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Macroeconomic impact assessment and analysis of South Africa's cultural and creative industry (CCI) and creative

Submitted to the Department of Arts and Culture

MEASURING & VALUING SOUTH AFRICA'S CULTURAL & CREATIVE ECONOMY

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Research Report 3 (of 5): Macroeconomic impact assessment and analysis of South Africa's cultural and creative industry (CCI) and creative economy

05 December, 2017

Final Report

Submitted to the Department of Arts and Culture:

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Acronyms

AFS	:	Annual Financial Statistics
CCI	:	Cultural and Creative Industries
CPC	:	Central Product Classification
CSA	:	Cultural Satellite Accounts
CSAM	:	Cultural SAM
CFCS	:	Canadian Framework for Culture Statistics
DET	:	Department of Education and Training
DAC	:	Department of Arts and Culture
DTI	:	Department of Trade and Industry
EBOPS	:	Extended Balance of payment Services Classification
FCS	:	2009 UNESCO Framework for Cultural Statistics
GDP	:	Gross Domestic Product
GVA	:	Gross Value Added
HS	:	Harmonised Commodity Description and coding system
ICATUS	:	Intelligent Classification of Activities for Time Use Statistics
ICH	:	Intangible Cultural Heritage
ICT	:	Information and Communication Technology
ILO	:	International Labour Organisation
IO	:	Input Output Table
IP	:	Intellectual Property
ISCO	:	International Standard Classification of Occupations
ISIC	:	International Standard Industrial Classification
MEIA	:	Macroeconomic Impact Assessment Model
NMMU	:	Nelson Mandela Metropolitan University
OECD	:	Organisation for Economic Co-operation and Development
OFO	:	Organising Framework for Occupation
RSA	:	Republic of South Africa
SAM	:	Social Accounting Matrix
SACO	:	South African Cultural Observatory
SASCO	:	South African Standard Classification of Occupations
SIC	:	Standard Industrial Classification
SNA	:	System of National Accounts
SU	:	Supply and Use Tables
Stats SA	:	Statistics South Africa

TSA	:	Tourism Satellite Accounts
UIS	:	UNESCO Institute for Statistics
UN	:	United Nations
UNCTAG	:	United Nations Conference on Trade and Development
UNSESCO	:	United Nations Educational, Scientific and Cultural Organisation
QLFS	:	Quarterly Labour Force Survey

1. Introduction and Background

This ***Research Report 3*** is the third in a series of five (5) reports that have been produced in response to a specific request from the Department of Arts and Culture (DAC) and the South African Cultural Observatory (SACO) to support the development of a National Research Agenda (NRA) for the cultural and creative industries (CCIs) of South Africa. The scope of work and deliverables for this research study are presented in 5 separate reports, as well as an additional report which provides a synthesis of the main findings of the entire study. Table 1 below reflects the scope of work undertaken in this report and the broad details of the various other reports within which each research topic is addressed.

1.1 The National Research Agenda (NRA) for the CCIs

The DAC has developed the NRA for research across the arts, culture and heritage (ACH) sectors and the CCIs of South Africa. The Agenda is an attempt by the DAC to focus research efforts and resources towards achieving research outputs that would enhance the development of the CCIs in South Africa. It also serves to support the many policy imperatives of the Department, the South African Government and its stakeholders.

1.2 The South African Cultural Observatory (SACO)

Initiated by the DAC through the Mzansi Golden Economy Strategy (2011), the South African Cultural Observatory (SACO) is a statistical and socio-economic research project, launched in 2014, which charts the socio-economic impact of the ACH sectors and the CCIs in South Africa. The SACO is headquartered in Nelson Mandela Bay where it is hosted by Nelson Mandela University on behalf of the DAC in partnership with Rhodes University and the University of Fort Hare.

1.3 The Economic Mapping Study

As indicated in the scope of work for this study, which has been commissioned by Nelson Mandela University (NMU), this study report is one of a number of research reports that are being commissioned by the SACO that are related to the National Research Agenda and the mapping of the South African CCIs, as defined in accordance with the 2009 UNESCO Framework for Cultural Statistics (CSF).

1.4 Scope of Work and Research Reports

The terms of reference for this study specifies that it will primarily be of a desk-top nature, though interviews with select stakeholders could add value. The engagement will also require interaction with the project team from Rhodes University which is currently completing the Employment and International Trade and Cultural Goods component of the study, to ensure that their findings are reflected where relevant to this study.

Table 1 below presents the scope of work for this study, along with the various technical reports that have been produced within which each element of the scope of work is addressed in detail.

Table 1: Scope of Work and Research Reports

Scope of Work	Research Reports
Employment Analysis: • Define levels of cultural employment and illustrate growth overtime compared to GDP growth and growth in non-cultural jobs	**Research Report 1**: Employment in the Cultural and Creative Industries in South Africa
International Trade Analysis: • Define the levels of cultural goods trades between South Africa and its BRICS partners relative to the country's total trade in cultural goods	**Research Report 2**: South Africa's trade in cultural goods and services with a focus on cultural trade with BRICS partners
Macroeconomic Impact Analysis: • The contribution of the CCIs towards GDP (economic output), as well as demonstrating the relative size of the CCIs sector in relation to other economic sectors across the UNESCO-defined domains • An estimation of the forward and backward linkages (multipliers) in the CCIs sector itself, as well as linkages with other economic sectors	**Research Report 3:** The Macroeconomic Impact Assessment Modelling System and Macroeconomic Impact Analysis of the Cultural and Creative Industries Sector
Provincial, Location and Cluster Analysis: • Provincial distribution of the CCIs (as per the macro-economic analysis stated above – this section includes maps detailing provincial distribution patterns) • Identification of possible clusters within the CCIs (this includes maps pertaining to the relevant findings) • Transformation and ownership levels from a provincial perspective • Employment from a provincial perspective	**Research Report 4**: Provincial Location and Clusters of the Cultural and Creative Industries Sector in South Africa
Shifting Transformation and Ownership Analysis: • Determine the transformation and ownership patterns within the South African CCIs across the UNESCO domains, noting that transformation and ownership levels must also be presented in the above-mentions section dealing with provincial distribution and clustering	**Research Report 5**: Transformation, Ownership and Employment in the Cultural and Creative Industries

