:

- Investment in acquiring and producing applicable knowledge, especially tacit knowledge, and in the problem-solving skills to use and codify it as necessary for improved business success. This requires mainstreaming of copyright sector education through continuous training and tracking from primary school through to post-graduate education and research.
- Corresponding investment in physical capital assets in the copyright sector to complement the human capital accumulation identified in (1). These assets include both public infrastructure and private real capital formation.
- Strengthening of the copyright regime and mainstreaming of education and training on the benefits of copyright and design of competition policy as a mechanism of support for copyright policy.
- Improved access to credit for capital formation, fixed and working, complete with a relevant system of enterprise-wide risk management to strengthen collateralization and securitization of credit to the sector.
- Technical, incubation and educational support for investment in domestic capital and creativity and to optimize competence in the acquisition and use of modern information processing technologies that facilitate creativity.
- Accelerated tax benefits that boost cash flows, such as making Jamaica a personal income tax haven for elite copyright personalities as defined by the ability to achieve specific earnings thresholds.
- Enhanced international cooperation in the sector, with the assistance of Jamaica Trade and Invest.
- Reform of the system of information collection, sharing and communication and definition of roles for the sector. Here, reforms should promote good governance mechanisms to facilitate sound design of relevant supporting public policy and informed leadership by the state. Some of these reforms should include a radical upgrade of the information collection, sharing and communication devices used to monitor and lead the development path of the industry, as well as the arrangements for sector-wide consultation and joint decision-making between government departments, the private sectors and communities. For this purpose.
- STATIN should be strengthened to better understand and use all relevant approaches, including a possible satellite account for the sector, participatory and qualitative approaches to data collection that bring all stakeholders into the data supply loop, and thereby improve systems for consistent sector

reporting and monitoring.

- A sector-wide planning process for the sector should be established, featuring (i) well-defined stakeholder participation and cost and financed sector plans that are fully integrated into the Medium-Term Policy Framework and the annual budget; and (ii) arrangements for an annual joint sector review and report.

1 Introduction

The copyright-based industries have emerged as an important part of Jamaica's economy and society, influencing and transforming it as well as traditional sociology and policy. Copyright output, which has both a marketable and non-marketable "tacit" form, is becoming increasingly important both as an intangible capital resource (input) that is not consumed entirely during its use and as a final consumer good or service.[1] Much of the development to date has been based mainly on the efforts of private entrepreneurs – many in the category of micro, small and medium-sized enterprises. In some segments, such as advertising services, free-to-air on broadcast TV and radio as well as on cable TV, significantly successful large-scale local and international investments, some from government, have been taking place in the last two and a half decades since the start of the structural adjustment and trade liberalization process. Even before that, in music in the late 1960s and early 1970s, international investors began to cooperate with local investors to develop domestic capital and tacit knowledge, transform domestic comparative advantage, and market the product locally and globally on terms that pushed Bob Marley and the Wailers, in particular, and Jamaican reggae and dancehall, in general, to the forefront of global music. The successes also reflect trends in the growth of local and international demand for copyright input and output and for some of the benefits of rapidly-changing local and global technologies. The government is now re-examining the advisability and effectiveness of adjusting its policy attention and supporting expenditures to optimize benefits from the industry with respect to contributions to GDP and employment as well as to trade and taxes, and, in that context, to update the modalities of financing and technical support along with the framework of public leadership and management of the sector.

1.1 Purpose of the Study

The immediate purpose of this report is to quantify the contribution of the copyright-based industries to GDP, employment, and foreign earnings in Jamaica. The underlying goal is to update the indicators and hence the framework for policy design, implementation, monitoring and evaluation, with a view to ensuring that the copyright-based industries attain their optimal place in transforming the structure and growth performance of the Jamaican economy. As is common in international practice, the main indicators are the partial factor productivities. In the context of Jamaica, the most important of these is the average productivity of the claims paid for capital, which also provides a proxy for the productivity of imports.[2] An important element of this report, therefore, is the policy framework extracted from the analysis and indicators that rank industries by these productivity indicators.

The study focuses mainly on the economic aspects of copyright. Nonetheless, it is to be recognized that copyright output such as music and art does have significant non-economic benefits related, *inter alia*, to social mobility and transformation, the national spirit, health, and management of crime. It is also worthwhile for policy-makers to provide for consideration of such matters in future studies.

1.2 Definition of Copyright

Copyright (or authors' right)[3] is a form of exclusive right given by society to the creator of original literary, artistic or musical works to do, authorize, or prohibit certain acts in relation to such works. It especially

[1] Marketable flows reflect the demand for copyrighted goods and services (software, CDs, data, etc.) from the tourism sector, general government, education, sports and other industries. Non-marketable flows are the forms of tacit knowledge occurring in society, often but not necessarily only within firms, which are protected largely by lack of access and an effective exclusion mechanism even in the absence of a relevant law and even when the potential user is willing to pay.

[2] Note that a dynamic form of this measure also indicates the rate of saving of foreign exchange.

[3] The term "authors' right" is used in the civil law system, and "copyright" is used in the common law system (Sterling, 1998:xiii). The authors' right system has its roots in the French laws of 1791 and 1793, while the copyright system is rooted in the UK Act of 1710, commonly known as the Statute of Anne (Sterling, 1998:15-16). It is sometimes necessary to use both in order to reflect the different approaches in the two systems. The most important distinction relates to the emphasis on the protection of the work in the copyright system and on the author in the authors' right system.

prohibits the copying or use for public purposes of defined types of original cultural, informational and entertainment productions (Cornish, 1996:7; COTT, 1999).[4] It denotes a "bundle" of separate rights, including reproduction, publication, public performance, broadcasting, cable transmission to subscribers, and adaptation (such as dramatized versions of fictional works or arrangements of musical compositions) (Guidberg, 1994:2; Sterling, 1999: 23).

In contrast with patents which aim to protect ideas that satisfy the criteria of novelty, non-obviousness and usefulness, copyright protection is extended to expression and not to ideas, procedures and methods of operation or mathematical concepts (Rey and Winter, 1998: 159; Cornish, 1996: 8; TRIPS, Article 9).[5]

Adequate understanding of copyright requires an understanding of related rights (Sterling, 1999: 63-64). These are the rights of performers, producers, broadcasters and others who bring authors' works before the public (Sterling, 1998: ix). These rights have been internationally protected since the International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (known as the Rome Convention) of 1961. In some laws, e.g., those of the UK, the term "copyright" is used to cover both the rights of authors and some or all of the related rights. Copyrights are administered by collection societies with deterrent support from law enforcement agencies. The dominant collection agencies worldwide are those based in the largest markets. In the US, there are the American Society of Composers, Authors and Publishers (ASCAP) and Broadcast Music Inc. (BMI). In the UK, there is the Performing Rights Society (PRS), and in Europe as a whole there is the Society of European Stage Authors and Composers (SESAC). Internationally, collection societies collaborate with each other directly and through membership in the *Confédération Internationale des Sociétés d'Auteurs et Compositeurs* (CISAC) and, increasingly, through projects initiated in collaboration with WIPO (Andersen, 1999: 24-27). Over time, Jamaica's collective management societies have been increasing their collaboration and cooperation with these international collective management agencies.

Increasing recognition of the importance of IP in world production and exchange, especially in the scale of the losses to piracy, has resulted in significant developments in the international regimes for regulating the use of IP. In particular, it led to the conclusion, within the framework of the WTO, of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement in 1995 and, within WIPO, of the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, both in 1996.

[4] The term "property rights" refers to the legal protection for one's expenditure of labor, time and money (past effort). For economists/social scientists, property rights also include the informal constraints, that is, the sanctions, customs and codes of conduct, which have been devised to constrain the use of commodities and things (tangible or intangible), and thereby facilitate order and reduce uncertainty in production and exchange (Neuberger, 1994:23). Property rights are the basis for defining ownership, and hence for determining the assignment of costs of production and exchange. Intellectual Property (IP) describes research results and other original ideas, whether or not they fall within the ambit of what the law protects (Cornish, 1996:3). Although IP rights are essentially negative (i.e. rights to stop others doing certain things), some aspects of IP confer positive entitlements (e.g. the right to be granted a patent or register a trade mark upon fulfilling the requisite conditions) (Braunstein, 1989:12).

[5] It is important to note, however, that this distinction is not strictly true. In *Ibcos Computers Limited and Another v. Barclays Mercantile Highland Finance Limited [1994] FSR 274 at 291*, Jacob J. noted:

The true position is that where an "idea" is sufficiently general, then even if an original work embodies it, the mere taking of that idea will not infringe. But if the "idea" is detailed, then there may be infringement. It is a question of degree. The same applies whether the work is functional or not, and whether visual or literary. In this latter field, the taking of a plot (i.e., the "idea") of a novel or play can certainly infringe – if that plot is a substantial part of the literary work.

The case of *Anacon Corporation v. Environmental Research Technology Ch.D 21 April 1994* (unreported) seems to blur this distinction even further by equating the information derived from the original copyright work with the work itself (Hall, 1994:191-192). Note, however, that non-disclosure and non-competition agreements are probably the single best way to protect the ownership of ideas and information that are not subject to the laws of copyright or trademark (Kirsch, 1995:10). The law of "idea misappropriation" offers the aggrieved creator a legal mechanism for the protection of "mere ideas." However, the remedy is the "fair market value" of the idea, and this is typically less attractive than a claim for copyright infringement which, unlike idea misappropriation cases, will force the infringer to pay attorney's fees..

The international copyright agreements set specific standards of protection of copyright and related rights that must be observed and applied by all WTO Member States (Sterling, 1999: 6). Widespread compliance by the year 2006, as stipulated by the treaties, has generally meant that many countries have a comprehensive IP regime; complete with effective deterrence that meets common international standards.

1.3 Definition of Copyright-Based Industries

The copyright and related rights industries are defined as those industries in which "copyright plays an identifiable role" in creating tradable private economic (property) rights and income from use of these economic rights (WIPO, 2003: 18, 22). Copyright is one of seven broad forms of legal protection of intellectual property, the others being patent, trademark and trade secret (undisclosed information), geographical indications, industrial designs, and layout-designs of integrated circuits. This study deals only with industries protected by copyright, which focuses on specific expression of ideas or information (but not the actual idea or information itself or any content of specific concepts, facts, methods, techniques and styles embodied in the specific expression) related to literary and artistic creations and computer software. Copyright-based industries use the protection of original expression provided by copyright and related rights and, in particular, their protection by actual enforcement or threat of it, as the basis for investment, employment, and, ultimately, generation of income from sale of a product or service, or sale of the economic rights themselves. The definition takes account of the role of government as regulator.

According to WIPO (2003), these industries are appropriately classified for statistical measurement into four broad groups of copyright activities:

1. Core Copyright Industries, which exist to create, produce, and/or distribute copyright materials. Creation and production include performance, broadcasting, communication and exhibition (p. 28). These include:

a. Press and Literature
b. Music, Theatrical Productions and Opera
c. Motion Picture, Video and Sound
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e. Photography, Visual and Graphic Arts, Related Professional and Technical Services
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2. Interdependent Copyright Industries, which are engaged in the production, manufacture and sale of equipment that facilitate copyright activity (WIPO, 2003: 33). Such equipment includes TV sets, radios, DVD players, electronic game consoles, computers, musical instruments, photographic instruments, blank recording material, and paper.

3. Partial Copyright Industries, whose main activities may not be copyright but include a significant component of products and services that are based on copyright as defined in (1). These include museums, jewelry, coins, architecture, engineering, surveying, interior design, and furniture design.

4. Non-Dedicated Support Industries, which are the distribution industries that facilitate broadcasting, communication, and distribution or sales of copyright-based activities that are not classified as core copyright activities. These industries serve to measure spillover effects of the core, interdependent and partial copyright industries but are in themselves not normally thought of as

copyright activities. The industries include general wholesale and retail, general transportation, and telephony and the Internet.

1.4 Method of the Study

The above definition reveals that the underlying method of the study measures the copyright sector on a sector-wide basis, covering core activities and key linkages in a way that demonstrates the main externalities generated by the production of copyrighted output. The study employs data from the Jamaica 2001 Population Census and the 10 percent Census of Economic Activity (labor market) along with basic national accounting data on selected sectors provided by STATIN as the basis for the estimates of income and employment. No reliable data are available to prepare direct estimates of the contribution of the copyright sector to trade and payments, even by using residual calculations from an expenditure viewpoint.

Wage data from Census 2001 are used to complement the data provided by STATIN for cases in which data are not available. Data from the Large Establishment Survey are used to forecast the Census data up to 2005, on the assumption that fundamental structural adjustments are reflected in average wage patterns. Copyright factors are informed by the basic WIPO (2003) method, by data provided in the relevant studies on Mexico and Hungary, by data available from the 2005 Household Expenditure Survey, and by data from the Survey of Living Conditions. It is also assumed that the internal distribution of income in the data provided by STATIN is a reasonable basis for approximating the structure of income in the core and related copyright sectors. This structure is replicated by simply estimating a sector multiplier from the basic STATIN data.

Estimates of employment are computed as the ratio of sector wages and the average wage provided by the STATIN Survey of Large Establishments. Estimates of the returns on investment in education in the copyright sector are provided in the context of a wider estimate of the wage curve of the sector that sheds light on the elasticity of labor supply and provides information on whether the general macroeconomic conditions of underemployment and significant externalities affecting factor pricing in Jamaica are replicated in the copyright sector. The findings are that such conditions are replicated and that the marginal product of labor deviates from the wage rate. This justifies using the ratio of GDP to factor payments as the basis for estimating the relevant partial productivities that should guide policy formation.

With regard to capital, the relevant capital productivity measure is the ratio of sector output to the claims for depreciation and operating surplus. The majority of the physical capital employed by the typical sector is imported, so the estimates are proxies for the productivity of imported capital inputs or the efficiency of use of foreign exchange (James, 2006a; 2006b). In the case of indirect taxes, it is their ratio to GDP that provides the relevant indicator of the tax recovery rate yielded to support public policy.

1.5 Structure of the Report

The report comprises eight sections, of which this Introduction forms Section I. Section II provides background and context that guide choice of the method of estimation. It identifies the copyright sector and the macroeconomic context in which the sector operates. It shows that the macro economy features substantial levels of domestic underemployment in a context of growing demand and trade opportunity in the general international markets and in the markets directly related to the copyright sectors. Section III sets out a profile of the Jamaican core copyright sector, in the context of which other segments are measured to capture clear linkages with copyright activity – the interdependent, the partial, and the non-dedicated support. In Section IV, the methods of implementation of the WIPO (2003) guidelines for estimating copyright GDP, employment and trade are set out. The method is guided by both the labor and skill

intensity of the industries as well as by the extent of underemployment evidence in data from the census of 2001. A multiplier based on the earnings share is justified in light of the data available from STATIN and Census 2001. The use of copyright factors is explained and the assumptions made regarding their use are stated explicitly according to the sub-sectors concerned. This includes reliance on the practices in Mexico (Marquez-Mees, Funes and Yaber, 2007) and in Hungary as reported in the national studies of the copyright sector made available in WIPO (2006).

The section also clarifies the method of projection of earnings data from Census 2001-2005, as well as the method of adjusting selected STATIN national accounting components to reflect underemployment in the labor market. This adjustment is applied only in cases where STATIN indicates that its estimates are weak in that respect and Census 2001 provides no better alternative. Most importantly, the section justifies and documents estimation of worker earnings used to compute the GDP and employment in the copyright sub-sectors, as well as to estimate the associated claims structure of output in terms of taxes, depreciation, and operating surplus. Section V reports the results of application of the method to the estimation of GDP by type of copyright sector, and Section VI does the same for estimates of employment. In this section, evidence is provided that the labor market in the copyright sector features substantial underemployment and significant externalities, which point to divergence between the marginal product of labor and the wage rate and, more generally, to a breakdown of the law of demand in the economy. Section VII summarizes the policy perspectives. These focus on the necessary domestic capital formation to eliminate underemployment, with attention to both fixed and working capital. The results of Section VI are used to justify computation of partial productivities, using the claims paid to factor inputs rather than the quantity of the factors measured independently of their broad factor prices.

The partial (average) productivities computed on that basis are used to compare gains from investment in various segments of the copyright sector and thus to summarize the resulting policy perspectives regarding priority allocation of investment support. Given the high level of dependence on imported capital inputs, the indicator of labor productivity is also a good indicator of the rate at which claims flow to the foreign interests per dollar of outlay. The indicator of capital productivity is correspondingly a good indicator of the rate at which earnings flow to domestic skills and labor.

1.6 Limitations

The main limitation of a sector-wide measure such as this is the use of the Survey of Living Conditions and the best-practice data from Mexico and Hungary as the basis for the estimates of the copyright factors. A preferred basis would be survey data, especially as such data would allow estimation of input-output technical coefficients. A second important limitation is that the estimates for most sub-sectors in the set measured rely on the strong assumption that the distribution of income and intermediate input used variously reflect that for which STATIN provided data. A preferred basis would be the detailed 4-digit or 5-digit specifics on income distribution and intermediate input use for each sub-sector. The second most important limitation is that the measure of trade in copyrighted products is sketchy and inadequate. Apart from the weak domestic datasets, this is an era of dynamic information technology and of its application to copyright and related rights in which it is difficult to scrutinize and record cross-border computer and related flows of software, data, music, and the creation and settlement of financial claims. In fact, this problem also makes monitoring of the domestic sale of copyright output difficult and even weak in some cases such as music and book publishing. Cross-border piracy compounds the picture even more and makes it nearly futile to monitor and measure the cross-border flow of intellectual property in software programming, music, film and the like. For example, one might claim that Jamaica has a huge deficit in the

trade in software and imports most of its software needs, or that it is a net exporter of music, but one does not know whether either claim is true based on empirical evidence, partly because technology-driven deficiencies in the protection of intellectual property as information content lead to loss of export sales by one trading partner or the other.[6]

Further, some significant changes in the quality of an industry occur as the industry develops and becomes globally competitive. Such changes lower the quality of projections from 2001 to 2005 based on data on wages from the Large Establishment Survey. Normally, these wage adjustments can be refined with detailed sector data and econometric measures of hedonic prices but the data are not available for such purposes. In addition, the copyright-based industries involve significant piracy and other negatives that are addressed by diverting resources to policing and offsetting their impact. These have not been netted out in our calculations. In the context of Jamaica, it is reported that there is substantial underreporting of incomes because of the existence of the so-called informal economy and its hidden transactions. In reporting to STATIN, operators in the copyright sector might conceal transactions for several reasons: avoidance of taxes, evasion of applicable laws and regulations, concealment of illegal activity, and the like. The effect is usually an underestimation of the contribution to GDP and employment and uncertainty regarding the contribution to indirect taxes.

Estimates on trade and payments were not provided because of lack of reliable data. For these reasons, the estimates ought to be treated as initial conditions for understanding output, employment, and taxes in the copyright sector. Nonetheless, the estimates are sufficiently strong to form a starting point for policy formulation and to provide guidelines on how surveys might be designed for more accurate estimates of the copyright factors and the distribution of income.

[6] Such content is typically invisible and only appears in physical form on a computer screen or in a cell-phone. Jussawalla (1992) made similar observations more than two decades ago. They still apply to the trade in copyright products today, notwithstanding substantial updating of harmonized copyright laws in the international community.

2 Background and Context of Analysis

The main point of this background is to summarize development possibilities in the copyright sector by demonstrating that in Jamaica it operates in a wider macroeconomic framework characterized by high productivity growth potential on the one hand and, on the other, by the sustained breakdown of the law of demand – the process of resource mobility that facilitates efficient resource allocation – in the labor market. The latter breakdown also implies breakdown in all other factor markets and associated shortage of capital and import capacity that has led to the existence of sparse technology sets in the Jamaican economy. The breakdown of the law of demand has the effect of freeing up labor and domestic tacit knowledge with applicable skills, as well as domestic entrepreneurial skills, financial liquidity, and credit-creating capacity.

In that type of economic context, there are two central principles of economic analysis – one concerning measurement of factor productivity for the purpose of prioritizing interventions, and the other concerning the structure of investment necessary to foster resource mobility and restoration of the rule of the law of demand. First, regarding the measurement of factor productivity, the marginal product of a broadly-defined factor tends to deviate from the general rate of return, making it impractical and analytically unjustified to separate values and real quantities. Thus, the estimate of the partial factor productivity must be computed as the ratio of output to the flow of payments of claims to the relevant factor. In a context of abundant tacit knowledge, a shortage of imported capital and a tendency for most physical capital of the private sector to be imported, the estimate of the productivity of all claims on capital is also an estimate of import productivity and hence of the potential for raising the rate of long-term saving of foreign exchange (James, 2006b). Second, the central macroeconomic principle governing the copyright sector is that investment in capacity building alongside capacity utilization, especially human capital to produce and use tacit knowledge, is the central means of fostering resource mobility and expanding the output, profits, savings and employment that eliminate underemployment and reset relative prices to validate such investments. Thus, apart from necessary tax and tariff breaks to lure investors into the copyright sector, the central instruments necessary for a rational public policy are expansion of credit to provide both working and long-term financial capital along with suitable risk management devices and training to facilitate mobility and develop and codify idle tacit knowledge.

2.1 Globalization

The context of analysis is the increasingly global capitalist market system, characterized by both the increasing interdependence of nations and increasing pressure to rely more on market competition through capital mobility as the primary mechanism of economic coordination, but with a growing role for major institutions of international and regional collaboration (Ryan, 1998).[7]

In the globalization process, every nation must improve its capacity to compete for the opportunity to grow and consume, or face persistent unemployment, underemployment, and poverty. Only by this means can its people make the necessary move from low to high earning activities, expanding opportunity in the process (Lewis, 1954). But improved capacity to compete necessitates growth of productivity in all activities driven by the process of human, institutional and physical capital formation.

It is ultimately this development that makes investment in copyright-based industries vital to progress in Jamaica, since copyright provides a specific way to claim income created by investment in novel knowledge and other new forms of domestic capital. In summary, the activities in which a country is most creative and, hence, most capable of developing new domestic capital and the skills to use it, are ultimately those that

[7] In the Caribbean region, there is also a deepening and widening of arrangements for collaboration among its countries, including the Caribbean Common Market and the Association of Caribbean States.

offer the best opportunities for exploiting available externalities and developing its distinct comparative advantage (Lewis, 1955; Forstner and Ballance, 1990). As a general rule, these are also the activities that develop and use local knowledge, culture and skill most intensively, typically in combination with relevant international knowledge and skill transfers (Topel, 1990).[8] The role of domestic and international knowledge and applicable skills also implies a significant role for information technology, including the tendency of the latter to facilitate domestic and international piracy because of easy, anonymous, and instantaneous acquisition of information and related intangibles.

All of this has generally been recognized to be true of one of the main engines of Caribbean growth, i.e., growth in the so-called developed countries, and is evident in their growing dependence on the production, use and distribution of IP to displace scarce labor (Freeman and Soete, 1997: 339; Roberts, 2000; Nonaka and Takeuchi, 1995; Bell and Pavitt, 1995; Pavitt, 1996; Ryan, 1998; Thurow, 1996; Forstner and Balance, 1990).[9] Specifically, global demand engines exist to absorb the relevant output of the copyright sector; the problem of development in the sector is not one of effective demand. The global strengthening of copyright protection and the related acceleration of commercial development of the copyright-based industries provide sufficient demand growth. It is therefore quite beneficial that the GDP data produced by STATIN mainly measures the size and structure of income and intermediate inputs, which allows policy to focus, not on effective demand problems *per se*, but rather on the necessary adjustments of the factor markets, wages, prices and rates of return as well as intermediate inputs.

The importance of the copyright sector in scarce labor conditions could be gauged from the fact that copyright-based industries accounted for between 3 and 5 percent of European Community (EU) GDP in 1993. Where the US is concerned, the core copyright industries accounted for 5.72 percent of the GDP (more than US$535 billion) and 4.8 percent of total employment. A selected core of copyright activities was found to yield over US$53.25 billion of foreign sales to the US in 1995 (Sterling, 1999: 27). Studies undertaken under the auspices of WIPO now indicate that in the 24 years between 1977 and 2001, in the US, the core copyright industries[10] grew at 7 percent, more than twice as fast as the rest of the economy (3 percent). In Australia during 1996/97 to 1999/2000, copyright-based industries grew at 5.7 percent while the economy as a whole grew at 4.85 percent. In the Netherlands between 1994 and 1998, the pattern was 5.6 percent versus 3.2 percent for the economy as a whole. And in Finland from 1988 to 1997, the growth advantage of core copyright industries was 8.3 percent as compared to 4.05 percent for the economy as a whole (WIPO 2003: 37).

Of special importance to Jamaica in this context of growing dependence on IP is the relatively rapid growth of the international audiovisual sub-sector generally and the music industry in particular. Led by continuous change in the technologies of production, marketing, and information technology (especially the latter), the music industry grew at a rate of about 5 percent per year between 1991 and 1996 (UNCTAD, 1999: 48; Henry and Nurse, 1996:5, 6). In 1997, this translated into nearly US$38.1 billion in legitimate sales of sound recordings, mainly comprising LPs and CDs (Sterling, 1999: 27; MBI, 1998). In 2000, sound recordings were estimated at US$39.1 billion globally.[11] However, by 2005, a clear division emerged between recorded

[8] This position is implied by the consensus referred to by Kozul-Wright and Stanbury (1998:1) that "the ability of a country to sustain rapid economic growth over the long run is highly dependent on the effectiveness with which its institutions … and policies support the technological progress and innovativeness of its enterprises. It is the fundamental principle explicitly guiding the Tobago Development Plan" (1998).

[9] Recognition of this fact, at least by some countries, has led to a growing preoccupation in international negotiations with the design of international IP regimes and the related design of consistent domestic policy on IP (Ryan, 1998).

[10] These are industries in which all activity is copyright-based.

[11] IFPI (2000), *The Recording Industry in Numbers, 2000,* London.

music, which accounted for US$33 billion globally, and a much broader music sector from subscription radio to ring tones worth more than US$100 billion globally – well over three times the market for recorded music. Partly in response to piracy problems, the live performances segment of the industry has also grown dramatically to account for about US$14 billion in 2005[12]. In the process from music production and sound recordings to distribution, the dominant countries remained the US and Japan, and the dominant participants are the five or six major international corporations with headquarters in these two countries (Henry and Nurse, 1996: 6,7; Andersen, *et al.*, 1999: 11). In the resulting world trade, countries usually labeled "developing" by the United Nations have won a small but increasing share, with their share in exports growing from 8.3 percent in 1988 to 13.9 percent in 1997, and their share of imports growing from 3.1 percent in 1988 to 5.5 percent in 1997 (Andersen, James, Kozul-Wright and Kozul-Wright, 1999). More interestingly, Brazil, the largest market in Latin America and one of the important new domestic capital-developing economies, has been increasing its relative share of the industry, experiencing growth of value of 7.1 percent and growth in volume of 18.7 percent in 2001/2002.[13] The new domestic capital-developing economies have also achieved an overall positive trade balance in music. This gain has been achieved mainly through their creativity in lyrics and performance, itself fostered by the extensive cultural networking of the individuals, institutions, etc. involved in such activities.

The most significant technological changes were (i) the advent of technologies that have facilitated international trade in IP, such as satellite communications, and (ii) the advent of the Internet and the growing options it presents for interactive use or copy. The growing dependence of the world economy on IP was also accompanied by a rapid increase in piracy world-wide. The unauthorized production of copies of music, film, recordings, etc. was reported to have exceeded US$5 billion in 1996 (Sterling, 1999:27).

2.2 Copyright in Jamaica

Jamaica's Copyright Regime

Jamaica's Copyright Act of 1993 protects the exclusive rights of owners of copyright material (reproduction, distribution, adaptation, public performance, and broadcasting). The Act provides general exceptions to infringement of copyright (fair dealing for the purposes of research, private study, reporting, and criticism). In addition to fair dealing exceptions, educational institutions are granted special and specific exemptions for the use of copyright material.

Following is the regime of applicable laws and regulations along with related international treaties:

1. Copyright Legislation and Regulations in Jamaica

(i) The Copyright Act, 1993
(ii) The Copyright (Amendment) Act, 1999
(iii) The Copyright (Customs) Regulations
(iv) The Copyright (Librarians and Archivists) (Copying of Copyright Materials) Regulations
(v) The Copyright (Recording for Archives) (Designated Bodies) Order
(vi) The Copyright (Educational Establishments) Order
(vii) The Copyright (Specified Countries) Order
(viii)The Copyright (Designation of National Cultural Events) Order.

[12] See IFPI News, 22 June 2006, *Recorded Music – Driver of a US$100 billion Economic Sector, http://www.ifpi.org/site-content/press/20060622.html.*
[13] IFPI (2002), The Recording Industry in Numbers, 2002. London.

2. Applicable International Treaties

(i) The Berne Convention for the Protection of Literary and Artistic Works, 1886
(ii) The International Convention for the Protection of Performers and Producers of Phonograms and Broadcasting Organizations (The Rome Convention), 1961
(iii) The Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of their Phonograms, 1971
(iv) The WIPO Copyright Treaty, 1996
(v) The WIPO Performances and Phonograms Treaty, 1996.

Under this copyright regime, the rights of the authors of a work in any of the WIPO (2003) classifications in Table 1 would be fully protected.

Table 1: Copyright Protection for WIPO (2003) Classifications under Jamaican Copyright Laws

JSIC Code	Copyright Classification	Copyright Protection Status
	Core	
	a. Press and Literature	
24212	Publishing of newspapers	Copyright Protected
24214	Publishing of magazines and books	Copyright Protected
24220	Printing not connected to publishing	Copyright Protected
83252	Advertising materials such as billboards	Copyright Protected
33731	**b. Music, Theatrical Productions and Opera**	
3373	Manufacture of audio and video records and tapes/recorded music using Census 2001 adjusted at rate of wage inflation	Copyright Protected
9415	Authors, music composers, independent artistes	Copyright Protected
9415	Music component of authors, music composers and independent artistes	Copyright Protected
9498	Dance studios	Expression Copyright Protected
9414	Theater and related entertainment services	
94110 & 94120	**c. Motion Picture and Video Production, Distribution and Projection**	
94110 & 94120	Motion picture production	Copyright Protected
94110 & 94120	Motion picture and video distribution	Copyright Protected
	d. Radio and Television Broadcasting	
94130	General (national and other) radio and TV broadcasting, including independent producers, satellite TV and other services	Copyright Protected
72000	Cable television	Copyright Protected
95620	**e. Photography**	
95620	Photographic studios, agencies, etc	Expression Copyright Protected
83260	**f. Software and Databases**	
83260	Data processing and related publishing	Output Copyright Protected
	g. Graphic Arts	
9422	Museums and art galleries	Copyright Protected
9415	Artists, sculptors and other independent artists	Copyright Protected
	h. Advertising Services	
83251	Advertising agencies	Copyright Protected

2.3 The Jamaican Economy

The development potential of Jamaica lies in four key properties:

1. A large section of the labor force, with significant amounts of domestic tacit knowledge and education, is not currently employed in the private sector but, rather, is comprised of self-employed workers without employees, paid outworkers, and unpaid workers in agriculture and other activities. The data in Table 2 describe changes in the structure of the broad employment categories and the unemployed. Between 1991 and 2001, the share of self-employed workers without employees increased by 8.6 percent, from 22.3 percent to 24.2 percent of the labor force, contrary to normal development expectations that it should have fallen. Also contrary to development expectations, the share of paid employees fell by 14 percent from 37.3 percent to 32.4 percent rather than increasing. From the perspective of the share of persons employed in the private sector, Table 3 shows that this only recovered to 2001 levels between 2001 and 2005. Taken together with increasing debt burden and budget deficits, this provides evidence that the economy is characterized by rising imbalances but with the imbalance in the factor markets indicating unused productive and development (transformative) potential and relatively low capacity and sparse technology sets in the private sector. Accordingly, for the imbalances to be removed and for the economy to become "developed" in the process, the unused production capacity is being deployed to produce more income (in the short term) and to transform the structure and scale of the production capacity of the economy (in the medium to long term), even if the economy simultaneously reduces some forms of domestic absorption. The central aspect of that unused capacity is the unused entrepreneurship, tacit knowledge and real built capacity that can be transferred into the private sector.

2. Regarding increase and transformation of capacity, persons with the employment status identified in (1) can be deployed into the private sector to produce its domestic capital, especially tacit knowledge that can create copyright as capacity and use it profitably in production in collaboration with other resources. As indicated above, one reason is that these persons represent underemployed education and tacit knowledge. The data in Table 4 describe patterns of change of group characteristics for the period 1991 to 2001. The category of self-employed without employees achieved rapid growth of mean levels of education over the period, 1.76 percent per annum, from 7.5 years in 1991 to 8.8 years in 2001, as compared to approximately 1 percent for those persons in government and private sector employment, and only 0.59 percent for the capitalists. By contrast, real income growth was highest among government employees (13.5 percent) and private sector workers (12.2 percent), with that of the self-employed without employees growing at a lower rate of 10.5 percent. The general result is that the domestic production capacity of the self-employed is growing at a rate far lower than its product, contrary to the condition required for development.

3. Apart from the important role of direct government investment in infrastructure, there is significant room to increase profit flows by reforming the financial institutions and thereby expanding the supply of money by increasing the flow of credit to the main actors investing in domestic capital-intensive activities.

4. There exist growth engines that can absorb the output generated through deployment into the private sector of the workers identified in (1). These are mainly the markets provided by the growth regions of the OECD countries, the large surplus labor countries of the Asia/Pacific region as well as Brazil's vast growing economy in Latin America.

Table 2: Comparative Structure of Main Employment Categories and Unemployment, 1991 and 2001						
	1991		**2001**		**Difference 2001 and 1991**	**Percentage Change since 1991**
Main Employment Category	**Percent**	**Cumulative Percentage**	**Percentage**	**Cumulative Percentage**		
Paid Government Employees	12.89	12.89	10.97	10.97	-1.92	**-14.90%**
Paid Employee in Private Enterprise	37.32	50.21	32.41	43.39	-4.91	**-13.16%**
Paid Employee in Private Home	5.55	55.76	5.86	49.25	0.31	**5.59%**
Unpaid Employee in Agriculture or in any other type of Business	1.46	57.22	2.11	51.36	0.65	**44.52%**
Self Employed with Employees	3.16	60.38	4.33	55.69	1.17	**37.03%**
Self Employed without Employees	22.27	82.65	24.2	79.89	1.93	**8.67%**
Employed, other	-	-	1.53	81.41	N/A	
Employed, category not stated	1.92	84.57	4.5	85.92	2.58	
Unemployed	15.43	100	14.1		-1.33	**-8.62%**
Total	100		100			
Source: Calculated from Census 1991 and 2001						

Table 3: Structure of Employment in Jamaica, 2001 to 2005					
			Year		
	2001	**2002**	**2003**	**2004**	**2005**
Employment Status	%	%	%	%	%
Central or local government	8.11	8.06	8.06	7.42	7.63
Other government	2.36	2.39	2.84	2.59	2.69
Private sector, paid	41.46	39.21	39.39	43.33	43.07
Unpaid workers	1.86	1.3	1.28	1.43	1.54
Employer	2.71	2.49	2.36	2.24	2.29
Self-employed	34.47	32.38	33.68	30.15	30.49
Other, not stated	9.02	14.18	12.39	12.85	12.28
Total	100	100	100	100	100
of which					
Private sector employment rate	**44.17**	**41.7**	**41.75**	**45.57**	**45.36**
Government	**10.47**	**10.45**	**10.9**	**10.01**	**10.32**
Lewis Subsistence	**36.33**	**33.68**	**34.96**	**31.58**	**32.03**
Source: Generated from STATIN Labor Force Surveys, 2001-2005					

Table 4: Education and Earnings of Main Employment Categories with Unemployment, 1991 and 2001

Main Employment Category	1991		2001		Mean Annual Earnings of 2001 at 1991 Prices	Growth of Average Years of Education	Average Annual Rate of Growth of Average Years of Education	Growth of Mean Annual Earnings at 1991 Prices	Average Annual Real Earnings Growth
	Mean Years of Education	Mean Annual Earnings	Mean Years of Education	Mean Nominal Annual Earnings					
Paid Government Employees	10.7	28,539	**11.7**	442686.5	67073.7	9.9%	**0.99%**	135%	**13.5%**
Paid Employee in Private Enterprise	9.4	21,730	**10.3**	317989.4	48180.2	9.4%	**0.94%**	122%	**12.2%**
Paid Employee in Private Home	7.8	9,678	**8.7**	173375.3	26269.0	12.0%	**1.20%**	171%	**17.1%**
Unpaid Employee in Agriculture or in any Other Type of Business	7.3	9,628	**7.6**	82970.2	12571.2	4.4%	**0.44%**	31%	**3.1%**
Self Employed with Employees	9.5	34,801	**10.1**	501654.8	76008.3	5.9%	**0.59%**	118%	**11.8%**
Self Employed without Employees	7.5	13,965	**8.8**	189319.2	28684.7	17.6%	**1.76%**	105%	**10.5%**
Employed, other			**9.0**	229862.4	34827.6				
Employed, not stated	8.7	18,702	**8.9**	215156.1	32599.4	2.5%	**0.25%**	74.4%	**7.4%**
Unemployed	9.1	-	9.7	**-**		6.5%	**0.65%**		
Total	9.0	20,317							

Utilization of this potential in domestic-capital formation will raise import productivity – the crucial partial factor productivity that must grow for the economy to develop. This is another way of recognizing that Jamaica must grow faster than its imports and, in particular, faster than the so-called developed countries, its main source of imports. This could be achieved by using as growth engines one or more of the following:

1. An increasing share of the markets of the developed countries (which are growing on average at just under 5 percent per annum).
2. A significant share of the markets of the large surplus-labor countries, such as Brazil, China and India whose growth rates average about 8 percent (Lewis, 1954; James, 2006a).

The importance of exploiting such growth engines is magnified by the small size of the Jamaican market. Given the growth performance of the economies in (2) above, the growth rate achieved by Jamaica should exceed 5 percent if it is to keep up with the international economy. However, Jamaica achieved real growth that averages only 1 percent per annum in the 15 years to 2005 (Table 5), and several of its industries, such as furniture and apparel, have lost substantial ground because demand has fallen off with changing conditions of penetration into the US market as well as absence of necessary adaptive capacity by the local industries. This is very low growth relative to the rate needed and the worst growth performance in CARICOM. It illustrates that policy-makers should not take for granted that the mere existence of growth opportunities implies that they can be readily exploited. Appropriate capacity must be established, adapted and expanded as the conditions of market penetration change over time. In particular, growth performance in excess of 5 percent per annum requires relatively faster growth of those activities, such as copyright and sport, that (produce and) employ special local knowledge and other domestic capital and take advantage of available externalities to develop domestic comparative advantage and generate relatively high income on a sustainable basis (Lewis, 1955; Topel, 1999; James, 2006a). The poor growth performance by an economy that has not yet solved the fundamental sociological problems of capital formation dramatizes the need for Jamaica to look more carefully at the potential of domestic capital-intensive and creative sectors such as the copyright-based industries, with the focus on addressing the real and working capital needs of the target groups that are exploiting available development potential. Such a focus is also justified by the profile of the successful firms in the Jamaican economy. One of the results of an ordered profit regression based on data from a random sample of 324 Jamaican firms (surveyed under a University of the West Indies project) is that the successful firms in Jamaica, in particular the establishments with high profit growth in the past two

years, characteristically give a better than average role to the following factors, ordered by the size of impact coefficient (z-score) on profit growth (Table 6):

- Reliance on the University of the West Indies for hiring of internal research staff (0.784)
- Focus on profitability in managing production (0.559)
- Matching the competition through marketing (0.205)
- Use of external professional services to improve business culture (0.186)
- Reliance on local business conference for information (0.178)
- Hiring new research staff as an HR strategy (0.13).