1.5 Purpose of the study and report structure

The purpose of this study is to (a) highlight key macroeconomic findings relating to South Africa's CCIs, and (b), provide interpretation and analysis of the data as it pertains to policy development and implementation in accordance with the 2011 National Development Plan and relevant DAC policy initiatives. It is important to recognise that policy development and implementation can only be subjected to macroeconomic impact assessment if a suitable macroeconomic impact assessment model is available. Furthermore, it is important to recognise that such a suitable macroeconomic impact assessment model must include a database of information that

incorporates all of the relevant data required to perform comprehensive macroeconomic impact assessment of policy initiatives and implementation programs, which, in the case of this study, relate to the CCIs in South Africa.

In order to fulfil this essential requirement, Conningarth Economists has compiled a Social Accounting Matrix (SAM) that incorporates an internal Satellite Account (CSA) for the South African CCI sector. This CCI SAM, along with its internal CSA, has been incorporated into a proprietary Macroeconomic Impact Assessment Modelling System (MIAMS) that will enable the DAC and SACO to subject future CCI policy implementation programs to comprehensive macroeconomic impact assessment as part of its decision-making processes.

This element of the scope of work has been addressed in this report, which provides a description of the macroeconomic impact assessment modelling system built by Conningarth Economists and the process of incorporating the CCI SAM and its internal CSA into the overall modelling system. This is then followed by a section that describes the results of a macroeconomic impact analysis of the CCI sector.

2. The Macroeconomic Impact Modelling System

It is of paramount importance that institutions responsible for undertaking major investment projects and economic development programs are able to measure the extent to which their investments will lead to enhanced productivity, economic growth, and socio-economic development. This is particularly true for state institutions that are investing public funds in projects and programs that are intended to provide essential services that affect the overall socio-economic welfare of communities at a local, provincial, and/or national level. In fact, most government departments, development finance institutions, state agencies, and regulatory bodies mandate that some form of environmental and economic impact study must be performed as part of their overall decision making and approval processes.

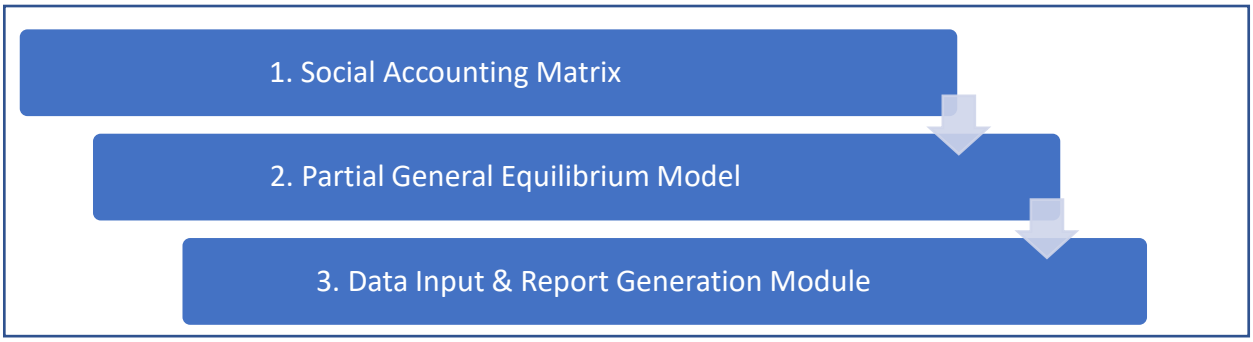
A comprehensive macroeconomic impact assessment will reveal how a specific investment project (or economic development program) will benefit a particular community in terms of macroeconomic performance criteria such as:

- Gross Domestic Product, or GDP (value added to the local, provincial/regional, and/or national economy);
- Employment creation (creation of new jobs for skilled, semi-skilled, and unskilled workers);
- Capital utilization (investments in machinery, transport equipment, buildings, and other social and economic infrastructure);
- Income generated for low-income households (incremental income available to low-income households) as a specific measure of poverty alleviation
- Fiscal Impact (government revenue); and
- Balance of Payments.

Undertaking macroeconomic impact analysis of investment projects is a complex exercise that requires accurate and reliable input data, sophisticated economic modelling techniques, and

considerable expertise (i.e. economic and econometric knowledge and skill). Conningarth Economists has developed a macroeconomic impact modelling system that integrates all of the key elements required into an easy-to-use package that enables economists to conduct comprehensive project/program analysis with a minimum of effort. The diagram below depicts the Conningarth Macroeconomic Modelling System.

Figure 2.1: Conningarth Macroeconomic Modelling System



The diagram above indicates that the Conningarth Macroeconomic Modelling System consists of three key elements:

- A **Social Accounting Matrix**, which functions as a database that provides the economy-specific data and multipliers for modelling macroeconomic impacts;
- A **Partial General Equilibrium Model**, which calculates the macroeconomic impact of a project or program using economy-specific data and multipliers derived from the SAM; and
- A **Data Input and Report Generation Module**, which enables the system user to input project-specific data that shocks (or kicks) the Partial General Equilibrium Model, and, in turn, automatically generates reports reflecting the project's impact on a series of macroeconomic and socio-economic performance indicators.

The Conningarth Macroeconomic Modelling System was originally built for the Development Bank of Southern Africa (DBSA), where it is being used to evaluate the economic impact of projects to be financed by this institution. The following sections discuss each element of the modelling system in more detail.

2.1 The Social Accounting Matrix (SAM)

A Social Accounting Matrix (SAM) is a comprehensive, economy-wide database that contains information about the flow of resources that takes place between the different economic agents that exist within an economy (i.e. business enterprises, households, and government) during a given period of time, usually one calendar year. A SAM is a presentation of the System of National Accounts (SNA) in a matrix format, and incorporates an analysis of the interrelationships that exist between the various economic agents in the economy. These include the distribution of income and expenditure amongst household groups, which provides the national accounts with a social dimension. By combining these agents into meaningful groups, the SAM makes it possible to

clearly distinguish between groups, to research the effects of interaction between groups, and to measure the economic welfare of each group. An advantage of the SAM is that it explicitly breaks down households into relatively homogenous socio-economic categories that are recognisable for policy purposes, and exhibit relatively stable characteristics. This type of disaggregation allows the SAM to be used to analyse the effects of government policies on income distributions.[1]

2.1.1 Applications of a SAM

Because the SAM is a comprehensive, disaggregated, consistent, and complete data system of economic entities that captures the interdependence that exists within a socio-economic system, it can be used as a conceptual framework for exploring the impact of exogenous changes in such variables as exports, certain categories of government expenditure, and investment on the entire, interdependent socio-economic system.

The SAM's main contribution in the field of economic policy planning and impact analysis is divided in two categories:

- **As a Primary Source of Economic Information:**

  Being a detailed and integrated national and regional accounting framework consistent with officially published socio-economic data, a SAM instantly projects a picture of the nature of a country's or region's economy. It lends itself to both descriptive and structural analysis

- **As a Planning Tool:**

  Due to its mathematical/statistical underpinnings it can be transformed into a macro-econometric model that can be used to:

  - Conduct economic forecasting exercises/scenario building;
  - Conduct economic impact analysis, both for policy adjustments at a national and provincial level, and for large project evaluation;
  - Self-sufficiency analysis, i.e. gap analysis to determine, with the help of the inter-industry and commodity flows contained in the SAM, where possible investment opportunities exist; and
  - Calculate the inflationary impacts of price changes instigated at a national level (i.e. administered prices, VAT, etc.).

2.1.2 Interface with Macroeconomic Impact Models

The data requirements for all macroeconomic impact models can always be expressed in the form of a SAM, which elaborates linkages between SU-Tables and institutional sector accounts, and incorporates information from I-O tables. It is this particular characteristic of the SAM that has made it popular as the database of preference for multi-sector economic models that are used to

[1] Readers wishing to know more about the process of compiling the CCIs SAM are referred to a more in-depth report of the topic produced by Conningarth Economists entitled, *Compiling a Cultural and Creative Industries Satellite Account Embedded into a Social Accounting Matrix for South Africa*.

assess the economic implications of policy changes (also known as model 'shocks'). This is especially the case when these changes will have effects, not only on macroeconomic aggregates (such as GDP, job opportunities, and the balance of payments), but also upon the structure of the economy.

2.2 The Partial General Equilibrium Model

Macroeconomic Impact Models come in various forms, i.e. basic Input-Output and Supply-Use Table models, Standard Social Accounting Matrix models, Computable General Equilibrium (CGE) models, Inter-Industry Dynamic Multi-Sectoral (INFORUM) models, and so forth. A defining feature of these models is their recognition of the extent to which economic systems are characterised by interdependency. This interdependency highlights economic events that, through their impact on one sector, have repercussions that are experienced (to a greater or lesser extent) throughout the economy. As such, these models can be used to quantify the magnitude of these repercussions, and to assess the efficacy of alternative economic policies and development initiatives.

In most General Equilibrium Economic Models, the economy is represented by four sectors: producers, consumers, government, and the rest of the world. The supply side of the economy is represented by production and factor markets, whilst the demand side is represented by income generation and product markets. The rest of the world comes into the model through imports and exports. Supply, which is composed of domestic production and imports, must equal demand (household demand, government demand, intermediate demand, investment demand, and exports).

Economists distinguish between partial and general equilibrium models in terms of the degree of abstraction in the model. General equilibrium analysis allows many more variables to change whilst, in partial equilibrium analysis, more factors are assumed to be held constant than in general equilibrium analysis. Partial equilibrium analysis is an attempt to reduce a complex problem to a more manageable form.

For many years, Conningarth Economists has employed its own macro-econometric model for analysis purposes. This model consists of empirical estimates of economic relationships (equations) within the macroeconomic system. It is a "simple" dynamic partial equilibrium macroeconomic model of the South African economy consisting of empirical relationships between households, the corporate sector, the government, and the foreign sector.

In the Conningarth Macroeconomic Modelling System, the Conningarth Macro-Econometric Model is directly linked to the standard SAM described in the previous section, and draws data from this SAM in order to calculate the macroeconomic impact of a specific investment project or economic development program on the economy associated with the SAM included in the system.

The following section describes how project or programme-specific data is captured into the Modelling System and how macroeconomic impact reports are produced.

2.3 Data input and report generation

The third element of the Conningarth Macroeconomic Modelling System is its user-friendly Data Input and Report Generation Module, which makes use of a series of Microsoft® Excel spreadsheets for capturing project/program-specific construction and operational data, and is driven by a set of "Macros" that generate a series of macro-economic and socio-economic performance reports.

2.3.1 Project data input

This project data input worksheet enables the user to capture three categories of information regarding a project:

- **General Information** (i.e. project name and number, base year, location, SIC information, investment value, project funding sources, number of operational years, etc.);
- **Operational Specific Information** (i.e. annual local and export turnover, intermediate inputs, worker numbers and salaries/wages, etc.); and
- **Construction Specific Information** (i.e. amount to be spent on civil construction and buildings, machinery and equipment and other asset classes, etc.).

Most investment projects and economic development programmes are preceded by some form of pre-feasibility study or business plan. Frequently, most (if not all) of the data required for undertaking a macroeconomic impact analysis can be found in these documents. However, in instances where data required for macroeconomic impact analysis is not available, the Conningarth Macroeconomic Modelling System incorporates a unique feature in which required, but unavailable data can be extracted from the modelling system in the form of industry averages. This means that users can undertake economic impact analysis even when they do not have complete information.