On the other hand, the less successful firms tend to give a substantial role to the following factors, ordered by the size of their negative effects (z-scores):

- Reliance on "other local colleges" for hiring of internal research staff (-1.503)[14]
- Reliance on electronic media for information (-0.178)
- Focus on cost in managing production (-0.118)
- Use of external professional services to improve knowledge management (-0.109)
- Use of research as a team builder (-0.083).

The results provide striking confirmation that the successful firms act in a manner consistent with the expectations of the framework of interpretation presented above, that, for development, firms must be focused on expanding their domestic knowledge-creating capacity. In particular, the evidence suggests that the successful firms (i) focus on recruiting the types of staff who can play a significant role in accumulating human capital as capacity to know and to exploit the value-creating potential represented in the firm's knowledge; (ii) create unique new knowledge, typically tied to intellectual property (hereandafter "IP"), which can be deployed to add value; and (iii) ensure better use of generally available knowledge, technologies, and techniques to support self-sustaining profitability and profit growth above the relevant industry average. A central aspect of the development problem is that the share of such successful firms in the pool of entrepreneurs is too small. The majority of firms do not pursue such a focus (James, 2007).

In light of all the above data, the estimation method must improve the ability to answer certain central questions: (i) What program of investment would contribute most to development of the sector while fostering favorable movement of relative prices of domestic capital-intensive output and import-intensive commodities, favorable comparative growth rates of the domestic-capital-intensive sector and the import-intensive sector on the one hand, and favorable comparative growth rates of the local and foreign economy, on the other? (ii) How should this program of investment be financed? (iii) What are the key sociological adjustments which would foster behaviors that ensure sustainability?

[14] "Other local colleges" include the local tertiary institutions other than the University of Technology and Northern Caribbean University.

Table 5: Growth Rates of Real GDP (%) in CARICOM Countries

Countries	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Average
Bahamas	-2.7	2.1	-2.1	2.0	1.1	4.2	3.3	3.0	5.9	4.9	-2.0	0.7	0.9	3.0	n.a.	1.7
Barbados	-3.9	-7.2	0.8	4.6	2.4	3.2	4.6	6.2	0.5	2.3	-2.6	0.5	2.0	4.8	3.9	1.5
Belize	3.1	9.5	4.3	0.2	0.6	1.5	3.6	3.7	8.8	12.3	4.9	4.3	9.0	4.6	3.1	4.9
EC Currency Union	2.3	4.2	2.1	3.0	0.7	2.7	3.2	4.0	5.5	2.7	1.3	0.5	3.0	4.0	5.2	3.0
Guyana	7.8	7.7	8.3	8.5	5.1	8.0	6.2	-1.7	3.0	-1.4	2.3	1.1	-0.6	1.6	-3.0	3.5
Jamaica	0.5	2.6	2.4	1.0	2.3	0.2	-1.0	-1.2	1.0	0.7	1.5	1.1	2.3	0.9	1.4	1.0
Suriname	3.5	-0.2	-7.2	3.2	0.4	2.1	6.5	2.3	-1.4	1.8	4.3	2.8	4.7	8.0	2.0	2.2
Trinidad & Tobago	2.9	-1.1	-2.6	5.0	3.2	2.9	1.2	4.6	5.8	7.3	4.2	7.9	13.4	6.5	7.0	4.5
AVG.	1.7	2.2	0.8	3.4	2.0	3.1	3.5	2.6	3.6	3.8	1.7	2.4	4.3	4.2	2.8	2.8
Std Dev	3.7	5.2	4.7	2.6	1.6	2.3	2.5	2.8	3.4	4.3	2.8	2.6	4.7	2.4	3.2	3.3
Co-eff of Variation	2.2	2.4	6.3	0.8	0.8	0.7	0.7	1.1	0.9	1.1	1.6	1.1	1.1	0.6	1.1	1.5

Source: Caribbean Centre for Monetary Studies, UWI St Augustine

Table 6: Probit of Profit Performance on Critical Success Factors Reported by Firms in Jamaica

Ordered probit regression	Number of obs =268					
	LR $chi^2(11)$ = 130.64					
	Prob> chi^2 =0.0000					
Log likelihood = -284.5176	Pseudo R^2 =0.1867					
Dependent variable is Rate of Growth of Profit	**Coefficient**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
Matching the competition through marketing	0.205	0.063	3.28	0.001	0.083	0.328
Hiring new research staff as an HR strategy	0.130	0.051	2.55	0.011	0.030	0.230
Focusing on profitability in managing production	0.559	0.076	7.34	0.000	0.410	0.708
Focusing on cost in managing production	-0.118	0.050	-2.37	0.018	-0.215	-0.020
Relying on UWI for hiring of internal research staff	0.784	0.270	2.91	0.004	0.255	1.312
Relying on other local colleges for hiring of internal research staff	-1.503	0.403	-3.73	0.000	-2.293	-0.712
Relying on local business conference for information	0.178	0.080	2.22	0.026	0.021	0.335
Relying on electronic media for information	-0.178	0.080	-2.22	0.026	-0.336	-0.021
Using research as a team builder	-0.083	0.039	-2.15	0.032	-0.159	-0.007
Using external professional services to improve knowledge management	-0.109	0.050	-2.18	0.029	-0.208	-0.011
Using external professional services to improve business culture	0.186	0.060	3.12	0.002	0.069	0.303

3 A Broad Profile of the Copyright-Based Industries in Jamaica

The copyright activities of Jamaica have evolved to take advantage of the development opportunities identified above and cover a wide range of activities specified by WIPO (2003) under the core, interdependent, partial and non-dedicated groupings. Table 7 shows the comparisons and provides some idea of how the industries differ from the WIPO classifications. The differences are specific, apart from the general difference of the level of exploitation of development opportunity mentioned in the background and elaborated later in the methodological justifications and clarifications provided in Section IV, giving details of the role of the self-employed as the basis for generating the estimates of the GDP of the copyright sectors. Comparisons are provided for each segment. The information guides the identification of the copyright factors and hence the activities included in the assessment of employment contributions in Section VI.

3.1 Core Copyright Industries

3.1.1 Press and Literature

As indicated in Table 7, in the case of Jamaica, this subgroup covers the full range of creators/activities/products/services identified by WIPO (2003) under this category: authors, writers and translators; print and electronic newspapers, including emerging blogging and podcasting on the Internet and WorldWide Web; outputs of new regional and international agencies operating in Jamaica; producers of magazines/periodicals; book publishing; cards and maps; production of directories and other published materials; pre-press, printing, and post-press of books, magazines, newspapers; advertising materials; wholesale and retail of press and literature by bookstores and newsstands, and libraries. The regional news agency, Caribbean News Agency (CANA), conducts operations in Jamaica, which has eight major and several minor newspapers with local and international circulation by mail and from newsstands and bookstores, as well as online global circulation linked to well-developed commercial websites (Table 8). The oldest and most prominent of the national papers is *The Gleaner,* produced by the Gleaner Company, which has existed since 1834 and boasts a long list of important scholarly articles and reports, including the famous piece by Arthur Lewis (1964) on Jamaica's economic problems. The Gleaner Company produces six of the eight major newspapers, two daily, two weekly and two weekend papers. The flagship *Gleaner* reports hardcopy circulation of about 165,000 and *The Sunday Gleaner* achieves a circulation as high as 190,000, local and foreign. *The Observer* (35,000 weekly and 80,000 on weekends) is the second largest, followed by *The Herald*, with a circulation of about 20,000. All of these papers thrive mainly on advertising revenues. There are also several significant community papers with local and overseas readers, some of which achieve a total circulation of as many as 100,000 copies, thriving mainly on their circulation and not on advertising.

Notwithstanding the growing importance of digital circulation, the distribution process is still dominated by the labor-intensive means of vendors sitting on the sidewalk or by bookstores earning a tiny margin for making the product available.

Personality Profile: *The Jamaican* in Lorraine Murray – To understand the trajectory of press and literature in Jamaica is to understand more than the wages, taxes, depreciation, and operating surpluses of large printers or the daily newspapers. It is also about how small investors like Lorraine Murray get started and progress with the tough task of producing literary art as a viable creative magazine financed mainly by advertising and sustained by a growing readership that is sophisticated and cosmopolitan in its appreciation of the local space. Lorraine Murray graduated from the University of the West Indies in 1976 with a Bachelor of Arts degree in English and Geography and went on to work in public relations and advertising. Five years later, Lorraine moved on to form a publishing company, Deeks Designs Limited, with the main aim of starting her own magazine – *The Jamaican* – which is produced at her home office. *The Jamaican* is about Jamaica.

With her husband Richard providing personal inspiration and support, she has been producing the magazine for twenty years now and has built up a good network. Lithographic Printers provide credit for printing and the magazine pulls talent from a wide field of freelance writers, photographers, and graphic designers who each share a strong passion for Jamaica. A highly visual publication, *The Jamaican* provides graphic artists and designers alike with a space in which to experiment and promote their expertise. Three graphic design specialists regularly featured are Heather Kong, a graduate of California State University with ten years' working experience with several major tabloids in the US, Susan Lee Quee, who lectures at the Edna Manley College; and Kibo (Robert Thompson), an artist by profession and owner of a successful graphic design company. Of Heather Kong, Lorraine says, "She brings a fresh new look to the pages of the magazine, along with mutual learning, tacit knowledge and streamlined production." *The Jamaican* proudly displays the works of the nation's best photographers: Franz Marzouca, Howard Moo Young, Cookie Kinkead, Tony Wong, Donette Zacca, and Kai Meng Lui. With the photographers, Lorraine has practiced a sort of bartering, trading access to space and an appreciative audience for access to artistic expression. Two advertising sales representatives, Jean Jones and Marlena Biart, sell advertising on commission, generating revenue for production and printing. Additional revenue comes from magazine sales and subscriptions.

Lorraine has taken *The Jamaican* from a 40-page, mostly black-and-white magazine to a 180-page, full-color glossy publication. The presentation of content is unique. In each issue, readers are taken on a 'Jamaican Journey' where they explore the richness of *The Jamaican* experience. Over the years, issues have covered Jamaica's history, creative arts, culture, sports, music, and even its politics – all the dimensions of life in the country which are meaningful *loci* of identity in Jamaica.

Lorraine took *The Jamaican* into the Technology Innovation Centre (TIC) at UTech in 2002, a proper office for the first time. Three of the benefits have been discipline with monthly meetings, assistance with accounting, and proper back-office services such as photocopying, faxing, and mailing. Even so, there are central needs not met at the TIC to date: help with marketing and penetration of foreign markets; professional assistance with website construction; financing and strategies for taking the magazine to the next level. And what about training for the industry? Not where it should be - in photography, graphic design or the use of modern ICT, whether at the Edna Manley College, TIC, UTech or UWI. This is because of inadequate perspectives on applied computer technology and occupational training. Most young people still graduate from these institutions with very little job-specific skills. It would be good if the top professionals in the industry, local and foreign, could somehow be part of a program of exposure for students.

There are also more than 85 printers who provide a range of services for business and offices: calendars, diaries, brochures, labels, business forms and cards, letterheads, reports and magazines, etc, screen-printing on T-shirts and other media, as well as billboard advertising and banners.

Jamaica has established a National Information System (NATIS), which consists of voluntary institutions, such as libraries, archives, information and document units, which gather materials in print, audiovisual and electronic formats for the needs of the nation. One such institution is the Jamaica Library Service which has library network services in 13 parishes and 116 branch libraries. There are 12 special services, including hospitals, penal / correctional institutions, and children's places of safety. In an effort to adequately protect authors and composers, as well as to improve the information being collected on Jamaica's copyright industry, the National Library of Jamaica was established in 1979 and is managed by a Board of Management appointed by the Minister of Tourism, Entertainment and Culture on the recommendation of the Council of the Institute of Jamaica. The Legal Deposit Act of 2002 designated the National Library as the principal legal entity for fostering and promoting knowledge of Jamaica's history, heritage and information sources *(http://www.nlj.org.jm/docs/legal_deposit.htm).* It acquires materials published, issued or produced in Jamaica, items published or produced by Jamaica or Jamaicans abroad, as well as items published or produced abroad about Jamaica or Jamaicans. Additionally, it also manages the International Standard Book Number (ISBN) program and the Legal Deposit System. It issued 586 ISBN codes and 56 ISSN codes for the period April 2005 to March 2007. The Library's relatively new audiovisual department focuses on identifying, collecting, providing access to, preserving and maintaining the social, cultural and market value of Jamaica's heritage in the form of sound and moving image resources.

Over the years, the Jamaican book and magazine publications segment has been led by several internationally acclaimed authors such as Trevor Rhone, Rex Nettleford and the incomparable Louise Bennett (Miss Lou). It is widely known that, throughout the decades, many of the country's competent authors had to migrate to the US, Canada or the UK in order to achieve both international acclaim and a viable livelihood. Jamaica's many local authors, writers and translators are served by 19 publishers of books, periodicals and directories, and Nurse *et al.* (2007) describes the latter's core competence as location and processing of manuscripts into a market-ready form for distribution and to nurture and develop talent. In terms of publication rates, some of the larger operations, like Ian Randle Publishers Limited and the University of the West Indies Press, indicate that they produced more than 25 publications in 2005, including reprints and new books. One publisher in the WIPO consultations set up to support this study indicated that a growing number of books are published and sold through international networking arrangements that result in earnings that accrue abroad and do not show up in the local accounts in any form, making an accurate count difficult. The same point is made by Nurse, *et al.* (2007). Online publication of digital books (e-books) and even e-articles, or use of video clips that can be transmitted through the cell-phone and other hand-held devices, has not yet become a major practice among Jamaica's authors and publishers.

Distribution is still achieved by the labor-intensive process of the bookstore with a cash register, or the occasional book vendor with no formal records at all. Nurse *et al.* (2007) report that Jamaica and the wider CARICOM form the only area anywhere in the world not hosting an International Book Fair.

The Caribbean Institute of Media and Communication (CARIMAC) leads training for press and literature in Jamaica, and the institution is able to build on primary and secondary elite programs that are highly suited to providing throughput to tertiary education in the field.

The typical employee of this copyright sub-sector is a paid employee. The group of self-employed without employees accounts for only about 5 percent of workers and about 6 percent of earnings. So the underemployed potential is not generally large, and development in the sub-sector would most likely have to draw workers from other areas of surplus labor in the economy. Notwithstanding the role of CARIMAC, the typical self-employed person in the sector has only 10.4 years of education and the typical paid employee only 10.7 (Table 10).

Training Intervention: CARIMAC was established in 1974 with assistance from UNESCO, the Friedrich Ebert Stiftüng Foundation, and USAID. It is CARICOM's only regional tertiary communications school and offers certification programs covering diploma, undergraduate, and graduate options for studies in media and communications – print, radio, video, multimedia and public relations, with some innovative local offerings such as Community Media, HIV/AIDS and Responsible Reporting, and Improving Journalism in Haiti. Students can follow courses of study up to PhD. Training runs through the year, including the summer. CARIMAC aims to offer educational opportunities to young professionals who would otherwise be unable to benefit from the tertiary educational system and to offer training in areas of high priority in the Caribbean not included in the regular curriculum. Success at CARIMAC has stimulated the publication of books and papers, including the results of research.

3.1.2 Music and Theatrical Productions

Jamaica's most famous copyright industry is in this segment, covering mainly reggae and dance music and theatrical productions, but also including growing elements such as gospel and jazz festivals. Within these broad areas, the full range of activities in the WIPO classification is present: composers, lyricists, arrangers, choreographers, directors, performers and other personnel; printing and publishing of music; production/ manufacturing of recorded music; wholesale and retail of recorded music (sale and rental); artistic and literary creation and interpretation; and performances and allied agencies (e.g., booking agencies, ticket agencies). As might be expected for an industry that relies heavily on the creative talents of the individual, there is a high rate of self-employment in the sector. This is typified by the segment representing authors, composers and independent artistes, in which self-employment accounts for 24 percent of total worker earnings and 35 percent of total employment. The level of education of the sector is also low, with the typical self-employed worker averaging 10.3 years of education and the other employees averaging only 10.6 years (Table 10).

The general indication from the labor market data is that underemployment is high in the industry and that, even though creative output is prolific, only a few of its segments have significantly exploited available development opportunities and none has done so to the fullest because of the slow inflow of diversified investment from major local or international business interests. The music industry has achieved world standards from the standpoint of the flow of creative writing and live performances. Over many decades, it has featured a steady and growing stream of world class performers, many signed by the big international labels. These include the immortalized artiste of the 20th century, Bob Marley, and greats such as Jimmy Cliff, Beres Hammond, Beenie Man, Shaggy, Sean Paul, Ziggy Marley, Damien Marley and Patra, all of whom enjoy high sales figures internationally.

Musical Profile – Bob Marley Person and *Yaaad:* On his website, *http://web.bobmarley.com*, Bob Marley is portrayed in the first lines as follows: "a hero figure, in the classic mythological sense. His departure from this planet came at a point when his vision of *One World, One Love* -- inspired by his belief in *Rastafari* -- was beginning to be heard and felt. The last Bob Marley and the Wailers tour in 1980 attracted the largest audiences at that time for any musical act in Europe." But it is perhaps at the Bob Marley Museum that the story is best told. On a leaflet one is given on a full visit to the Museum, one gets a tight but effective summary of what one sees on the tour. The Museum visit is an experience that beats the expectations created on paper. Kingston, 56 Hope Road to be exact, is home to the Bob Marley Museum, a treasured storehouse of the amazing life of Jamaica's youngest cult hero – perhaps the life that best demonstrates how dedication to creative expression and the codification of domestic tacit knowledge simultaneously hold the key to wealth, elimination of the psychological scars of slavery, and discovery of true freedom. The museum uses the most modern technologies to preserve memories, memorabilia, artifacts, writing, photographs, pictures and film. 56 Hope Road is a *yaaad,* a house, an exhibition hall, a boutique, a gift shop, and a theater, with murals, pictures, mementos, mango trees, all in one. It is also a spiritual home – the former home of Marley's family, the famous Tuff Gong Recording Studio, as well as the Tuff Gong Record Shop, and Ziggy Marley's Record Manufacturing. The "*yaaad*" where Robert Nesta Marley practiced for many hours, day and night, inventing the music that has risen to the status of genre in its own right.

- The *Yaaad* - features a football mural, a legendary "jeep," and enough space for a six-a-side soccer game when the moment and mood require it.
- The House - has transformed the original rooms to provide maximal information, displaying a life-sized 3-dimensional hologram of Bob from the *One Love Peace Concert* of 1978, the Grammy Lifetime Achievement Award of 2001, and an enviable display of gold and platinum records sent from around the world.
- The Exhibition Hall - is primarily a transcendental musical experience, where one can randomly experience anything from the alluring, pulsating, and instructive inspiration in *No Woman No Cry,* to the unifier in *One Love,* or the revolutionary in *Songs of Freedom.*
- The Gift Shop - is strategically nestled under the trees and operates as an African heritage shop that goes fundamentally to what is first among the things Marley stood for – creativity. It offers Cedella Marley's *Catch A Fire* clothesline along with the full range of Marley CDs, footwear, T-shirts, key chains and posters, to name a few of the items.

- The Boutique – provides another angle on the Marley spirit – "Things from Africa," clothing, arts, craft, paintings, picture, and postcards, often as a Jamaican expression but also as a genuinely African expression. It also offers the odd stunning artistic expression one could find nowhere else. All this in one space.
- The Theater – crowns the museum experience. Bob kept up to date with the world of music and indeed led it. The theater preserves this aura of a modern soul – air conditioning, 80 seats, state-of-the-art projection equipment, video tapes of live concerts – and presents dramatic memories of the first among the equal politico-social musical geniuses of all time.

Ernie Smith – Another Jamaican Musical Legend: Ernie Smith is a recognized great in Jamaican music, with a career spanning several of the great decades of Jamaican music. He was there in the late 1960s in the heady pioneering years of "rocksteady" when the "down beat" was invented and Jamaican music headed for the international stratosphere. Ernie smashed his way into the limelight with a series of hit recordings: *Bend Down, Ride On Sammy, One Dream, Pitta Patta* and *Duppy Gunman*, leading up to the smash hit recording in 1967 of his original composition *I Can't Take It,* which took Jamaica and the Caribbean by storm. One recalls how it was a theme song for the young and the young at heart and its international impact when it was later recorded by Johnny Nash as Tears *On My Pillow.* On his website – *http://www.erniesmithmusicltd.com* – Ernie recalls how these "massives followed in quick succession, including *Bend Down, Ride On Sammy, One Dream, Pitta Patta* and *Duppy Gunman*." In 1972, Ernie won the Grand Prize at the World Popular Song Festival of the Yamaha Foundation in Tokyo, with his original composition *Life is Just for Living,* competing with songwriters like Neil Sedaka and Michael Legrand. He became the first Jamaican musician to win an international award and, for that, became in 1972 the first popular musician to be honored by the Jamaican government with the award of the Badge of Honour for Meritorious Service in the Field of Popular Music. As with many musicians of the era, such as Bob and Tosh, the creativity in Ernie's music rests on a will to record a political sociology, something which neither the privileged classes nor the governments of his youth took to too kindly. His classic political commentary *The Power and the Glory* led to his exile in the US in 1976. Ernie views it as an irony that "the once-banned song is still relevant and even more popular at the present time. Today, thirty years after the song's release, Ernie is once again based in Jamaica and *The Power and the Glory* is once again a battle song for Jamaican talk shows and community activists."

Ernie is a prolific writer, with over 200 songs, several recorded by other great artistes, including Johnny Nash, Rita Marley, Chakka Demus and Pliers, Twiggy, Ken Lazarus, John Jones, Eddie Lovett, and Yellow Man. He has played on most of the world's great stages – Madison Square Garden, New York (1973, 1974 and 1999); Place de Nations, Montreal; Camp Fortune, Ottawa; Ontario Place, Alexandria Palace, Convocation Hall, Toronto; The Martinez Ballroom, Cannes, Disney World, France; Rio de Janeiro, Brazil; Expo 93, Taejon, and Muju Resorts, Korea; Nippon Budokon Hall, Tokyo, Japan; Henry J. Bean Club, Brussels; San Marino, Milan, Rome, Italy; and all over the wider Caribbean homeland where his name is as revered as it is in Jamaica –Belize; Guyana, Barbados, Trinidad and Tobago, St Lucia, St. Vincent, St. Maarten, the Cayman Islands. Ernie shared the stage with many legends, local and international – Bob Marley, Peter Tosh, Buju Banton, Beres Hammond, Byron Lee and the Dragonaires, Johnny Nash, Skeeter Davis, James Carr, Hugh Masekela, Johnny Cash, to name only a few.

The record tells a story of how Jamaican music succeeds by using the local and regional markets as a base from which to penetrate all segments of the foreign market. Of any four of Ernie's performances over a period of, say, two months, three would be in "foreign". Ernie Smith's awards speak volumes in this regard and, as in the case of his music and stage appearances, we cannot exhaust the list here: *Award of Merit, Canadian Reggae Awards (1993); Longevity Award, CHRY 105.5FM, Canada (1993); Best Produced Album in Jamaica for the year 1997 – After 30 Years Life Is Just For Living, JAMI; Best produced song of the year, Didn't Know We Were Poor (1993);* his 1993 show 30 *Years…and Counting,* deemed the best show ever produced in Jamaica; nomination *for the Bob Marley Lifetime Achievement Award – Tamika Awards, New York (1999); Lifetime Legend Award, Heineken Star Time (2001),* along with Shaggy and the Mighty Sparrow; the prestigious *Musgrave Bronze Medal,* along with Chris Blackwell (gold, Music) and Oliver Samuels (silver, Theatre); *Living Legends Award,* along with Ken Lazarus, Keith Lyn, David Rudder, Byron Lee, and the Mighty Sparrow, (2004). He was again honored by the government of Jamaica with the *Order of Distinction, Officer Class (2006).* And so Ernie continues his lifetime achievements indeed!

Music printing and publishing is a natural complement to this flow of artists and writers. On the one hand, as the industry depends heavily on the international community for the technology of recording and related distribution, it is an insignificant manufacturer of recorded music, with only one important but struggling manufacturer and with most of this form of output being CD replication. On the other hand, major segments of the local industry include the long-established production and recording studios and, more recently, the roving deejay (disk jockey) complete with marketable lighting and sound capacity and remarkable creative live performances with attendant sound and video recording capability. Some recording studios are of international repute, such as Tuff Gong, Dynamic Sounds, and Sonic Sounds, the last two being members of the International Federation of the Phonographic Industry (IFPI). The recording studios typically combine mastering, mixing, music publishing and music retailing but are not averse to venturing deeply into major production activities, as is evident from the work of Byron Lee of Dynamic Sounds, who led the revival and evolution of the Jamaica carnival, now a major event on the Caribbean entertainment calendar.

Without the benefit of a survey, Witter (2004) estimated that there are as many as 200 recording studios, with many being run as one-person operations (Witter 2004). There are claims of more than 200 sound systems in Jamaica, and the largest and best known is Stone Love, which has existed since 1972 and is now so big that it can play simultaneously at many parties on the same night in several venues in Jamaica and internationally.[15]

Theater, including a strong commercial aspect, is a longstanding and highly reputable feature of the Jamaican landscape of copyright-based industries. It has been estimated by Nurse *et al.* (2007) that there are currently nine dance companies and 13 theater companies in operation. The National Dance Theatre Company, L'Acadco, Ashe, Area Youth Foundation, Stella Maris Dance Ensemble (headed by Monika Lawrence), Tony Wilson Dancers (headed by Tony Wilson), Movements Dance Company (headed by Monica Campbell), and many dance groups in the Jamaica Cultural Development Commission's annual competitions are all well known in Jamaican theater.

The Little Theatre Movement (LTM) was founded in 1941 by Henry Fowler and Greta Bourke, who undertook to raise funds to build a Little Theatre and foster development of drama in Jamaica. Perhaps its greatest creative input was the invention and maintenance of the theatrical tradition called the National Pantomime, first introduced in 1941 with a stage presentation that featured a traditional Caribbean mix of music, song, dance, comedy, drama and colourful costumes and sets. Under the leadership of its two pioneering legends, Louise Bennett (Miss Lou) and Ranny Williams, the LTM National Pantomime was "indigenized" and "Jamaicanized" to feature "Jamaican culture, folklore and historical references". As such, the Pantomime deploys "some of Jamaica's leading talent in every area of production, from script writing to music composition, set and costume design, choreography as well as on-stage performance." Indeed, "members … are called upon to learn various skills in order to bring a new level of excitement for each new show" *(www.ltmpantomime.com).*

Like music, the LTM National Pantomime, specifically, and Jamaican Theatre, generally, has its long list of internationally – known stars who have developed the work of Miss Lou and Ranny Williams. Among the famous performers are Oliver Samuels, Leonie Forbes, Lois Kelly-Miller, Charles Hyatt, Volier Johnson, Willard White, Rita Marley, Dawn Penn, and others. Among the distinguished authors are the Hon. Barbara Gloudon, who is reported to have authored most of the pantomimes for the LTM, as well as Lloyd Reckord and Pat Cumper. Among the musical talents are Marjorie Whylie, Robert Lightbourne, Grub Cooper, Conroy Cooper, Peter Ashbourne, Boris Gardner, Carlos Malcolm, Desi Jones, Noel Dexter, and Lloyd Lovindeer. Artistic talents include Karl Abrahams, Albert Huie, Colin Garland, Lorna Goodison, Laura Facey, and Denise Forbes. And, headlining the dance tradition, are the great choreographers Rex Nettleford, Eddy Thomas, L'Antoinette Stines, Jackie Guy, Tony Wilson, Bert Rose, Monica Potts-Lawrence, and Joyce Campbell *(www.ltmpantomime.com).*

[15] *See, http://www.imexpages.com/stonelove/company_profile.htm*

Their directors, actors and related musical performers include internationally known personalities such as Oliver Samuels, Barbara Gloudon, Trevor Rhone, Rex Nettleford, Basil Dawkins, Trevor Nairne, Brian Heap and others who are leaders in the industry across the wider Caribbean and in Caribbean communities in the US and Europe. National and corporate sponsorship of festivals and related organized competitions are major features of this segment of the industry and more, generally, of the copyright-based industry of Jamaica.

The music and theater segments are closely integrated and make intensive use of domestic tacit knowledge. In some ways, this is epitomized in the creative work of the Little Theatre Movement (LTM), Jamaica's current longest-surviving theater company. With its legendary invention, the National Pantomime, the LTM can boast that "[t]here is no recorded equivalent of a similar sustained theater tradition in the English-speaking Caribbean" *(www.ltmpantomime.com).*

Jamaican music and theater express the essence of the Jamaican being but have largely developed commercially in Jamaica without the benefit of a comprehensive incentive and encouragement program, industrial support, or training and financing policies such as is provided to the motion picture and film industry. Artistes and other industry investors in music and theater do not enjoy the same kind of tax exemption status provided to film, even though the music and theater industries have a substantially greater impact on Jamaica's economy, employment and image than film.

As a consequence, even though Jamaican theater has substantial international appeal, its rate of development is hampered by high production costs, which have grown over the years, as well as a lack of interest from large-scale investors, local or foreign. Much of the tacit knowledge of the industry is yet to be codified into fixed capital that could bring lasting income. It is reported, for example, that: "The scripts of the pantomimes, which have been the most popular and successful Jamaican productions for a long time, have never been published or written down for others to read. This is because pantomimes depend to a great extent upon the personalities, the musical turns, dancing and humorous situations, rather than the quality of the scripts for their success. Local playwrights, other than writers of sketches and pageants for particular occasions, are relatively new in Jamaica" *(www.ltmpantomime.com)*. Nonetheless the industry has found innovative solutions to this problem as well as the problems of rising costs and limited policy support and it now appears to be expanding. Today, a substantial number of "actors, musicians and other operative persons like stagehands, lighting men etc.," can function as professionals in Jamaican theater *(www.ltmpantomime.com).*

There is some evidence that the traditional policy stance is changing rapidly with more recent attention being given to the sector by a refocused JAMPRO (Jamaica Trade and Invest). This augurs well for the level and type of investment that could be attracted to the sector.

3.1.3 Motion Picture and Video

The activities identified in the motion picture and video segment of the copyright-based industries include writing, directing, acting, motion picture and video production and distribution, video rentals and sales (including video on demand), and allied services. There is an annual or biennial motion picture exhibition of complete galleries that attracts international attendance (Nurse, *et al.* 2007). From a macroeconomic perspective, the industry features a high rate of underemployment, with 12 percent of earnings and 36 percent of employment accounted for by the self-employed. The average level of education in the sector is quite low, with the typical self-employed person having achieved 10.6 years and other employees averaging even less at 9.6 years (Table 10).

The motion picture industry is very new in Jamaica, but its range of activities is growing mainly because of the dynamic development of the interface with music through music videos, corporate documentaries,

advertisements, live television shows of the Jamaica carnival, and a whole series of competitive culture-based events that produce video clips linked to the cell-phone competition of the major companies such as Cable & Wireless, Digicel and Mi-Phone. A number of outstanding local soap-opera productions tied to the talents being developed in Jamaica's musical theater have been produced and marketed successfully within and outside Jamaica, such as TRAXX and Royal Palm Estate.

In more recent times also, some stimulus has come from government investment of substantial resources to facilitate development of film's more traditional import-substitution aspects, such as feature films and dramas. This effort promotes the development of writers, directors, actors, etc., through training of capacity in film, video, and TV technology at CARIMAC at UWI (where a degree is granted for successful completion of a course of study) and the more commercially-oriented Creative Production Training Centre (CPTC). However, the central feature of the government's film thrust is an aggressive effort to attract foreign investment in motion picture and video production and distribution from Bollywood and Hollywood.

Specifically, to facilitate investment in the sector, the government provides direct assistance with all aspects of film production, including provision of a comprehensive service for all filmmakers in production or location scouting, as well as provision of incentives for production companies. In this regard, the government, in 1993, passed additional amendments to its Motion Picture Encouragement Act (1948), which provides a "recognized film producer" with relief from income tax for a period not exceeding nine years from the date of the first release of the motion picture, an investment allowance of 70 percent of the expenditure on the facilities, which may be carried forward beyond the initial nine-year period for income tax purposes, and exemption from the payment of import duty on equipment, machinery, and materials for the building of studios or for use in motion picture production.

Dividends to local investors paid by companies in the industry are not subject to withholding tax and, by the provisions of various double taxation treaties, the same can also apply to non-resident shareholders. Investors in the sector can also benefit from other programs that are funded by the National Lottery and by the European Development Fund's program to support development-oriented activity. As a result, some employment is created for local skills when a few foreign productions are filmed in Jamaica. Nurse *et al.* (2007) observe as follows:

"While overseas filmmakers have been coming to Jamaica from the early 1900s, it was only in the 1980s, when the government instituted a targeted plan to attract overseas productions to Jamaica, that there was a dramatic increase in the number and types of film projects shot in Jamaica. JAMPRO has been instrumental in developing relationships with most of the major Hollywood studios. The international films shot in Jamaica include *How Stella Got her Groove Back* for Twentieth Century Fox, *Legends of the Fall* for TriStar Pictures, *Cool Runnings* for Walt Disney Pictures and *Lord of the Flies* for Castle Rock Entertainment. The Film Commission acts as a one-stop office and takes the producer from the pre-production through the production stage."

3.1.4 Radio and Television

The activities of the radio and television category in Jamaica essentially match those of WIPO, covering national radio and television broadcasting companies; other radio and television broadcasters; independent producers; cable television systems and channels; satellite television; and allied services. Although one segment of the sector is highly import-intensive, so that much of what is offered in mainstream television is imported, the independent producers are expanding their role, driven mainly by the music-intensive theater and the performing arts and, especially, by the production of music and sports videos.

Mainly as a result of implementation of the structural adjustment agenda since the 1980s, Jamaica now has 16 national radio stations; three national television broadcasting companies (CVM, which is privately owned; the Jamaica News Network (JNN) and TVJ, which still feature substantial government ownership; and Love TV, a privately (owned religious channel); the cable training operations of CPTC and JNN; the local national cable operations of Hype TV, RE TV, SportsMax and Music Plus; and about 55 licensed private subscriber cable television distribution companies operating in various zones across Jamaica and registered with the overseeing body, the Broadcasting Commission of Jamaica. The government has also recently established a public television operation in the Public Broadcasting Corporation of Jamaica (PBCJ). Further, Jamaica is also served by two relatively new regional channels, CaribVision and Tempo.

These operations in radio and television provide significant demand for the products of the local music, video and dramatic arts industry. The Commission's role is to ensure that standards are maintained and that permission is received for the programming used, including music and other copyrighted works. There is also an unregulated Digital Satellite System (DSS) service to which many households subscribe in order to use a digital rather than analog signal and gain access to a greater range of stations than Cable TV provides.

From the perspective of the conditions in the labor market that define the framework of opportunities for sector expansion, there is substantial evidence of underemployment in the sector. The self-employed generate about 26 percent of all earnings and 14 percent of all employment. The typical self-employed person has nine years of education, compared to the much better education of paid employees who average 13.2 years (Table 10).

3.1.5 Photography

The photographic industry in Jamaica provides a range of services and copyrighted products, including photographs, canvas portraits, laminating, production of wedding albums and photo calendars, large-format printing of architectural designs and drawings, photocopying and scanning, AUTOCAD plotting services, and reproduction of flyers, posters, banners, business cards and brochures. There are more than 35 medium-to-large operators supplying these services and a substantial number of small companies and individual operators. In terms of organization, photographers are generally members of the Jamaica Guild of Artists. According to the Guild, the work of the industry is led by prominent photographers such as Peter Ferguson, Hugh Wright, Franz Marzoucza, Howard Moo Young, Tony Wong, Jeremy Francis, Shakira Khan, as well as members of well-known clubs such as the UWI Camera Club and the Just Black and White Photography Club. Under the auspices of the Guild and with sponsorship from local businesses, an annual exhibition – the Art and Photography Festival – is organized to showcase and sell the products of photographers and other artists. The Festival is the brainchild of Tony and June Wong, the former listed among the leading photographers on the Jamaican scene. In this exhibition, each artist showcasing works must be present to meet the public in person.

Photography in Jamaica has developed with an intuitive and creative feel similar to that of other creative arts in the country. A large part of the sector is self-employed. Specifically, up to 44 percent of all employment and 35 percent of all earnings in the sector are generated by self-employed persons (without employees). The Jamaica Guild of Artists laments the level of training of those involved in photography and the level and quality of training provided by the Edna Manley College. The mean number of years of education among the self-employed is 9.8, which takes the average self-employed to about Grade 9. The average for all other workers in the sector is about 10.8 years, which means that they barely completed Grade 11 (Table 10). This is evidence of substantial underutilized potential in the sector.

This problem has a significant impact on the types of business organizations in the industry and the extent of exploitation of the industry's commercial potential. However, there are those who have been able to substantially exploit that potential such as Peter Ferguson *(http://www.peterferguson.net)* and Franz Mazouca, who are prominent exceptions.

Personality Profile: Peter Ferguson is a commercial photographer operating in Kingston who epitomises the creativity in photography based on advanced training. He illustrates the flaw in the argument that advanced training might "spoil" the creative thrust of artistic expression in the country. Peter Ferguson is a graduate of Concordia University in Canada, who majored in graphic design but turned to photography. He established a studio, which has gone on to become one of Jamaica's leading commercial photographic studios, deploying ample space, up-to-date digital image processing facilities and photographic equipment that allow creation of high resolution images, guaranteeing quality in an effective flexible format, along with traditional film and slides *(http://www.peterferguson.net).* Ferguson was the first to introduce digital imagery into Jamaican photography; first to introduce e-commerce complete with a website. Ferguson produces images for a wide range of applications, such as advertising, fashion, food, and corporate portraiture. His clients are mainly advertising agencies, local, regional and international (the US, the Cayman Islands, Barbados, Trinidad, and the UK) but he also produces for books and magazines. This artist has also been involved in publications, having produced the fashion/lifestyle magazine KRIS and, more recently, a potentially classic book entitled *Changemakers: 101 Portraits of Men in Jamaica.* The book has a foreword written by Professor Rex Nettleford, with an introduction by David Boxer. It presents a "respectful but searching" look at these 101 men in order to provide a mirror of the Jamaican middle class male, what Ferguson calls "the ticking heart-beat of a nation".

Ferguson admits that the industry faces severe limitations – in terms of how its commercial potential is exploited. One limitation is the local-market focus. Jamaica has found no significant place in the growing global photography market. Part of this problem is that the industry emerged mainly in the hands of the non-traditional, mostly black entrepreneur, opening it to the ravages of prejudice and discrimination in the international market. But Ferguson recounts: "I came back to Jamaica because the market in Canada was not productive for a Jamaican artist and designer." He is of the view that Jamaica is the market that will nurture and facilitate development of a black artist – a matter of sociology – even given the battles, because of knowledge of the twists and turns, and the channels of opportunity, of the local society. Notwithstanding his advanced training, Ferguson is only now exploring the full advantages of copyright but is aware of its potential for a sustainable stream of earnings. He worries about the low level of professionalism in the industry but observes that "there are experts that can do well in the local market." He continues as follows:

"Poor training is part of the problem. Training facilities are limited but those in Edna Manley should not be written off. If anything, they should be upgraded. However, training at the tertiary level is very weak and problem-solving training is obtained mostly on the job. There needs to be better mainstreaming of photography and such arts in the schooling system, just like in US and Canada where many of the key technologies are taught at the secondary level. Sound education and training are the foundation of the industry. Since photography is about people, a lot of this is all about respect; no qualifications, no respect. The industry is not as dynamic as music but it can become so. The problem is that most persons in the industry are not trained, not even literate. Maybe 10 percent of the photographers are well trained; 90 percent are not. This casts a bad light on the whole sector and has to change if the industry is to progress rapidly. The industry thrives by relying greatly on modern technology and it will tend to grow as it adopts and adapts newer digital technology. However, education is necessary to maximise benefits. The industry has a lot of unused potential to be explored by the individual artist, but the artists themselves must become more interested in artistic expression. Perspectives also have to widen. There is enormous potential for book and video production but these are not adequately explored. In my book, I celebrate society, manhood, etc. More of that is needed and there will be attendant gains from copyright. People are simply not seeing photography sufficiently as industry. That includes policy makers but the real problem is in the members of society and the players in the industry. There is need for more dialogue and collaboration among the artists. There is enough work to sustain the market but the commercial orientation is not strong and there are too many one-man shows. Moreover, the industry needs to educate the country better about the worth of photography. That requires better marketing and branding."

3.1.6 Software and databases

This component is a small but growing segment of the copyright-based industries. The development of skills in graduates of UWI, UTECH and HEART, along with the establishment of Mona GeoInformatics as a commercial venture at UWI and the highly subsidized Technology Information Center providing e-business-oriented incubation services at the University of Technology (UTECH), has led to a blossoming of programming, development, design and distribution of pre-packaged software (business programs, video games, educational programs, etc.) and database processing and publishing.

Few employees in the sector are self-employed. Most are well-educated, with about 14.3 years of education among the self-employed and 11.7 among the various kinds of paid employees (Table 10). This suggests that expansion potential lies in attracting employees from other sectors, especially from among the ranks of the self-employed.

The Technology Information Center (TIC) was established in 2002 by the University of Jamaica as a transformation of the Kingston Entrepreneurial Center. It aims to promote the use of modern technologies as the basis for the successful transition of small and medium businesses into sustainable growth entities. Specifically, the TIC seeks to assist businesses in using Internet-based technologies and customized software solutions to develop new business models and enhance the capacity of member SMEs to develop their local and international comparative advantage and success in the marketplace. The activity range of client businesses includes: software production and sale of software solutions; standards management and quality control; and media productions. Some clients are part of joint ventures with foreign entities. The TIC provides real and virtual office facilities for rent along with technical assistance of various kinds. A major limitation is the absence of a supporting financing mechanism complete with risk management capacity. However, one key element of such a capacity is already in place: tenants must provide the TIC with cash-flow data to facilitate provision of sound business advice. A high rate of use of the Internet and its wide range of copyrighted materials and a high rate of production and sale of copyrighted software solutions and media and related materials are major elements of TIC success.

Mona GeoInformatics is a commercial venture established and owned by the University of the West Indies, Mona. It serves as the GIS hub for the University of the West Indies Mona Campus and mainly produces and sells copyrightable outputs. In addition to serving the campus by delivering GIS courses for various departments and participating in campus research activities, Mona GeoInformatics provides GIS services to the public and private sectors. It provides high-end services and consultations in Geographic Information Systems, Global Positioning Satellite (GPS) systems, and remote sensing for research as well as for government and commercial applications. The two main copyright-protected products being offered by the company are

- A Natural Hazards Information Pack which includes research articles and publications; a photo gallery of natural hazard impacts; a map gallery of published maps; an original map gallery, containing detailed original maps created digitally using primary or secondary data sources; and DVDs/CDs produced jointly by the Unit for Disaster Studies, Mona Informatix Ltd, and Mona Information Technology Services. This pack is currently being offered for J$100.
- A Landslides Hazards in Upper St Andrew Pack, which includes a field guide and maps, field pictures, a virtual field trip. This is currently being offered for J$750.

The institution has provided wide-ranging GIS services for numerous government agencies and private sector firms. It has also provided community service assistance to various organizations, including the local Roman Catholic Archdiocese, Mustard Seed Communities, and the Chinese Benevolent Association. Service to these institutions includes: training, consultancy, land use planning, infrastructure mapping, oceanographic modelling, customized map creation, document scanning, and database management. More advanced services include: GIS technical services, GIS analytical services, 3-D conversions, and custom cartography. Other clients of Mona GIS include the Electoral Office of Jamaica, the Gleaner Company, Digicel, the Planning Institute of Jamaica, and the Jamaica Bauxite Institute. Mona GeoInformatics is currently the only organization in Jamaica that can provide advanced geographic information science solutions. *http://monainformatixltd.com.*

3.1.7 Visual and graphic arts

Jamaica has a strong and growing sector of artists and painters as well as sculptors, some with a significant international reputation. There is tremendous potential still to be developed in the industry. About 55 percent of earnings and only 9 percent of employees come from the ranks of the self-employed and the level of education of the self-employed artist is very high, averaging 14 years of schooling. Paid employees are less well educated, averaging only 10.6 years of schooling (Table 10).

One measure of the development potential is achievable productivity. Jamaica is home to a number of internationally-recognized artists, such as Yolanda D'Oyen (graphics and architectural illustration), Keith Morrison (installation), Peter Ferguson, Franz Marzouca, Albert Chong and Howard Moo-Young (photography), Arthur Simms (painting), and David Pinto (Ceramics) (Nurse, *et al.*, 2007; Annex II; *www.jamaicaguildofartists.com*). Art galleries and other wholesale and retail sales of art and carvings, picture framing, and other allied services are closely tied to the tourism sector, but there is also a significant independent exporting segment and a reasonable local market (Annex II). There is also a viable market of graphic design servicing a variety of linked sectors in clothing and furniture design and allied activities. A substantial segment of the industry is inevitably the self-employed – 'inevitably', because it contains the artists and sculptors who operate as individuals and manage their own sales from home, the office, and just about anywhere they make contact with society. There is legislation that stipulates that 1 percent of construction costs should be allocated to the purchase of art (Nurse, *et al.* 2007:130). However, it is not clear that this has stimulated the local industry. The Jamaica Guild of Artists complains of the absence of transparency in the allocation of contracts for installation of art, as well as of the reliance on cronyism, which results in very few open bids. One consequence is that foreign art gets almost 100 percent of the art installation in hotel sector projects where government is actively involved. Another is the absence of a sound policy to address these issues.

Most artists are part-time practitioners, having to be employed elsewhere full time in order to make a decent living. Many point to a general lack of a supporting infrastructure in the sector and lack of pension arrangements and adequate training as reasons for the part-time status. In addition, many in the Guild identified additional factors such as the high cost of materials as a result of high import duties that drive the cost of materials to more than four times the cost of the same materials in the US and, most important, the absence of a favorable personal tax policy that raises art to the status of a pioneering industry. One major issue is the ability of dealers/artists to send works abroad for exhibitions in a quick and easy non-bureaucratic way, with suitable tax exemptions, and the opportunity to expose the country to international art without opening the floodgates to cheap imports. Many artists complain about the administrative and regulatory problems of sending art abroad, especially hassle from customs – in general, the absence of a truly free trade in art.

The Guild also observes that a major part of the missing infrastructure is in publicly-funded opportunities for international and local exhibitions of Jamaican art, even in the major tourism centers. This results in imported work dominating the market. In this regard, the Guild argues that the National Gallery of Jamaica has not functioned properly for 30 years. The National Gallery was established in 1972 and is a part of the Institute of Jamaica.

It was established to "collect, research, document and preserve Jamaican, other Caribbean Art and related material and to promote our artistic heritage for the benefit of present and future generations". Copyright is integral to both the distribution of the original works and to preparation of copies for distribution, but not much is earned by the Gallery on either basis. Some suggest that this is because the art of Jamaica has been cut off from the international art world for a long time and is not a player in the international market

for duplicates. Many of the artists have had early international exposure during their careers but have since not participated in the bi-annual international exhibitions put on in various countries. Part of the problem is the substantial expense of promoting the works of artists, estimated at not less than US$150,000 to send one artist to one of the Venice biennial exhibitions. The general feeling is that during this period, because of lack of exposure, Jamaica was not addressing changing market needs, especially the international art market and its changing tastes for contemporary art. Consequently, Jamaican artists have left a limited footprint on the international art market. Moreover, the National Gallery suffers from a lack of visitor/tourist attendance and is perceived by many as elitist and irrelevant to the lives of most Jamaicans. Many constituents from the artistic community feel it is not serving the interests of the general community of artists. Another part of the problem of the exhibition of local art is that certain local artists could not exhibit in the Gallery for many years, and this is perceived to be because of social snobbery and prejudice. The Gallery itself is run by a board of 24 members, which must surely be too large and unwieldy to meaningfully contribute to the development of a responsive, evolving and national Gallery. An important consideration is that the Gallery relies on a subsidy from the government and is not able to serve the interests of all the necessary or potential audiences, including artists.

The Guild thinks that it has essentially replaced the Gallery as the major exhibiting force in the local market. It definitely focuses on more commercial artists while the Gallery in its work with contemporary art tends to stress the work of more academic or avant-garde artists. Regarding copyright, the Guild seeks to protect the interests of members by being a member of JAMCOPY. However, it operates as a volunteer organization without the strong administrative structure and related subsidies that the Gallery has. All of these issues point to a weak economic policy framework in which Jamaican art is produced, typical of the policy framework of the entire copyright sector in Jamaica.

Some of the difficulties faced by the industry have to do with the art school. The industry is served mainly by the Edna Manley College for the Visual and Performing Arts, and some skills are acquired in the secondary school system and in the various teachers' colleges, especially MICO, as well as through apprenticeships with the leading artists.

The Guild of Artists also reports that practical art-specific training is somewhat outdated and excessively theoretical, and that it is deteriorating in quality and currency over time. Most of the highly-skilled talent is trained abroad, and training through the local colleges is narrow, lacking exposure to all the dimensions of modern art and proper placement of Jamaican art in the context of the international market, trends that include the digital arts. In essence, art training is not really part of the mainstream tracking in the Jamaican school system. Art can be much better used as a cross-cutting device and learning aid in a wide range of applications in education. Some effort is made in this direction by the National Gallery, particularly through its teacher open days, but more needs to be done and there is not enough money invested in the effort. Most important perhaps, the major problem is the absence of complementary training in modern management and business, marketing, agency, and law. Training for administrators and curators is absent and there is a general need to close the gap between the training in the business of art and the talents of the artist. It is the opinion of Nurse *et al.* (2007) that

> "[t]he teaching and instruction in art education is weak, shallow and fails in some critical areas. There is an absence of documented and published sources of information on the region's artists, their art, regional art collections (private and public) and the Caribbean's art historical tradition. This inhibits the development of a sound basis upon which the valuation of the region's art can be based… There is very little art criticism that goes beyond the journalistic level in the region. Added to this must be the lack of curatorial and other art-specific technical expertise..."

The outcome is that many students simply have no exposure to the changing world of ideas in art, they acquire a narrow vision, and, with their teachers, think without proper justification that they are good enough and do not need to care about the changing demands of the market. With some notable exceptions, Jamaica's young artists sometimes display a distinct lack of professionalism.

The international market is dynamic but Jamaica has not put adequate effort into keeping abreast by attracting reputable and skilled artists to the country or by developing stronger partnerships with other cultural institutions abroad. A major underutilized resource is the successful Jamaican artists living abroad, such as Brian McFarlane, Peter Wayne Lewis, Anna Henriques, and Renee Cox, all of whom have loyalties to the local society and could bring fruitful positive influences to bear on the trend in local art.

However, in recent years, the Gallery has sought to address these issues of revenue, relevancy, and attendance. Strategies include: expanded education outreach programs to all parts of Jamaica; a year-round calendar of special exhibitions (featuring mainly contemporary art exhibitions); a new brochure characterizing its mission and services; special 'open day' programs for teachers; a website and a 'Friends' organization; increased collaboration with other institutions; improved visitor facilities; increased grant writing and sponsorship opportunities; a new coffee shop; and improved signage.

Some things have just started to work – people are more optimistic about the art market these days than they have been for years and they are sensing real change. The culture industries were moved from the Education Ministry to the Ministry of Tourism and it has made a difference in terms of the support for art and the work of the National Gallery. The Gallery is now receiving from the Ministry of Tourism, Entertainment and Culture, the Institute of Jamaica, and private sector companies more substantive and financial support for programming than in the past. The tourism industry is focusing more on placing Jamaican art in hotels, reflecting the success of initiatives by the Spanish Ambassador and the Ministry of Tourism, Entertainment and Culture. The Gallery is now reaching out and trying to become a more responsive organization.

The problem is now much smaller even though the Gallery is still perceived to be too conservative and to favor academic art over more popular work. This year, the Gallery and JCDC are partnering for the first time at the Annual Festival exhibition, which is a crucial showcase exhibition for grass-roots artists, and members of the Guild of Artists are represented on committees of the Board of the Festival. The Gallery is also making efforts to attract international interest. However, the country is small with a small art market. There is a notable interest in Jamaica's "intuitive" or self-taught artists. To date, the Gallery has also been moderately successful in getting foreign galleries, such as the Brooklyn Museum and the Yale Center for Contemporary Art, to be interested in exhibiting works of Jamaican art of a more academic variety. A few works are lent from time to time to a few international galleries, but these are usually works for specific shows, externally organized; the Gallery has been less successful in exporting entire Jamaican exhibitions.

3.1.8 Advertising Services

Advertising agencies have a substantive presence, if only a low profile, in Jamaica as an integral component of the traditional and emerging business communities. Agencies provide a variety of services tied to copy preparation and graphic arts for advertisement, and the design and management of advertising campaigns. The typical agency has about five broad types of specialist occupations: marketing and account servicing specialists who liaise with clients; specialists with responsibility for booking spaces with media houses and all vehicles; creative specialists – in particular – graphic artists, copywriters, producers, and distributors.

An agency operates as a principal in the relationship with the media, and is typically accountable to the media for funds due, whether or not such funds have been paid by the advertiser. Specific agreements with clients involve specific payments for copyright for the work that is produced. Usually, within the companies every employee on the staff signs an agreement that copyright produced during the course of work belongs to the company. Much of that copyright is then assigned to the advertising company but both methods are largely gratuitous and viewed by the industry as necessary for its development. Such arrangements could change over time as industry players pay more attention to the benefits of their own copyright protection.

Company Profile: OGM Integrated Communications Ltd. was established in 1998 as a locally-owned, full-service advertising agency committed to building brands through innovative communication strategies, sound research, outstanding creativity and excellent client services. Within its first year, OGM entrenched itself as an award-winning member of the Advertising Agency Association of Jamaica and was fully accredited by the Media Association of Jamaica. This was achieved by combining the proven practices of advertising with the expanding capabilities of the 'digital age' to create an agency that is a seamless extension of its client's marketing operations and one constantly engaged in building and defending its brand. OGM was awarded the 1999 Peer Award for Agency of the Year and numerous awards from media houses. Within five years of its establishment, OGM was ranked among the top three agencies in Jamaica and entered the wider Caribbean markets. OGM operates as a full-service communications agency offering strategic planning and implementation expertise in the areas of: advertising, corporate strategy, direct marketing, media relations, and analysis and issues management.

The main strength of OGM is the quality of its skills base. Its Managing Director and lead entrepreneur, Oral G. McCook, is an advertising executive with an extensive background in the areas of food service, corporate association, and government advertising. Prior to establishing OGM, he was General Manager of McCann- Erickson Jamaica, where he led advertising, marketing, and promotion projects for clients such as Restaurants of Jamaica/KFC, Coca Cola, Industrial Commercial Developments Ltd. (ICD), Insurance Company of the West Indies Ltd. (ICWI), Roche, Nestlé, Unilever and Gillette. Its CEO, Everton A. Patterson, holds an M.B.A. from the Manchester Business School and the University of Wales and has over 22 years' experience in the area of finance. Before OGM, Patterson was a Senior Manager at Intercontinental Merchant Bank.

OGM's creative team is young and bold. Senior management ascribes much of OGM's success to a staff it describes in such terms as "some of the most gifted creative minds in the industry", "exuberant, with ability to delve beyond the required" and "cutting-edge conceptualizers, witty wordsmiths, and gregarious graphic designers." OGM utilises the latest technology to deliver award-winning, groundbreaking, mass and alternative media campaigns for its clients. Its creative team has mastered the art of animation, so the agency has been able to add 3D graphics and animation to its list of capabilities.

OGM has a strong customer service orientation and is focused on understanding the client, the competitive environment, market research and the available marketing tools that will realize the client's goals. Its customer care capacity is rooted in finance, education, information technology, sociology, marketing, media and communication, economics, music, and advertising, and the company has developed a reputation for rapid roll out of attention-grabbing ads, providing clients with the flexibility and responsiveness needed to be brand leaders. Its media department analyses media forms and competitive trends, handles campaign development and daily media placements, often making use of special packages in order to maximise the clients' reach, and cost per impression. On-going training ensures that the media planners maintain their competitive edge. OGM has developed media servicing capabilities tailored to a deregulated and highly competitive media environment. The agency uses both secondary and primary market research to guide its media strategy. The advantage of its domestic capital and tacit knowledge is illustrated by strong programmes – such as Digicel's Rising Stars -- relying on local culture that it has rolled out with success for Digicel.

OGM has demonstrated that, by using domestic capital and related tacit knowledge intensively, a local company can compete with international players for clients in the local market. It now holds the accounts of leading firms such as Restaurants of Jamaica/KFC, Pizza International/Pizza Hut, The Jamaica Broilers Group, DIGICEL, City of Kingston Co-operative Credit Union, Grace Foods, and the Jamaica Football Federation. The agency also does work for various charitable organizations, in addition to handling two corporate goodwill accounts – the Digicel Foundation and the Jamaica Football Federation. OGM has pledged to provide each of these accounts with J$2 million of creative support with the aim of renewing its pledge at the end of each term.

The industry is made up of several types of players. There are 18 accredited agencies and an additional 15 that are not yet accredited. About six are relatively important in the local scheme. Several of these have close affiliation with foreign groups, such as McCann Erickson, which operates a wholly-owned local subsidiary; McCann Erickson Jamaica Limited. McCann Erickson Worldwide is the largest advertising agency network with global reach. Another major operator is Water Works, which is affiliated with Ogilvy, another of the world's large networks of advertising and marketing agencies. The top advertising agency in Jamaica is Carter, Gambrill and Robinson (CGR), which operates the Cable & Wireless mobile account. CGR is affiliated with Mindshare which operates the Nestlé account worldwide. OGM Integrated Communications Ltd (OGM) is number three on the list and has the distinction of being completely home-grown. It operates major accounts such as KFC, Digicel, and Jamaica Broilers. It epitomizes the outcome of transferring Jamaican creativity in the copyright sector outside of the music industry. Jean Lowrie Chin is the most prominent of the small agencies and has emerged as primarily a public relations practitioner. However, this is neither the most profitable nor the main thrust of the sector. Advertising is an industry that is increasingly dominated by visual effects and graphic design.

The industry is dynamic and operators tend to be very flexible, as the various segments change roles all the time. A major key to success is the quality of the internal team work in the companies, in particular, the ability to seize opportunities that come along. The team must be interested in, and capable of, delivering high quality, be able to receive and react to strong feedback, correct errors, develop extensive market knowledge, and keep technology up to date. Even so, there is a substantial amount of freelancing for creative work in many cases, but the trend has been toward internal employment with top-class artists.

Industry representatives indicate that many trained persons can be found in the market but that much training is also needed. The Edna Manley College of Visual and Performing Arts is the main source of training. It is highly rated by the industry, especially for being highly responsive to the needs of the sector. The advertising service industry also recruits from abroad, and industry investors indicate that the latter are more cosmopolitan in their views of the industry possibilities and methodologies. They display more scope for developing suitable interpersonal relationships that drive success in the industry.

Discussions with the major agency leaders in the industry also indicate that free-to-air TV is the main medium of advertisement for most local agencies, accounting for up to 50 percent of the total media allocation of advertisers. The main stations are TVJ, which gets the larger share of the market, and CVM, which is smaller but growing more rapidly than TVJ. Not much business goes to Love TV, which is viewed as small and weak as a media outlet. Television is the main medium (50 percent of allocation). The print press is also an important medium, with the major player being *The Gleaner*, followed by *The Observer* and *The Herald.*

However, community newspapers play a significant role, especially in specifically-targeted media campaigns that seek to reach the local community audiences. Cable TV is third in line as an advertising medium. In recent years, it has obtained a lot of business in the high-density areas of Kingston/St Andrew and Montego Bay. News is the main attractor for TV, cable, and print press. In this mix, sport is a big attractor for ads and, in some ways, is also the best because it provides a lot of inexpensive high-impact content. In this regard, a significant market has evolved around congratulatory messages to, and endorsements of, high-performing elite sport and music personalities. There is not much of a market for financial news, because of the small size and recent slowdown in the stock market. But in all these cases, significant issues of copyright arise.

Radio is a very dynamic advertising medium in Jamaica and now provides a substantial market with a growing share. Its progress was based on the liberalization of the airwaves from the 1980s, with a

blossoming of morning programs, daily talk shows, and important sports or music event coverage. IrieFM, the internationally famous reggae station, is now the largest and fastest-growing of the radio media. It is built on a mass reggae market and, hence, is the best market now for ad marketing. Radio is reported to be the number two medium after the free TV stations.

Outdoor media, in the form of signs along roads, billboards and super-boards, bus shelters, digital TV outdoors, painted signs, and similar devices take a growing share of the advertising media business. The growth has emerged from the changing technology of communication that is reducing the amount of time a person spends in front of the TV or listening to the radio, and increasing the amount of time spent on the road retrieving information from cell-phones and other mobile communication devices.

Billboards and super-boards are the most effective in this context, accounting for about 70 percent of the total market. Use of billboards/super-boards has grown as a means of impacting the market mainly because of the rapid growth of competition for space in the digital media and the fall-off of print media. Three companies dominate the segment – Caledonia Outdoor, the largest, followed by National Outdoor, and SignTex. Cinema is a small and relatively volatile component of the media market for advertising.

The inclination of the industry operators is to prevent evolution of an oligopoly even though the aforementioned large agencies exist. The industry is monitored by the Consumer Protection Agency and operates within the ambit of the Media Association of Jamaica. There is an accreditation process, which is largely a financial mechanism, based on the size of accounts won, and which has been set up by the Media Association of Jamaica to regulate entry into the upper echelons of the industry. Accreditation is a difficult process and only two agencies have been accredited in the last eight years.

3.1.9. Collective Management Societies

In addition to the continued affiliation of many artists with foreign collective management societies as described above, Jamaica is served by four Collective Management Offices (CMOs) and one rights clearance organization, as follows:

1. Jamaica Association of Composers, Authors and Publishers (JACAP)
2. Jamaican Copyright Licensing Agency (JAMCOPY)
3. Jamaica Performers Administration Society (JPAS)
4. Jamaica Music Society (JAMS)
5. Intellectual Property Service Centre (IPC)

From the standpoint of registered members, the largest local agency is JACAP, the performing rights society which licenses the use of copyright music and manages collection of royalties for performance of the works of about 1,104 authors, composers and publishers. However, many artistes, perhaps the most important, are still affiliated with the Performing Rights Society (PRS) in the UK and the American Society of Composers, Authors, and Publishers (ASCAP) or Broadcast Music Inc. (BMI). JAMCOPY is a collective management society for reprographic rights. It administers the reprographic rights of authors and publishers of works in print media by issuing licenses on behalf of its members. JPAS licenses the use of performers' works and JAMS licenses the use of recorded music on behalf of record labels and producers. The IPC acts as a depository for copyright material and provides services to users of literary and artistic works in obtaining clearance for use of local and foreign material. Important in the process of collective management is the Intellectual Property Unit of the Organized Crime Investigation Division of the Jamaican Police, which has responsibility to enforce intellectual property laws in Jamaica.

In general, all of these agencies are tiny, with two to for clerical employees, a manager, one or two computers, and related furniture comprising a typical operation. Most employees other than managers have no better than grade 11 education and typically have less. All of the copyright agencies lack sophisticated databases for storage of comprehensive data on clients and provision of the level of knowledge of the clients required to adequately represent their interests in the local and regional policy arena. In all cases, even the basic data on the level of education of the artist are not available.

A Copyright Tribunal is also a feature of the Jamaica Copyright Act. The Tribunal is established under the Act to determine matters related to licensing schemes or licenses offered by a CMO to users and royalty rates for recordings and computer programs. The best staffed of the copyright agencies is the Jamaica Intellectual Property Office (JIPO), which was established as a Statutory Agency in February 2002 under the Jamaica Intellectual Property Office Act.[16]

JIPO operates within the Ministry of Industry, Technology, Energy and Commerce and has three divisions/ departments – Copyright; Trademark, Designs and Geographical Indications; and Patent – run by a staff of 22. The Office has both a developmental and administrative focus and offers services that support IP capacity building of individual creators and innovators, small and medium-sized enterprises (SMEs), and corporations and institutions. JIPO carries out an ongoing public education program, working in collaboration with public and private sector interest groups. In conjunction with WIPO, it facilitates training, human resource development and institution strengthening in various aspects of IPR and develops sector-specific programs and projects in conjunction with other agencies and private sector entities. JIPO also plays a pivotal role in IP policy development and implementation, with respect to both the technical aspects of IPR and cross-sector issues relating to IP, such as international trade, e-commerce, bio-diversity, science and technology, and environmental management. The Office provides official representation on IP at local, regional and international levels.

Table 7: Comparisons of Structure of Copyright-Based Industries in WIPO (2003) and Jamaica

WIPO Activity Classifications	Activity Structure of Jamaican Industry, Considered in Light of Effects of Copyright Protection
Press and Literature	
Authors, writers, translators;	Authors, writers, translators;
Newspapers	Newspapers
News and feature agencies	News and feature agencies
Magazines/periodicals	Magazines/periodicals
Book publishing	Book publishing
Cards and maps	Cards and maps
Directories and other published materials	Directories and other published materials
Pre-press, printing, and post-press of books, magazines, newspapers, advertising materials	Pre-press, printing, and post-press of books, magazines, newspapers, advertising materials
Wholesale and retail of press and literature (book stores, news stands)	Wholesale and retail of press and literature (book stores, news stands)
Libraries	Libraries

[16] Prior to January 2001, the administration of the various intellectual property laws was carried out by different government ministries until one responsible unit was established within the then Ministry of Commerce.

Music, Theatrical Productions and Opera	
WIPO Activity Classifications	Activity Structure of Jamaican Industry, Considered in light of Effects of Copyright Protection
Composers, lyricists, arrangers, choreographers, directors,	Composers, lyricists, arrangers, choreographers, directors,
Performers and other personnel	Performers and other personnel; live deejays
Printing and publishing of music	Printing and publishing of music
Production/manufacturing of recorded music	Production/manufacturing of recorded music
Wholesale and retail of recorded music (sale and rental)	Wholesale and retail of recorded music (sale and rental)
Artistic and literary creation and interpretation	Artistic and literary creation and interpretation
Performances and allied agencies (booking agencies)	Ticketing agencies
Motion Picture and Video	
Writers, directors, actors etc.;	Writers, directors, actors etc.;
Motion picture and video production and distribution	Motion picture and video production and distribution
Motion picture exhibition;	
Video rentals and sales including video on demand	Video rentals and sales including video on demand
Allied services	Allied services
Radio and Television	
National radio and television broadcasting companies	National radio and television broadcasting companies
Other radio and television broadcasters	Other radio and television broadcasters
Independent producers	Independent producers
Cable television (systems and channels)	Cable television (systems and channels)
Satellite television	Satellite television
Allied services	Allied services
Photography	
Studios and commercial photography;	Studios and commercial photography;
Photo agencies and libraries	Photo agencies and libraries
Software and Databases	
Programming, development and design	Programming (use related)
Manufacturing, wholesale and retail pre-packaged software (business programs, video games, educational programs, etc.)	Wholesale and retail of pre-packaged software (business programs, video games, educational programs, etc.)
Database processing and publishing	Database processing and publishing
Visual and Graphic Arts	
Artists	Artists
Art galleries and other wholesale and retail	Art galleries and other wholesale and retail
Database processing and publishing	Database processing and publishing
Picture framing and other allied services	Picture framing and other allied services
Advertising Services	
Collective Management Societies	

Table 8: Number of Operators and Type of Service offered by Printers and Publishers in Jamaica

	Number of Operators
Newspapers	8
Calendars, brochures, labels, business forms and cards, letterheads, reports, magazines, diaries and periodicals, tickets and programs	34

Screen printing, retail signage, outdoor billboard advertising, banners, mounting, lamination	13
Art reproduction on canvas, floor graphics, window graphics, vehicle graphics, backlit graphics, UV varnishing, art and layout design, image transfer on T-shirts, cups, mouse pads and plates	11
Security checks, security documents, pay slips, envelopes, customized pre-printed continuous forms	5
school magazines, certificates, stickers, compliment slips, rubber stamp manufacturers	5
Full color digital printing, full color offset printing, digital proofing, color separation, graphic design	17
Publishers of books, periodical and directories	19
General publishing and printing services	40

Table 9: Leading Jamaican Theater Operations, Personalities and International Market Focus/Touring Experiences

Performing Company	Leading Personalities/Leaders	International Touring Experiences/Leading International Markets
Ashe Performing Arts	Michael Holgate	CARICOM; US
Area Youth Foundation	Sheila Graham	UK, CARICOM, Italy
L'Acadco	L'Antoinette Stines	US, Canada
National Dance Theatre Company of Jamaica	Rex Nettleford, Barry Montcrieffe, Marjorie Whylie	US; CARICOM; UK; Canada, Australia, Venezuela, Cuba, Germany, Russia
Wolmer's Dance Troup	Barbara McDaniels	Netherlands, China
Xaymaca Dance Troup	Barbara McDaniels	US
Tivoli Gardens Dance Troupe	Jennifer Garwood	US
Praise Academy	Cynthia Patricia Noble	US
Movements Dance Company	Monica Campbell	US
Basil Dawkins Jamaica Players	Basil Dawkins	US, Canada
Stella Maris Dance Ensemble	Monika Lawrence	US, Canada
Tony Wilson Dancers	Tony Wilson	US
Little Theatre Movement Pantomime Theatre Company	Barbara Gloudon	CARICOM, US
Jambiz International Ltd	Trevor Nairne	US
Centre Stage Theatre	Trevor Nairne	US
Ellis Inc.	Owen "Blacka" Ellis	US
University Singers	Noel Dexter	CARICOM; US
CARIFOLK Singers	Noel Campbell	US, Canada
Jamaica Folk Singers	Olive Lewin (Founder)	US, UK, CARICOM
Hatfield Singers	Jean Hill	US, Canada

Table 10: Selected Characteristics of Labor Force in the Copyright Sectors of Jamaica, 2001

Copyright Sectors in Census 2001	Share of Self-Employed in Total Earnings	Share of Self-Employed in Total Employment	Mean Years of Education of Self-Employed	Mean Years of Education of Other Employed
Advertising and Market Research	12%	14%	13	12.5
Authors, Music Composers and Independent Artistes	24%	35%	10.3	10.6
Dance Studios	9%	15%	5.5	10.6
Data Processing and Tabulating Services	1%	2%	14.3	11.7
Motion Picture Video Distribution	12%	36%	10.6	9.6
Museums and Art Galleries	55%	9%	14	10.9
Photo Studios	35%	44%	9.8	10.8
Publishing, Print and Publish	6%	5%	10.4	10.7
Radio and TV Broadcasting	26%	14%	9	13.2
Source: STATIN Census 2001				

4 Methodology

National income accounting provides methods of measuring the flows of income, expenditure and output in the Jamaican economy. The core business of STATIN is to provide measures of these flows. This study is concerned with measuring that component of the national accounts that is related to copyright.

One can try to isolate copyright-related value added, copyright-related income or copyright-related expenditure. In that regard, STATIN has provided basic data for 2005 that reconcile the measures of copyright-related income and the copyright-related value added for the copyright sub-sectors listed in Tables 11 and 12. The principle underlying the data in Table 12 is that a contributor to value added buys productive inputs at the purchase price (intermediate consumption), then organizes production with workers and sells the product for a higher figure than the input price paid. The difference in the value of output and intermediate consumption,[17] i.e., the value added (difference of the value of output and intermediates), is possible because of the contributions of value by workers, management, and entrepreneurs that allow payment of wages, profits, indirect taxes, and allowances for depreciation. STATIN currently collects information about this process through its large-establishment survey, covering those with 10 or more employees, and through other supplementary sources, and uses them to identify and reconcile both types of calculations indicated. This method is formalized in the United Nations System of National Accounts.[18] Corrections to the estimates in Table 12 will be made in future as STATIN moves to complete the compilation of a supply and use table, which will help in the reconciliation of the estimates. Measures for some copyright-based industries, such as music and entertainment, are underestimated due to the informal nature of these activities and difficulty in collecting data. Some aspects of the method of the study seek to adjust the STATIN estimates for these underestimations.

Table 11: Coverage of WIPO Copyright Groups in STATIN Data, 2005

JISIC Code (1987)	PRODUCT GROUPS	Description of Activity fitting WIPO Copyright Classification
24212	Publishing of Newspapers	Core - Press and Literature
24214	Publishing of Magazines and Books	Core - Press and Literature
24220	Printing not connected to Publishing	Core - Press and Literature
33731	Manufacture of Records	**Core – Music, Theatrical Productions, Opera**
6100-6200	Distributive Trade	Core, Interdependent; Partial and Non-Dedicated Activities related to Wholesale and Retail
72000	Communication including Cable TV	Core - Radio and Television; Non-Dedicated Support
83000	Rental of Other Machinery and Equipment	Core and Interdependent
83251	Advertising Agencies	Core
83252	Advertising Services (e.g. Billboards)	Core
83260	Other Business Services	Core, Interdependent and Non-Dedicated
94110 and 94120	Motion Picture and Video Production, Distribution and Projection	Core
94130	Radio and Television Broadcasting	Core
94990b	Other Amusement and Recreation etc.	Core
95620	Photographic Studios	Core

[17] This refers to the difference in the relevant sum of prices.
[18] This UN method is fundamentally *ad-hoc*.

Table 12: National Income and Output for Selected Product Groups, 2005 (J$ million) – Basic STATIN Indicators

JSIC Code	PRODUCT GROUPS	Wages and Salaries	Compensation for Social Security, etc.	Indirect Taxes	Depreciation	Operating Surplus	Intermediate Inputs	Gross Output	Gross Domestic Product in Producers' Values at Current Prices
24212	Publishing of Newspapers	913.9	97.70	49.2	121.7	481.8	1,554.2	3,218.5	1,664.2
24214	Publishing of Magazines and Books	59.9	1.90	1.2	4.7	30.4	254.8	352.9	98.1
24220	Printing not connected to Publishing	559.5	15.90	28.5	26.3	232.7	1,654.2	2,517.0	862.8
33731	Manufacture of Records	4.3	0.80	2.3	0.8	3.7	35.1	47.1	12.0
6100-6200	Distributive Trade	31,722.8	3,361.90	25,106.2	2,892.8	57,195.7	59,760.3	180,039.7	120,279.4
72000	Communication	7,507.1	2,600.00	427.3	7,716.4	13,690.1	10,943.4	42,884.3	31,940.9
83000	Rental of Other Machinery and Equipment	1,300.9	57.80	93.6	1,659.9	1,240.4	5,400.6	9,753.2	4,352.6
83251	Advertising Agencies	327.0	27.30	3.3	24.8	235.7	1,310.3	1,928.3	618.0
83252	Advertising Services (e.g. Billboards)	146.7	6.20	20.7	12.5	76.1	362.1	624.3	262.1
83260	Other Business Services	516.4	20.41	23.0	33.4	272.3	471.1	1,336.6	865.6
94110 and 94120	Motion Picture and Video Production, Distribution and Projection	87.5	7.60	5.3	10.2	28.0	401.5	540.2	138.7
94130	Radio and Television Broadcasting	918.7	54.60	55.4	140.8	175.3	1,073.7	2,418.5	1,344.8
94990b	Other Amusement and Recreation, etc.	4,891.0	294.18	255.2	523.7	526.9	8,520.1	15,011.1	6,491.0
95620	Photographic Studios	106.9	1.30	0.2	1.1	60.8	206.7	377.0	170.3
7000-7191	Transportation	18,662.4	1,095.22	2,524.4	4,154.3	9,508.9	57,212.7	93,157.9	35,945.2
7192	Storage and Warehousing	9.3	1.17	0.3	9.7	10.4	52.7	83.5	30.9

Source: STATIN

The challenge is to use the STATIN data as a starting point and develop a method of estimation of the contribution of the copyright sector that will also achieve/satisfy the following:

1. Consistently implement the WIPO (2003) methodology.
2. Take adequate account of the key macroeconomic concerns and principles of the Jamaican environment, including principles that guide the computations needed for allocation of policy support.
3. Develop estimators that will be mainly economic and statistical in character, produced in collaboration with STATIN to facilitate routine improvement of the measures over time and routine incorporation into STATIN's annual work plan.
4. Be able to be replicated and developed over time, allowing comparability (i) over time within Jamaica, (ii) among countries, and (iii) with other fields of economic activities, making it possible to do cross-sector analysis.

In general, the specific method of estimation emerges from three considerations.