2.3.2 Report generation

The diagram below illustrates an example of the main report table that depicts the operational impact of a project on National GDP for the Cereal Farming sector. The table reflects the direct, indirect, and induced impact that the project will have on the core macroeconomic performance indicators i.e. GDP, capital formation, employment creation, household income, the fiscal impact, and the impact on balance of payments.

Table 1.1.1 National Macroeconomic Operational Impact: Investment in New Assets [R million, 2012 Prices or Numbers]

	Operational Impact: *National* 1 Cereal Farming			
	Direct impact	ndirect impac	nduced impac	Total impact
Impact on Gross Domestic Product (GDP) (Rm)	5.8	249.7	126.2	**381.8**
Impact on capital formation (Rm)	5.8	249.7	126.2	**381.8**
Impact on employment (person years)	33	250	126	**409**
Impact on skilled employment (person years)	*2*	*12*	*13*	*27*
Impact on semi-skilled employment (person years)	*7*	*27*	*23*	*57*
Impact on unskilled employment (person years)	*24*	*15*	*10*	*49*
Impact on Household Income (Rm)				**19.4**
Low Income Households (Rm)				*2.3*
Medium Income Households (Rm)				*5.4*
High Income Households (Rm)				*11.7*
Fiscal Impact (Rm)				**12.0**
National Government (Rm)				*9.8*
Provincial Government (Rm)				*0.2*
Local Government (Rm)				*2.0*
Impact on the Balance of Payments (Rm)				**23.9**

Note: All Rand values reflected are expressed in Rand Millions

This table can be generated for either the construction phase, or the operational phase, or for a combined total impact, and can also be generated for a local, provincial/regional, or national economy impact level, as well as for impacts on the total economy or various economic sectors. In addition to this main report table, a number of more specific result tables can be generated for each of the core performance indicators, such as capital formation, employment creation, household income, fiscal impact, and balance of payments.

2.4 Inclusion of the Cultural Satellite Account (CSA) into the SAM

Currently, no official Cultural Satellite Account (CSA) for South Africa compiled by Stats SA exists. However, private research institutions and universities have already compiled portions of a complete Cultural Satellite Account,[2] and attempts were also made to embed the CSA into an Input Output Table[3].

As part of this research study, Conningarth Economists has compiled a CSA that is based on the SNA as reflected in the I-O Table, Supply and Use Tables, Social Accounting Matrix, and the Quarterly Financial Statistics published by StatsSA, where the Quarterly Financial Statistics was specifically used to isolate the cultural sector activities from the non–cultural sectors.[4] -.

The CSA has been embedded into a SAM framework, referred to as the Cultural and Creative Industries SAM (CCI SAM). The CSA approach has the benefit of allowing for a clearer economic

[2] A position paper on the nature, requirements and operationalisation of a Satellite Cultural Account for South Africa. SACO and DAC. *Research Report.*

[3] An Input-Output Model for the cultural and creative industries in South Africa and possible extensions. SACO and DAC.*Research Report Draft. September 2017.*

[4] See the report by Conningarth Economists on *Compiling a Cultural and Creative Industries Satellite Account Embedded into a Social Accounting Matrix for South Africa* (2017) for more details of how this exercise was undertaken.

assessment of the CCIs through sound national accounting methodologies, due to the fact that it also reflects how it is linked to other economic sectors and to the broader economy of South Africa in general.

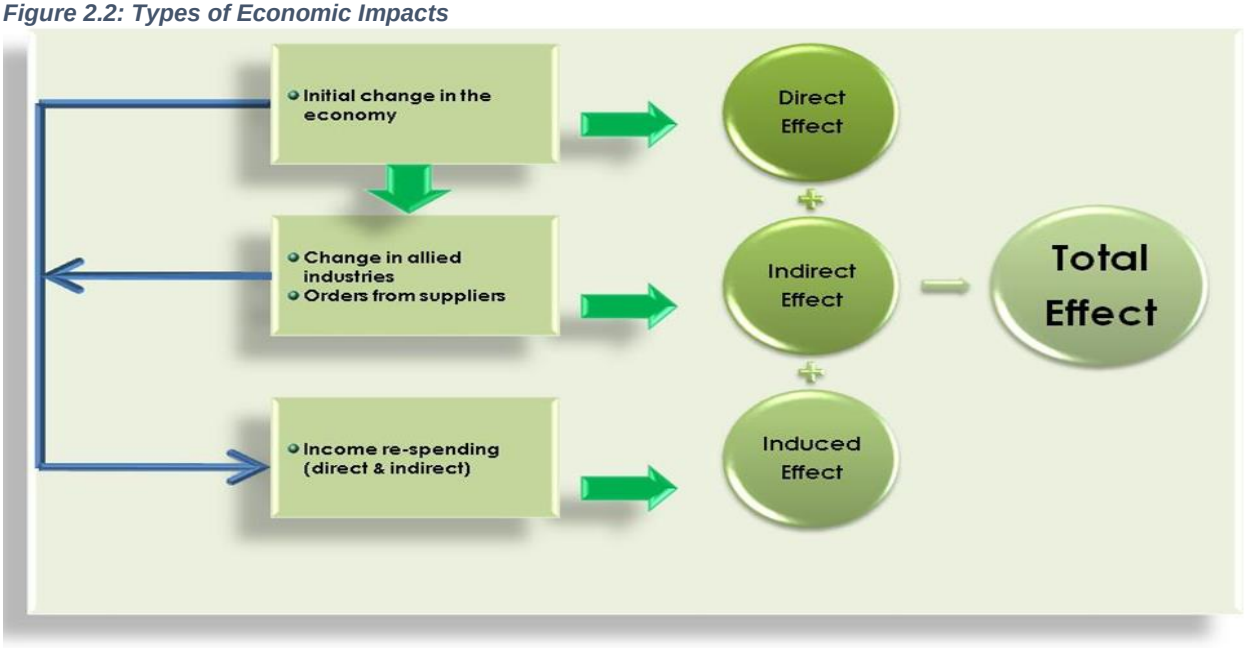
2.5 Inclusion of the Cultural SAM into a Macroeconomic Impact Assessment Model