1. From the data[19] in Table 13, it is generally expected that the wage share of income in the copyright sector accounts for the larger share of the total income generated in the copyright-based industries. The claim is applicable to all the core copyright sectors, except manufacture of audio and video records and tapes/recorded music (36 percent). It is applicable, for example, to press and literature (60 percent), music, picture and video (63 percent), software and databases (60 percent), radio and television broadcasting (75.4 percent), and photographic studios (63 percent). This is an indication that the copyright sector is generally a skill-intensive sector and hence one that makes intensive use of domestic capital.

2. Much of the skill capital of this industry is in the form of tacit knowledge that yields the copyrighted products. In both the wage-employed and self-employed segments of the industry, there is a participating elite that is small relative to a generally large underemployed social pool of tacit knowledge from which they draw information and inspiration. This is the essence of "yard" in Jamaica. In addition, the government supplies a significant part of the infrastructure of some components of the industry, such as public performance facilities for music, though nowhere near the scale enjoyed by sport. The government is also a direct investor in the sector, for example, in radio, television, and motion picture and film development. These conditions imply significant underutilized resources that could be deployed as demand grows with expansion of the size of the successful participating elite. Thus, it can be expected that expenditure to expand the flow of skills and participation in elite copyright activities will dictate the patterns of adjustment of total income and infrastructure in the sector.

3. The motivation to develop the capacity of the elite copyright skills to achieve world class performance and national eminence drives the dynamic expenditure flows in favor of the skills and knowledge of personnel, with the development of related infrastructure as a consequence. Put differently, in the copyright-based industries in Jamaica, it is the desire for investment in skill and capacity of the personnel to achieve local and international pre-eminence that drives the development and utilization of the tacit knowledge and the available physical capacity of the sector, rather than the tendency seen in other industries for the investment in facilities to drive the evolution of demand for personnel. Each round of successful investment in the excellence of personnel in the copyright sector creates a positive human response feedback process through other rounds of copycat behavior – "*riddim riding*" – as individuals seek to emulate the achievements of others. This in turn drives utilization or development of physical capacity as the performance standards of the elite personnel rise in music and other activity. Indeed, it is widely recognized by personnel in the copyright sector that the utilization cycles of copyright facilities are influenced heavily by the successes of local and international elite copyright personalities.

To clarify the exception of manufacturing of records in point (1) immediately above, it is useful to observe that the common pattern manifested in Table 13 is that the sectors that make intensive use of imported machinery and equipment are also the ones with relatively low wage shares. This reflects the high degree of codification of tacit knowledge and the related high degree of labor displacement in the technology of real capital in the OECD countries from which Jamaica imports most of its real capital inputs. This is evident in the low wage share of sectors such as the rental of other machinery and equipment – 29.9 percent or non-

[19] The estimated wage shares for the partial copyright sectors covered in Table 13 are based on unpublished data provided by STATIN for selected segments of manufacturing and related activities. These data cannot be published as they do not cover all sectors and hence do not add up to applicable totals over the reported 2 or 3-digit levels of aggregation.

metallic mineral products – 32.1 percent. The contrast with the other copyright sectors is the low level of codification as real capital and intensive use of tacit knowledge and skill embodied in the human capital of the technologies on which copyright firms rely. This explains the high share of labor in other manufacturing of jewelry, watches and the like – 61.6 percent or other amusement and recreation which embodies key elements of the music industry. The important point ultimately is that where the import intensity is high and the wage share low, the productivity of capital is also low, and where the wage share is high on account of intensive use of domestic tacit knowledge and skill capital, the productivity of capital is also high. This has significant implications for policy design in a context in which codified (such as real, imported) capital is generally scarce.

Table 13:
Wage Share of Output in the Core Copyright Sectors and Selected Partial Copyright Sectors, 2005

JSIC Code	PRODUCT GROUPS	WIPO Classification	Average Wage Share
24212	Publishing of Newspapers	**Press and Literature**	**60.0%**
24214	Publishing of Magazines and Books		
24220	Printing not connected to Publishing		
33731	Manufacture of Records	**Music, Theatrical Productions, Opera**	36.1%
83251	Advertising Agencies	**Advertising Services**	**54.0%**
83252	Advertising Services (e.g. Billboards)		
83260	Other Business Services	**Software and Databases**	**59.7%**
94110 & 94120	Motion Picture and Video Production, Distribution and Projection	**Motion Picture and Video**	**63.1%**
94130	Radio and Television Broadcasting	**Radio and Television**	**68.3%**
94990b	Other Amusement and Recreation etc.		**75.4%**
95620	Photographic Studios	**Photography**	**62.8%**
6100-6200	Distributive Trades	Distributive trades in Partial, Interdependent and Non-Dedicated	26.4%
72000	Communication	Cable, DSS, other Digital Signals for Radio and Television belonging to Core	23.5%
83000	Rental of Other Machinery and Equipment	In Partial Copyright	29.9%
221-223	Textiles and Wearing Apparel	In Partial Copyright	68.1%
224-225	Leather and Leather Products; Footwear	In Partial Copyright	69.2%
231-232	Furniture and Fixtures, Wood, Wood and Cork Products	In Partial Copyright	49.1%
25 &27	Chemicals, Chemical Products, Rubber and Plastic Products (incl. Lubricating Oils and Greases)	In Partial Copyright	32.9%
29; 3386	Other Manufacturing, such as Jewelry, Watches and Clocks	In Partial Copyright	61.6%
7000-7191	Transportation	Transport in the Non-Dedicated	51.9%
7192	Storage and Warehousing	Storage and Warehousing in the Non-Dedicated	30.1%

On these bases, in a context of limited data and the absence of a dedicated survey to guide estimation, it is reasonable to minimize error by focusing most attention on ensuring a reliable measure of the payments for work and skill in the copyright sector, with reliance on a set of compensation multipliers and copyright factors to estimate the attendant contributions of taxes, depreciation, and operating surplus. Specifically, we estimate

$$1. \quad Y_s = m_s f_{cs} \omega_{se} w N,$$

where Y_s is the GDP contributed by the specific copyright sector, m_s the reciprocal of the average share of (labor) earnings in total income (the sum of earnings, net taxes, operating surplus and depreciation) in the copyright-based industries as reported by STATIN, f_{cs} the factor identifying the specific share of the STATIN data that relates to the copyright sector, ω_{se} adjusts the STATIN-reported earnings to include the self-employed, w is the earnings per worker, and N the number of workers.

4.1 The Copyright Factors (f_{cs})

Specific copyright factors (f_{cs}) are first needed to identify the share that applies directly to the copyright sector from the aggregates in Table 11 as reported by STATIN. This is particularly relevant to communication, in which is found the data for consumption of core Cable TV services. Table 14 reports the core copyright factors. By the WIPO (2003) methodology, the following core copyright activities are all given a copyright factor of one to indicate that all of the data provided by STATIN or drawn from other relevant STATIN data fall fully into the core sector:

1. Press and Literature
2. Music, Theatrical Productions, Opera
3. Motion Picture and Video
4. Photography
5. Software and Databases
6. Advertising Services
7. Collective Management Societies.

4.1.1 Radio and Television

In the STATIN dataset, the radio and television segment comprises free-to-air radio and television broadcasting. The data for cable TV is embedded in the STATIN data on communication. To isolate this component, a proportionality factor is drawn from the case of Mexico, which has an economy that is similar to Jamaica's in that it is a surplus labor economy that is being transformed partly through fast-paced development and accumulation of its domestic capital, especially its tacit knowledge and cultural inheritance. It is worth noting that the methodology of the Mexico study is also based on practices in Hungary, on the basis that the latter is a middle-income country with access to detailed data on which estimation can be based. Specifically, it is assumed that the proportion of cable TV to total radio and television in Mexico is the same as for Jamaica. This proportion is 0.25 and is used as the resulting copyright factor (Marques-Mees, Funes, and Yaber, 2007: 91 and Annexes). The copyright factor for STATIN's communication category, therefore, does not arise at this time, but it is important to note that the estimate implies a factor of 0.06 that could be applied to communication in this and future work that does not have the benefit of a supporting survey of establishments, small and large.

4.1.2 Visual and Graphic Arts

In Jamaica, the information on earnings of visual and graphic arts exists in two main pieces of data: (i) museums and art galleries, reported under the JSIC code 9422 and (ii) art painters, reported under the JSIC code 9415, with the latter embedded in the data on the earnings of authors, music composers and independent artists reported in Census 2001. To extract this component, another proportionality factor is drawn from the case of Mexico. Specifically, it is assumed that the relative share of artists and painters/sculptors in the group is the same as the relative share of visual and graphic arts in the combined total with the category of music, theater productions, and opera in Mexico (Table 15) for their corresponding census year of 1998. The relevant ratio is 0.17.

4.2 The Distributive Trades

Copyright value added in the distributive trades is represented in Table 16. Worker earnings data on these categories are available in Census 2001 to be forecasted up to 2005. STATIN indicates that core copyright activity in this grouping is miniscule. It is recommended that all categories in the Table be treated as either interdependent or partial, as classified in the Table. In that regard, the question arises as to what copyright factor should be used to identify these segments of the copyright sector that are embedded in STATIN's distributive trades in Table 12, where data are not otherwise available to identify the segment. In all cases, estimates are based on the data available in Census 2001 at the 4-digit level. Copyright factors are therefore assigned in Table 17, which contains the classifications of interdependent copyright activities and Table 18, which contains the partial copyright activities.

4.2.1 Interdependent Copyright

Table 17 indicates that the typical copyright factor for Interdependent copyright activity is one. The applicable rationale as set out in WIPO (2003: 33) covers two types. First, there is the set that is required for the consumption of core copyright output – core interdependent copyright, i.e., "jointly consumed with the products of the core copyright industries, e.g., there is no television programming unless there is a television." Second, there is the set that is partial interdependent copyright in that the activities "do not exist primarily to perform functions related to copyright works but significantly facilitate their use". They include manufacture and wholesale or retail of certain cameras, photographic and cinematographic instruments as well as certain types of paper. One special subgroup classified by STATIN under JSIC Code 6293 as "miscellaneous retailers" is part of a larger group that includes other partial copyright output and other general items such as sports and recreational goods and curio shops selling crafts, with the latter being clearly copyright items. For this special subgroup, we used a very conservative approach and assigned value using the assumption employed in Hungary, which is that no more than 5 percent of all activity in such a group can be assigned to the copyright sector with sufficient confidence, implying a copyright factor of 0.05. Future work should note that if separate coding of data were done for this group, the applicable copyright factors would all be set at one.

4.2.2 Partial Copyright

The copyright factors for the partial copyright activities are identified in Table 18. Here too, the selection seeks to implement the WIPO (2003: 33) concept of a set such that "a portion of the activities is related to works and other protected subject matter …" For this group, the copyright factors are also assigned following the practice in Hungary, typically approximating 0.05. Thus, a 5 percent copyright content is also assigned to various types of furniture, jewelry and similar items, yielding a factor of 0.05. The highest share of content is assigned to the intellectual property in engineering, architecture and surveying, along with museums. As before, we also assign the factor of 0.05 to items in the JSIC Code 6293 with miscellaneous retailers.

However, several variations are observed and estimation in such cases is guided by the data from the Jamaica Survey of Living Conditions since 1990 and by related Hungarian practice. Regarding guidance from the Jamaica Survey of Living Conditions, it is assumed that a substantial amount of the copyright-related activity is motivated by the pursuit of recreation and entertainment by households. The data in Table 19 indicate that, as of 2005, no more than 0.6 percent of household expenditure was allocated to such pursuits. It is reasonable to assume that under the impetus of the search for entertainment, the copyright segment of the various partial copyright sectors will mostly be proportional to this share of entertainment in the household consumption. This assumption is consistent with approximation suggested by the data from the case of Hungary, which indicate that in most relevant cases the share of copyright approximates 0.5 percent. Specifically, in light of the practices in a case such as Hungary, it is assumed that no more than 0.5 percent of the value created in the manufacture of various types of apparel, textiles and footwear can be assigned to copyright, yielding a factor of 0.005. The same applies to manufacture of various forms of chinaware and other dinnerware and ceramics.

4.2.3 Non-Dedicated Support Services

Regarding the non-dedicated services, the main concern is with assigning a value to the spillover effects and externalities that accrue to linked "industries in which a portion of the activities is related to facilitating broadcast, communication, distribution or sales of works and other protected subject matter, and whose activities have not been included in the core copyright industries" (WIPO, 2003: 36). Some of these activities are located in the categories of distributive trades and communications reported by STATIN in Table 12, and some in general transportation as indicated in Table 20. Such activities are common to the other sectors of the economy, not dedicated to copyright, so only a share of their value can be assigned to the copyright sector. Nevertheless, they are important. For example, consumption of copyright at dancehall sessions cannot occur without transportation to and from the events, and the same transportation may be used simultaneously for multiple purposes, with the session being only one stop along the way. Here, we also follow the choice of the Mexican study to use the Hungarian weights as a benchmark (Marques-Mees, Funes and Yaber, 2007). As with the other assignments, this approach is *ad hoc* and analogical but broadly plausible and indicates a copyright factor of 0.6 (Table 20). It is anticipated that improved estimates will become available from a formal survey to support future measurement efforts.

Table 14: Core Copyright Factors to be applied to STATIN Data		
Core Copyright Category	Copyright factor	Justification
a. Press and Literature	**1.00**	
Publishing of Newspapers	*1.00*	Based on full estimates provided by STATIN
Publishing of Magazines and Books	*1.00*	
Printing unconnected to Publishing	*1.00*	
Standards and Related Research	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
General Published Research output	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
Advertising Materials such as Billboards	*1.00*	Based on full estimates provided by STATIN
b. Music, Theatrical Productions, Opera		
Manufacture of Audio and Video Records and Tapes/Recorded Music	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
Authors, Music Composers, Independent Artistes using Census 2001	*1.00*	Estimated from Census 2001 to included Self-employed and projected for 8% Earnings Inflation
Music Component of Authors, Music Composers and Independent Artistes	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
Dance Studios	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
Theater and Related Entertainment Services	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
c. Motion Picture and Video Production, Distribution and Projection	***1.00***	
Motion Picture Production	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
Motion Picture and Video Distribution	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
d. Radio and Television Broadcasting		
General (national and other) Radio and TV Broadcasting, including Independent Producers, Satellite TV and Other Services	*1.00*	Based on full estimates provided by STATIN
Cable Television	*0.06*	Based on 25% share of cable TV in total subscriptions in Mexico and applied to telecommunications
e. Photography		
Photographic Studios, Agencies, etc	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
f. Software and Databases		
Data Processing and Related Publishing	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation
g. Graphic Arts		
Museums and Art Galleries	*1.00*	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation; discussions with industry leaders

Art painters	1.00	Estimated from Census 2001 to include self-employed and projected for 8% earnings inflation; discussions with industry leaders
h. Advertising Services		
Advertising Agencies	1.00	Based on full estimates provided by STATIN
i. Copyright Collective Management Societies	1.00	Data provided by collective management societies and public sector agencies
Distributive Trades	0.07	

Table 15: Sectoral Structure of Mexico's Copyright-Based Core Industries: Percentage Contribution to Total

Industry	**Value added**
	1998
Advertising	10.4
Copyright Collecting Societies	0
Graphic and Visual Arts	3.1
Motion Picture and Video	6.8
Music, Theater Productions, Opera	15.4
Photography	2.6
Press and Literature	45.5
Radio and Television	2
Software and Databases	14.4
Total of **Graphic and Visual Arts** and **Music, Theater Productions, Opera**	18.5
Share of Graphic and Visual in Total with Music, Theater, Productions, Opera	**0.17**
Share of Music, Theater, Productions, Opera in Total	0.83
Source: Mexico Report etc	

Table 16: Elements of Copyright in STATIN's Distributive Trades, Jamaica Classification and Copyright Factor			
JSIC Code	**Description**	**WIPO (2003) Classification**	**Copyright Factor**
6161	Wholesale of Cotton, Textile Yarn and Fabric	Partial	1
6162	Wholesale of Clothing	Partial	1
6163	Wholesale of Footwear	Partial	1
6164	Wholesale of Leather and Leather Goods	Partial	1
6169	Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	Partial	1
6171	Wholesalers of Office Furniture and Equipment	Partial	1
6172	Wholesalers of Household Furniture and Equipment	Partial	1
6173	Wholesalers of Furniture and Fittings	Partial	1
6221	Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	Partial	1
6222	Retail Stores dealing in Household Appliances (Electrical and Non-electrical)	Partial	1
6223	Retail Stores dealing in Furniture	Partial	1
6224	Retail Stores dealing in Jewelry, Watches and Clocks	Partial	1
6225	Retail Stores dealing in Jewelry, Watches, Clocks and Miscellaneous	Partial	1
6231	Retail Stores dealing in Textiles, Wearing Apparel and Other Personal Effects	Partial	1
6231	Retail Stores dealing in Footwear	Partial	1
6251	Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	Interdependent Copyright	1
6252	Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment, including Parts and Accessories	Interdependent Copyright	1
6253	Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	Core and Interdependent	1
6254	Retailers of Cameras and Photographic Equipment	Partial Interdependent	1
6293	Miscellaneous Retailers, including		0.05
	Retail Stores dealing in Books, Magazines and Stationary (Bookshops)	Core and Interdependent	
	Retailers dealing in Antiques and Art	Core	
	Retail Stores dealing in Sports and Recreational Goods	Partial	

Table 17: Interdependent Copyright Activities and Assigned Copyright Factors			
JSIC Code	**Description**	**WIPO Copyright Classification**	**Copyright Factor**
2419	Manufacture of Certain Articles of Paper and Paperboard	Interdependent	
2905	Manufacture of Musical Instruments	Interdependent	1
3350	Manufacture of Office, Accounting and Computing Machinery	Interdependent	1
3372	Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	Interdependent	1
3385	Manufacture of Optical Instruments and Photographic Equipment	Interdependent	1
8334	Rental of Radio, Television	Interdependent	1
8335	Rental and Leasing of Data Processing Equipment	Interdependent	1
6251	Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	Interdependent	1
6252	Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment, including Parts and Accessories	Interdependent	1
6253	Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	Interdependent	1
6254	Retailers of Cameras and Photographic Equipment	Interdependent Partial Copyright	1
6293	Miscellaneous Retailers, including	Independent	0.05
	Retail Stores dealing in Books, Magazines and Stationary (Bookshops)	Interdependent	
	Retailers dealing in Antiques and Art	Interdependent	

Table 18: Partial Copyright Activities and Assigned Copyright Factors			
JSIC Code	**Description**	**WIPO Description**	**Copyright Factor**
2211	Preparation and Spinning of Textile Fibers, Weaving of Textiles	Partial	0.005
2212	Finishing of Textile Printing	Partial	0.005
2221	Manufacture of Made-up Textile Articles	Partial	0.005
2222	Manufacturing of Carpets and Rugs	Partial	0.005
2229	Manufacture of Textiles (n.e.c)	Partial	0.005
2231	Manufacture of Wearing Apparel and Crocheted Goods	Partial	0.005
2234	Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	Partial	0.005
2235	Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	Partial	0.005
2236	Manufacture of Clothing (except Footwear and Fur Apparel) for Children	Partial	0.005
2237	Manufacture of Headwear	Partial	0.005
2238	Manufacture of Other Wearing Apparel (n.e.c)	Partial	0.005
2243	Manufacture of Luggage and Handbags	Partial	0.005
2244	Manufacture of Saddlery and Harnesses	Partial	0.005
2249	Other Dressing and Tanning of Leather, Manufacture of Luggage, Handbags, Saddlery, and Harnesses	Partial	0.005
2251	Manufacture of Boots and Shoes from Leather Fabrics and other Materials except Wood, Rubber and Plastic	Partial	0.005
2259	Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	Partial	0.005
2321	Manufacture of Wooden Furniture	Partial	0.05
2322	Manufacture of Metal Furniture	Partial	0.05
2323	Manufacture of Rattan (Wicker) Furniture	Partial	0.05
2329	Manufacture of Other Furniture	Partial	0.05
2719	Manufacture of Other Rubber Products	Partial	0.005
2721	Manufacture of Plastic Containers and Cups	Partial	0.005
2722	Manufacture of Plastic Dinner Ware and Table Ware	Partial	0.005
2724	Manufacture of Plastic Bathroom Fixtures	Partial	0.005
2729	Manufacture of Plastic Products (n.e.c)	Partial	0.005
2811	Manufacture of Glass	Partial	0.005
2812	Manufacture of Glass Products	Partial	0.005
2891	Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	Partial	0.005
2904	Manufacture of Jewelry and Related Articles	Partial	0.25
3386	Manufacture of Watches and Clocks	Partial	0.25
2906	Manufacture of Sport Goods (including Footwear)	Partial	0.005
2907	Manufacture of Games and Toys	Partial	0.5
5452	Interior Decorating	Partial	0,02
5531	Flooring (Parquet) and Carpeting	Partial	0.02
8324	Engineering, Architectural and Technical (including Surveying)	Partial	0.5
9429	Libraries, Museums and Other Cultural Services	Partial	0.5
6161	Wholesale of Cotton, Textile Yarn and Fabric	Partial	0.05
6162	Wholesale of Clothing	Partial	0.05
6163	Wholesale of Footwear	Partial	0.05
6164	Wholesale of Leather and Leather Goods	Partial	0.05
6169	Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	Partial	0.05
6171	Wholesalers of Office Furniture and Equipment	Partial	0.05
6172	Wholesalers of Household Furniture and Equipment	Partial	0.05

Table 18: Partial Copyright Activities and Assigned Copyright Factors			
JSIC Code	**Description**	**WIPO Description**	**Copyright Factor**
6173	Wholesalers of Furniture and Fittings	Partial	0.05
6221	Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	Partial	0.05
6222	Retail Stores dealing in Household Appliances (Electrical and Non-Electrical)	Partial	0.05
6223	Retail Stores dealing in Furniture	Partial	0.05
6224	Retail Stores dealing in Jewelry, Watches and Clocks	Partial	0.05
6225	Retail Stores dealing in Jewelry, Watches, Clocks and Miscellaneous	Partial	0.05
6231	Retail Stores dealing in Textiles, Wearing Apparel and other Personal Effects	Partial	0.05
6232	Retail Stores dealing in Footwear	Partial	0.05
6293	Miscellaneous Retailers, including		0.05
	Retail Stores dealing in Books, Magazines and Stationary (Bookshops)	Interdependent Copyright	
	Retailers dealing in Antiques and Art	Interdependent Copyright	
	Retail Stores dealing in Sports and Recreational Goods	Partial	

Table 19: Share of Recreation in Real Consumption Per Capita, 1990 to 2005		
Year	**Per Capita Consumption (1990 Prices)**	**Recreation Share**
1990	7,616	
1991	6,080	1.3
1992	6,586	1.3
1993	6,805	0.9
1994	7,652	0.9
1995	7,793	0.8
1996	7,230	0.7
1997	9,076	0.7
1998	9,440	0.7
1999	9,396	0.7
2000	8,787	0.9
2001	9,550	0.7
2002	8,953	0.6
2003	8,758	0.4
2004	8,936	0.7
2005	9,321	0.6
Source: Jamaica Survey of Living Conditions, various years		

Table 20: Non-Dedicated Support Activities and Related Copyright Factors		
JSIC Code	**Sector Description**	**Copyright Factor**
6100-6200	Distributive Trades	0.057
7112	Public Passenger Transport by Road	0.057
7113	Other Passenger Transport by Road	0.057
7114	Freight Transport by Road	0.057
7116	Supporting Services to Land Transport	0.057
7121	Ocean and Coastal Water Transport	0.057
7123	Supporting Services to Water Transport	0.057
7131	Air Transport Carriers	0.057
7132	Supporting Services to Air Transport	0.057
7192	Storage and Warehousing	0.057
72000	Communication	0.057
83260	Other Business Services	0.057

4.3 Estimating Worker Earnings (wN) in Light of the Self-Employed Earnings Adjustment Factor (ω_{se})

In light of the conditions in the copyright-based industries, the main focus of the estimation effort is the accurate estimation of wN, taking into account the copyright factors estimated in Tables 14 to 18 and Table 20. STATIN has indicated that the self-employed are not fully captured in the data in Table 12, mainly because reliable information is not generally available from surveys on this group. Special surveys are needed for a fully reliable estimate. Nevertheless, information is available from Census 2001 and from several representative institutions in the copyright-based industries that can be used to specify a self-employed earnings adjustment factor (ω_{se}) as needed to reflect the role of the self-employed in the various copyright sectors. From the perspective of the internal structure of the data, the Census 2001 indicators are broadly applicable for comparisons if projected to the year 2005 using census survey data.

The self-employed shares for the copyright activities covered by the Census 2001 dataset are reported in Table 21. The data indicate a highly variable rate of self-employment in the copyright-based industries, as well as expected deviations of the income shares and the employment shares. The most important observation is in the core copyright activities, where the self-employed account for a significant share of several sub-sectors. They claim 55 percent of the earnings of museums and art galleries but only 9 percent of the employment, indicative of (i) high productivity, (ii) a dominant role in the art market of major artists running their own galleries and, perhaps most important, (iii) the fact that the majority of artists find that they must be employed elsewhere, practice art part-time, and report themselves as paid employees. Only the very successful artists can afford to be fully self-employed. The next highest share of self-employment income is 35 percent among the operators of photo studios, of whom 44 percent are self-employed. The self-employed include 35 percent of the authors, music composers and independent artists and, interestingly, they earn only 24 percent of the income. They also play a significant role in radio and TV

broadcasts, with 26 percent of the earnings and 14 percent of the jobs – an indication of relatively high productivity among the group. Other sectors with a significant presence of the self-employed in both employment and earnings are advertising and market research and dance studios.

In the interdependent copyright sectors, the self-employed have their highest impact in radio and TV rentals, where they have 27 percent of the earnings and 33 percent of the jobs, and in the manufacturing of TV transmitters and the like, where they have 25 percent of the earnings and a very high 50 percent rate of employment.

In the partial copyright sector, the self-employed account for 59 percent of the earnings and 48 percent of the employment in interior decoration; 15 percent of earnings and 21 percent of employment in the manufacture of women's clothing and, more generally, 70 percent of earnings and 50 percent of employment in manufacture of textiles, indicative of high productivity in self-employment; 47 percent of earnings and 23 percent of employment in the manufacture of made-up textiles; 60 percent of earnings and 67 percent of employment in the manufacture of certain leather products, such as sandals and shoes; 14 percent of earnings and 50 percent of employment in the manufacture of rattan furniture, which is indicative of relatively low productivity among the self-employed and, more generally, 46 percent of employment and 42 percent of employment in manufacture of wooden furniture; and 42 percent of earnings and 50 percent of employment in carpeting and installation of parquet floors. As is to be expected, similarly significant roles for the self-employed are found in the non-dedicated support activities of passenger transport.

When necessary to complement the data provided by STATIN in Table 12, the earnings adjustment factor of the relevant sub-sector is calculated in a simple manner. Let ***s*** be the share of the earnings of persons who are self-employed in the total of earnings of all earners (labor). First, the complement of ***s*** that is ***1-s*** is calculated. Then, the reciprocal of this complement is computed, i.e., ***(1/(1-s))***. This reciprocal is used as the adjustment factor.

In addition to the adjustment for self-employment, data from Census 2001 are also used to estimate earnings in cases where specific copyright sub-sectors have not been identified by STATIN's data in Table 12. This is mainly relevant to estimation for the interdependent, partial and non-dedicated copyright sectors. In such cases, data are also used from the Survey of Large Establishments to find an approximate average earnings growth factor to be used in projecting the 2001 estimates up to 2005. The source data for the specific earnings growth factors used are reported in Annex I. The Annex provides information on the rate of earnings growth by broad sector aggregates.

Table 21: Self-Employment in the Copyright Sectors of Jamaica, Census 2001			
WIPO (2003) Classification	**Copyright Sectors in Census 2001**	**Share of Self-Employed in Total Earnings**	**Share of Self-Employed in Total Employment**
Core Copyright Sector			
	Advertising and Market Research	12%	14%
	Authors, Music Composers and Independent Artistes	24%	35%
	Dance Studios	9%	15%
	Data Processing and Tabulating Services	1%	2%
	Manu Audio Video Records Tapes	0%	0%
	Medical Research Organizations	0%	0%
	Motion Picture Production	0%	0%
	Motion Picture Video Distribution	12%	36%
	Museums and Art Galleries	55%	9%
	Other Research	0%	0%
	Photo Studios	35%	44%
	Publishing, Print and Publish	6%	5%
	Radio TV Broadcast	26%	14%
	Standards and Industrial Research	0%	0%
	Theater and Entertainment Services	0%	12%
Interdependent Copyright Sector			

Here, the projections are based on the simple average rate of earnings growth between 2001 and 2005, implying an average earnings growth factor of the form

2. $g_c=(1+r)^4$

where r is the rate of growth of earnings estimated from the Establishments Survey as reported in Annex I. The relevant rates are reported below (Table 22).

Estimated Worker Earnings, 2005

Following is the specific application of the adjustment factors in computing the estimates of worker earnings in the copyright sectors.

Table 21: Self-Employment in the Copyright Sectors of Jamaica, Census 2001			
WIPO (2003) Classification	**Copyright Sectors in Census 2001**	**Share of Self-Employed in Total Earnings**	**Share of Self-Employed in Total Employment**
	Manufacture of Optical Instruments and Photo Equipment	0%	0%
	Manufacture of Certain Paper and Paper Products	0%	0%
	Manufacture of Computing Machinery/Computers	0%	0%
	Manufacture of TV Transmitters and Similar Products	25%	50%
	Rental of Radio and TV	27%	33%
	Rental and Lease of Data Processing Equipment/Computers	0%	0%
	Retail of Albums and Music Instruments	5%	14%
	Retail Calculators and Computers , etc	2%	8%
	Retail of Radios, TVs, Recording Equipment and Similar	0%	0%
	Miscellaneous Retailers	64%	73%
Partial Copyright Sector			
	Engineering, Architecture and Surveying	7%	11%
	Interior Decorating	59%	48%
	Manufacture of Boots from Fabrics	19%	41%
	Manufacture of Carpets and Rugs	0%	0%
	Manufacture of Children's Clothing	3%	4%
	Manufacture of Men's Clothing	9%	11%
	Manufacture of Women's Clothing	15%	21%
	Manufacture of Footwear from Other Materials	0%	0%
	Manufacture of Headwear	0%	0%
	Manufacture of Luggage and Handbags	0%	0%
	Manufacture of Made up Textiles	47%	23%
	Manufacture of Metal Furniture	12%	24%
	Manufacture of Other Leather Prods	60%	67%
	Manufacture of Other Wearing Apparel	6%	7%
	Manufacture of Rattan Furniture	14%	50%
	Manufacture of Textiles (n.e.c.)	70%	50%
	Manufacture of Wear Apparel and Crocheted works	19%	8%
	Manufacture of Wooden Furniture	46%	42%
	Manufacture of Chinaware, Stoneware and Earthenware	24%	25%
	Manufacture of Glass	16%	20%
	Manufacture of Glass Products	0%	0%
	Manufacture of Jewelry, Watches and Related Products	9%	41%
	Manufacture of Other Plastic Products	0%	3%
	Manufacture of Plastic Containers Cups	2%	5%
	Manufacture of Plastic Wares	0%	0%
	Parquet Floors and Carpeting	42%	53%
	Retail Stores dealing in Jewelry Watch Clocks	0%	2%
	Retail Stores Selling Textiles and Apparel	9%	12%
	Retail Stores dealing in Footwear	18%	18%
	Retail Stores dealing in Furniture	6%	4%
	Retail of Household Appliances	0%	4%

Table 21: Self-Employment in the Copyright Sectors of Jamaica, Census 2001			
WIPO (2003) Classification	**Copyright Sectors in Census 2001**	**Share of Self-Employed in Total Earnings**	**Share of Self-Employed in Total Employment**
	Retail of Household Furnishings, Fittings and Carpets	0%	0%
	Wholesale of Furniture Fittings	0%	0%
	Wholesale of HH Furniture Equivalence	0%	0%
	Wholesale of Cotton Textiles and Fabrics	9%	11%
	Wholesale and Retail of Textiles and Apparel (n.e.c)	0%	4%
	Wholesale of Clothing	11%	40%
	Wholesale of Footwear	100%	100%
	Wholesale of Office Furniture and Equipment	0%	0%
	Miscellaneous Retailers	64%	73%
Non-Dedicated Support Sectors			
	Air Transport	0%	0%
	Freight Transport	32%	25%
	Private Passenger Road Transport	68%	67%
	Public Passenger Transport by Road	19%	19%
	Storage and Communication	0%	0%
	Support of Water Transportation	0%	2%
	Support of Air Transport	0%	0%
	Support of Road Transport	11%	14%
	Water Transport	0%	2%
Other	Other Industries	14%	25%
All		18%	28%

4.4 Core Copyright

4.4.1 Press and Literature

STATIN estimates of worker earnings for press and literature are used with adjustments only to allow for the self-employed (Table 22). Such adjustments are guided by the estimates of the share of self-employed reported in Census 2001. These are provided in three categories for printing and publishing: publishing of newspapers, publishing of magazines and books, and printing not connected to publishing. Here, the applicable self-employment adjustment factor is 1.06, implied by data indicating that the self-employed account for only 6 percent of worker earnings in the sector (Table 20). In addition, for advertising materials such as billboards, the Census data indicate that approximately 12 percent of earnings come from the self-employed, implying an adjustment factor of 1.14. On this basis, it is estimated that the gross worker earnings of press and literature was J$1798 million, of which publishing of newspapers accounted for J$972 million, publishing of magazines and books J$63.7 million, general printing of other copyrighted materials, J$595 million, and advertising materials such as billboards J$167 million.

4.4.2 Music and Theatrical Productions

STATIN GDP estimates of worker earnings in this category cover only the small component of formal manufacturing of recorded music. Data from Census 2001 allow adjustment of the wage estimates to cover production by operators using networks of home computers, as well as performers who do not report themselves as manufacturers but who nevertheless use home computers to produce and replicate music and sell it on independent labels. In addition, the Census data allow coverage of other operations in theater and dance studios and, most important, coverage of the general class of authors, music composers, and independent artistes and performers. From the data in Annex II, the applicable rate of earnings growth is

7 percent, which is the rate applicable to non-metallic manufacturing. We assume that the same rate applies to all other segments of music, theatrical productions, and opera. Using the implied earnings inflation factor of 1.31 for 2001-2005, the projected worker earnings of music, theatrical productions, and opera are reported in Table 22 and estimated at J$673.4 million.

Estimates of all authors, music composers, and independent artistes from Census 2001 are J$565 million. The category includes the set of art painters, sculptors, and other own-account artists. Using the 0.83 allocation factor estimated from the Mexican data in Table 15, it is estimated that the output of authors, music composers, and independent artistes is J$469 million. In addition, theater and related entertainment services contribute J$93 million, dance studios J$81 million, and the manufacture of audio and video records and other recorded (taped) music J$31 million.

4.4.3 Motion Picture and Video

When adjusted for the self-employed, the aggregate STATIN estimates for the motion picture and video sector (Table 12) approximate the projected estimates from Census 2001. However, the Census data can be generated to separate the estimates of motion picture production from those for motion picture and video distribution, and so are the recommended bases of estimation in this study. Using the same wage inflation factor of 1.31 as above, the estimated worker earnings for motion picture and video is J$99.8 million, of which motion picture production contributes J$25 million and motion picture and video distribution contributes J$61.3 million.

4.4.4 Radio and Television

In Table 12, the STATIN estimate for radio and television broadcasting is J$919 million. After adjusting for the self-employment earnings rate of 26 percent or a self-employment adjustment factor of 1.35, the estimated worker earnings are J$1,242 million. Using the methodology set out earlier, the cable TV value added is estimated at 6 percent of the value added in communications or J$459 million. Here, no adjustment is required for self-employment, since there are no sole-proprietors without employees in the cable distribution business. The overall estimate for the radio and television segment of the core copyright sector is J$1,655 million.

4.4.5 Photography

STATIN estimates of worker earnings in photography (Table 12) also exclude the self-employed. However, as indicated in Table 21, the self-employed without employees account for about 35 percent of the earnings in the sector. For this reason, we project the data in Census 2001 up to 2005 as the basis for estimating value added in this segment of the copyright sector. These estimates already account for the self-employed. Specifically, it is estimated that the total worker earnings in photographic studios and related agencies are J$246.3 million (Table 22).

4.4.6 Software and Databases

Estimates for core software and databases are projected directly from Census 2001 under JSIC code 8323, since no data are provided for this in Table 12. The estimates cover data processing and related production and publishing of information. In this case, the applicable earnings growth rate is 4 percent per annum for the JSIC 83 classification (Annex II). Thus, the implied earnings growth factor of 1.17 is applied and the estimates indicate worker earnings of J$386.1 million in 2005 (Table 22).

4.4.7 Graphic Arts

One component of worker earnings in graphic arts, museums and art galleries, is projected from Census 2001 data, using the earnings growth factor of 1.31 implied by the same earnings growth factor that is applicable to music, theatrical productions, and opera. The estimates indicate that worker earnings in this category are J$53.8 million. The other segment of the group covers art painters, sculptors, and other own-account artists. For these, the estimates are generated by applying the 0.17 allocation factor to estimates of all authors, music composers, and independent artistes from Census 2001, based on the proportions extracted from the Mexican data in Table 15. On this basis, it is estimated that the output of art painters, sculptors, and other own-account artists is J$95.8 million (Table 22).

4.4.8 Advertising Services

With respect to the advertising agencies, STATIN provides reliable data that cover the formal and large establishments (Table 12). Data from Census 2001 indicate that 12 percent of the earnings could be expected to come from the self-employed. Thus, a self-employment adjustment factor of 1.14 is applied and yields estimated worker earnings of J$371.6 million (Table 22).

4.4.9 Copyright Collective Management Societies

The estimates for the collective management societies were obtained by direct interviews with the main organizations. Five organizations provided data indicating total worker earnings of J$15.3 million in 2005.

Table 22: Adjusted Worker Earnings for Core Copyright Sector, 2005							
JSIC Code	**Copyright Category**	**Copyright Factor**	**Wages and Salaries Reported by STATIN**	**Self-Employment Adjustment factor**	**Applicable Earnings Growth rate**	**Earnings Inflation Factor**	**Adjusted Wages and Salaries**
	a. Press and Literature						**1,797.90**
24212	Publishing of Newspapers	1	913.9	1.06	0	1.00	972.2
24214	Publishing of Magazines & Books	1	59.9	1.06	0	1.00	63.7
24220	Printing not connected to Publishing	1	559.5	1.06	0	1.00	595.2
83252	Advertising Materials such as Billboards	1	146.7	1.14	0	1.00	166.7
	b. Music, Theatrical Productions, Opera					1.00	0.0
3373	Manufacture of Audio and Video Records and Tapes/Recorded Music	1	23.7	1.00	0.07	1.31	31.1
9415	Authors, Music Composers and Independent Artistes	1	357.7	1.00	0.07	1.31	468.9
9498	Dance Studios	1	61.4	1.00	0.07	1.31	80.5
9414	Theater and Related Entertainment Services	1	70.9	1.00	0.07	1.31	92.9
	c. Motion Picture and Video Production, Distribution and Projection					1.00	0.0
9411	Motion Picture Production	1	18.9	1.00	0.07	1.31	24.8
9412	Motion Picture and Video Distribution	1	46.8	1.00	0.07	1.31	61.3
	d. Radio and Television Broadcasting					1.00	0.0
94130	General (National and other) Radio and TV Broadcasting, including Independent Producers, Satellite TV and other Services	1	918.7	1.35	0	1.00	1241.5
72000	Cable Television	0.25	413.8	1.00	0	1.00	413.8

Table 22: Adjusted Worker Earnings for Core Copyright Sector, 2005							
JSIC Code	**Copyright Category**	**Copyright Factor**	**Wages and Salaries Reported by STATIN**	**Self-Employment Adjustment factor**	**Applicable Earnings Growth rate**	**Earnings Inflation Factor**	**Adjusted Wages and Salaries**
9562	**e. Photography**			1.00		1.00	0.0
9562	Photographic Studios, Agencies, etc	1	188	1.00	0.07	1.31	246.4
	f. Software and Databases					1.00	0.0
8323	Data Processing and Related Publishing	1	330	1.00	0.04	1.17	386.1
	g. Graphic Arts					1.00	0.0
9422	Museums and Art Galleries	1	41.1	1.00	0.07	1.31	53.9
9415	Art Painters, Sculptors and other Own-Account Artists	0.17	73.3	1.00	0.07	*1.31*	*96.1*
	h. Advertising Services					*1.00*	*0.0*
83251	Advertising Agencies	1	327	1.14	0	*1.00*	*371.6*
	i. Copyright Collective Management					*1.00*	*0.0*
9	Collective Management Societies	1	15.3	1.00	0	*1.00*	*15.3*

4.5 Worker Earnings in Interdependent Copyright

The estimates of worker earnings for the interdependent copyright sector are based on projections from Census 2001 and reported in Table 23. The earnings growth factors are based on indications of sector-specific earnings growth rates of 4 percent, 7 percent, or 16 percent as drawn from Annex I. The estimates are summarized under two broad headings – the core interdependent copyright sector and the partial interdependent copyright sector.

Projections from Census 2001 indicate a small core interdependent copyright sector of J$41.8 million, with a relatively minor role for manufacture of TV and radio transmitters, receivers, apparatus for recording sound or video signals and for line telephony and line telegraphy, with worker earnings of only J$4.53 million (earnings growth rate 16 percent) and manufacture of computers and equipment where worker earnings are J$37.3 million (earnings growth rate 16 percent).

The partial interdependent copyright sector yields substantially higher worker earnings of J$1,173.4 million, of which the main contributor is wholesale and retail of the interdependent copyright industries (J$1,098.8 million). In this group, the estimate of J$455.5 million for other wholesale and retail is projected from Census 2001 data for miscellaneous distributive trades, after applying the copyright factor of 0.05 adapted from the Hungarian study. No self-employment adjustment is needed, since the Census 2001 imputations cover all employment status. In addition, the estimates reveal: J$534.8 million in the subgroups of retail stores dealing in calculators, computers, typewriters and other office equipment, including parts and

accessories; J$92.5 million in retail stores dealing in radios, television sets and sound reproducing and recording equipment (including parts and accessories); and J$16 million in retail stores dealing in musical instruments, records, record albums and tapes (earnings growth rate 4 percent).

4.6 Worker Earnings in the Partial Copyright Sector

Estimates for the partial copyright sector are also reported in Table 23, again in light of copyright factors adapted from the Hungarian study and reflected in the Mexican study. Under manufacture of certain apparel, textiles and footwear and related items, worker earnings amounted to J$11.6 million; under manufacture of furniture, J$54.4 million, reflecting widespread decline in the sector manifested in a reduction in earnings at a rate of 5 percent per annum since 2001, forged by the intensifying competitive challenges faced by a segment of the industry with 46 percent of the earnings generated by the self-employed in a context of rapidly-changing global mechanical, design, and digital craft technologies; under manufacture of jewelry and watches, J$19.4 million; under engineering, architecture and surveying, J$421.1 million; and under distributive trades for the partial copyright industries, J$526 million. In the latter case, the substantial volume is accounted for mainly by the component estimated by applying the copyright factor of 0.05 to the Census 2001 estimates for the group of miscellaneous retailers, including retail stores dealing in sports and recreational goods.

4.7 Worker Earnings in the Non-Dedicated Support Industries

In the non-dedicated support industries, the general distributive trades are the main contributors of worker earnings, amounting to J$1875.4 million. These are estimated by taking 0.05 percent of the industry as measured by STATIN in Table 12, then subtracting the value of the industry that is accounted for by the miscellaneous trades of the independent copyright industries and the partial copyright industries in order to avoid any possible double counting, and then adjusting for the 64 percent contribution to earnings of self-employed persons in the sector. The second substantial component of the non-dedicated support industries is projected directly from Census 2001 and comprises the set of general transportation, storage, communications and business services, which accounts for J$1683.5 million, and which is dominated by three supporting subgroups – private passenger transport by road, J$268.3 million; air transport, J$556.8 million, and communication, J$427.9 million. Projections are based on the industry-specific earnings growth factors reported in Table 23.

Table 23: Estimated Worker Earnings for Interdependent, Partial and Non-Dedicated Support Copyright Sectors, 2005

JSIC Code	Interdependent	Copyright Factor	Wages and Salaries	Self-Employment Adjustment Factor	Earnings Growth Rate	Wage Inflation Factors	Adjusted Wages and Salaries
	Core Interdependent						**41.83**
3372	Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	1	2.5	1.0	0.16	1.81	*4.53*
3350	Manufacture of Computers and Equipment	1	20.6	1.0	0.16	1.81	*37.30*
	Partial Interdependent						**1,173.49**
3385	Manufacture of Optical Instruments and Photographic Equipment	1	9.5	1.0	0.16	1.81	*17.20*
2419	Manufacture of Certain Articles of Paper and Paperboard	1	44.3	1.0	0.01	1.04	*46.10*
8334	Rental of Radio, Television	1	7.8	1.0	0.04	1.17	*9.12*
8335	Rental and Leasing of Data Processing Equipment	1	1.9	1.0	0.04	1.17	*2.22*
	Wholesale and Retail of the Interdependent Copyright Industries, of which:						**1,098.84**
6251	Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	1	70.6	1.0	0.07	1.31	*92.54*
6252	Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment, including Parts and Accessories	1	408.0	1.0	0.07	1.31	*534.80*
6253	Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	1	12.2	1.0	0.07	1.31	*15.99*
6293	Other Miscellaneous Wholesalers and Retailers, including	0.05	347.5	1.0	0.07	1.31	*455.50*
	Retail Stores dealing in Books, Magazines and Stationary (Bookshops)						
	Retailers Dealing in Antiques and Art						
	Partial Copyright Sectors						
	Manufacture of Certain Apparel, Textiles and Footwear, and Related Items		**7.47**				**11.57**
2221	Manufacture of Made-up Textile Articles	0.005	0.4	1.0	0.06	1.26	*0.51*
2222	Manufacturing of Carpets and Rugs	0.005	0.04	1.0	0.06	1.26	*0.05*
2229	Manufacture of Textiles (n.e.c)	0.005	0.2	1.0	0.06	1.26	*0.19*
2231	Manufacture of Wearing Apparel and Crocheted Goods	0.005	0.8	1.0	0.12	1.57	*1.31*
2234	Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	0.005	1.4	1.0	0.12	1.57	*2.18*

Table 23: Estimated Worker Earnings for Interdependent, Partial and Non-Dedicated Support Copyright Sectors, 2005							
JSIC Code	**Interdependent**	**Copyright Factor**	**Wages and Salaries**	**Self-Employment Adjustment Factor**	**Earnings Growth Rate**	**Wage Inflation Factors**	**Adjusted Wages and Salaries**
2235	Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	0.005	2.0	1.0	0.12	1.57	*3.22*
2236	Manufacture of Clothing (except Footwear and Fur Apparel) for Children	0.005	0.70	1.0	0.12	1.57	*1.10*
2237	Manufacture of Headgear	0.005	0.02	1.0	0.12	1.57	*0.03*
2238	Manufacture of Other Wearing Apparel (n.e.c)	0.005	1.02	1.0	0.12	1.57	*1.60*
2243	Manufacture of Luggage and Handbags	0.005	0.01	1.0	0.12	1.57	*0.01*
2251	Manufacture of Boots and Shoes from Leather Fabrics and other Materials except Wood, Rubber and Plastic	0.005	0.73	1.0	0.12	1.57	*1.14*
2249	Manufacture of Other Leather Products	0.005	0.05	1.0	0.12	1.57	*0.07*
2259	Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	0.005	0.03	1.0	0.12	1.57	*0.05*
	Manufacture of Furniture		**66.77**				**54.38**
2321	Manufacture of Wooden Furniture	0.05	65.0	1.0	(0.05)	0.81	*52.94*
2322	Manufacture of Metal Furniture	0.05	1.55	1.0	(0.05)	0.81	*1.26*
2323	Manufacture of Rattan (Wicker) Furniture	0.05	0.2	1.0	(0.05)	0.81	*0.18*
	Manufacture of Household Goods, China and Glass		**0.96**				**1.45**
2721	Manufacture of Plastic Containers and Cups	0.005	0.49	1.0	0.11	1.52	*0.74*
2722	Manufacture of Plastic Dinner Ware and Table Ware	0.005	0.02	1.0	0.11	1.52	*0.03*
2729	Manufacture of Plastic Products (n.e.c)	0.005	0.28	1.0	0.11	1.52	*0.43*
2811	Manufacture of Glass	0.005	0.06	1.0	0.09	1.41	*0.08*
2812	Manufacture of Glass Products	0.005	0.02	1.0	0.09	1.41	*0.03*
2891	Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	0.005	0.10	1.0	0.10	1.46	*0.14*
	Manufacture of Jewelry, Watches and Related Items		**14.43**				**19.37**
2904	Manufacture of Jewelry and Related Articles	0.25	13.5	1.0	0.07	1.31	*17.70*
3386	Manufacture of Watches and Clocks	0.25	0.93	1.0	0.16	1.81	*1.67*
	Interior Decorating and Carpets		**1.59**				**2.17**
5452	Interior Decorating	0.02	1.1	1.0	0.08	1.36	*1.43*
5531	Flooring (Parquet) and Carpeting	0.02	0.54	1.0	0.08	1.36	*0.73*
	Engineering, Architectural and Technical (including Surveying)		**360.0**				**421.1**
8324	Engineering, Architectural and Technical (including Surveying)	0.5	360.0	1.0	0.04	1.17	*421.15*

Table 23: Estimated Worker Earnings for Interdependent, Partial and Non-Dedicated Support Copyright Sectors, 2005							
JSIC Code	**Interdependent**	**Copyright Factor**	**Wages and Salaries**	**Self-Employment Adjustment Factor**	**Earnings Growth Rate**	**Wage Inflation Factors**	**Adjusted Wages and Salaries**
	Wholesale and Retail of Partial Copyright Industries		**396.3**				**524.6**
6161	Wholesale of Cotton, Textile Yarn and Fabric	0.05	1.1	1.0	0.21	2.14	*2.25*
6162	Wholesale of Clothing	0.05	0.35	1.0	0.21	2.14	*0.75*
6163	Wholesale of Footwear	0.05	0.38	1.0	0.21	2.14	*0.81*
6169	Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	0.05	2.8	1.0	0.21	2.14	*5.89*
6171	Wholesalers of Office Furniture and Equipment	0.05	0.6	1.0	0.21	2.14	*1.20*
6172	Wholesalers of Household Furniture and Equipment	0.05	0.9	1.0	0.21	2.14	*1.90*
6173	Wholesalers of Furniture and Fittings	0.05	0.2	1.0	0.21	2.14	*0.42*
6221	Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	0.05	5.2	1.0	0.07	1.31	*6.82*
6222	Retail Stores dealing in Household Appliances (Electrical and Non-Electrical)	0.05	5.3	1.0	0.07	1.31	*6.88*
6223	Retail Stores dealing in Furniture	0.05	11.1	1.0	0.07	1.31	*14.55*
6224	Retail Stores dealing in Jewelry, Watches and Clocks	0.05	4.3	1.0	0.07	1.31	*5.57*
6231	Retail stores dealing in Textiles, Wearing Apparel and Other Personal Effects	0.05	15.6	1.0	0.07	1.31	*20.38*
6231	Retail Stores dealing in Footwear	0.05	1.3	1.0	0.07	1.31	*1.70*
6293	Miscellaneous Retailers, including Retail Stores dealing in Sports and Recreational Goods	0.05	347.5	1.0	0.07	1.31	*455.50*
	Non-Dedicated Copyright						
	General Distributive Trades		**675.1**				**1,875.4**
6100-6200	Distributive Trades	0.05	675.1	2.8	-	1.0	*1,875.38*
	General Transportation, Storage, Communications and Business Services		**1,434.3**				**1,683.5**
7112	Public Passenger Transport by Road	0.057	71.3	1.0	0.08	1.4	*96.93*
7113	Other Passenger Transport by Road	0.057	197.2	1.0	0.08	1.4	*268.32*
7114	Freight Transport by Road	0.057	62.1	1.0	0.08	1.4	*84.53*
7116	Supporting Services to Land Transport	0.057	8.6	1.0	0.08	1.4	*11.71*
7121	Ocean and Coastal Water Transport	0.057	15.7	1.0	0.11	1.5	*23.88*
7123	Supporting Services to Water Transport	0.057	19.8	1.0	0.11	1.5	*30.03*
7131	Air Transport Carriers	0.057	476.0	1.0	0.04	1.2	*556.79*
7132	Supporting Services to Air Transport	0.057	35.9	1.0	0.04	1.2	*42.01*
7192	Storage and Warehousing	0.057	6.5	1.0	0.08	1.4	*8.84*

Table 23: Estimated Worker Earnings for Interdependent, Partial and Non-Dedicated Support Copyright Sectors, 2005							
JSIC Code	**Interdependent**	**Copyright Factor**	**Wages and Salaries**	**Self-Employment Adjustment Factor**	**Earnings Growth Rate**	**Wage Inflation Factors**	**Adjusted Wages and Salaries**
72000	Communication	0.057	427.9	1.0	-	1.0	*427.90*
83260	Other Business Services, Accounts, Audit and Bookkeeping and Legal	0.057	113.3	1.0	0.04	1.2	*132.56*

4.8 Estimating the Earnings Multipliers (m_S)

In the absence of a comprehensive database, estimates of the GDP and employment contributions require estimation of the copyright sub-sector-specific earnings multipliers, m_S, based on the share of (labor) earnings in total income (earnings, net taxes, operating surplus, and depreciation) as reported by STATIN.[20] These multipliers are reported in Table 24.[21] In addition to the 4-digit sectors covered in Table 12, Table 24 also includes estimates of the multipliers for the partial copyright sectors. These have been calculated using unpublished data at the 2-digit or 3-digit level provided by STATIN.

No data on depreciation, taxes, or operating surplus are available to make adjustments that reflect the self-employed. Analysis is based on the assumption that the self-employed are involved in labor-intensive operations because of the greater skill-intensity of the technologies they utilize. So their share of earnings is expected to be higher. This implies somewhat lower earnings multipliers than those implied by the STATIN data, and the estimates might properly be interpreted as upper limits. There are two counter arguments that are perhaps compelling and indicate that the wage adjustments as well as the multipliers for the self-employed are low; so that the overall estimates are also relatively low. First, recent estimates place the self-employed and the broader informal economy not captured by the STATIN estimates at near 40 percent of GDP (Robles, Hernandez, De la Roca, Webber and Torero, 2002). Second, the wage share (in this case, the portion of value added assigned to payment for management and labor) is likely to be smaller for the self-employed than in the case of the sectors covered by STATIN, partly because of the orientation to smooth investment (rather than consumption) to facilitate accumulation of capacity and ensure viability, and partly because the relative share of investment in domestic real capital forms to complement necessary imports is usually severely underestimated. In the absence of survey data, it is difficult to tell, and the method adopted is simply to use the STATIN ratios to determine the multipliers. In light of these considerations, the broad earnings multipliers associated with the JSIC Codes for the copyright sectors used to show the contributions of various copyright sectors to the GDP are reported in Table 24.

[20] Denote the earnings share as Ws. Then the estimated multiplier is simply 1/Ws.
[21] Access to details about a wider range of sectors than is available in Table 12 would lead to more accurate estimates.

Table 24: Estimated Earnings Multipliers for Copyright Sectors, 2005			
JSIC Code	**Copyright Sector Description**	**Multipliers (m_s)**	**Other Sectors to Which Applied**
24212	Publishing of Newspapers	1.82	
24214	Publishing of Magazines and Books	1.64	
24220	Printing unconnected to Publishing	1.54	
83252	Advertising Materials such as Billboards	1.79	
33731	Manufacture of Records	2.77	
			Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy
			Manufacture of Computers and Equipment
			Manufacture of Optical Instruments and Photographic Equipment
			Manufacture of Certain Articles of Paper and Paperboard
			Manufacture of Certain Apparel, Textiles and Footwear, and Related Items
			Manufacture of Furniture
			Manufacture of Household Goods, China and Glass
			Manufacture of Jewelry, Watches and Related
6100-6200	Distributive Trades	3.79	
72000	Communication (Cable)	4.25	Cable Television
83000	Rental of Other Machinery and Equipment	3.35	
			Rental of Radio, Television
			Rental and Leasing of Data Processing Equipment
83251	Advertising Agencies	1.89	
83252	Advertising Services (e.g. Billboards)	1.79	
83260	Other Business Services	1.68	
			Copyright Collective Management Societies
			Interior Decorating
			Flooring (Parquet) and Carpeting
			Engineering, Architectural and Technical (including Surveying)
			Other Business Services, Accounts, Audit and Bookkeeping and Legal
94110 & 94120	Motion Picture and Video Production, Distribution and Projection	1.58	
94130	Radio and Television Broadcasting	1.46	
94990b	Other Amusement and Recreation etc.	1.33	
			Authors, Music Composers, Independent Artistes
			Dance Studios
			Theater and Related Entertainment Services
95620	Photographic Studios	1.59	
			Museums and Art Galleries
			Art Painters, Sculptors and Other Own-Account Artists
221-223	Textiles and Wearing Apparel	1.47	Preparation and Spinning of Textile Fibers, Weaving of Textiles; Finishing of Textile Printing, etc.; Manufacture of Made-up Textile Articles (except Apparel); Textiles n.e.c; Knitted and Crocheted Goods; Clothing (except Footwear and Fur Apparel) for Men and Boys; f Clothing for Women and Girls; Clothing for Children; Headgear; Other Wearing Apparel.

224-225	Leather and Leather Products, Footwear	1.44	Luggage and Handbags; Saddlery and Harnessing; Other Dressing and Tanning of Leather, Luggage, etc.; Boots and Shoes from Leather, Fabrics, except Wood, etc.; Footwear made of Rubber, Plastic and Other Materials
231-232	Furniture and Fixtures, Wood, Wood and Cork Products	2.04	Manufacture of Wooden Furniture; Metal Furniture; Rattan (Wicker) Furniture;
25&27	Chemicals, Chemical Products, Rubber and Plastic Products (including Lube Oils and Greases)	3.03	Manufacture of Other Rubber Products; Plastic Containers and Cups; Plastic Dinnerware, Tableware and Kitchenware; Plastic Bathroom Fixtures; Plastic Products n.e.c.
28	Non-metallic Mineral Products (excluding Petroleum and Coal Products)	3.12	Manufacture of Glass; Glass Products; Non-Structural Ceramic Ware.
29; 3386	Other Manufacturing	1.62	Manufacture of Jewelry and Related Articles; Watches and Clocks; Sports Goods; Games and Toys.
7000-7191	Transportation	1.93	Air, Land and Sea Transport.
7192	Storage and Warehousing	3.32	

4.9 Estimating Employment Contribution

Equation (1) also provides a reliable indirect method of estimating employment in copyright once data on the wage rate is available. Specifically, employment by sub-sector is estimated using the formula:

$$3. \quad N=(f_{cs}\omega_{se}wN)/w$$

where the variables are defined as before and the sector's subscripts are left out because they are obvious. The right-hand side of (3) divides the estimated annual worker earnings of the sub-sector in (1) by the estimated annual earnings per worker in the sector.

Basic estimates of the average earnings per worker (w) are available from STATIN's Survey of Large Establishments and its various complementary sources and reported in Annex I. Since the estimates are for large establishments, there is a significant possibility that they deviate significantly from the average when the self-employed are taken into account. For this reason, estimates of the ratio of the average earnings of all workers and the average of paid employees are computed from Census 2001 and used to rescale (multiply) the STATIN average for large establishments. The result is an approximation of the average for all employees, which can be used to estimate the level of employment, using (3). It is worth observing that, when based solely on the unadjusted STATIN averages provided in Annex I, the estimates of all employment in the copyright sector are approximately the same as those computed using the adjusted wage. However, the sector estimates vary substantially. We use the adjusted sectors estimates in this study because they provide a better basis for making adjustments to the sector-specific employment data during the process of dialogue with stakeholders, which data yield the final estimates reported in the study.

As part of the assessment of employment impact, a Becker-Chiswick-Mincer earnings function (wage curve) is estimated, based on data in Census 2001. The actual specification used is also an inverse labor supply function, in that it explains the log of annual earnings in terms of the following variables: (i) personal human capital assets indicated by years of education – a categorical indicator of training for the job one holds and a potential experience quadratic; (ii) labor supply as measured by hours worked per week and weeks worked per year; (iii) a technology of production proxy in the form of a quadratic on the size of the firm in which one is employed; (iv) social factors that influence individual outcomes – an indicator of positive externalities in the mean years of education in the parish of residence and an inhibitor of factor

mobility in the average productivity of the self-employed in the parish of residence; and (v) a correction for selection bias in the form of an (Inverse Mills Ratio) indicator of the observed probability of employment in the copyright sector (labeled a copyright *lambda*).

In addition, experimentation revealed that the usual quarter of birth ability indicator is a very poor instrument to address the endogeneity of education choices. So it is simply included as an explanatory variable in its own right, with standard least-squares applied in the estimation process. In addition, as indicated above, coefficient estimates are also used to determine whether the marginal product of labor diverges from the going wage rate – a result one expects if significant education externalities exist and there is a binding sociological floor that blocks downward adjustments in the wage. In the presence of that divergence, the quantity of the heterogeneous labor supply cannot be estimated independently of the wage, and the claims data in Table 12 can be used directly to estimate average partial productivities.

5 The Contribution of Copyright-Based Industries to GDP

In general, it is estimated that the copyright sector contributes about 4.8 percent to the GDP of Jamaica (J$605,030 million). The main contributions come from the core copyright sector, with about 1.7 percent, and the non-dedicated copyright support sectors, with a share of 1.9 percent. The interdependent and partial copyright sector jointly contribute about 1.2 percent. A general lesson from the evidence is that the segments supported by government tend to do substantially better than those that are neglected. In terms of the internal structure of the copyright sector GDP, core copyright contributes 35.7 percent, non-dedicated support contributes 39.0 percent, and interdependent and partial jointly contribute 25.3 percent. The estimates are broadly consistent with the overall structure of the GDP in which the distributive trades and transport, storage and communications jointly contribute about 36 percent to the GDP of Jamaica (Table 27). The relatively high share of non-dedicated support is related to the relatively intensive use of these services in activities such as music, amusement and entertainment, and radio and television coverage.

5.1 Contribution of Core Copyright Industries

Table 25 reports that the contribution of the broad core copyright sectors to GDP is equal to J$10,363.8 million, equivalent to US$165 million or 1.7 percent of Jamaica's GDP. Annex II provides details that include the applicable multipliers (labor productivities) used to impute the distribution of income as well as the assigned copyright factors. The three main contributors are radio and television broadcasting, which accounts for J$3578 million (US$57.3 million) or 12.3 percent of the total copyright sector; press and literature, which accounts for J$3090.8 million (US$49.5 million) or 10.6 percent; and music and theatrical productions, which accounts for J$1263.5 million (US$20.2 million) or 4.34 percent. These estimates highlight the importance of distinguishing turnover (sales) and net income and of examining the details that differentiate sectors supported by government policy from those that are not. The radio and television broadcasting and press and literature segments receive substantial policy support from government, including direct government investment, targeted education and training, and other types of preferential tax benefits;[22] music and theatrical productions do not receive comparable support. Further, given its international reputation, it is often thought that the music industry contributes substantially more to the economy than indicated by the estimates. However, these claims are perhaps applicable less to value added and more to the gross sales of the broadly-defined industry, which approximate US$49 million, with US$32 million coming from the music industry itself (Table 26). Even more significantly, the claims may be applicable to gross international sales that do not accrue to the local economy and could not be estimated in this study because of lack of suitable data.

5.2 Contribution of Interdependent Copyright Industries

Table 25 also reports summarily that the contribution of interdependent copyright activity to GDP in 2005 amounted to J$4,495.2 million (US$71.9 million) or 0.74 percent of GDP, with details again reported in Annex II. These activities also contribute 15.5 percent of the copyright GDP. The majority of this contribution, J$4,166.3 million, comes from wholesale and retail of the interdependent copyright industries. Only about J$115.8 million comes from the manufacture of TV and radio transmitters, receivers, apparatus for recording sound or video signals and the like, and about J$127.6 million from manufacture of certain articles of paper. The results reflect both the low level of development of manufacturing activity in Jamaica as well as the general tendency for the economy to develop as a service sector that can exploit available tacit knowledge in the pursuit of market opportunity.

[22] For example, cable TV is part of the communication sector, which benefits from J$300.5 million of subsidies. No similar benefits go to the dynamic creative sectors of music and theater, which thrive by using and codifying domestic tacit knowledge.

5.3 Contribution of Partial Copyright Industries

Partial copyright contributed approximately J$2,858.53 million (US$45.7 million) or 0.47 percent to the GDP of Jamaica (Table 25). This is about 9.8 percent of the GDP of the copyright sectors. In this group, the main contribution again comes from wholesale and retail of partial copyright industries (J$1,989.2 million or 6.8 percent of copyright GDP) but a substantial contribution was also made by the services of engineering, architecture and surveying, with J$705.9 million or 2.43 percent of copyright GDP. The contribution of manufacture of furniture (J$110.8 million) was very moderate, reflecting the recent decline of an industry that was once a very substantial contributor to the economy and to creative (and artistic) manufacturing. In many ways, this sub-sector epitomizes the fate of sectors that receive major government stimulus to develop as import-dependent and import-substitution activities while neglecting the critical contribution of the segment that depends on domestic tacit knowledge, craft skills, and other related domestic capital to survive and grow. In the context of globalization, the import-dependent component has died out because of lack of adequate capacity to redefine and develop its comparative advantages and, in the absence of adequate public fiscal measures (taxation and expenditure), education, training, and related technical support policy (support resources and entrepreneurship to upgrade the well-defined comparative advantage contributed by abundant tacit knowledge), the domestic capital-intensive component has survived but has generally stagnated.

5.4 Contribution of the Non-Dedicated Copyright Support Activities

It is estimated that the non-dedicated activities supporting the copyright sector contributed J$11,328.9 million (US$181.4 million), which is 39.0 percent of copyright GDP and about 1.9 percent of the national GDP (Table 25). Of this, the general distributive trades contributed about J$7,110.6 million and general transportation, storage, communications and business services contributed about J$4,218.2 million; communications (J$1,820.6 million); air transport (J$1,072.4 million), and private passenger transportation (J$516.8 million) were the main contributors in this group (See Annex II).

5.5 General Sector Contribution to GDP

The data in Table 27 compare the contribution of copyright to that of other sectors. Copyright contributed more than electricity and water (4.1 percent) and almost as much as agriculture, forestry and fishing (5.2 percent) and real estate and business services (5.2 percent). These are just below the 5.8 percent contributed by mining and quarrying and almost half of the contribution of construction and installation (10.6 percent). As a general rule, many important elements of the copyright sector receive much less policy support than all of these sectors. The main comparison from a policy perspective relates to how the output of the sector rewards the economy for the claims paid to the factors of production utilized. Comparisons are provided in Section VIII, which provides the general policy implications of the estimates provided.

One striking aspect of the estimates of the contribution to GDP is the generally high share of distributive trades relative to other production activities. For the economy as a whole, these activities account for 21 percent of GDP, by far the largest share by any sector. In the copyright sectors, the share is even higher, accounting for most of the interdependent, partial and non-dedicated support activities. This can be explained in part by the high share of copyright-related imports in domestic consumption and the high share of imported inputs in domestic production in a context where the production structure is still narrowly focused on a few traditional exports and the potential for capital production of the copyright sector and others is still heavily underexploited. One would normally expect that a natural consequence of this is a net deficit on the two key external balances, trade and payments. However, adequate data on international trade by the copyright sector or on the import content of copyright consumption or production are not available to provide specific estimates of the significance of this factor.

Table 25: Contribution of Copyright Sectors to GDP, 2005

	Wages and Salaries (J$ million)	Compensation for Social Security (J$ million)	Indirect Taxes (J$ million)	Depreciation (J$ million)	Operating Surplus (J$ million)	Contribution to GDP (J$ million)	Share of Copyright GDP	Share of GDP
Core Copyright Sector								
a. Press and Literature	1,797.9	129.9	107.5	176.7	878.9	3,090.8	10.6%	*0.51%*
b. Music, Theatrical Productions, Opera	918.33	59.15	62.91	100.78	122.31	1,263.5	4.34%	*0.21%*
c. Motion Picture and Video Production, Distribution and Projection	118.96	10.33	7.21	13.87	38.07	188.4	0.6%	*0.03%*
d. Radio and Television Broadcasting	1,655.32	217.11	98.42	615.64	991.56	3,578.0	12.3%	*0.59%*
e. Photography	340.40	4.14	0.64	3.50	193.60	542.3	1.9%	*0.09%*
f. Software and Databases	386.05	15.26	17.19	24.97	203.57	647.0	2.2%	*0.11%*
g. Graphic Arts	207.08	2.52	0.39	2.13	117.78	329.9	1.1%	*0.05%*
h. Advertising Services	371.6	31.0	3.8	28.2	267.8	702.4	2.4%	*0.12%*
i. Copyright Collective Management Societies	15.3	0.6	0.7	1.0	3.8	21.4	0.07%	0.004%
Total Core Copyright	**5,810.91**	**470.05**	**298.64**	**966.71**	**2,817.45**	**10,363.77**	**35.7%**	**1.7%**
Approximate US$ Core Copyright	**92.97**	**7.52**	**4.78**	**15.47**	**45.08**	**165.82**		
Interdependent								
Core Interdependent	**41.83**	**7.78**	**22.37**	**7.78**	**35.99**	**115.8**	0.40%	**0.019%**
Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	4.53	0.8	2.4	0.84	3.9	12.5	0.043%	**0.002%**
Manufacture of Computers and Equipment	37.30	6.9	20.0	6.94	32.1	103.2	0.354%	**0.017%**
Partial Interdependent	**1,173.49**	**128.73**	**904.32**	**126.46**	**2,046.48**	**4,379.48**	**15.1%**	**0.724%**
Manufacture of Optical Instruments and Photographic Equipment	17.20	3.2	9.2	3.20	14.8	47.6	0.164%	0.008%
Manufacture of Certain Articles of Paper and Paperboard	46.10	8.6	24.7	8.58	39.7	127.6	0.439%	0.021%
Rental of Radio, Television	9.12	0.41	0.66	11.64	8.70	30.5	0.105%	0.005%
Rental and Leasing of Data Processing Equipment	2.22	0.10	0.16	2.84	2.12	7.4	0.026%	0.001%
Wholesale and Retail of the Interdependent Copyright Industries	1,098.84	116.45	869.65	100.20	1,981.19	4,166.34	14.3%	0.69%
Total Interdependent Copyright	**1,215.31**	**136.51**	**926.70**	**134.24**	**2,082.47**	**4,495.23**	**15.5%**	**0.74%**
Approximate US$ Interdependent Copyright	**19.44**	**2.18**	**14.83**	**2.15**	**33.32**	**71.92**		
Partial Copyright Sectors								
Manufacture of Certain Apparel, Textiles and Footwear, and Related Items	11.47	0.63	1.63	1.59	1.51	16.83	0.06%	0.003%
Manufacture of Furniture	54.38	0.80	6.13	4.81	44.66	110.78	0.38%	0.02%
Manufacture of Household Goods, China and Glass	1.45	0.14	0.26	0.28	2.30	4.43	0.02%	0.001%
Manufacture of Jewelry, Watches and Related	19.37	0.66	0.88	0.74	9.80	31.44	0.11%	0.01%
Interior Decorating and Carpets	2.17	0.09	0.10	0.14	1.14	3.63	0.01%	0.001%
Engineering, Architectural and Technical (including Surveying)	421.1	16.6	18.8	27.2	222.1	705.9	2.43%	0.12%
Wholesale and Retail of Partial Copyright Industries	524.6	55.6	415.2	47.8	945.9	1,989.2	6.8%	0.33%
Total Partial Copyright	**1,032.46**	**74.46**	**442.86**	**82.50**	**1,226.24**	**2,858.53**	**9.8%**	**0.47%**

Table 25: Contribution of Copyright Sectors to GDP, 2005								
	Wages and Salaries (J$ million)	**Compensation for Social Security (J$ million)**	**Indirect Taxes (J$ million)**	**Depreciation (J$ million)**	**Operating Surplus (J$ million)**	**Contribution to GDP (J$ million)**	**Share of Copyright GDP**	**Share of GDP**
Approximate US$ Partial	**16.52**	**1.19**	**7.09**	**1.32**	**19.62**	**45.74**		
Non-Dedicated Copyright								
General Distributive Trades	1,875.4	198.7	1,484.2	171.0	3,381.3	7,110.6	24.45	1.2%
General Transportation, Storage, Communications and Business Services	1,683.5	219.9	181.3	705.7	1,427.8	4,218.2	14.5%	0.7%
Total Non-Dedicated	**3,558.89**	**418.69**	**1,665.52**	**876.68**	**4,809.07**	**11,328.85**	**39.0%**	**1.9%**
Approximate US$ Non-Dedicated	**56.94**	**6.70**	**26.65**	**14.03**	**76.95**	**181.26**		
Total Copyright Industries	**11,617.6**	**1,099.7**	**3,333.7**	**2,060.1**	**10,935.2**	**29,046.4**	**100%**	**4.8%**
Approximate US$ Total Copyright	**185.9**	**17.6**	**53.34**	**33.0**	**175.0**	**464.7**		
Source: Computed from data provided by STATIN								

Table 26: Composition of the Contribution of Music and Theatrical Production to GDP, Income, Intermediates and Turnover								
	Wages and Salaries as Share of Compensation (J$ million)	**Other Compensation for Social Security, etc (J$ million)**	**Indirect Taxes (J$ million)**	**Depreciation (J$ million)**	**Operating Surplus (J$ million)**	**Intermediate Inputs (J$ million)**	**Gross Output (Sales) (J$ million)**	**Gross Output (US$ million)**
b. Music, Theatrical Productions, Opera	**918.33**	**59.15**	**62.91**	**100.78**	**122.31**	**1,799.20**	**3,063.41**	**49.01**
Manufacture of Audio and Video Records and Tapes/Recorded Music Using Census 2001 Adjusted at Rate of Wage Inflation	31.07	5.8	16.6	5.78	26.7	253.6	*340.3*	5.44
Music Component of Authors, Music Composers and Independent Artistes	647.72	39.0	33.8	69.35	69.8	1,128.3	*1,987.9*	31.81
Dance Studios	111.17	6.7	5.8	11.90	12.0	193.7	*341.2*	5.46
Theater and Related Entertainment Services	128.37	7.7	6.7	13.75	13.8	223.6	*394.0*	6.30

Table 27: Percentage Contribution of Sectors to GDP, 2005	
Sectors	Percent
Agriculture, Forestry and Fishing	5.2%
Mining and Quarrying	5.8%
Manufacturing	13.3%
Electricity and Water	4.1%
Construction and Installation	10.6%
Distributive Trade (Wholesale and Retail)	21.8%
Transport, Storage and Communication	13.9%
Financing and Insurance Services	8.2%
Real Estate and Business Services	5.2%
Producers of Government Services	9.8%
Miscellaneous Services	8.5%
Household and Private Non-Profit Institutions	0.5%
Less Imputed Service Charge	6.8%
TOTAL GROSS DOMESTIC PRODUCT	100.0%
Copyright (Core and Neighboring)	**4.8%**

6 The Contribution of Copyright-Based Industries to Employment

The estimates of employment (Table 28) are based on the adjusted wage reported in Table 25 above and in Annex II, along with the relevant details of the factor that adjusts for deviation of the average of the STATIN large establishment and supplementary case data from the overall average as indicated by Census 2001 data. The estimates indicate that the copyright sectors account for 3.03 percent of all employment in Jamaica, which is approximately 32,032 persons. The employment share is based on STATIN's reported total economy-wide employment of 1,056,000 for 2005.

6.1 Employment in Core Copyright Industries

The largest sub-group of employees is found in the core copyright sector, which accounts for 18,987 jobs, equivalent to 1.8 percent of total employment in Jamaica and 59.3 percent of all employment in the copyright sector. The high share of employment relative to the share of copyright GDP (35.6 percent) is due to the low level of average income in the core copyright sector. This distinguishing feature is principally due to the relatively high share of self-employed persons in the core copyright sector, underpinned by its high degree of undercapitalization. Indeed, most of the components at the leading edge of the sector, such as music, entertainment, theater and other components, emerged from within the subsistence self-employed and still thrive on intensive use of the underemployed workforce and its tacit knowledge to earn relatively low levels of income even though a few elite personalities earn high incomes and the capital productivity is high (Annex III). The high share of core copyright in employment is also a reflection of the low level of development of copyright-related manufacturing in the interdependent and partial copyright sub-sectors. This type of activity contrasts sharply with the relatively intensive use of real capital and reliance on R&D by the core copyright of some other countries studied by WIPO, such as the US (WIPO, 2006). Within the core copyright sector, the main contributors are press and literature, accounting for 6400 employees, which is 0.61 percent of the total employment and 20 percent of all copyright sector employment; radio and television for 5042 employees, which is 0.5 percent of total employment and 15.7 percent of copyright employment; and music and theatrical productions for 2879, which is 0.27 percent of total employment and 9 percent of copyright sector employment. The internationally reputed music sector itself accounts for 2054 employees or 0.2 percent of all employment in Jamaica and 6.4 percent of copyright sector employment (Table 28; Annex III).

6.2 Employment in Interdependent Copyright Industries

The interdependent copyright sector employs 3,324 persons, or 0.32 percent of all jobs and 10.4 percent of employment in the copyright sector. The core interdependent sector is very small, employing only 75 persons in the manufacture of TV and radio transmitters, etc., and in the manufacture of computers and related equipment. Most of the employees are in the large partial interdependent sector, with 3248 persons, or 0.31 percent of all employment in Jamaica and 10.1 percent of all employment in the copyright sector. The largest segment in the partial interdependent sector is the set of wholesale and retail activities (Table 28).