The CCI SAM and its internal CSA has been integrated into the Macroeconomic Impact Assessment Model (MEIA) described above. Although the basis of the MEIA is the Cultural SAM, much more information still needed to be incorporated into the MEIA (such as Capital Production Ratios and Labour Ratios, detailed functional government spending, and so forth) in order to render it a complete economic modelling system. The Capital and Production ratios for the cultural and non-cultural sectors are provided in **Appendix B.**

Using the MEIA, the total linkages including direct, indirect, and induced effects on the economy emanating from the CCI sector have been quantified, where:

- The direct impact is calculated from production/turnover and remuneration payments to employees and profit generation;
- The indirect impacts refer to impacts on industries that provide inputs to the CCI in all its facets and other backward linkages; and
- The induced effect or income effect refers to a further round of economic activity that takes place in the economy, because of additional rounds of consumer spending, and because of the increase in salaries and wages caused by new job opportunities throughout the economy. The types of economic impact are depicted in the figure below.

Figure 2.2: Types of Economic Impacts



Direct Impact: expenditure on the CCI triggers the CCI's supply response. In providing its services, the CCI generates additional value added. Assume sufficient initial; expenditure to

enable CCI to generate R1 of GDP is the direct GDP impact of the relevant increment in the expenditure on the CCI's.

Indirect Impact: to increase its supply, the CCI must increase its demands on its suppliers of materials, who increase demand on their suppliers and so on through the supply chain. This generates the indirect impact, an increase in GDP throughout the supply chain of the CCI.

Induced Impact: The combined direct and indirect impacts have an impact on household income through ought the economy, through increased employment, to profits etc. A proportion of this income will be re-spent on final goods and services, producing a supply response by producers of these goods and services and further impacts through their supply chain, and so forth.

2.6 Shocking the Macroeconomic Impact Model

The MEIA is a linear model and can therefore be solved in terms of matrix algebra according to the standard equations:

$q = (I - A)^{-1} \times f$ Where:

q = Sectoral production

$(I\text{-}A)^{-1}$ = Inverted intermediate demand coefficients matrix

f = Final Demand per cultural activities.[5]

To get the model started, the turnover of the business economy associated with the CCIsare regarded as "outside agents" impacting on the model through an increase in its final demand components. The implication of this is that for every project a (column) vector for every relevant final demand component of the model, on a commodity basis, had to be compiled. Each of these final demand components had to be disaggregated on a detailed basis, such as turnover and intermediate demand on a creative and cultural industry basis, salaries and wages, gross operating surplus (GOS), number of workers per skill level, portion of goods and services to be exported, etc. The model structure is based on the Standard Industrial Classification (SIC) of sectors.

The impact of the CCIs were analysed according to various "bricks" (i.e. the main cultural domains and their sub-activities). The economic impact of each of the so-called bricks was firstly calculated separately. To obtain the total economic impact for a specific domain or for the total economy, the related bricks were aggregated. To make the model user-friendly, pre-structured results tables were formatted to make it easier for purposes of interface scenario analysis.

[5] In the case of SAM based models, it is 'shocked' not on activities but on commodities. In this case, the Model automatically creams-off the import components to enable it to calculate the impact of only the demand for domestically produced products.

3. Nature and magnitude of South Africa's CCIs

The stance of the CCIs in South Africa is depicted in two settings, namely: (i) the current situation of the industry, and (ii) the growth and development of the industry over the period 2011 to 2016. In 2016, the total GDP of the CCIs was R63 385, which represents approximately 1.7% of South Africa's total Gross Value Added (GVA) in that year. An estimated 261 837 million people were employed directly in the cultural domains, which constitute also about 1.6% of total employment in South Africa.

The magnitude of the CCI is quiet significant if it is compared with other main sectors of the South African economy (see pie charts below). For instance, an important sector in the South African economy such as the agriculture contributes around 2.4% to the GDP. This partly attest to the fact that the CCIs are playing a notable role in the country's economy.