6.3 Employment in Partial Copyright Industries

The partial copyright sector employs 2510 persons, or 0.242 percent of all jobs in the economy and 7.8 percent of employment in the copyright sector. The main component of the partial copyright sector is wholesale and retail activities, employing 1544 persons or 0.15 percent of all employment in Jamaica and 4.8 percent of employment in the copyright sector. The other main activities in this sector are engineering, architecture and surveying (744 jobs) and manufacture of furniture (149 jobs) (Table 28).

6.4 Employment in Non-Dedicated Support Industries

The non-dedicated support copyright sector employs 7211 persons, which is to say, 0.68 percent of all jobs in the economy and 22.5 percent of employment in the copyright sector. There are two major sub-groups creating jobs in support of the sector. These are distributive trades, which employ 3670 persons, or 0.35 percent of all jobs in Jamaica, and 11.5 percent of employment in the sector; and general transportation, storage, communication and related business services, which provide 3541 jobs, or 0.34 percent of employment in Jamaica, and 11.1 percent of employment in the sector (Table 28).

Table 28: Contribution of the Copyright Sectors to Employment, 2005

	Employment	Share of Copyright Employment	Share of Total Employment
Core			
a. Press and Literature	6,408.5	20.007%	0.6069%
b. Music, Theatrical Productions, Opera	2,879	8.987%	0.2726%
c. Motion Picture and Video Production, Distribution and Projection	520	1.625%	0.0493%
d. Radio and Television Broadcasting	5,042	15.742%	0.4775%
e. Photography	1,230	3.841%	0.1165%
f. Software and Databases	1,246	3.891%	0.1180%
g. Graphic Arts	473	1.477%	0.0448%
h. Advertising Services	1,173	3.662%	0.1111%
i. Copyright Collective Management Societies	14	0.044%	0.0013%
Total Core Copyright	**18,987**	**59.276%**	**1.7980%**
Interdependent			
Core Interdependent	75	0.235%	0.0071%
Partial Interdependent	3,248	10.141%	0.3076%
Wholesale and Retail of the Interdependent Copyright Industries	3,098	9.673%	0.2934%
Total Interdependent Copyright	**3,325**	**10.376%**	**0.3147%**
Partial Copyright Sectors			
Manufacture of Certain Apparel, Textiles and Footwear, and related Items	46	0.144%	0.0044%
Manufacture of Furniture	149	0.464%	0.0141%
Manufacture of Household Goods, China and Glass	4.1	0.013%	0.0004%
Manufacture of Jewelry, Watches and Related Items	23	0.073%	0.0022%
Interior Decorating and Carpets	2	0.006%	0.0002%
Engineering, Architectural and Technical (including Surveying)	744	2.321%	0.0704%
Wholesale and Retail of Partial Copyright Industries	1,544.3	4.821%	0.1462%
Total Partial Copyright	**2,510**	**7.8%**	**0.238%**
Non-Dedicated Copyright			
General Distributive Trades	3,670	11.5%	0.348%
General Transportation, Storage, Communications and Business Services	3,541	11.1%	0.335%
Total Non-Dedicated	**7,211**	22.5%	**0.683%**
Total Copyright Industries	**32,032**	**100%**	**3.03%**
Jamaican Economy	**1,056,000**		

6.5 Contribution to Asset Earnings Productivity and Profile of Employment and Skill in Copyright

In general, as measured by the partial average earnings productivity of years of education (defined to include years dedicated to job-specific training) (Table 29), the copyright sectors contribute comparatively high domestic asset productivity to the economy. Most of the core copyright sectors show education earnings productivity well above the average of all industries, with the order of contribution being motion picture and video production and distribution; radio and television broadcasting; theater and related entertainment services; dance studios; authors, music composers and independent artistes; art galleries and related museums; and manufacture of audio and video records and tapes. The average level of education in the core copyright sectors is also high, well above the average of all industries (9.8 years of education). However, it is instructive that workers in the music industry, the segment of Jamaica's copyright industry that is the most recognized internationally, are among those with the least education in this set; in particular, in authors, music composers and independent artistes (10.5 years), along with motion picture and video production and distribution (10.5 years), dance studios (9.8 years), and manufacture of audio and video records and tapes (9.6 years). Interestingly, the last four sub-sectors are also not in the mainstream of the education system in Jamaica although there are some indications of change. In 1991, at a time when the government owned much of the media, people in the core copyright sector were also likely to have high levels of education, live in parishes with high levels of education, and come from among government employees, private sector employees, capitalists, and self-employed entrepreneurs without employees. In this period too, employees in the copyright sector also tended to come from parishes with a high level of productivity of self-employed without employees. However, by 2001, two important changes had occurred. One is that government employees were no longer likely to be in the sector, as the government had privatized its holdings. The other, and perhaps more important, change is that reliance on communities with high levels of education had risen substantially while there was no longer reliance on persons from parishes with a high average productivity among the self-employed without employees (Table 30). In the specific case of the subset comprising the music industry, defined to include the sale of sound recordings, the role of the unpaid worker had come to an end by 1991, and employment in the industry had become focused more on the young, self-employed, and private employers.

However, again, while persons from parishes with high subsistence productivity played a major role in the industry in 1991, this factor played no role in 2001. And, here too, the industry was increasing its reliance on persons from parishes with high average levels of education (Table 31).

To complement the data in Table 28, a general Becker-Chiswick-Mincer earnings function is estimated and reported in Table 32, based on data in Census 2001 and the specification in Section V. The estimates show that, without distinguishing the levels of degree and such relevant issues, the core copyright sectors yield a higher average rate of return to investment in education (9.7 percent) than do other sectors of the economy (8.5). However, the added premium for job-specific training is higher in the rest of the economy than in the core copyright sector, even though the latter is also quite substantial. Specifically, additional training yields a premium of about 10.5 percent higher than for persons without. It takes an average of about 1.3 years to receive this training, yielding a rate of return of about 8.07 percent. Thus, the overall rate of return on education in copyright is about 17.1 percent, which is well above the going rate of return of 10 percent. Together, the data show that it is comparatively very beneficial for the economy to re-allocate resources to invest in education for the copyright sector and to sufficiently sustain the allocations for job-specific training.

However, the most compelling evidence is that underemployment conditions prevail in the sector. Specifically, the elasticity of wages to labor supply in the sector is highly inelastic, specifically less than one and more generally very close to zero – similar to the situation prevailing in the rest of the economy. The elasticity of response of wages to hours worked in the copyright sector is 0.18 and the elasticity of response of wages to weeks worked is 0.20. These are highly inelastic wage curves and imply highly elastic labor supply functions. In the rest of the economy, the corresponding figures are 0.32 and 0.07. These conditions imply a shortage of capital and a sparse technology set in the copyright sector, which can only be remedied by the production and accumulation of domestic fixed and working capital. More important still, the elasticity of response of the wage to the average product of the self-employed, as engendered by a movement from a parish of lower average product to one with a higher level, is about 0.31, and above zero at a 10 percent level of statistical significance, indicating positive pecuniary externalities. The rate of return from increase in the average level of education in the community of residence is about 26 percent, which is also significant at the 10 percent level. In comparison to the private rate of return, it indicates substantial positive non-pecuniary externalities. Together, these results indicate a substantial influence of social forces on individual outcomes and, in particular, a significant deviation of the real wage from the marginal product of labor. By Walras' Law, the same would apply to all other factors of production and, in the context of the heterogeneity of the factor supplies, this necessitates use of the average return to the claims of factors when computing average factor productivities for definition and design of public policy. These results are reported in Table 33 below for convenient reference, with details provided in Table 34.

Table 29: Education and Earnings Productivity Profile of Employees in Copyright Sectors and Other Selected Comparison Sectors

WIPO Classification	Sector Description	Number in Sample	Mean Years of Education	Mean Worker Earnings	Earnings Productivity of Education (Descending Order)
Core	**Motion Picture and Video Production and Distribution**	**16**	**10.5**	**940199.9**	**89542.8**
Non-Dedicated	Water Transport	50	10.9	919706.5	84222.2
Non-Dedicated	Legal Services	133	12.1	847697.9	69897.1
Core	**Radio and Television Broadcasting**	**28**	**12.6**	**831554.5**	**66146.5**
Non-Dedicated	Air Transport	167	12.0	732105.2	61131.0
Comparison	Other Research	8	12.8	753599.9	59105.9
Non-Dedicated	Account Audit and Business Services	211	13.0	734419.3	56680.0
Partial	Manufacture of Jewelry and Related Items	22	10.2	539219.8	52723.6
Comparison	Medical Research Orgs	9	14.0	707874.9	50562.5
Non-Dedicated	Support Transport Air	152	11.1	550789.4	49421.6
Interdependent	Retail of Calculators and Computers	91	12.7	599541.1	47318.6
Core	**Theater and Related Entertainment Services**	**17**	**11.1**	**520939.8**	**46857.2**
Core	**Dance Studios**	**13**	**9.8**	**451139.8**	**46179.7**
Partial	Interior Decorating	31	9.3	404999.8	43745.6
Core	Advertising and Market Research	84	12.6	525978.7	41878.9
Non-Dedicated	Support of Transport by Water	100	10.9	457134.1	41785.6
Partial	Engineering, Architecture and Surveying	187	12.2	503815.3	41412.4
Non-Dedicated	Freight Transport Road	410	9.3	359625.6	38649.1
Core	**Authors, Music Composers and Independent Artistes**	**177**	**10.5**	**403126.9**	**38259.3**
Interdependent	Retail of Radios, Televisions and Recording Equipment	22	11.6	441374.9	38079.4

Table 29: Education and Earnings Productivity Profile of Employees in Copyright Sectors and Other Selected Comparison Sectors

WIPO Classification	Sector Description	Number in Sample	Mean Years of Education	Mean Worker Earnings	Earnings Productivity of Education (Descending Order)
Core	**Art Galleries and Related Museums**	**11**	**11.2**	**410899.9**	**36747.2**
Partial	Manufacture of Made-up Textiles	26	9.7	353704.2	36493.3
Partial	Manufacture of Wearing Apparel and Crocheted Products	52	10.1	356182.8	35211.9
Non-Dedicated	Storage and Warehousing	47	10.4	366232.1	35128.5
Partial	Manufacture of Plastic Containers and Cups	42	10.2	348571.3	34205.5
Non-Dedicated	Other Passenger Transport Road	1,524	9.5	306756.9	32130.4
Partial	Wholesale and Retail of Textiles and Apparel (n.e.c)	23	10.8	343874.8	31891.6
Core	**Manufacture of Audio and Video Records and Tapes**	**11**	**9.6**	**290699.9**	**30167.0**
System Mean (Comparison)	**Total**	**66,656**	**9.8**	**288856.9**	**29502.2**
Partial	Manufacture of Textiles (n.e.c)	12	10.4	306179.8	29393.2
Comparison	Other Industries	55,446	9.8	286832.4	29333.5
Core	**Publishing, Print and Publish**	**257**	**10.7**	**305710.0**	**28663.7**
Partial	Retail of Household Appliances	50	10.0	282859.3	28229.5
Partial	Retail Stores dealing in Furniture	93	10.4	292286.7	28110.4
Non-Dedicated	Public Transport by Road	603	10.0	274563.0	27501.9
Core	Data Processing and Tabulating Services	144	11.8	323539.0	27470.2
Partial	Manufacture of Wooden Furniture	649	9.6	263447.8	27461.9
Partial	Retail Stores dealing in Jewelry, Watches and Clocks	41	10.1	273290.1	26999.6
Partial	Wholesale of Household Furniture and Equipment	8	11.0	295099.8	26827.3
Partial	Manufacture of Metal Furniture	17	9.4	240169.1	25678.5
Core	**Photo Studios**	**98**	**10.3**	**264408.2**	**25604.8**
Non-Dedicated	Support of Transport by Road	73	10.6	265389.3	25062.7
Interdependent	Manufacture of Certain Paper Products	24	11.3	276749.8	24600.0
Interdependent, Partial and	Miscellaneous Retailers	4,400	9.2	215287.8	23524.6
Non-Dedicated					
Partial	Parquet Floors and Carpeting	15	9.7	223949.8	23167.2
Partial	Wholesale of Cotton Textile and Related Fabrics	9	10.6	242888.7	23010.4
Partial	Manufacture of Children's Clothing	70	9.7	221917.2	22844.4
Partial	Retail of Household Furnishings, Fittings and Carpets	64	10.7	226825.9	21192.5
Partial	Manufacture of Other Wearing Apparel	109	10.1	213414.5	21128.3
Partial	Retail Stores dealing in Textiles and Apparel	204	10.2	215010.2	21016.8
Partial	Manufacture of Women's Clothing	258	9.5	196825.7	20642.7
Partial	Manufacture of Other Plastic Products	37	10.8	214576.7	19798.9
Partial	Retail Stores dealing in Footwear	17	10.8	212349.8	19619.3
Interdependent	Retail of Musical Instruments	7	10.4	203699.8	19532.8
Partial	Manufacture of Chinaware, Stoneware and Earthenware	12	10.3	197519.8	19270.2
Partial	Manufacture of Men's Clothing	192	10.0	188293.6	18898.3
Partial	Wholesale of Office Furniture and Equipment	7	11.4	186999.9	16362.4
Partial	Manufacture of Boots from Various Fabrics	17	9.6	111969.0	11677.8
Partial	Wholesale of Clothing	10	10.2	116999.9	11470.6

Table 30: Estimated Probit Model of Selection into Employment in Core Copyright Sectors				
1991				
Number of obs = 632467	LR chi2(11) = 10269.87		Prob> chi2 =0.0000	
Pseudo R2= 0.0885	Log likelihood = -52877.1			
Core Copyright Dummy Variable	Coefficient	Std. Err.	z	P>|z|
Years of education	0.049853	0.001475	33.81	0.000
Age	0.00252	0.001803	1.4	0.162
Age-squared	-8E-05	2.27E-05	-3.51	0.000
Quarter of birth	-0.01053	0.00355	-2.97	0.003
Average productivity of the self-employed in parish of residence	0.944722	0.038037	24.84	0.000
Mean years of education in parish of residence	0.052349	0.014643	3.57	0.000
Government employee	0.075136	0.024803	3.03	0.002
Paid employee in private enterprise	0.607283	0.02161	28.1	0.000
Unpaid worker	0.043979	0.061438	0.72	0.474
Self-employed with employees	0.517431	0.028311	18.28	0.000
Self-employed without employees	0.250522	0.023769	10.54	0.000
Constant	-12.2407	0.242203	-50.54	0.000
2001				
Number of obs=61132	LR chi2(12) = 789.25		Prob >chi2 = 0.0000	
Pseudo R2= 0.0786	Log likelihood = -4623.9			
Core Copyright Dummy Variable	Coef.	Std. Err.	z	P>|z|
Years of Education	0.0414199	0.005571	7.43	0.000
Age	-0.0026167	0.005686	-0.46	0.645
Age-squared	-0.0000201	6.94E-05	-0.29	0.772
Quarter of birth	-0.0289444	0.011952	-2.42	0.015
Average productivity of the self-employed in parish of residence	0.0516037	0.093819	0.55	0.582
Mean years of education in parish of residence	0.5059957	0.065219	7.76	0.000
Government employee	-0.249113	0.078023	-3.19	0.001
Paid employee in private enterprise	0.4851333	0.055731	8.7	0.000
Unpaid worker	-0.2398059	0.196505	-1.22	0.222
Self-employed with employees	0.2797561	0.079252	3.53	0.000
Self-employed without employees	0.1153345	0.061694	1.87	0.062
Constant	-8.501424	0.705072	-12.06	0.000

Table 31: Estimated Probit Model of Selection into Employment in Music Industry			
1991			
Log likelihood = -16005.319; LR chi2(10) = 2097.59; Prob > chi2 = 0.000; Pseudo R2 = 0.0615			
Dependent Variable: Dummy of Employment in Music Industry	**Coefficient**	**Std. Err.**	**P>|z|**
Years of education	0.0441267	0.002626	0.000
Age squared	-0.0000812	7.87E-06	0.000
Quarter of birth indicator of acquired ability	-0.0216967	0.006152	0.000
Mean earnings of subsistence workers in parish of residence	0.4353415	0.062595	0.000
Mean years of education in parish of residence	0.1303429	0.025845	0.000
Hours worked per week	0.0010034	0.000401	0.012
Government employee	-0.5859152	0.052661	0.000
Paid worker in private sector	0.1833578	0.029967	0.000
Self employed with employees	0.4929594	0.038351	0.000
Self employed without employees	0.4238894	0.030897	0.000
Constant	-8.50397	0.377899	0.000
2001			
Log likelihood = -1754.7559; LR chi2(9) =194.01; Prob > chi2 = 0.000; Pseudo R2 = 0.0524			
	Coefficient	**Std. Err.**	**P>|z|**
Years of education	0.0328124	0.008707	0.000
Quarter of birth indicator of acquired ability	-0.0409217	0.018624	0.028
Age	-0.0105839	0.0019	0.000
Mean years of education in parish of residence	0.3593917	0.059933	0.000
Government employee	-0.6542623	0.179217	0.000
Paid worker in private sector	0.2052967	0.081751	0.012
Self employed with employees	0.5111759	0.102776	0.000
Self employed without employees	0.3575037	0.08326	0.000
Other employment status (mixed)	0.3361189	0.156159	0.031
Constant	-6.370376	0.618084	0.000

Table 32: Comparative Earnings Productivity of Education in Core Copyright and Other Industries, 2001

Core Copyright Sectors					**Other Sectors of Economy**			
Source	**SS**	**Df**	**MS**		**Source**	**SS**	**df**	**MS**
Model	78.368	126.530	69826		Model	12801.30	121066.	77459
Residual	341.866	707.48	35452		Residual	26468.7684 4	4945.5889	14639
Total	420.235	719.58	71259		Total	39270.0635 4	4957.8735	2758
Number of obs =720		R-squared =0.1865			Number of obs = 44958		R-squared = 0.326	
F(12, 707) = 13.51		Adj R-squared = 0.1727			F(12, 44945) = 1811.42		Adj R-squared = 0.3258	
Prob > F=0.0000		Root MSE = 0.69537			Prob > F = 0.0000		Root MSE = 0.76741	
Log of Annual Earnings	Coefficient.	Std. Err.	P>|t|		Log of Annual Earnings	**Coefficient.**	**Std. Err.**	**P>|t|**
Copyright *lambda*	2.480	4.371	0.571		Copyright *lambda*	1.457	0.535	0.007
Years of education	0.097	0.013	0.000		Years of education	0.085	0.002	0.000
Training for job	0.105	0.057	0.067		Training for job	0.271	0.009	0.000
Experience	0.007	0.007	0.344		Experience	0.021	0.001	0.000
Experience-squared	0.000	0.000	0.832		Experience - squared	0.000	0.000	0.000
Firm size	0.133	0.054	0.013		Firm size	0.291	0.006	0.000
Firm size squared	-0.016	0.006	0.006		Firm size squared	-0.025	0.001	0.000
Log of hours worked per week	0.183	0.061	0.003		Log of hours worked per week	0.315	0.008	0.000
Log of weeks worked	0.200	0.056	0.000		Log of weeks worked	0.069	0.008	0.000
Log of the average productivity of the self-employed in parish of residence	0.315	0.184	0.087		Log of the average productivity of the self-employed in parish of residence	0.471	0.023	0.000
Mean years of education in parish of residence	0.263	0.147	0.074		Mean years of education in parish of residence	0.115	0.017	0.000
Male	0.179	0.054	0.001		Male	0.098	0.008	0.000
Constant	1.022	4.783	0.831		Constant	1.092	0.547	0.046

7 Policy Perspectives for Copyright Sector

The above evidence demonstrates that the copyright sector has emerged as a significant *locus* of production and distribution facilities. It provides growing opportunities for the Jamaican economy to gain an increasing share of the markets of the developed countries and a significant share of the markets of the large surplus-labor countries that are rapidly increasing their production and employment of domestic capital. Policy for the copyright sector should ideally be empirically driven by the central principles highlighted by the theory and data assembled above. In that case, two sets of principles shape policy formulation in this report. The first concerns the high level of underemployment in the sector and the related high level of underutilized potential for expansion. The self-employed play a substantial role in most of the sub-sectors that depend on copyright or that support it, though with substantial variations among them. For example, the self-employed account for as much as 68 percent of employment in non-dedicated passenger road transport, 55 percent of museums and art galleries, and 24 percent of authors, music composers and independent artistes. Furthermore, the evidence on the elasticity of the labor market confirms that the supply of unskilled labor in these sectors can be put to work at relatively low cost, but with high inflows of tacit knowledge under existing investment conditions. The ratio of wages to labor supply in the sector is highly inelastic, being substantially less than one and more generally very close to zero. Specifically, the elasticity of response of wages to hours worked is 0.18 and to weeks worked, 0.20.

For the rest of the economy, the corresponding figures are 0.32 and 0.07. These conditions imply a shortage of capital and a sparse technology set in the sector, which can only be remedied by deploying the underemployed workers to produce domestic capital with both fixed and working capital and to facilitate its accumulation. This is consistent with the general macro and development economics in which the measures are located and indicate that the central economic problems of Jamaica coincide with those of the copyright sector: shortage of both working capital and real fixed capital, as well as skills in the private (wage employment) sector, combined with inadequate protection of loan finance and a community of traditional capitalists lacking interest in large-scale domestic capital formation in the sector.

For these reasons, copyright and related support activities can become one of the main sectors leading the Jamaican economy to attract entrepreneurs to the process of accumulating domestic capital at the rates necessary to achieve or surpass the growth rates and economic adaptability that would sustain effective reintegration into the rapidly changing world economy. The sector provides comparatively attractive prospects for expanding production facilities, development and marketing of new products (especially services) and possibly even mergers and acquisitions. Basically, successful realization of this potential will require government (central and local), the private sector and non-governmental organizations to undertake capital expenditures, especially in the sense of expenditures in the current period that will yield future gains even when the investment is not tangible. Specifically, the following will be required:

1. Investment in acquiring and producing applicable knowledge, especially tacit knowledge, and in the problem-solving skills to use and codify it as necessary for improved business success. This implies that rapid growth of the sector requires rapid growth of relevant education and training for practical participation in the sector, with mainstreaming achieved by ongoing training and tracking from primary school through to post-graduate education and research.
2. Corresponding investment in physical capital assets to complement the human capital accumulation identified in (1). These assets include both public infrastructure and private physical capital formation.

The second principle is that, in the allocation of support, policy must consider the comparative prospects for significant gain to the economy and to the individual investor from moving resources into the copyright

sector. Does high potential match high productivity? How are sectors to be compared and ranked for the purpose of re-allocation of policy support? The answer to these questions is to be found in the key implication of the above empirical results for the measurement method. The divergence of the marginal product from the factor price implies that standard productivity calculations cannot isolate the quantity of capital independently of the factor prices. So the relevant comparative measures are the productivity of claims paid to the factors employed in production – the average partial productivities – and assessment of the import-intensity of each sector and the nature of the domestic capital being put to use there. Moreover, all of this is to be considered along with the turnover from intermediate inputs. The estimates of average productivity of capital are proxies for the average return on imported physical capital used in combination with domestic capital because most of the physical capital in most sectors is imported.

As reported in Section VI, without regard to levels of education, the core copyright sector yields a higher average rate of return on investment in education (9.7 percent) than do other sectors of the economy (8.5 percent). However, the added premium for job-specific training is higher in the rest of the economy, even though premium in the sector is also quite substantial. Together, the data show that it is comparatively very beneficial for the economy to re-allocate resources to invest in education for the sector and to sufficiently sustain the allocations for job-specific training. The more general situation with capital productivity can be gleaned from the related summary data assembled in Table 33 and detailed in Table 34. Table 33 reports the comparative value added per dollar of claims paid to different factors of production, and the information is presented in descending order by the size of the average productivities in the column headed value added per dollar of claims paid to capital, defined as the sum of depreciation and the operating surplus. Note that, in the case of labor productivity, the estimates are the same as the multipliers reported in the study and used to replicate the structure (or distribution) of income by sector.

Table 33: Contribution to GDP per Dollar of Claims Paid to Factors of Production and the Effective Indirect Tax Rate

JSIC Code	PRODUCT GROUPS	Value added per Dollar of Claims by Capital (Depreciation Plus Operating Surplus)	Labor Productivity	Turnover of Intermediate Inputs	Effective Indirect Tax Rate
224- 225	Leather and Leather Products, Footwear	6.57	1.44	1.31	13.2%
94990b	Other Amusement and Recreation etc.	6.18	1.33	1.76	3.9%
221 - 223	Textiles and Wearing Apparel	5.32	1.47	1.32	9.2%
94130	Radio and Television Broadcasting	4.25	1.46	2.25	4.1%
94920	Horse Racing and Betting Activities	3.81	5.65	2.40	55.4%
94110 and 94120	Motion Picture and Video Production, Distribution and Projection	3.63	1.59	1.35	3.8%
24220	Printing not connected to Publishing	3.33	1.54	1.52	3.3%
29, 3386	Other Manufacturing Industries	3.07	1.67	1.81	2.7%

Table 33: Contribution to GDP per Dollar of Claims Paid to Factors of Production and the Effective Indirect Tax Rate					
83252	Advertising Services (e.g. Billboards)	2.96	1.79	1.72	7.9%
83260	Other Business Services	2.83	1.68	2.84	2.7%
24214	Publishing of Magazines and Books	2.79	1.64	1.39	1.2%
24212	Publishing of Newspapers	2.76	1.82	2.07	3.0%
95620	Photographic Studios	2.75	1.59	1.82	0.1%
33731	Manufacture of Records	2.67	2.79	1.34	19.2%
7000-7191	Transportation	2.63	1.93	1.63	7.0%
83251	Advertising Agencies	2.37	1.89	1.47	0.5%
231-232	Furniture and Fixtures, Wood, Wood and Cork Products	2.24	2.04	1.50	5.5%
6100-6200	Distributive Trade	2.00	3.79	3.01	20.9%
25 & 27	Chemicals, Chemical Products, Rubber and Plastic Products (incl. Lube Oils and Greases)	1.75	3.04	1.55	6.6%
28	Non-Metallic Mineral Products (excl. Petroleum and Coal Products)	1.55	3.12	1.89	1.9%
7192	Storage and Warehousing	1.54	3.32	1.59	1.1%
83000	Rental of Other Machinery and Equipment	1.50	3.35	1.81	2.2%
72000	Communication	1.49	4.25	3.92	1.3%

The data show that among the various sub-sectors of the economy related to copyright as reported by STATIN, most of which contribute only a small share of their output as copyright-related activities, the highest return on claims paid for use of capital comes from the copyright sector. In general, they rank as follows:

- Leather and leather products, footwear (1)
- Other amusement and recreation, etc. (2)
- Textiles and wearing apparel (3)
- Radio and television broadcasting (4)
- Horse racing and betting activities (5)
- Motion picture and video production, distribution and projection (6)
- Printing unconnected to publishing (7)
- Other manufacturing industries (8)
- Advertising services (e.g. billboards) (9)
- Other business services (10)
- Publishing of magazines and books (11)
- Publishing of newspapers (12)
- Photographic studios (13)
- Manufacture of records (14)
- Transportation (15)
- Advertising agencies (16)
- Furniture and fixtures, wood, wood and cork products (17)
- Distributive trade (18)
- Chemicals, chemical products, rubber and plastic products (incl. lube oils and greases) (19)
- Non-metallic mineral products (excl. petroleum and coal products) (20)
- Storage and warehousing (21)
- Rental of other machinery and equipment (22)
- Communication (23)

The top-ranked sectors involving mostly copyright activities such as leather and related craft products, amusement and recreation, which includes music and entertainment, "full-packaged" textile and apparel production, motion pictures and music videos, and business services, all tend to complement imported capital combined with substantial domestic tacit knowledge. They indicate that employment of domestic capital, especially as tacit knowledge, has the effect of raising the productivity of imported capital well above that achieved by sectors that do not employ significant amounts of domestic capital, such as the lowest ranking communication sector.

From among the industrial sectors for which data have been provided by STATIN, the partial copyright activities in the category of leather and leather products and footwear contributes the highest value per dollar of claims going to capital (J$6.57). The data reported in Table 34 indicate that these activities include:

- Manufacture of other leather products
- Manufacture of luggage and handbags
- Manufacture of footwear made of rubber, plastic and other materials
- Manufacture of boots and shoes from leather fabrics and other materials except wood, rubber and plastic.

These are followed by core copyright sectors with a structure similar to amusement and recreation, which contribute J$6.18 to GDP for each dollar of capital claims allowed to the investor. As reported in Table 34, the specific activities in the core copyright sector contributing J$6.18 are:

- Authors, music composers and independent artistes in allied activities, not music
- Authors, music composers and independent artistes in the core music industry
- Dance studios
- Theater and related entertainment services.

The next most important contributor to GDP per dollar of outlay on capital and, hence, the next most efficient users of imported capital, is a variety of craft-related manufacturing activities that produce a variety of wearing apparel, crocheted goods, carpets, rugs, textiles and footwear, many elements of which are craft and art. The relevant list is (Table 34):

- Manufacture of certain apparel, textiles and footwear, and related items
- Manufacture of other wearing apparel
- Manufacture of made-up textile articles
- Manufacturing of carpets and rugs
- Manufacture of textiles
- Manufacture of wearing apparel and crocheted goods
- Manufacture of clothing (except footwear and fur apparel) for men and boys
- Manufacture of clothing (except footwear and fur apparel) for women and girls
- Manufacture of headgear
- Manufacture of clothing (except footwear and fur apparel) for children.

A set of activities in the core copyright sector follow. In descending order of contribution, these are:

- Copyright collective management societies (J$4.47)
- General (national and other) radio and TV broadcasting, including independent producers, satellite TV and other services (J$4.25)
- Motion picture production (J$3.63)
- Motion picture and video distribution (J$3.63)
- Printing unconnected to publishing (J$3.33).

Other crafts involved in partial copyright production contribute J$2.98 of value for each dollar of their capital outlays, in particular:

- Manufacture of jewelry, watches and related (partial)
- Manufacture of jewelry and related articles (partial)
- Manufacture of watches and clocks.

Among the significant contributors are some core copyright activities that yield J$2.96 for each dollar of expenditure for use of available capital. These are:

- Advertising materials such as billboards (J$2.96)
- Press and literature (J$2.93)
- Data processing and related publishing (J$2.83).

In addition, from the partial copyright sector, we have:

- Interior decorating and carpets (J$2.83)
- Engineering, architecture and surveying (J$2.83).

From the non-dedicated support sector, a substantial contributor is other business services, accounts, audit and bookkeeping and legal, which yields (J$2.83). Next in importance are a set of core copyright sub-sectors, which are, in descending order of importance:

- Publishing of magazines and books (J$2.79)
- Publishing of newspapers (J$2.76)
- Museums and art galleries (J$2.75)
- Photography (J$2.75)
- Graphic arts (J$2.75).

In all these cases, the return on a dollar of capital claims and, hence, the import productivity achieved, is higher than would be obtained by allocating the same dollar to employment of labor, including acquisition of skills transferred through education (Table 34).

Other important contributors to GDP per dollar of claims paid to capital come from the copyright-related manufacturing activity in the partial copyright sector and from the interdependent copyright sector, all of which contribute J$2.64. The core manufacture of audio and video records and tapes/recorded music also yields J$2.64 per dollar of capital claims on output. Another important but lesser contributor in the core is advertising agencies (J$2.37).

The lowest contributor and least efficient user of imported inputs, cable TV, adds only J$1.49 per dollar of its capital claims, but ranks second as a contributor via labor productivity (J$4.25). This sector falls in the group of low import productivity sectors:

- Distributive trades (J$2.00)
- Rental of other machinery and equipment (J$1.50)
- Communication (J$1.49).

Given the high level of intensity of use of imported capital inputs, the indicator of labor productivity in the copyright sector is also a good indicator of the rate at which claims flow to the foreign interests per dollar of outlay. The data (Table 34) indicate that the general ordering of the sub-sectors ranking highest in terms of the productivity of labor are:

- Communication, including cable TV (J$4.25).
- Distributive trade (J$3.79)
- Rental of other machinery and equipment (J$3.35)
- Manufacture of plastic containers and cups (J$3.04)
- Manufacture of plastic dinner ware and table ware (J$3.04)
- Manufacture of plastic products (J$3.04)
- Manufacture of glass (J$3.12)
- Manufacture of glass products (J$3.12)
- Manufacture of non-structural ceramic ware (J$3.12)
- Storage and warehousing (J$3.32).

Moreover, these import-intensive industries also include the two with the highest turnover of intermediate goods, much of which might be purchased locally:

- Distributive rate (J$3.01)
- Communications (J$3.92).

In that regard, it is striking that, within the copyright sector, the lowest contributors to efficient use of imports also tend to pay the highest sums to foreign direct investment (FDI) and hence the highest rates of factor incomes going abroad. It is in these segments of the copyright sector that a dollar spent on factor inputs tends to generate value that is lost to the local economy. Nevertheless, within the copyright sector, these sub-sectors have tended to be the most important focus of government's efforts at both structural adjustment and reintegration into the international financial sector.

The general finding is that appropriate policy would tend towards optimal use of imported inputs if it also yields priority support to domestic capital formation in the sector and also ensures that adequate education and relevant occupational skills are acquired by those seeking employment in it. It is also important to observe here that the estimates in Table 31 indicate that the earnings productivity of education of the core copyright sector is well above average for the economy as a whole, a result which also justifies support for capital accumulation in the sector. In these respects, public policy has been sub-optimal.

An important observation to be made here is that the highest contributors to GDP per dollar of claims paid to investors in capital in the partial and core copyright sector (and, hence, to import productivity) yield a higher return than is obtained by spending the same dollar on recruiting labor, even skilled labor in any other sub-sector in the copyright sector. Just as important, they also yield a higher return on capital than on labor if the same dollar is spent within the sector. The distinctive characteristic of all these sectors is their tendency to rely heavily on domestic tacit knowledge and other forms of capital, and to raise the efficiency of utilization of imported capital in producing output to penetrate the local and international markets. The simple arithmetic of these results is sufficient to suggest that policy to develop the sector would yield the highest return by first promoting capital formation generally, and domestic capital formation in particular, for the leading sub-sectors as priority over the promotion of the mere absorption of labor skills. Yet the results show that most of what is called labor is domestic capital assembled as human capital and this is a major factor that should in no way be neglected in rational policy formulation for the sector.

The importance of this observation is that without specific sector-wide evidence of the type presented, policy might not properly allocate investment support to the partial copyright sectors as part of a program to stimulate core copyright. These types of estimates have not been generated before by any other study and they illustrate the importance of providing routine access to data for analysis of the economic contribution of all the sectors of the economy. Countries that rely on the principle of access to information "on demand" usually will not do well. Further, these findings illustrate the value of empirically-driven policy formulation in a Caribbean society. In this regard, priority attention should be given to making available for all other sectors of the economy the income distribution and value added details provided at the 4-digit level for the sectors in Table 12. An immediate benefit from this would be more accurate estimation of the GDP and employment contributions as presented above. The availability of similar details for years other than 2005 would also allow preparation of trend estimates not available in this study.

Addressing the Paradox of Entrepreneurship

To address the paradox of investment identified above and to increase the flow of entrepreneurs into the sector, it is necessary to employ policies that focus on making the incentives to invest in domestic capital formation in the sector relatively more attractive than in other sectors of the economy. The boost given to import productivity and profitability would provide the main attraction for investors. The relevant policies include the following:

- **Improved Access to Credit:** The profits and growth generated by the investment in fixed and working capital could be boosted and accelerated by credit flows to the sector and, therefore,

should include appropriate provisions for priority access to credit. This is likely to require transformation of the current financial sector, including development banking, to support greater access by the copyright sector to long-term investment finance for fixed capital formation and short-term finance for working capital.

- **Technical, Incubation and Education Support for Investment in Domestic Capital and Creativity:** The sector should be supported with suitable technical research to develop domestic capital, especially tacit knowledge and creative capital, related product development, and implementation advice. Included should be suitable e-business incubation and other forms of enterprise-wide risk management mechanisms aimed at facilitating adoption and adaptation of relevant foreign information and communication technologies related to more efficient local and international marketing of copyrighted output. Risk management would normally focus on some combination of increased information flows, rational diversification, hedging, insurance, lobbying to influence the general operating environment and optimal mixing of general-purpose and firm-specific assets.

- **Accelerated Tax Benefits that boost Cash Flows:** It is appropriate for government to support innovating industries such as those in the copyright sector with accelerated tax benefits, such as accelerated depreciation benefits and deferred profits, or a tax haven for elite performers achieving some income threshold in penetrating the local and international markets. This investment policy should target both domestic and foreign capital, with the latter most favored when it enhances domestic capital production. Specifically, the government should give serious consideration to making Jamaica a tax haven for elite copyright personalities, along with other concessions to stimulate private investment in the industry. A study of the net benefits of such a move would be a prudent step. The available evidence is that this would be significantly compensated by the high rate of indirect taxes generated for government and society by the consequent expansion of the sector (Tables 33 and 34). The data show that, for previously-neglected segments such as music and theatrical production or graphic arts, the indirect tax rate yielded by the sector is relatively high, surpassed only by horse racing and related betting, (55.4 percent). The interdependent, partial, and non-dedicated distributive trades yield 21 percent, core manufacturing of records yields 19.1 percent, even though the volume is small. Just as important, core activities such as billboards and other advertising services (8 percent) and radio and television broadcasting (4.1 percent) yield an effective indirect tax rate well above the very low rates yielded by communications (1.3 percent) and similarly favored targets of strong policy support from the government. Comparatively then, supporting development of the copyright sector would also compensate society with an advantageous rate of indirect tax revenues.

- **Enhanced International Cooperation in the Copyright Sector:** In light of the above considerations, with the assistance of Jamaica Trade and Invest as the investment-promoting agency, the government should seek to encourage a substantially larger scale of international cooperation with local entrepreneurs to invest in the highly capital productive and internationally well-reputed segments of the copyright sector. Appropriate definition and marketing of the productivity potential of domestic capital would be a necessary component of this program of attraction.

- **Information Collection, Sharing, and Communication and Definition of Roles:** Reforms that promote good governance mechanisms facilitate sound design of relevant supporting public policy and informed leadership by the state. Part of these reforms should include a radical upgrade of the

information collection, sharing, and communication devices used to monitor and lead the development path of the industry, as well as the arrangements for sector-wide consultation and joint decision-making between government departments, the private sectors, and communities. This includes improvement of the data collected to facilitate analysis of the path of the economy and suggests that a comprehensive copyright industry database would be a major asset for all stakeholders. The process of investment for development of the copyright sector should continue to be led by the private sector, but with significant re-allocation of current budgetary support to better target its high-performing components. However, this too must rest on an informed definition of the roles of the private sector, with particular regard to clarification of those areas of investment that will require joint efforts with the state or only state investment. A strong information system is necessary for such decision-making to be effective.