Figure 3.1: GDP Contribution per Main Sector per Percentage

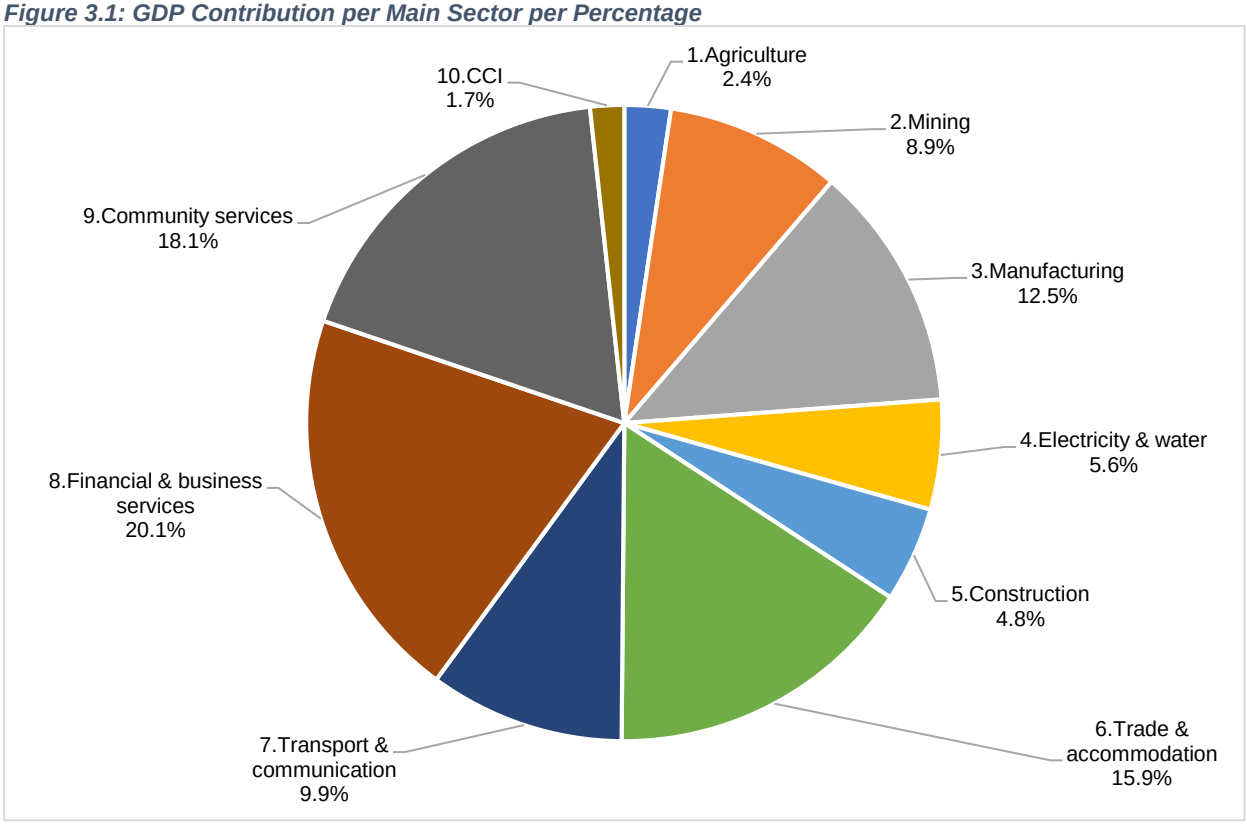
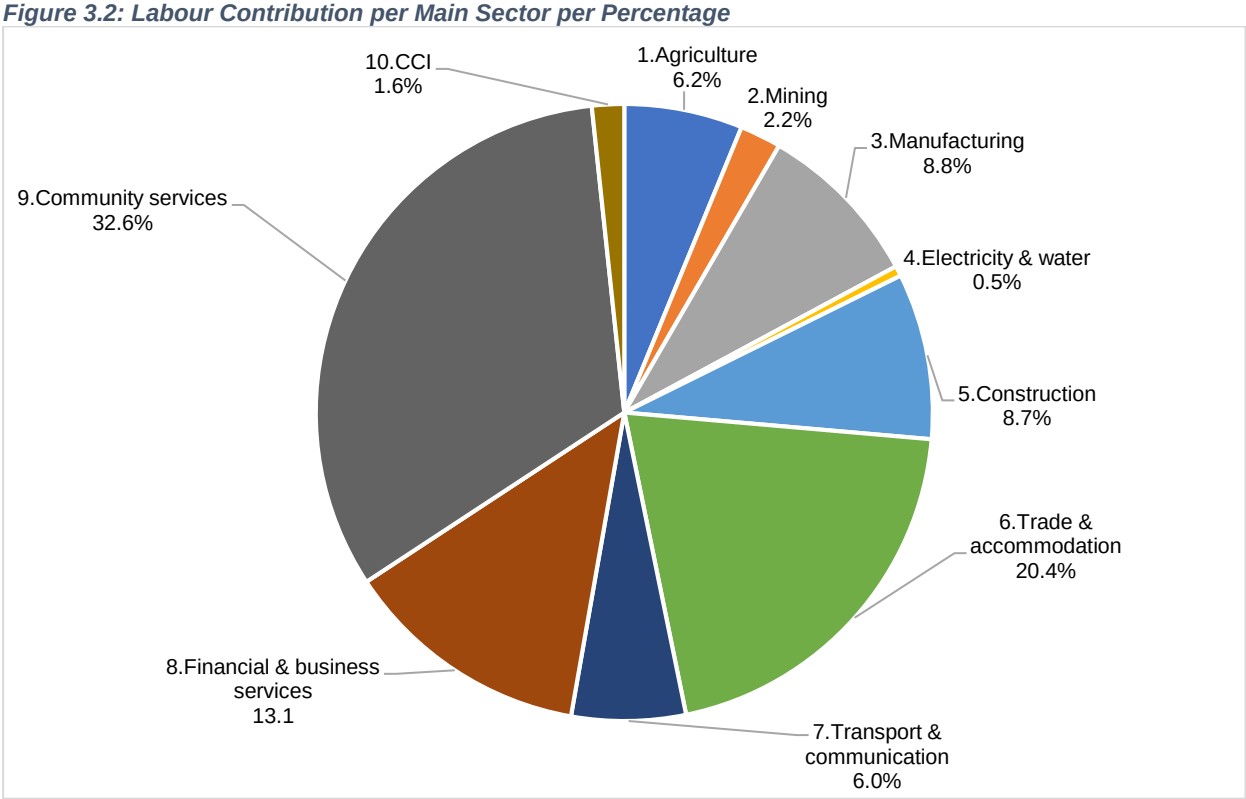


Figure 3.2: Labour Contribution per Main Sector per Percentage



3.1 South Africa's CCI's for 2016

This section provides information regarding the results for the CSA compiled in this study. In all instances, results are provided for the cultural domains, as identified by UNESCO. Details regarding the CCI activities within each domain can be found in Annexure A, and a copy of the completed CCI Macro SAM can be found in Annexure B.

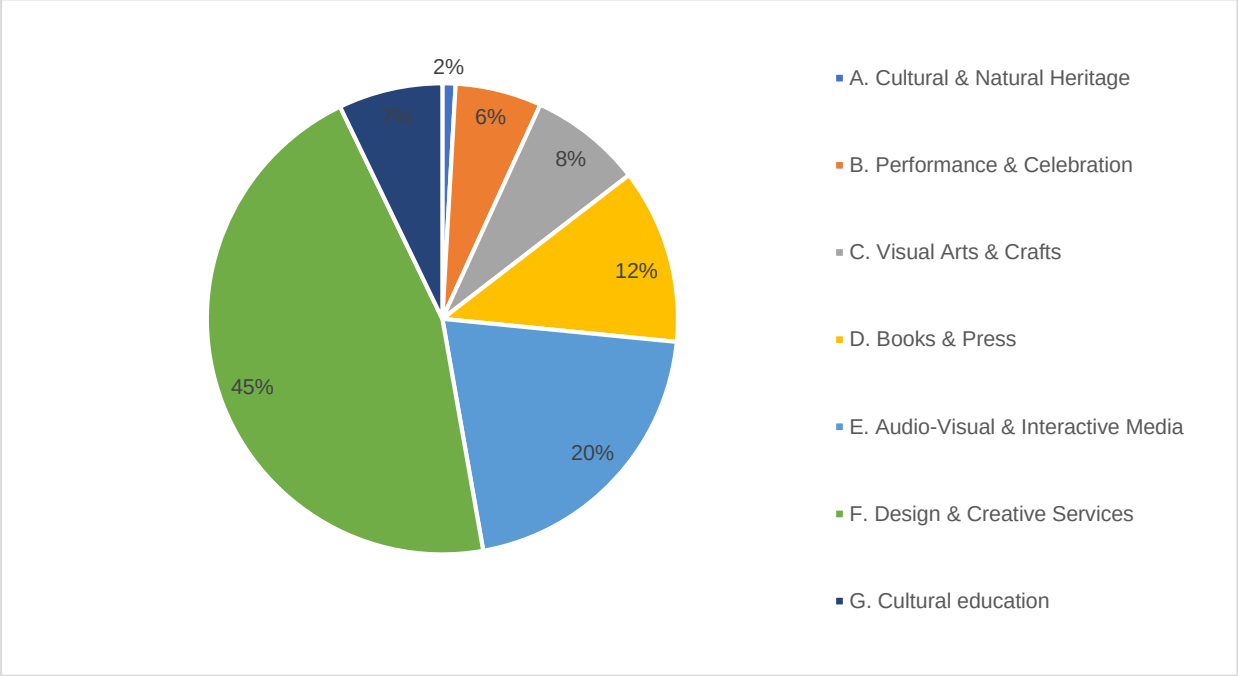
3.1.1 Cultural Domain Magnitudes

Figure 3.3: Cultural and Creative Industry Domains (R million, 2016 prices)

Cultural Domains	Production	GDP/Value Added	Fixed Capital stock	Labour (Numbers)
A. Cultural & Natural Heritage	4440	1444	6540	8272
B. Performance & Celebration	11001	3388	15517	14233
C. Visual Arts & Crafts	14319	2044	10552	17200
D. Books & Press	22277	8501	26038	26054
E. Audio-Visual & Interactive Media	38323	10363	52434	43746
F. Design & Creative Services	84627	30847	125496	123725
G. Cultural education	13268	6799	24494	28607
Total	**188254**	**63385**	**261071**	**261837**

In terms of Production, Value Added and Labour, Domain F: Design and Creative Services is the most prominent.

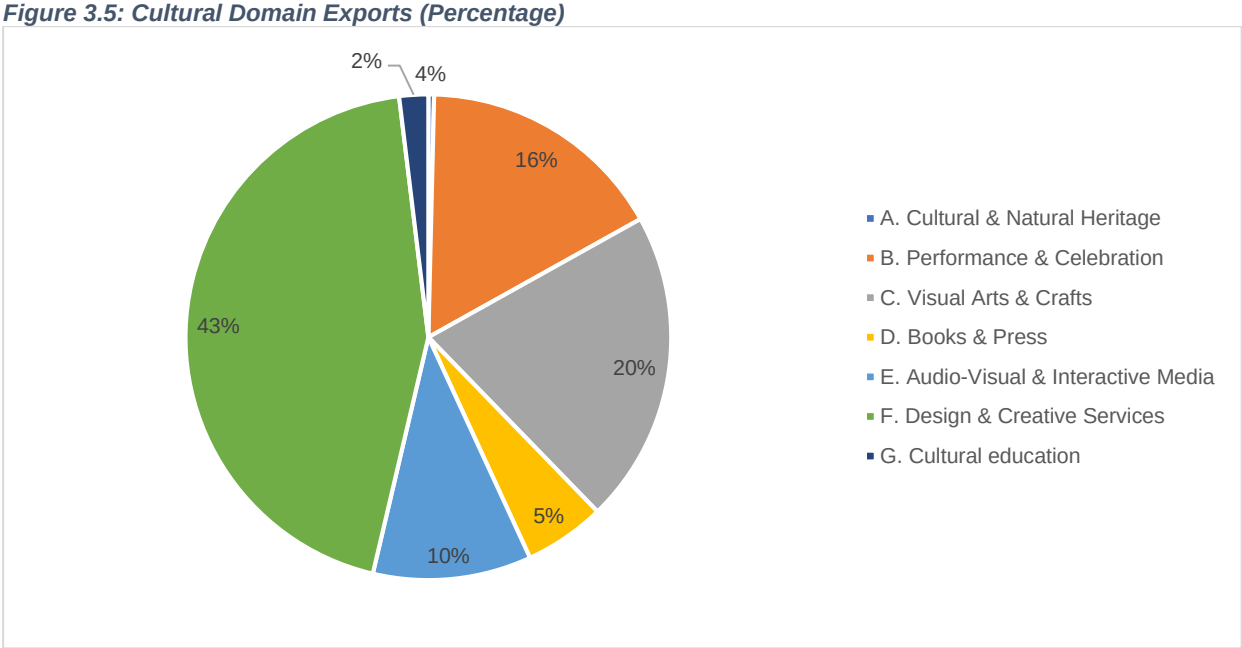
Figure 3.4: Production



It is evident that the two main domains are Design and Creative Services, and Audio Visual and Interactive Media.