- **Substantial reform at the primary and secondary levels of the education system:** To mainstream occupational training for all core copyright sectors and to upgrade the monitoring of students, introduce new screening arrangements that explicitly define and certify talent in the full range of copyright professions up to the tertiary levels, and develop a sufficiently wide range of tertiary options for terminal education and training in copyright. This will also require an accelerated program of education and training for workers and entrepreneurs in copyright.

Table 34: Contribution to GDP per Dollar of Claims Paid to Factors of Production

JSIC Code	Copyright Classification	Copyright Activity	Capital Productivity	Labor Productivity	Output Per Dollar of Intermediate Inputs (Turnover)	Effective Indirect Tax Rate
2249	Partial	Manufacture of Other Leather Products	6.57	1.44	1.31	13%
2243	Partial	Manufacture of Luggage and Handbags	6.57	1.44	1.31	13%
2259	Partial	Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	6.57	1.44	1.31	13%
JSIC Code	Copyright Classification	Copyright Activity	Capital Productivity	Labor Productivity	Output Per Dollar of Intermediate Inputs (Turnover)	Effective Indirect Tax Rate
2251	Partial	Manufacture of Boots and Shoes from Leather Fabrics and other Materials except Wood, Rubber and Plastic	6.57	1.44	1.31	13%
9415	Core	Authors, Music Composers, Independent Artistes	6.18	1.33	1.76	4%
9415	Core	Music Component of Authors, Music Composers and Independent Artistes	6.18	1.33	1.76	4%
9498	Core	Dance Studios	6.18	1.33	1.76	4%
9414	Core	Theater and Related Entertainment Services	6.18	1.33	1.76	4%
33731	Core	Music, Theatrical Productions, Opera	5.66	1.38	1.70	5%
2238	Partial	Manufacture of Other Wearing Apparel (n.e.c)	5.32	1.47	1.32	9%
2221	Partial	Manufacture of Made-up Textile Articles	5.32	1.47	1.32	9%
2222	Partial	Manufacturing of Carpets and Rugs	5.32	1.47	1.32	9%
2229	Partial	Manufacture of Textiles (n.e.c)	5.32	1.47	1.32	9%
2231	Partial	Manufacture of Wearing Apparel and Crocheted Goods	5.32	1.47	1.32	9%
2234	Partial	Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	5.32	1.47	1.32	9%
2235	Partial	Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	5.32	1.47	1.32	9%
2237	Partial	Manufacture of Headgear	5.32	1.47	1.32	9%
2236	Partial	Manufacture of Clothing (except Footwear and Fur Apparel) for Children	5.32	1.47	1.32	9%
83	Core	Copyright Collective Management Societies	4.47	1.40	2.84	3%
94130	Core	General (national and other) Radio and TV Broadcasting, including Independent Producers, Satellite TV and Other Services	4.25	1.46	2.25	4%
94110 and 94120	Core	Motion Picture Production	3.63	1.58	1.35	4%
94110 and 94120	Core	Motion Picture and Video Distribution	3.63	1.58	1.35	4%
24220	Core	Printing unconnected to Publishing	3.33	1.54	1.52	3%
2904	Partial	Manufacture of Jewelry and Related Items	2.98	1.62	1.81	3%
3386	Partial	Manufacture of Watches and Clocks	2.98	1.62	1.81	3%
83252	Core	Advertising Materials such as Billboards	2.96	1.79	1.72	8%
83260	Core	Data Processing and Related Publishing	2.83	1.68	2.84	3%
8324	Partial	Engineering, Architectural and Technical (including Surveying)	2.83	1.68	2.84	3%
83260	Non-Dedicated	Other Business Services, Accounts, Audit and Bookkeeping and Legal	2.83	1.68	2.84	3%
5452	Partial	Interior Decorating	2.83	1.68	2.84	3%
5531	Partial	Flooring (Parquet) and Carpeting	2.83	1.68	2.84	3%
24214	Core	Publishing of Magazines and Books	2.79	1.64	1.39	1%
24212	Core	Publishing of Newspapers	2.76	1.82	2.07	3%
9422	Core	Museums and Art Galleries	2.75	1.59	1.82	0%
95620	Core	Photography	2.75	1.59	1.82	0%

Table 34: Contribution to GDP per Dollar of Claims Paid to Factors of Production

JSIC Code	Copyright Classification	Copyright Activity	Capital Productivity	Labor Productivity	Output Per Dollar of Intermediate Inputs (Turnover)	Effective Indirect Tax Rate
95620	Core	Photographic Studios, Agencies, etc	2.75	1.59	1.82	0%
9415	Core	Art Painters, Sculptors and Other Own-Account Artists (Graphic Arts)	2.75	1.59	1.82	0%
3372	Interdependent	Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	2.64	2.77	1.34	19%
3350	Interdependent	Manufacture of Computers and Equipment	2.64	2.77	1.34	19%
3385	Interdependent	Manufacture of Optical Instruments and Photographic Equipment	2.64	2.77	1.34	19%
3373	Core	Manufacture of Audio and Video Records and Tapes/Recorded Music using Census 2001 adjusted at rate of wage inflation	2.64	2.77	1.34	19%
2419	Interdependent	Manufacture of Certain Articles of Paper and Paperboard	2.64	2.77	1.34	19%
7112	Non-Dedicated	Public Passenger Transport by Road	2.63	1.93	1.85	7%
7116	Non-Dedicated	Supporting Services to Land Transport	2.63	1.93	1.85	7%
7121	Non-Dedicated	Ocean and Coastal Water Transport	2.63	1.93	1.85	7%
7123	Non-Dedicated	Supporting Services to Water Transport	2.63	1.93	1.85	7%
7131	Non-Dedicated	Air Transport	2.63	1.93	1.85	7%
7113	Non-Dedicated	Private Passenger Transport by Road	2.63	1.93	1.85	7%
7114	Non-Dedicated	Freight Transport by Road	2.63	1.93	1.85	7%
7132	Non-Dedicated	Supporting Services to Air Transport	2.63	1.93	1.85	7%
83251	Core	Advertising Agencies	2.37	1.89	1.47	1%
2322	Partial	Manufacture of Metal Furniture	2.24	2.04	1.50	6%
2323	Partial	Manufacture of Rattan (Wicker) Furniture	2.24	2.04	1.50	6%
	Partial	Manufacture of Furniture	2.24	2.04	2.64	6%
2321	Partial	Manufacture of Wooden Furniture	2.24	2.04	2.68	6%
6161	Partial	Wholesale of Cotton, Textile Yarn and Fabric	2.00	3.79	3.01	21%
6251	Interdependent	Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	2.00	3.79	3.01	21%
6252	Interdependent	Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment, including Parts and Accessories	2.00	3.79	3.01	21%
6253	Interdependent	Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	2.00	3.79	3.01	21%
6293	Interdependent	Other Miscellaneous Wholesalers and Retailers, including:	2.00	3.79	3.01	21%
	Partial	Wholesale and Retail of Partial Copyright Industries	2.00	3.79	3.01	21%
6163	Partial	Wholesale of Footwear	2.00	3.79	3.01	21%
6169	Partial	Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	2.00	3.79	3.01	21%
6172	Partial	Wholesalers of Household Furniture and Equipment	2.00	3.79	3.01	21%
6173	Partial	Wholesalers of Furniture and Fittings	2.00	3.79	3.01	21%

Table 34: Contribution to GDP per Dollar of Claims Paid to Factors of Production

JSIC Code	Copyright Classification	Copyright Activity	Capital Productivity	Labor Productivity	Output Per Dollar of Intermediate Inputs (Turnover)	Effective Indirect Tax Rate
6221	Partial	Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	2.00	3.79	3.01	21%
6222	Partial	Retail Stores dealing in Household Appliances (Electrical and Non-Electrical)	2.00	3.79	3.01	21%
6231	Partial	Retail stores dealing in Footwear	2.00	3.79	3.01	21%
6293	Partial	Miscellaneous Retailers, including Retail Stores dealing in Sports and Recreational Goods	2.00	3.79	3.01	21%
6100-6200	Non-Dedicated	Distributive Trades	2.00	3.79	3.01	21%
6162	Partial	Wholesale of Clothing	2.00	3.79	3.01	21%
6171	Partial	Wholesalers of Office Furniture and Equipment	2.00	3.79	3.01	21%
6223	Partial	Retail Stores dealing in Furniture	2.00	3.79	3.01	21%
6224	Partial	Retail Stores dealing in Jewelry, Watches and Clocks	2.00	3.79	3.01	21%
6231	Partial	Retail Stores dealing in Textiles, Wearing Apparel and Other Personal Effects	2.00	3.79	3.01	21%
2721	Partial	Manufacture of Plastic Containers and Cups	1.75	3.04	1.55	7%
2722	Partial	Manufacture of Plastic Dinner Ware and Table Ware	1.75	3.04	1.55	7%
2729	Partial	Manufacture of Plastic Products (n.e.c)	1.75	3.04	1.55	7%
2811	Partial	Manufacture of Glass	1.55	3.12	1.89	2%
2812	Partial	Manufacture of Glass Products	1.55	3.12	1.89	2%
2891	Partial	Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	1.55	3.12	1.89	2%
7192	Non-Dedicated	Storage and Warehousing	1.54	3.32	1.00	1%
8334	Interdependent	Rental of Radio, Television	1.50	3.35	1.81	2%
8335	Interdependent	Rental and Leasing of Data Processing Equipment	1.50	3.35	1.81	2%
72000	Core	Cable Television	1.49	4.25	3.92	1%
72000	Non-Dedicated	Communication	1.49	4.25	3.89	1%

7.1 Reflections on Policy to Accumulate Tacit Knowledge

The emphasis on development of domestic tacit knowledge is the basis for ensuring that the copyright sectors make the greatest contribution to a long-term saving of foreign exchange and easing of the balance of payments constraint through the process of increasing the productivity of employment of imported capital inputs. Dialogue with stakeholders during the conduct of this study has revealed that successful firms in the sector have evolved by successfully confronting the necessity to take advantage of available national and global opportunities to deploy unique skills, processes, ecological resources, geographical position, low-cost factor inputs, or such other market advantages as would produce innovative products of value to customers. The successful firms continually reshape effective demand, mastering currently available knowledge but emphasizing change due to internal knowledge dynamics, primarily by concentrating on experimentation and knowledge creation with available information, development and sharing of tacit knowledge, inventive modeling and model justification, and creative assembling of the lessons of experience. Such strategies are aimed at expanding capacity, market opportunity and profitability in the future by the continual introduction of creative approaches to knowledge creation and strategy development. Success is in itself dynamic and yields relatively greater employment of domestic capital over time, while increasing advantage for other suppliers and customers as well as government and other stakeholders, local and foreign. Successful overall knowledge creation for this purpose relies heavily on creation, communication, sharing and use of tacit knowledge in production and marketing. Firms in these areas are readily able to generate value while recognizing the benefits of unintended consequences that, with the tacit knowledge created, are the essence of the creative process of discovery of novel and improved technological standards, unique tacit knowledge, processes, products and marketing strategies on which successful competition relies.

Without the underlying pool of tacit knowledge, it becomes easy for others to imitate or adjust the activities of the Jamaican firm and to translate the knowledge into techniques that others can readily replicate. The copyright firms also utilize easily available public knowledge and techniques, but even then, the advantageous use of such public information also depends on the extent of unique knowledge, especially the tacit knowledge processes, possessed by the firm in the copyright sector. The reason is that what the firm does with public knowledge and generally-available techniques depends on its knowledge of the inner essentials of these techniques and its ability to apply them creatively in order to build advantage. Indeed, much public knowledge can only be decoded with a strong team preoccupied with the development of tacit knowledge in its own right. Transfer of public knowledge is important, but what counts is that firms build up the capital needed to deploy all knowledge, internal or external, to create new knowledge for sustainable development of comparative and competitive advantage – a process that is driven by accumulation of tacit knowledge. Moreover, and more important, it is not possible to store in public documents and well-known organization procedures most of the knowledge from the complex creative process of conceptualization, modeling, measurement, justification, problem-solving, practical implementation and knowledge creation that lead to new workable processes and products or marketing methods.

Most of this knowledge exists as part of the externalities generated through the practical experiences and interactions of work teams operating within the firm – teams that are expert in composition, able to deal with non-routine tasks and unexpected results; stable working groups of highly skilled professionals and dedicated novices with specific projects to develop and implement who are therefore involved in some combination of the following activities / processes: joint direct observation, reflection, dialogue, imitation, experimentation, comparison, and joint practice and implementation, which result in both individual and group-level competence.

The information and communication process relevant to this tacit knowledge is largely achieved by ensuring the existence of the relevant micro-communities of knowledge and tight project teams tackling complex problems aimed at innovation and knowledge creation. Most pointedly, it is achieved by the existence of regular and self-sustaining face-to-face interactions and deep socialization, devices of mentoring and dialogue, shared learning habits, methods of developing and routinely sharing intuition, information, and codes of interpersonal relations, and sharing of responsibilities. It is this process that typifies the domestic capital production process of the copyright sector.

Regarding the current data collection, analysis, and reporting system, there is insufficient recording of the multidimensional characteristics of the copyright sector. Moreover, existing official data, such as those used in this study, are only available on special demand rather than through a systematic routine data availability mechanism. This situation creates a drag on the routine conduct of data analysis by interested scholars and even by government. More important, given the historical neglect of the sector by policy makers, the situation creates a significant disconnect between national planning in the Medium Term Policy Framework, the annual budget exercise, and the activities defined in the sector. This limits development of evidence-based policy and strategic planning for sector development. Poor budgetary and development outcomes, associated with a weak impact on key development indicators, have been major consequences. To address this, the following are recommended:

- STATIN should be strengthened to better understand and use all relevant approaches, including a possible satellite account for the sector and participatory and qualitative approaches to data collection that bring all stakeholders into the data supply loop, thereby improving systems for consistent and routine sector reporting and monitoring.
- The University of the West Indies (Mona School of Business) and the University of Technology should be strengthened to act as custodians of datasets parallel to those of STATIN in order to facilitate speedy and routine access to data as well as policy-related analyses of the social and economic dynamics of the sector.

To address the lack of attention to key elements, such as music, a sector-wide planning process should be established, with emphasis on providing the institutional environment in which the data held by all partners can be exchanged on a routine basis. This process should incorporate all suitably-defined stakeholder representatives and each should have a clear mandate and opportunity to influence the direction of data analysis and policy. The key output should be a routinely updated comprehensive policy and implementation schedule that is costed and financed by various stakeholders, including government, with the program demonstrating clear links between information, sector activities, outputs, and indicators.

The costed plans should be fully integrated into the Medium-Term Policy Framework and the annual budget to ensure that they are linked to the resources made available by the Ministry of Finance over the medium term and to the information requirements and arrangements for their exchange within and between the development partners, sector ministries, the PIOJ, and the Ministry of Finance. Also, arrangements should be made for an annual joint sector review and reporting, complete with identification of capacity and institutional strengthening needs, including requirements for technical assistance, as necessary for the sector to yield optimal benefits for the Jamaican economy.

7.2 Copyright Policy

Given the evidence presented above of high resource productivity and the substantial scale and scope of the impact of the copyright sector on the economy, and given also the high level of underutilized potential within the sector and the wider economy, policies regarding further refinement and enforcement of

copyright should be treated as a matter of priority. Such strengthening of the copyright regime, together with the economic aspects of policy as suggested above, would provide greater incentives for innovation, creativity, and rapid diffusion of new technologies in all the sub-sectors – core, partial, interdependent and non-dedicated. A stronger regime about the full extent and personal advancement potential of the rights afforded by law, especially in the areas of enforcement and education, would prevent the widespread copying of creative works, which can undermine the returns on investment in innovation if such copying is not channeled to favor the innovation process itself.

Regarding enforcement, much of the focus at present is on the capacity of a centralized system of supports provided by the constabulary force and on the services of the copyright collective management societies. Both institutions should be strengthened as follows:

1. Expansion of the reach of the constabulary force, for example, through education programs and the strengthening and deployment of capacity at the level of local government in the areas of monitoring and public education, including the education of workers about the potential gains from innovative and creative activity in all segments of the industry as documented above.
2. Improvement of the capacity of the collective management societies, primarily by upgrading their e-business capacity in the areas of digital documentation, logging, and monitoring – especially in relation to better knowledge of the clients being served by the system – education on rights in all relevant sectors, and development of innovative ways to generate market opportunity for owners of copyright in all possible ways.

In combination with the investment programming identified above, such strengthening would enhance the level of innovative and creative activity and, hence, the flow of new products and processes that underlie the impact on the economy that is documented in this study and for which Jamaica is already well known. At the same time, there is a need to strengthen copyright policy relative to policies on competition, in the sense that greater emphasis should be devoted to upgrading the weak links in the copyright regimes (such as enforcement) and education on the links themselves.

Reliance on the measures used to rank sectors as presented above is justified by the key result reported that the estimated wage curve provides evidence of significant externalities in the context of a sociological floor to the marginal product of labor. This indicates that the marginal product of labor deviates from wages and implies corresponding deviations of both the rate of profit and the rate of return on imported inputs from their respective marginal products. This result leads to some insights regarding how the tension between copyright policy and competition policy should be resolved in Jamaica (and perhaps in similar economies).

Copyright is exclusionary by nature and therefore limits competition as traditionally conceived. Competition policy, as it is now being conceived and evolving in Jamaica, seeks to prevent restrictive commercial practices that create barriers to efficiency in production and, to a much lesser extent, in the diffusion of output and technologies. To ensure that such policies do not limit the drive towards creation, innovation and the development of a dense technology set in Jamaica, it would be generally appropriate for competition policy to restrict its attention to concerns not related to the creative process and innovation. Further, were the innovation process to be included in the domain of competition policy, it should only be insofar as resources are made available to ensure that rivalry and innovation are enhanced by the support of the policy for the investment process recommended above so as to augment the flow of new products and processes.

Such a strong statement of the policy bias requires justification. First, the results above raise doubts about the adequacy of the traditional view that (i) the motivation behind production of copyrighted works is the

narrow self-interest of the producer, and (ii) policy should therefore be preoccupied with questions about the evolution of monopoly in the product markets as a threat to pursuit of self-interest and, hence, to the operation of the law of demand. The estimates reported in Section VI underscore the existence of other barriers in the factor markets to the operation of the law of demand, and such barriers take precedence over the impact of untrammeled monopoly as a barrier to the development of Jamaica's capital stock. Instead of the potential conflict between monopoly outcomes and copyright, the estimates indicate that policy must mainly address the investments needed to eliminate the role of the average productivity of the self-employed and other similar barriers in the factors markets. In that regard, it should be noted that copyright output has some of the characteristics of a public good and long-term assets in that it embodies information that can be used without others being precluded from consuming it, and without all its value being utilized when applied in a specific round of production (Gallini and Trebilcock, 1998:17).

From a production perspective, appropriate skill is needed to imitate an innovation that is copyrightable and that provides a substantial amount of protection of output independent of copyright. Nevertheless, both local and international imitation is possible in the absence of copyright. Considering all the evidence presented in this study, the main public interest in copyright output and in public policy regarding all three areas in which works can be copyrighted – art, fact and function – is in ensuring that such works are produced under conditions that do not diminish the urge to creative expression and that, instead, stimulate development and use of new capital inputs, products and processes, raise profits in the sector, and further increase savings and investment in a dynamic sequence to the highest possible levels. The unregulated evolution of many key dimensions of the core copyright industries of Jamaica, such as music and theater, has led to an explosion of creativity and suggests that the argument of Dasgupta and Stiglitz (1980) and McFetridge (1998) holds: c*eteris paribus*, the extent of rivalry in innovation markets depends partly on the strengthening of intellectual property rights, and the promise of stronger rights tends to attract more rivals. Sound policy could be optimized accordingly, and McFetridge (1998) observes that this optimization is best achieved when all potential innovators have access to the same high level of knowledge.

In particular, by focusing on investment in domestic real capital, knowledge and skill acquisition, and access to the global pool through greater e-competence in the sector as recommended above, the policy would also ensure that greater tacit knowledge is created by all businesses and creators and, ultimately, that greater benefits are generated for all without detracting from any other sector or participant. Such benefits are likely to far outweigh any gains in efficiency that would accrue from resolving the tension between copyright and competition policy in favor of the latter. At the same time, the relevant investments as defined above would push the economy to the stage of development where the advantages from resolving the tension between competition and intellectual property rights become interesting. Currently in Jamaica, they are not and it is also not self-evident that copyright creates significant inhibiting market power that should be of concern at this time. One reason for this is that major segments of the sector, such as music, were developed by subsistence workers who tend to liberally share the ideas underlying copyright to facilitate independent and highly-competitive creation or expression of these ideas.

In the current context of granting incentives for import-intensive investments, the gains from addressing the barriers in the factor markets are achieved when policy focuses on reducing tax rates in the sector and re-allocating current inducements and public infrastructure development to the sector in order to increase profits and the level of private investment in fixed and working domestic capital, especially in the adoption or creation of tacit knowledge, relative to imported real capital. Such investments raise the productivity of imported real capital and the efficiency of use of foreign exchange and make the growth process more sustainable.

In this regard, rapid technological and product change, long a hallmark of the music industry, has emerged as a hallmark of the information technology on which the copyright sector relies. One of the major gains from such policy to promote creation of tacit knowledge in the sector would be growth in the domestic capacity to acquire or develop information and, therefore, in the capacity to adopt international technologies on the one hand, and to adapt and create new profitable technologies and products on the other. Such gains in creativity from social cooperation are likely to increase the capacity of the investor to adopt forms of product distribution that allow the gains from innovation to be extracted before copyright infringements occur, or even when they occur. This would tend to substantially offset much of the loss that might result from individual failure to stake a claim to a single expression of an idea or convert such failure into a loss-leader in the context of a relatively weak capacity to enforce copyright that is evident in the data assembled above on the collective management and enforcement process.

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Annex I: Wage Growth Rate All Sectors, 2001 to 2005

Table I: Average Annual Earnings Growth, Large Establishment Surveys 2003-2005							
INDUSTRY	JIC CODE (1987)	ANNUAL AVERAGE					Average Annual Earnings Growth 2001-2005
		2001	2002	2003	2004	2005	
ALL SECTORS	1 TO 9	7953.49	8468.90	9023.13	9631.46	10399.96	7%
TOTAL MINING	1	10515.58	9873.25	20259.90	21421.14	23043.49	2%
Bauxite and Alumina	16	10633.06	9991.94	20948.95	22118.54	23819.10	2%
Other Mining	17	7299.95	6671.77	7244.77	7503.32	8456.23	3%
TOTAL MANUFACTURING	2/3	5725.22	5974.81	7162.25	7909.56	8596.21	8%
TOTAL FOOD, BEVERAGES and TOBACCO	21	6390.06	6340.37	7383.03	8302.20	9039.66	7%
Sugar	21421	3190.88	3497.31	5724.93	6031.87	6981.42	10%
Other Food Manufacture	211/214	7945.32	7696.16	6840.73	7909.78	7903.79	4%
Beverages	215	9296.05	9338.55	12074.56	14919.92	17471.87	14%
Tobacco Manufacture	216	8811.68	9511.65	22304.08	26757.99	31133.64	15%
TOTAL TEXTILES, WEARING APPAREL, LEATHER AND FOOTWEAR	22	2595.53	2889.19	3727.35	3731.68	4577.31	11%
Textiles	221/222	5303.49	5233.41	5245.26	5771.17	6314.11	6%
Wearing Apparel	223	2495.64	2798.73	3677.96	3665.91	4536.48	12%
Leather and Leather Products and Footwear	224/225	3915.31	4634.27	3787.75	4318.47	4417.35	12%
TOTAL WOOD and WOOD PRODUCTS	23	4059.58	3702.60	5806.55	6082.33	5837.27	-3%
Wood and Cork Products (Other than Furniture)	231	4438.45	3544.41	4378.62	5767.29	5432.88	2%
Furniture	232/233	4058.27	3707.56	6300.42	6193.81	5985.47	-5%
TOTAL PAPER AND PRINTING	24	8291.56	9579.79	8573.48	9539.32	10016.46	11%
Paper and Paper Products	241	7156.33	6788.07	9792.01	10078.34	10539.11	1%
Printing and Publishing	242	8656.42	10496.74	8028.89	9271.11	9734.50	14%
TOTAL CHEMICALS, CHEMICAL, RUBBER AND PLASTIC PRODUCTS	25/26/27	8950.02	9062.78	10137.74	11027.08	11060.58	3%
Industrial Chemicals	251	8889.41	10317.13	10843.49	11841.95	11705.21	8%
Other Chemical Products	253	9011.60	9001.46	9893.42	10703.46	10729.74	3%
Petroleum and Asphalt Products	261	23583.12	21981.24	29337.75	29946.00	27862.97	-4%
Rubber Products	271	4459.48	4930.09	3581.88	4512.12	5094.67	16%

Table I: Average Annual Earnings Growth, Large Establishment Surveys 2003-2005							
INDUSTRY	JIC CODE (1987)			ANNUAL AVERAGE			Average Annual Earnings Growth 2001-2005
		2001	2002	2003	2004	2005	
Plastic Products	272	5059.71	5392.98	5846.25	6734.83	7403.89	11%
TOTAL NON-METALIC MINERAL PRODUCTS	28	8176.69	8141.66	9727.34	10254.49	12047.06	7%
Earthenware, Glass and Glass Products	281	3385.12	2788.05	4558.04	5566.68	6823.86	9%
Other Non-Metallic Mineral Products and Cement	289	5044.87	5307.86	5928.15	6381.10	7471.81	10%
OTHER MANUFACTURING (EXCLUDING METAL PRODUCTS, MACHINERY AND EQUIPMENT)	29	3528.31	3682.40	3648.64	3794.13	4306.57	7%
BASIC METAL AND FABRICATED METAL PRODUCTS, MACHINERY AND EQUIPMENT	3	7760.10	8901.53	8326.72	9704.59	11258.30	16%
TOTAL ELECTRICITY, GAS AND WATER	4	12983.17	14258.30	14429.22	15654.07	16010.91	7%
CONSTRUCTION	5	5436.10	5102.67	8242.00	9902.33	10875.23	8%
TOTAL TRADE, HOTELS AND RESTAURANTS	6	5422.18	6283.74	7429.00	7903.71	8323.84	9%
Wholesale Trade	61	6811.96	9569.02	12808.00	14260.15	15791.37	21%
Retail Trade	62	6484.29	7352.05	7030.00	7407.35	7553.25	7%
Restaurants	631	3548.84	3535.88	3686.00	3730.24	3525.75	-2%
Hotels, Rooming Houses and Lodging Places	632	4962.98	3657.84	6620.00	6835.02	7214.76	-6%
TOTAL TRANSPORT, STORAGE AND C0MMUNICATIONS	7	17260.17	18581.12	11731.00	11736.60	13088.26	6%
TOTAL TRANSPORT AND STORAGE	71	17527.97	18958.58	9863.00	10151.14	11421.43	8%
Land Transport (Other than Railways)	711	3829.75	4154.05	6861.00	7191.20	8035.38	8%
Water Transport	712	11987.32	11869.30	13239.00	14748.42	18159.92	11%
Air Transport	713	29314.38	31402.90	13404.00	12766.12	13844.43	4%
Services Incidental to Transport	719	7104.15	8037.62	9073.00	9326.69	10007.91	8%
COMMUNICATIONS	72	16420.91	17192.77	19856.00	18054.74	19381.90	1%
TOTAL FINANCING, INSURANCE, REAL ESTATE AND BUSINESS SERVICES	8	10455.37	10747.92	11750.00	12193.82	13141.84	5%
Financial Institutions	81	13529.02	13452.51	17709.00	19667.49	21267.87	6%
Insurance	82	12338.69	13320.87	15611.00	15352.70	16610.98	5%

Table I: Average Annual Earnings Growth, Large Establishment Surveys 2003-2005							
INDUSTRY	JIC CODE (1987)	ANNUAL AVERAGE					Average Annual Earnings Growth 2001-2005
		2001	2002	2003	2004	2005	
Real Estate and Business Services	83	6391.17	6704.25	7465.00	7270.61	8053.41	4%
COMMUNITY, SOCIAL AND PERSONAL SERVICES (EXCLUDING PRIVATE EDUCATION SERVICES)	9	6520.96	7071.24	6321.00	8094.71	9144.78	16%

Annex II: Detailed Structure of the Contribution of Copyright to GDP in Jamaica

Table II: Detailed Structure of the Contribution of Copyright to GDP in Jamaica – Copyright Factors, Multipliers and Adjustment Factors for Self-Employment and Earnings Growth from 2001 to 2005

	Copyright Factor	Multiplier	Wages and Salaries (J$ million)	Self-Employment Adjustment Factor	Earnings Growth Rate	Wage Inflation Factors	Adjusted Wages and Salaries (J$ million)
Core							
a. Press and Literature							**1,797.9**
Publishing of Newspapers	1.00	1.82	913.9	1.06		1.00	972.2
Publishing of Magazines and Books	1.00	1.64	59.9	1.06		1.00	63.7
Printing unconnected to Publishing	1.00	1.54	559.5	1.06		1.00	595.2
Advertising Materials such as Billboards	1.00	1.79	146.7	1.14		1.00	166.7
b. Music, Theatrical Productions, Opera							**918.33**
Manufacture of Audio and Video Records and Tapes/Recorded Music Using Census 2001 Adjusted at Rate of Wage Inflation	1.00	2.77	23.7	1.00	0.07	1.31	31.07
Authors, Music Composers, Independent Artistes	1.00	1.33	431.0	1.00	0.16	1.81	780.39
Music Component of Authors, Music Composers and Independent Artistes	1.00	1.33	357.7	1.00	0.16	1.81	647.72
Dance Studios	1.00	1.33	61.4	1.00	0.16	1.81	111.17
Theater and Related Entertainment Services	1.00	1.33	70.9	1.00	0.16	1.81	128.37
c. Motion Picture and Video Production, Distribution and Projection							**118.96**
Motion Picture Production	1.00	1.58	18.9	1.00	0.16	1.81	34.22
Motion Picture and Video Distribution	1.00	1.58	46.8	1.00	0.16	1.81	84.74
d. Radio and Television Broadcasting							**1,655.32**
General (National and Other) Radio and TV Broadcasting, including Independent Producers, Satellite TV and Other Services	1.00	1.46	918.7	1.35		1.00	1,241.49
Cable Television	0.25	4.25	413.8	1.00		1.00	413.83
e. Photography							**340.40**
Census Estimates of Photographic Studios, Agencies, etc	1.00	1.59	188	1.00	0.16	1.81	340.40
f. Software and Databases							**386.05**
Data Processing and Related Publishing	1.00	1.68	330.0	1.00	0.04	1.17	386.05
g. Graphic Arts							**207.08**
Museums and Art Galleries	1.00	1.59	41.1	1.00	0.16	1.81	74.42
Art Painters, Sculptors and Other Own-Account Artists	0.17	1.59	73.3	1.00	0.16	1.81	132.67
h. Advertising Services							**371.6**
Advertising Agencies	1.00	1.89	327.0	1.14	0.04	1.00	371.59
i. Copyright Collective Management Societies	**1.00**	**1.68**	**15.3**	**1.0**	**-**	**1.00**	**15.3**
JACAP	**1.00**	**1.68**	**3.1**	**1.0**	**-**	**1.0**	**3.10**
JFM	**1.00**	**1.68**	**1.0**	**1.0**	**-**	**1.0**	**1.00**
JAMCOPY	**1.00**	**1.68**	**2.1**	**1.0**	**-**	**1.0**	**2.10**
JCS	**1.00**	**1.68**	**1.0**	**1.0**	**-**	**1.0**	**1.00**
OCID	**1.00**	**1.68**	**8.1**	**1.0**	**-**	**1.0**	**8.10**
Total Core Copyright							**5,810.91**
Interdependent							
Core Interdependent							**41.83**
Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	1	**2.77**	2.5	1.0	0.16	1.81	4.53
Manufacture of Computers and Equipment	1	**2.77**	20.6	1.0	0.16	1.81	37.30
Partial Interdependent							**1,173.49**
Manufacture of Optical Instruments	1	2.77	9.5	1.0	0.16	1.81	17.20

Table II: Detailed Structure of the Contribution of Copyright to GDP in Jamaica – Copyright Factors, Multipliers and Adjustment Factors for Self-Employment and Earnings Growth from 2001 to 2005

	Copyright Factor	Multiplier	Wages and Salaries (J$ million)	Self-Employment Adjustment Factor	Earnings Growth Rate	Wage Inflation Factors	Adjusted Wages and Salaries (J$ million)
and Photographic Equipment							
Manufacture of Certain Articles of Paper and Paperboard	1	2.77	44.3	1.0	0.01	1.04	46.10
Rental of Radio, Television	1	3.35	7.8	1.0	0.04	1.17	9.12
Rental and Leasing of Data Processing Equipment	1	3.35	1.9	1.0	0.04	1.17	2.22
Wholesale and Retail of the Interdependent Copyright Industries, of which:							**1,098.84**
Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	1	3.79	70.6	1.0	0.07	1.31	92.54
Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment,(including Parts and Accessories)	1	3.79	408.0	1.0	0.07	1.31	534.80
Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	1	3.79	12.2	1.0	0.07	1.31	15.99
Other Miscellaneous Wholesalers and Retailers, including:	0.05	3.79	347.5	1.0	0.07	1.31	455.50
Retail Stores dealing in Books, Magazines and Stationary (Bookshops)							
Retailers dealing in Antiques and Art							
Total Interdependent Copyright							**1,215.31**
Partial Copyright Sectors							
Manufacture of Certain Apparel, Textiles and Footwear, and Related Items			**7.41**				**11.47**
Manufacture of Made-up Textile Articles	0.005	2.77	0.4	1.0	0.06	1.26	0.51
Manufacturing of Carpets and Rugs	0.005	2.77	0.04	1.0	0.06	1.26	0.05
Manufacture of Textiles (n.e.c)	0.005	2.77	0.2	1.0	0.06	1.26	0.19
Manufacture of Wearing Apparel and Crocheted Goods	0.005	2.77	0.8	1.0	0.12	1.57	1.31
Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	0.005	2.77	1.4	1.0	0.12	1.57	2.18
Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	0.005	2.77	2.0	1.0	0.12	1.57	3.22
Manufacture of Clothing (except Footwear and Fur Apparel) for Children	0.005	2.77	0.70	1.0	0.12	1.57	1.10
Manufacture of Headgear	0.005	2.77	0.02	1.0	0.12	1.57	0.03
Manufacture of Other Wearing Apparel (n.e.c)	0.005	2.77	1.02	1.0	0.12	1.57	1.60
Manufacture of Luggage and Handbags	0.005	2.77	0.01	1.0	0.12	1.57	0.01
Manufacture of Boots and Shoes from Leather Fabrics and Other Materials except Wood, Rubber and Plastic	0.005	2.77	0.73	1.0	0.12	1.57	1.14
Manufacture of Other Leather Products	0.005	2.77	0.05	1.0	0.12	1.57	0.07
Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	0.005	2.77	0.03	1.0	0.12	1.57	0.05
Manufacture of Furniture			**66.77**				**54.38**
Manufacture of Wooden Furniture	0.05	2.77	65.0	1.0	(0.05)	0.81	52.94
Manufacture of Metal Furniture	0.05	2.77	1.55	1.0	(0.05)	0.81	1.26
Manufacture of Rattan (Wicker) Furniture	0.05	2.77	0.2	1.0	(0.05)	0.81	0.18
Manufacture of Household Goods, China and Glass			**0.96**				**1.45**
Manufacture of Plastic Containers	0.005	2.77	0.49	1.0	0.11	1.52	0.74

Table II: Detailed Structure of the Contribution of Copyright to GDP in Jamaica – Copyright Factors, Multipliers and Adjustment Factors for Self-Employment and Earnings Growth from 2001 to 2005

	Copyright Factor	Multiplier	Wages and Salaries (J$ million)	Self-Employment Adjustment Factor	Earnings Growth Rate	Wage Inflation Factors	Adjusted Wages and Salaries (J$ million)
and Cups							
Manufacture of Plastic Dinner Ware and Table Ware	0.005	2.77	0.02	1.0	0.11	1.52	0.03
Manufacture of Plastic Products (n.e.c)	0.005	2.77	0.28	1.0	0.11	1.52	0.43
Manufacture of Glass	0.005	2.77	0.06	1.0	0.09	1.41	0.08
Manufacture of Glass Products	0.005	2.77	0.02	1.0	0.09	1.41	0.03
Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	0.005	2.77	0.10	1.0	0.10	1.46	0.14
Manufacture of Jewelry, Watches and Related Articles			**14.43**				**19.37**
Manufacture of Jewelry and Related Articles	0.25	2.77	13.5	1.0	0.07	1.31	17.70
Manufacture of Watches and Clocks	0.25	2.77	0.93	1.0	0.16	1.81	1.67
Interior Decorating and Carpets			**1.59**				**2.17**
Interior Decorating	0.02	1.68	1.1	1.0	0.08	1.36	1.43
Flooring (Parquet) and Carpeting	0.02	1.68	0.54	1.0	0.08	1.36	0.73
Engineering, Architectural and Technical (including Surveying)			**360.0**				**421.1**
Engineering, Architectural and Technical (including Surveying)	0.5	1.68	360.0	1.0	0.04	1.17	421.15
Wholesale and Retail of Partial Copyright Industries			**396.3**				**524.6**
Wholesale of Cotton, Textile Yarn and Fabric	0.05	3.79	1.1	1.0	0.21	2.14	2.25
Wholesale of Clothing	0.05	3.79	0.35	1.0	0.21	2.14	0.75
Wholesale of Footwear	0.05	3.79	0.38	1.0	0.21	2.14	0.81
Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	0.05	3.79	2.8	1.0	0.21	2.14	5.89
Wholesalers of Office Furniture and Equipment	0.05	3.79	0.6	1.0	0.21	2.14	1.20
Wholesalers of Household Furniture and Equipment	0.05	3.79	0.9	1.0	0.21	2.14	1.90
Wholesalers of Furniture and Fittings	0.05	3.79	0.2	1.0	0.21	2.14	0.42
Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	0.05	3.79	5.2	1.0	0.07	1.31	6.82
Retail Stores dealing in Household Appliances (Electrical and Non-electrical)	0.05	3.79	5.3	1.0	0.07	1.31	6.88
Retail Stores dealing in Furniture	0.05	3.79	11.1	1.0	0.07	1.31	14.55
Retail Stores dealing in Jewelry, Watches and Clocks	0.05	3.79	4.3	1.0	0.07	1.31	5.57
Retail Stores dealing in Textiles, Wearing Apparel and Other Personal Effects	0.05	3.79	15.6	1.0	0.07	1.31	20.38
Retail Stores dealing in Footwear	0.05	3.79	1.3	1.0	0.07	1.31	1.70
Miscellaneous Retailers, including Retail Stores dealing in Sports and Recreational Goods	0.05	3.79	347.5	1.0	0.07	1.31	455.50
Total Partial Copyright							**1,032.46**
Non-Dedicated Copyright							
General Distributive Trades			**675.1**				**1,875.4**
Distributive Trades	0.05	3.79	675.1	2.8	-	1.0	1,875.38
General Transportation, Storage, Communications and Business Services			**1,434.3**				**1,683.5**
Public Passenger Transport by Road	0.057	1.93	71.3	1.0	0.08	1.4	96.93
Private Passenger Transport by Road	0.057	1.93	197.2	1.0	0.08	1.4	268.32
Freight Transport by Road	0.057	1.93	62.1	1.0	0.08	1.4	84.53
Supporting Services to Land Transport	0.057	1.93	8.6	1.0	0.08	1.4	11.71
Ocean and Coastal Water Transport	0.057	1.93	15.7	1.0	0.11	1.5	23.88

Table II: Detailed Structure of the Contribution of Copyright to GDP in Jamaica – Copyright Factors, Multipliers and Adjustment Factors for Self-Employment and Earnings Growth from 2001 to 2005

	Copyright Factor	Multiplier	Wages and Salaries (J$ million)	Self-Employment Adjustment Factor	Earnings Growth Rate	Wage Inflation Factors	Adjusted Wages and Salaries (J$ million)
Supporting Services to Water Transport	0.057	1.93	19.8	1.0	0.11	1.5	30.03
Air Transport	0.057	1.93	476.0	1.0	0.04	1.2	556.79
Supporting Services to Air Transport	0.057	1.93	35.9	1.0	0.04	1.2	42.01
Storage and Warehousing	0.057	3.32	6.5	1.0	0.08	1.4	8.84
Communication	0.057	4.25	427.9	1.0	-	1.0	427.90
Other Business Services, Accounts, Audit and Bookkeeping and Legal	0.057	1.68	113.3	1.0	0.04	1.2	132.56
Total Non-Dedicated			**2,109.43**				**3,558.89**
Total Copyright Industries			**2,109.4**				**11,617.6**
Jamaican Economy							

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Core										
a. Press and Literature	**1,797.9**	**129.9**	**107.5**	**176.7**	**878.9**	**4,095.7**	**7,186.5**	**3,090.8**	**10.6%**	**0.51%**
Publishing of Newspapers	972.2	103.9	52.3	129.47	512.6	1,653.4	3,423.9	1,770.5	6.1%	**0.29%**
Publishing of Magazines and Books	63.7	2.02	1.3	5.00	32.3	271.1	375.4	104.4	0.4%	**0.02%**
Printing not connected to Publishing	595.2	16.9	30.3	27.98	247.6	1,759.8	2,677.7	918.0	3.2%	**0.15%**
Advertising Materials such as Billboards	166.7	7.0	23.5	14.20	86.5	411.5	709.4	298.0	1.0%	**0.05%**
b. Music, Theatrical Productions, Opera	**918.33**	**59.15**	**62.91**	**100.78**	**122.31**	**1,799.20**	**3,063.41**	**1,263.5**	**4.35%**	**0.21%**
Manufacture of Audio and Video Records and Tapes/Recorded Music using Census 2001 adjusted at rate of wage inflation	31.07	5.8	16.6	5.78	26.7	253.6	340.3	86.0	0.3%	**0.01%**
Authors, Music Composers, Independent Artistes	780.39	46.9	40.7	83.56	84.1	1,359.4	2,395.1	1,035.7	3.6%	**0.17%**
Music Component of Authors, Music Composers and Independent Artistes	647.72	39.0	33.8	69.35	69.8	1,128.3	1,987.9	859.6	3.0%	**0.14%**
Dance Studios	111.17	6.7	5.8	11.90	12.0	193.7	341.2	147.5	0.5%	**0.02%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Theater and Related Entertainment Services	128.37	7.7	6.7	13.75	13.8	223.6	394.0	170.4	0.6%	**0.03%**
c. Motion Picture and Video Production, Distribution and Projection	**118.96**	**10.33**	**7.21**	**13.87**	**38.07**	**545.85**	**734.42**	**188.4**	**0.6%**	**0.03%**
Motion Picture Production	34.22	2.97	2.1	3.99	11.0	157.0	211.3	54.2	0.2%	**0.01%**
Motion Picture and Video Distribution	84.74	7.36	5.1	9.88	27.1	388.8	523.1	134.2	0.5%	**0.02%**
d. Radio and Television Broadcasting	**1,655.32**	**217.11**	**98.42**	**615.64**	**991.56**	**2,054.20**	**5,632.24**	**3,578.0**	**12.3%**	**0.59%**
General (National and Other) Radio and TV broadcasting, including Independent Producers, Satellite TV and Other Services	1,241.49	73.8	74.9	190.27	236.9	1,450.9	3,268.2	1,817.3	6.3%	**0.30%**
Cable Television	413.83	143.3	23.6	425.4	754.7	603.3	2,364.0	1,760.7	6.1%	**0.29%**
e. Photography	**340.40**	**4.14**	**0.64**	**3.50**	**193.60**	**658.19**	**1,200.48**	**542.3**	**1.9%**	**0.09%**
Census Estimates of Photographic Studios, Agencies, etc	340.40	4.14	0.6	3.50	193.6	658.2	1,200.5	542.3	1.9%	**0.09%**
f. Software and Databases	**386.05**	**15.26**	**17.19**	**24.97**	**203.57**	**352.16**	**999.25**	**647.0**	**2.2%**	**0.11%**
Data Processing and Related Publishing	386.05	15.3	17.2	24.97	203.57	352.2	999.2	647.0	2.2%	**0.11%**
g. Graphic Arts	**207.08**	**2.52**	**0.39**	**2.13**	**117.78**	**400.41**	**730.31**	**329.9**	**1.1%**	**0.05%**
Museums and Art Galleries	74.42	0.9	0.1	0.77	42.3	143.9	262.4	118.6	0.4%	**0.02%**
Art Painters, Sculptors and Other Own-Account Artists	132.67	1.6	0.2	1.37	75.5	256.5	467.9	211.3	0.7%	**0.03%**
h. Advertising Services	**371.6**	**31.0**	**3.8**	**28.2**	**267.8**	**1,488.9**	**2,191.2**	**702.4**	**2.4%**	**0.12%**
Advertising Agencies	371.59	31.03	3.8	28.18	267.8	1,488.9	2,191.2	702.4	2.4%	**0.12%**
i. Copyright Collective Management Societies	**15.3**	**0.6**	**0.7**	**1.0**	**3.8**	**14.0**	**39.6**	21.4	**0.07%**	**0.004%**
JACAP	3.10	0.1	0.1	0.20	1.6	2.8	8.0	5.2	0.02%	**0.001%**
JFM	1.00	0.0	0.0	0.06	0.5	0.9	2.6	1.7	0.01%	**0.000%**
JAMCOPY	2.10	0.1	0.1	0.14	1.1	1.9	5.4	3.5	0.01%	**0.001%**
JCS	1.00	0.0	0.0	0.06	0.5	0.9	2.6	1.7	0.01%	**0.000%**
OCID	8.10	0.3	0.4	0.52	-	7.39	20.97	9.3	0.03%	**0.002%**
Total Core Copyright	**5,810.91**	**470.05**	**298.64**	**966.71**	**2,817.45**	**11,408.62**	**21,777.41**	**10,363.77**	**35.7%**	**1.7%**
Interdependent	**Adjusted Wages and Salaries, 2005 J$ Million**	**Compensation for Social Security**	**Indirect Taxes**	**Depreciation**	**Operating Surplus**	**Intermediate Inputs**	**Gross Output**	**Contributions to GDP**	Share of Copyright GDP	Share of GDP
Core Interdependent	**41.83**	**7.78**	**22.37**	**7.78**	**35.99**	**341.41**	**458.14**	**115.8**	**0.40%**	**0.019%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	4.53	0.8	2.4	0.84	3.9	36.9	49.6	12.5	0.043%	**0.002%**
Manufacture of Computers and Equipment	37.30	6.9	20.0	6.94	32.1	304.5	408.6	103.2	0.355%	**0.017%**
Partial Interdependent	**1,173.49**	**128.73**	**904.32**	**126.46**	**2,046.48**	**2,633.84**	**7,014.79**	**4,379.48**	**15.1%**	**0.724%**
Manufacture of Optical Instruments and Photographic Equipment	17.20	3.2	9.2	3.20	14.8	140.4	188.4	47.6	0.164%	**0.008%**
Manufacture of Certain Articles of Paper and Paperboard	46.10	8.6	24.7	8.58	39.7	376.3	504.9	127.6	0.439%	**0.021%**
Rental of Radio, Television	9.12	0.41	0.66	11.64	8.70	37.88	68.41	30.5	0.105%	**0.005%**
Rental and Leasing of Data Processing Equipment	2.22	0.10	0.16	2.84	2.12	9.23	16.66	7.4	0.026%	**0.001%**
Wholesale and Retail of the Interdependent Copyright Industries, of which:	**1,098.84**	**116.45**	**869.65**	**100.20**	**1,981.19**	**2,070.03**	**6,236.36**	**4,166.34**	**14.3%**	**0.69%**
Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	92.54	9.81	73.24	8.44	166.85	174.33	525.21	350.9	1.208%	**0.058%**
Retail Stores dealing in Calculators, Computers, Typewriters and Other Office Equipment, (including Parts and Accessories)	534.80	56.68	423.26	48.77	964.24	1,007.48	3,035.23	2,027.8	6.981%	**0.335%**
Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	15.99	1.69	12.66	1.46	28.83	30.13	90.76	60.6	0.209%	**0.010%**
Other Miscellaneous Wholesalers and Retailers, including:	455.50	48.27	360.50	41.54	821.26	858.09	2,585.16	1,727.1	5.946%	**0.285%**
Retail Stores dealing in Books, Magazines and Stationary (Bookshops)									0.000%	**0.000%**
Retailers Dealing in Antiques and Art									0.000%	**0.000%**
Total Interdependent Copyright	**1,215.31**	**136.51**	**926.70**	**134.24**	**2,082.47**	**2,975.25**	**7,472.93**	**4,495.23**	**15.5%**	**0.74%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Partial Copyright Sectors	**Adjusted Wages and Salaries, 2005 J$ Million**	**Compensation for Social Security**	**Indirect Taxes**	**Depreciation**	**Operating Surplus**	**Intermediate Inputs**	**Gross Output**	**Contributions to GDP**	Share of Copyright GDP	Share of GDP
Manufacture of Certain Apparel, Textiles and Footwear, and related Items	**11.47**	**0.63**	**1.63**	**1.59**	**1.51**	**52.22**	**69.05**	**16.83**	**0.06%**	**0.003%**
Manufacture of Made-up Textile Articles	0.51	0.03	0.07	0.07	0.07	2.33	3.09	0.75	0.003%	**0.000%**
Manufacturing of Carpets and Rugs	0.05	0.00	0.01	0.01	0.01	0.22	0.29	0.07	0.000%	**0.000%**
Manufacture of Textiles (n.e.c)	0.19	0.01	0.03	0.03	0.03	0.88	1.16	0.28	0.001%	**0.000%**
Manufacture of Wearing Apparel and Crocheted Goods	1.31	0.08	0.18	0.19	0.17	5.97	7.90	1.93	0.007%	**0.000%**
Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	2.18	0.12	0.30	0.31	0.29	9.90	13.10	3.20	0.011%	**0.001%**
Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	3.22	0.18	0.44	0.46	0.42	14.62	19.35	4.73	0.016%	**0.001%**
Manufacture of Clothing (except Footwear and Fur Apparel) for Children	1.10	0.06	0.15	0.16	0.15	5.00	6.62	1.62	0.006%	**0.000%**
Manufacture of Headgear	0.03	0.002	0.004	0.004	0.004	0.14	0.18	0.04	0.000%	**0.000%**
Manufacture of Other Wearing Apparel (n.e.c)	1.60	0.09	0.22	0.23	0.21	7.26	9.60	2.35	0.008%	**0.000%**
Manufacture of Luggage and Handbags	0.01	0.001	0.003	0.001	0.002	0.07	0.09	0.02	0.000%	**0.000%**
Manufacture of Boots and Shoes from Leather Fabrics and Other Materials except Wood, Rubber and Plastic	1.14	0.04	0.22	0.11	0.14	5.26	6.91	1.65	0.006%	**0.000%**
Manufacture of Other Leather Products	0.07	0.003	0.01	0.01	0.01	0.34	0.45	0.11	0.0004%	**0.00002%**
Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	0.05	0.002	0.01	0.005	0.01	0.23	0.30	0.07	0.0002%	**0.000%**
Manufacture of Furniture	**54.38**	**0.80**	**6.13**	**4.81**	**44.66**	**222.64**	**588.75**	**110.78**	**0.38%**	**0.02%**
Manufacture of Wooden Furniture	52.94	0.78	5.97	4.68	43.48	216.73	579.91	107.8	0.371%	**0.018%**
Manufacture of Metal Furniture	1.26	0.02	0.14	0.11	1.04	5.17	7.74	2.6	0.009%	**0.000%**
Manufacture of Rattan (Wicker) Furniture	0.18	0.003	0.02	0.02	0.15	0.73	1.10	0.4	0.001%	**0.0001%**
Manufacture of Household Goods, China and Glass	**1.45**	**0.14**	**0.26**	**0.28**	**2.30**	**7.48**	**11.91**	**4.43**	**0.02%**	**0.001%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Manufacture of Plastic Containers and Cups	0.74	0.08	0.15	0.13	1.16	4.09	6.35	2.3	0.008%	**0.000%**
Manufacture of Plastic Dinner Ware and Table Ware	0.03	0.003	0.01	0.01	0.05	0.16	0.25	0.1	0.000%	**0.000%**
Manufacture of Plastic Products (n.e.c)	0.43	0.04	0.09	0.07	0.66	2.34	3.63	1.3	0.004%	**0.000%**
Manufacture of Glass	0.08	0.004	0.01	0.03	0.14	0.30	0.56	0.3	0.001%	**0.000%**
Manufacture of Glass Products	0.03	0.001	0.002	0.01	0.05	0.10	0.19	0.1	0.000%	**0.000%**
Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	0.14	0.01	0.01	0.04	0.24	0.49	0.92	0.4	0.001%	**0.000%**
Manufacture of Jewelry, Watches and Related Articles	**19.37**	**0.66**	**0.88**	**0.74**	**9.80**	**38.99**	**70.43**	**31.44**	**0.11%**	**0.01%**
Manufacture of Jewelry and Related Articles	17.70	0.60	0.80	0.67	8.95	35.62	64.34	28.7	0.099%	**0.005%**
Manufacture of Watches and Clocks	1.67	0.06	0.08	0.06	0.85	3.37	6.09	2.7	0.009%	**0.000%**
Interior Decorating and Carpets	**2.17**	**0.09**	**0.10**	**0.14**	**1.14**	**1.98**	**5.61**	**3.63**	**0.01%**	**0.001%**
Interior Decorating	1.43	0.06	0.06	0.09	0.75	1.31	3.70	2.4	0.008%	**0.000%**
Flooring (Parquet) and Carpeting	0.73	0.03	0.03	0.05	0.39	0.67	1.90	1.2	0.004%	**0.000%**
Engineering, Architectural and Technical (including Surveying)	**421.1**	**16.6**	**18.8**	**27.2**	**222.1**	**384.2**	**1,090.1**	**705.9**	**2.43%**	**0.12%**
Engineering, Architectural and Technical (including Surveying)	421.15	16.6	18.8	27.24	222.1	384.2	1,090.1	705.9	2.430%	**0.117%**
Wholesale and Retail of Partial Copyright Industries	**524.6**	**55.6**	**415.2**	**47.8**	**945.9**	**988.3**	**2,977.5**	**1,989.2**	**6.8%**	**0.33%**
Wholesale of Cotton, Textile Yarn and Fabric	2.25	0.24	1.78	0.21	4.06	4.24	12.77	8.5	0.029%	**0.001%**
Wholesale of Clothing	0.75	0.08	0.59	0.07	1.35	1.41	4.26	2.8	0.010%	**0.000%**
Wholesale of Footwear	0.81	0.09	0.64	0.07	1.47	1.53	4.62	3.1	0.011%	**0.001%**
Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	5.89	0.62	4.67	0.54	10.63	11.10	33.46	22.4	0.077%	**0.004%**
Wholesalers of Office Furniture and Equipment	1.20	0.13	0.95	0.11	2.16	2.26	6.81	4.6	0.016%	**0.001%**
Wholesalers of Household Furniture and Equipment	1.90	0.20	1.50	0.17	3.42	3.57	10.77	7.2	0.025%	**0.001%**
Wholesalers of Furniture and Fittings	0.42	0.04	0.33	0.04	0.75	0.79	2.37	1.6	0.005%	**0.000%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005

	Adjusted Wages and Salaries J$ million	Compensation for Social Security J$ million	Indirect Taxes J$ million	Depreciation J$ million	Operating Surplus J$ million	Intermediate Inputs J$ million	Gross Output J$ million	Contributions to GDP J$ million	Share of Copyright GDP	Share of GDP
Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	6.82	0.72	5.39	0.62	12.29	12.84	38.68	25.8	0.089%	**0.004%**
Retail Stores dealing in Household Appliances (Electrical and Non-Electrical)	6.88	0.73	5.45	0.63	12.41	12.96	39.06	26.1	0.090%	**0.004%**
Retail Stores dealing in Furniture	14.55	1.54	11.52	1.33	26.23	27.41	82.58	55.2	0.190%	**0.009%**
Retail Stores dealing in Jewelry, Watches and Clocks	5.57	0.59	4.41	0.51	10.04	10.49	31.62	21.1	0.073%	**0.003%**
Retail Stores dealing in Textiles, Wearing Apparel and Other Personal Effects	20.38	2.16	16.13	1.86	36.75	38.40	115.68	77.3	0.266%	**0.013%**
Retail Stores dealing in Footwear	1.70	0.18	1.35	0.16	3.07	3.21	9.67	6.5	0.022%	**0.001%**
Miscellaneous Retailers, including Retail Stores dealing in Sports and Recreational Goods	455.50	48.27	360.50	41.54	821.26	858.09	2,585.16	1,727.1	5.946%	**0.285%**
Total Partial Copyright	**1,032.46**	**74.46**	**442.86**	**82.50**	**1,226.24**	**1,693.81**	**4,807.72**	**2,858.53**	**9.8%**	**0.47%**
Non-Dedicated Copyright	**Adjusted Wages and Salaries, 2005 J$ Million**	**Compensation for Social Security**	**Indirect Taxes**	**Depreciation**	**Operating Surplus**	**Intermediate Inputs**	**Gross Output**	**Contributions to GDP**	**Share of Copyright GDP**	**Share of GDP**
General Distributive Trades	**1,875.4**	**198.7**	**1,484.2**	**171.0**	**3,381.3**	**3,532.9**	**10,643.5**	**7,110.6**	**24.5%**	**1.2%**
Distributive Trades	1,875.38	198.75	1,484.22	171.02	3,381.28	3,532.89	10,643.54	7,110.6	24.48%	**1.18%**
General Transportation, Storage, Communications and Business Services	**1,683.5**	**219.9**	**181.3**	**705.7**	**1,427.8**	**4,210.5**	**9,145.4**	**4,218.2**	**14.5%**	**0.7%**
Public Passenger Transport by Road	96.93	5.69	13.11	21.58	49.39	297.17	550.14	186.7	0.64%	**0.03%**
Private Passenger Transport by Road	268.32	15.75	36.29	59.73	136.71	822.56	1,522.80	516.8	1.78%	**0.09%**
Freight Transport by Road	84.53	4.96	11.43	18.82	43.07	259.13	479.73	162.8	0.56%	**0.03%**
Supporting Services to Land Transport	11.71	0.69	1.58	2.61	5.97	35.90	66.46	22.6	0.08%	**0.00%**
Ocean and Coastal Water Transport	23.88	1.40	3.23	5.32	12.17	73.22	135.54	46.0	0.16%	**0.01%**
Supporting Services to Water Transport	30.03	1.76	4.06	6.68	15.30	92.05	170.41	57.8	0.20%	**0.01%**
Air Transport	556.79	32.68	75.31	123.94	283.70	1,706.94	3,160.03	1,072.4	3.69%	**0.18%**
Supporting Services to Air Transport	42.01	2.47	5.68	9.35	21.40	128.79	238.42	80.9	0.28%	**0.01%**
Storage and	8.84	1.11	0.33	9.23	9.85	50.06	50.17	29.4	0.10%	**0.00%**

Table III: Detailed Structure of the Contribution of Copyright to GDP in Jamaica and Shares of Copyright Sector to GDP, 2005										
	Adjusted Wages and Salaries J$ million	**Compensation for Social Security J$ million**	**Indirect Taxes J$ million**	**Depreciation J$ million**	**Operating Surplus J$ million**	**Intermediate Inputs J$ million**	**Gross Output J$ million**	**Contributions to GDP J$ million**	Share of Copyright GDP	Share of GDP
Warehousing										
Communication	427.90	148.20	24.36	439.83	780.34	623.77	2,428.53	1,820.6	6.27%	**0.30%**
Other Business Services, Accounts, Audit and Bookkeeping and Legal	132.56	5.2	5.9	8.57	69.9	120.9	343.1	222.2	0.76%	**0.04%**
Total Non-Dedicated	**3,558.89**	**418.69**	**1,665.52**	**876.68**	**4,809.07**	**7,743.41**	**19,788.90**	**11,328.85**	**39.0%**	**1.9%**
Total Copyright Industries	**11,617.6**	**1,099.7**	**3,333.7**	**2,060.1**	**10,935.2**	**23,821.1**	**53,847.0**	**29,046.4**	**100%**	**4.8%**
Jamaican Economy								605,030		

Annex III: Details of Employment Contribution of the Copyright Sector

Table III.1: Employment Details for the Core Copyright Sector, 2005

JSIC Code		Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
	Core									
	a. Press and Literature	**1,797.9**				**6,408.5**	20.007%	**0.6069%**		
24212	Publishing of Newspapers	972.2	287664	**1.04**	**277305**	3,506	10.945%	**0.3320%**	222,568	230882.35
24214	Publishing of Magazines and Books	63.7	287664	**1.04**	**277305**	230	0.717%	**0.0218%**	222,568	230882.35
24220	Printing not connected to Publishing	595.2	287664	**1.04**	**277305**	2,146	6.701%	**0.2033%**	222,568	230882.35
83252	Advertising Materials such as Billboards	166.7	321568	**1.02**	**316768**	526	1.643%	**0.0498%**	413,095	419354.84
33731	**b. Music, Theatrical Productions, Opera**	**918.33**				**2,879**	8.987%	**0.2726%**		
3373	Manufacture of Audio and Video Records and Tapes/Recorded Music using Census 2001 Adjusted at Rate of Wage Inflation	31.07	310544	**1.57**	**197619**	157	0.491%	**0.0149%**	158,564	249171.29
9415	Authors, Music Composers, Independent Artistes	780.39	310544	**0.91**	**341502**	2,285	7.134%	**0.2164%**	243,503	221428.57
9415	Music Component of Authors, Music Composers and Independent Artistes	647.72	310544	**0.91**	**341502**	1,897	5.921%	**0.1796%**	243,503	221428.57
9498	Dance Studios	111.17	310544	**0.92**	**338438**	328	1.026%	**0.0311%**	347,031	318428.43
9414	Theater and Related Entertainment Services	128.37	310544	**1.20**	**258580**	496	1.550%	**0.0470%**	306,435	368016.58
94110 & 94120	**Motion Picture and Video Production, Distribution and Projection**	**118.96**				**520**	1.625%	**0.0493%**		
94110 & 94120	Motion Picture Production	34.22	287664	**1.00**	**287664**	119	0.371%	**0.0113%**		
94110 & 94120	Motion Picture and Video Distribution	84.74	287664	**1.36**	**211055**	401	1.253%	**0.0380%**	334,071	455333.33
	Radio and Television Broadcasting	**1,655.32**				**5,042**	15.742%	**0.4775%**		
94130	General (National and Other) Radio and TV Broadcasting, including	1,241.49	287664	**0.87**	**330584**	3,755	11.724%	**0.3556%**	653,571	568717.59

Table III.1: Employment Details for the Core Copyright Sector, 2005										
JSIC Code		Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
	Independent Producers, Satellite TV and Other Services									
72000	Cable Television	413.83	321568	**1.00**	**321568**	1,287	4.018%	**0.1219%**		
95620	**Photography**	**340.40**				**1,230**	3.841%	**0.1165%**		
95620	Census Estimates of Photographic Studios, Agencies, etc	340.40	287664	**1.04**	**276706**	1,230	3.841%	**0.1165%**	191,837	199433.89
83260	**Software and Databases**	**386.05**				**1,246**	3.891%	**0.1180%**		
83260	Data Processing and Related Publishing	386.05	321568	**1.04**	**309759**	1,246	3.891%	**0.1180%**	229,167	237903.23
	Graphic Arts	**207.08**				**473**	1.477%	**0.0448%**		
9422	Museums and Art Galleries	74.42	321568	**0.37**	**878073**	85	0.265%	**0.0080%**	373,545	136799.82
9415	Art Painters, Sculptors and Other Own-Account Artists	132.67	310544	**0.91**	**341502**	388	1.213%	**0.0368%**	243,503	221428.57
	Advertising Services	**371.6**				**1,173**	3.662%	**0.1111%**		
83251	Advertising Agencies	371.59	321568	**1.02**	**316768**	1,173	3.662%	**0.1111%**	413,095	419354.84
83	**Copyright Collective Management Societies**	**15.3**				**14**	0.044%	**0.0013%**		
	JACAP	3.10				4	0.012%	**0.0004%**		
	JFM	1.00				2	0.006%	**0.0002%**		
	JAMCOPY	2.10				2	0.006%	**0.0002%**		
	JCS	1.00				2	0.006%	**0.0002%**		
	OCID	8.10				4	0.012%	**0.0004%**		
	Total Core Copyright	**5,810.91**				**18,987**	59.276%	**1.7980%**		

Table III.2: Employment Details for the Interdependent Copyright Sector

JSIC Code	Interdependent	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
	Core Interdependent	**41.83**				**75**	0.235%	**0.0071%**		
3372	Manufacture of TV and Radio Transmitters, Receivers, Apparatus for Recording Sound or Video Signals and for Line Telephony and Line Telegraphy	4.53	585416	**1.50**	**390277**	12	0.036%	**0.0011%**	126,000	188999.8
3350	Manufacture of Computers and Equipment	37.30	585416	**1.00**	**585416**	64	0.199%	**0.0060%**	686,667	686666.67
	Partial Interdependent	**1,173.49**				**3,248**	10.141%	**0.3076%**		
3385	Manufacture of Optical Instruments and Photographic Equipment	17.20	585416	**1.00**	**585416**	29	0.092%	**0.0028%**	237,750	237749.9
2419	Manufacture of Certain Articles of Paper and Paperboard	46.10	548028	**0.99**	**552685**	83	0.260%	**0.0079%**	184,500	182945.32
8334	Rental of Radio, Television	9.12	418756	**1.45**	**288476**	32	0.099%	**0.0030%**	130,200	188999.77
8335	Rental and Leasing of Data Processing Equipment	2.22	418756	**1.00**	**418756**	5	0.017%	**0.0005%**	189,000	188999.8
	Wholesale and Retail of the Interdependent Copyright Industries, of which:	**1,098.84**				**3,098**	9.673%	**0.2934%**		
6251	Retail Stores dealing in Radios, Television Sets and Sound Reproducing and Recording Equipment (including Parts and Accessories)	92.54	392756	**1.13**	**348374**	266	0.829%	**0.0252%**	321,000	361894.63
6252	Retail Stores dealing in Calculators, Computers, Typewriters and other Office Equipment, including Parts and Accessories	534.80	392756	**1.04**	**376584**	1,420	4.434%	**0.1345%**	448,352	467605.63
6253	Retail Stores dealing in Musical Instruments, Records, Record Albums and Tapes	*15.99*	*392756*	***0.87***	***453540***	*35*	*0.110%*	***0.0033%***	*174,600*	*151199.8*

6293	Other Miscellaneous Wholesalers and Retailers, including:	455.50	392756	**1.19**	**330687**	1,377	4.300%	**0.1304%**	157,955	187601.96
	Retail Stores dealing in Books, Magazines and Stationary (Bookshops)									
	Retailers dealing in Antiques and Art									
	Total Interdependent Copyright	**1,215.31**				**3,324**	10.376%	**0.3147%**		

Table III.3: Employment Details for the Partial Copyright Sectors

JSIC Code	Partial Copyright Sectors	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
	Manufacture of Certain Apparel, Textiles and Footwear, and Related Items	**11.47**				**46**	0.144%	**0.0044%**		
2221	Manufacture of Made-up Textile Articles	0.51	328328	**0.60**	**545175**	1	0.003%	**0.0001%**	312,892	188437.31
2222	Manufacturing of Carpets and Rugs	0.05	328328	**1.00**			0.000%	**0.0000%**		
2229	Manufacture of Textiles (n.e.c)	0.19	328328	**0.59**	**554054**	0.3	0.001%	**0.0000%**	255,150	151199.8
2231	Manufacture of Wearing Apparel and Crocheted Goods	1.31	235924	**0.61**	**384057**	3	0.011%	**0.0003%**	321,154	197282.76
2234	Manufacture of Clothing (except Footwear and Fur Apparel) for Men and Boys	2.18	235924	**1.00**	**235924**	9	0.029%	**0.0009%**	153,103	153103.45
2235	Manufacture of Clothing (except Footwear and Fur Apparel) for Women and Girls	3.22	235924	**1.10**	**214799**	15	0.047%	**0.0014%**	158,527	174117.65
2236	Manufacture of Clothing (except Footwear and Fur Apparel) for Children	1.10	235924	**0.95**	**247377**	4	0.014%	**0.0004%**	200,000	190740.74
2237	Manufacture of Headgear	0.03	235924	**1.00**	**235924**	0.13	0.000%	**0.0000%**	189,000	188999.75
2238	Manufacture of Other Wearing Apparel (n.e.c)	1.60	235924	**0.78**	**302525**	5	0.016%	**0.0005%**	186,239	145238.1
2243	Manufacture of Luggage and Handbags	0.01	229684	**1.00**	**229684**	0.07	0.000%	**0.0000%**	189,000	188999.8
2251	Manufacture of Boots and Shoes from Leather Fabrics and Other Materials except Wood, Rubber and Plastic	1.14	229684	**1.35**	**170715**	7	0.021%	**0.0006%**	85,623	115199.79
2249	Manufacture of Other Leather Products	0.07	229684	**1.19**	**192322**	0.38	0.001%	**0.0000%**	157,000	187499.85

Table III.3: Employment Details for the Partial Copyright Sectors										
JSIC Code	Partial Copyright Sectors	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
2259	Manufacture of Footwear made of Rubber, Plastic and Other Materials (n.e.c)	0.05	229684	**1.00**	**229684**	0.22	0.001%	**0.0000%**	156,000	155999.8
	Manufacture of Furniture	**54.38**				**149**	0.464%	**0.0141%**		
2321	Manufacture of Wooden Furniture	52.94	311272	**0.85**	**366859**	144	0.451%	**0.0137%**	200,308	169957.08
2322	Manufacture of Metal Furniture	1.26	311272	**0.94**	**331985**	4	0.012%	**0.0004%**	183,659	172199.83
2323	Manufacture of Rattan (Wicker) Furniture	0.18	311272	**1.00**	**311272**	1	0.002%	**0.0001%**	110,250	
	Manufacture of Household Goods, China and Glass	**1.45**				**4.1**	0.013%	**0.0004%**		
2721	Manufacture of Plastic Containers and Cups	0.74	385008	**1.04**	**369574**	2.0	0.006%	**0.0002%**	232,381	242085.6
2722	Manufacture of Plastic Dinner Ware and Table Ware	0.03	385008	**1.00**	**385008**	0.1	0.000%	**0.0000%**	390,000	389999.9
2729	Manufacture of Plastic Products (n.e.c)	0.43	385008	**1.12**	**343386**	1.2	0.004%	**0.0001%**	150,784	169060.45
2811	Manufacture of Glass	0.08	354796	**1.05**	**338252**	0.3	0.001%	**0.0000%**	231,240	242549.75
2812	Manufacture of Glass Products	0.03	354796	**1.00**	**354796**	0.1	0.000%	**0.0000%**	201,600	0
2891	Manufacture of Non-Structural Ceramic Ware (China; Stone; Earthenware, etc.)	0.14	388544	**1.15**	**339280**	0.4	0.001%	**0.0000%**	164,600	188499.83
	Manufacture of Jewelry, Watches and Related Articles	**19.37**				**23**	0.073%	**0.0022%**		
2904	Manufacture of Jewelry and Related Articles	17.70	585416	**0.68**	**857581**	21	0.064%	**0.0020%**	245,100	167314.14
3386	Manufacture of Watches and Clocks	1.67	585416	**1.00**	**585416**	3	0.009%	**0.0003%**	186,000	185999.9
	Interior Decorating and Carpets	**2.17**				**2**	0.006%	**0.0002%**		
5452	Interior Decorating	1.43	565500	**0.39**	**1459633**	1.0	0.003%	**0.0001%**	169,839	65799.944

Table III.3: Employment Details for the Partial Copyright Sectors										
JSIC Code	Partial Copyright Sectors	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
5531	Flooring (Parquet) and Carpeting	0.73	565500	**0.78**	**722388**	1.0	0.003%	**0.0001%**	179,160	140249.9
	Engineering, Architectural and Technical (including Surveying)	**421.1**				**744**	2.321%	**0.0704%**		
8324	Engineering, Architectural and Technical (including Surveying)	421.15	565500	**0.998**	**566383**	744	2.321%	**0.0704%**	385,027	384426.23
	Wholesale and Retail of Partial Copyright Industries	**524.6**				**1,544.3**	4.821%	**0.1462%**		
6161	Wholesale of Cotton, Textile Yarn and Fabric	2.25	821132	**1.03**	**798974**	3	0.009%	**0.0003%**	242,889	249624.75
6162	Wholesale of Clothing	0.75	821132	**2.22**	**369509**	2	0.006%	**0.0002%**	70,200	155999.85
6163	Wholesale of Footwear	0.81	821132	**1.00**	**821132**	1	0.003%	**0.0001%**	756,000	
6169	Wholesale and Retail of Textiles, Wearing Apparel, Footwear and Leather (n.e.c)	5.89	821132	**1.10**	**749729**	8	0.025%	**0.0007%**	239,217	261999.86
6171	Wholesalers of Office Furniture and Equipment	1.20	821132	**1.00**	**821132**	1	0.005%	**0.0001%**	160,286	160285.57
6172	Wholesalers of Household Furniture and Equipment	1.90	821132	**1.14**	**718491**	3	0.008%	**0.0003%**	221,325	252942.71
6173	Wholesalers of Furniture and Fittings	0.42	821132	**1.00**	**821132**	1	0.002%	**0.0000%**	390,000	389999.9
6221	Retail Stores dealing in Household Furnishings and Fittings including Carpets and Draperies	6.82	392756	**1.11**	**353869**	19	0.060%	**0.0018%**	162,500	180357.14
6222	Retail Stores dealing in Household Appliances (Electrical and Non-Electrical)	6.88	392756	**1.12**	**351147**	20	0.061%	**0.0019%**	210,000	234883.72
6223	Retail Stores dealing in Furniture	14.55	392756	**0.92**	**427236**	34	0.106%	**0.0032%**	238,710	219444.44
6224	Retail Stores dealing in Jewelry, Watches and Clocks	5.57	392756	**1.03**	**380126**	15	0.046%	**0.0014%**	206,634	213499.8

Table III.3: Employment Details for the Partial Copyright Sectors										
JSIC Code	Partial Copyright Sectors	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
6231	Retail Stores dealing in Textiles, Wearing Apparel and Other Personal Effects	20.38	392756	**1.08**	**364152**	56	0.175%	**0.0053%**	162,255	175000
6231	Retail Stores dealing in Footwear	1.70	392756	**1.16**	**338344**	5	0.016%	**0.0005%**	149,894	173999.83
6293	Miscellaneous Retailers, including Retail Stores dealing in Sports and Recreational Goods	455.50	392756	**1.19**	**330687**	1,377	4.3%	**0.130%**	157,955	187601.96
	Total Partial Copyright	**1,032.46**				**2,510**	7.8%	**0.238%**		

Table III.4: Employment Details for the Non-Dedicated Copyright Sectors										
	Non-Dedicated Copyright	Adjusted Wages and Salaries J$ million	Average Earnings for Employees in Large Establishments	Ratio of Average Earnings of Paid Employees to Average Earnings of All Employees	Adjusted Average Earnings Rate	Employment	Share of Copyright Employment	Share of Total Employment	Average Earnings of All Employees	Average earnings of Paid Employees
	General Distributive Trades	**1,875.4**				**3,670**	11.5%	**0.348%**		
6100-6200	Distributive Trades	1,875.38	606944	**1.19**	**511026**	3,670	11.5%	**0.348%**	157,955	187601.96
	General Transportation, Storage, Communications and Business Services	**1,683.5**				**3,541**	11.1%	**0.335%**		
7112	Public Passenger Transport by Road	96.93	417820	**0.88**	**473411**	205	0.6%	**0.019%**	207,297	182954.55
7113	Private Passenger Transport by Road	268.32	417820	**0.80**	**522893**	513	1.6%	**0.049%**	227,034	181412.64
7114	Freight Transport by Road	84.53	417820	**0.88**	**476949**	177	0.6%	**0.017%**	265,854	232894.74
7116	Supporting Services to Land Transport	11.71	417820	**1.04**	**402327**	29	0.1%	**0.003%**	206,849	214814.81
7121	Ocean and Coastal Water Transport	23.88	944320	**1.09**	**868774**	27	0.1%	**0.003%**	552,000	600000
7123	Supporting Services to Water Transport	30.03	944320	**0.96**	**986833**	30	0.1%	**0.003%**	347,000	332051.28
7131	Air Transport	556.79	719888	**1.03**	**700676**	795	2.5%	**0.075%**	500,000	513709.68
7132	Supporting Services to Air Transport	42.01	719888	**0.84**	**855349**	49	0.2%	**0.005%**	416,447	350495.05
7192	Storage and Warehousing	8.84	520416	**1.30**	**401439**	22	0.1%	**0.002%**	242,553	314439.87
72000	Communication	427.90	321568	**1.00**	**321568**	1,331	4.2%	**0.126%**		
83260	Other Business Services, Accounts, Audit and Bookkeeping and Legal	132.56	321568	**0.88**	**365758**	362	1.1%	**0.034%**	577,907	508085.11
	Total Non-Dedicated	**3,558.89**				**7,211**	22.5%	**0.683%**		
	Total Copyright Industries	**11,617.6**				**32,032**	**100%**	**3.03%**		
	Jamaican Economy					1,056,000				