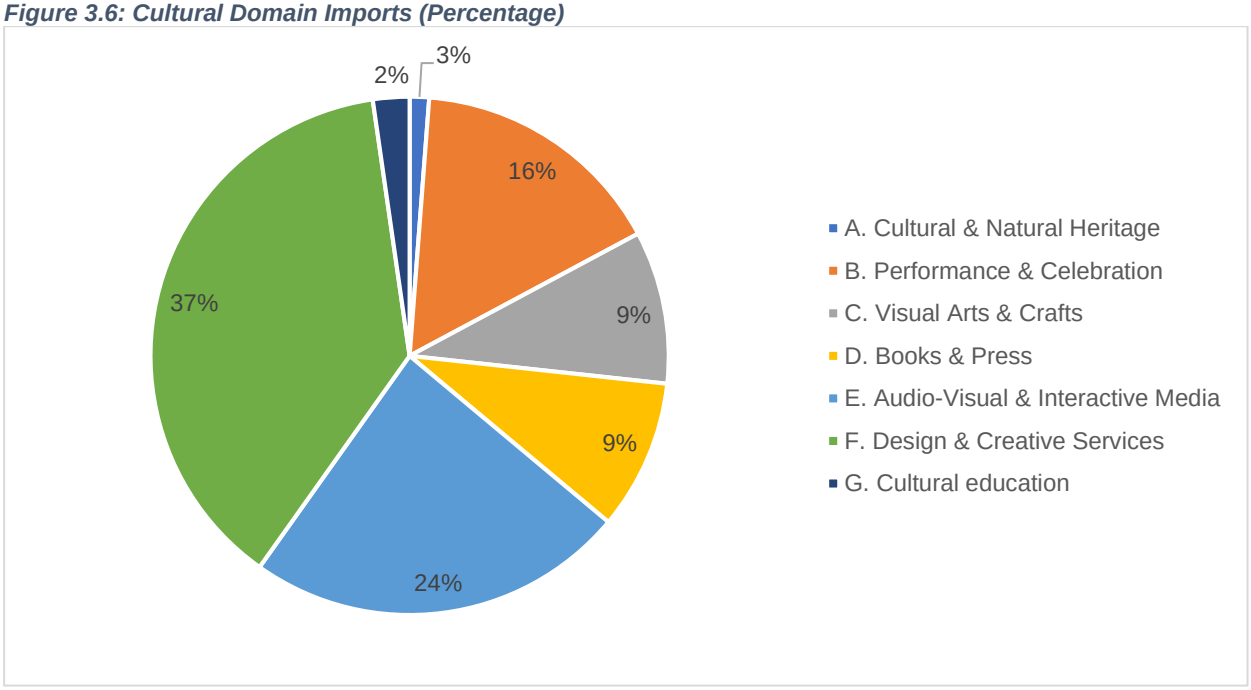
3.1.2 Cultural domain international trade balance

Figure 3.5: Cultural Domain Exports (Percentage)



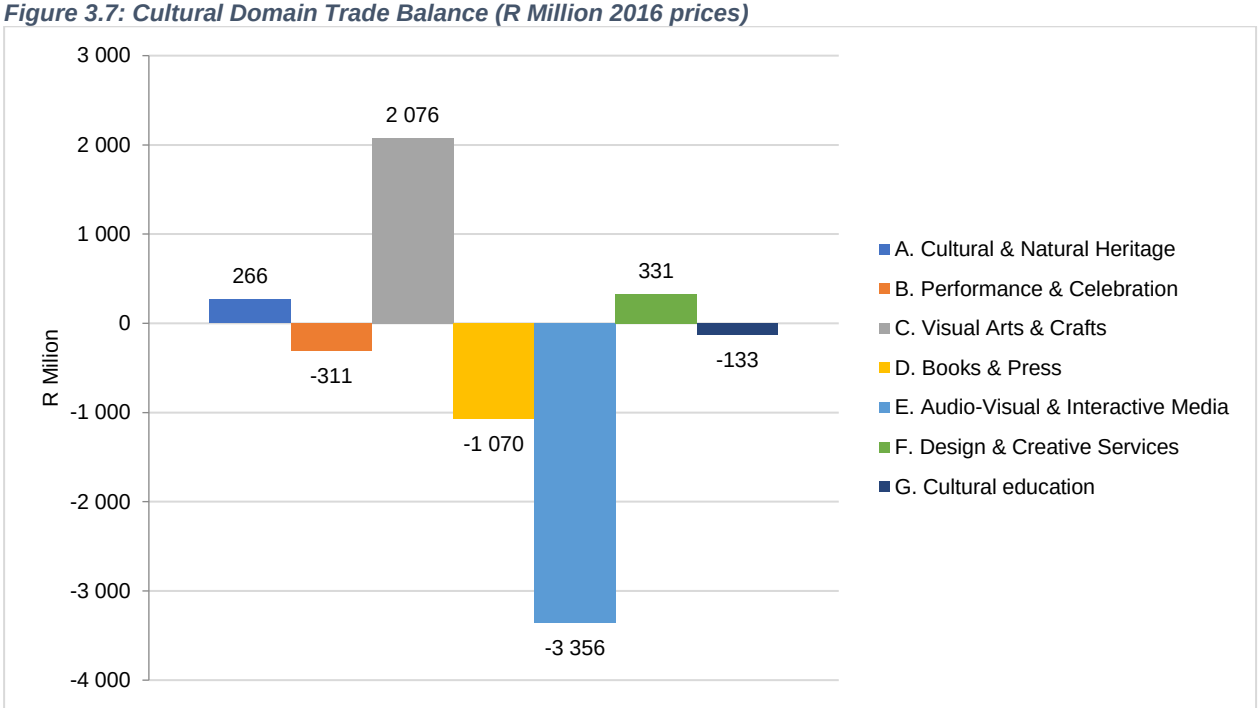
The Design and Creative Services domain has the highest export intensity. The Visual Arts and Crafts, Performance and Celebration, and Audio-Visual and Interactive Media domains also have meaningful exports.

Figure 3.6: Cultural Domain Imports (Percentage)



The Design and Creative Services is the largest importing domains, and contributes 37% of total cultural domain imports.

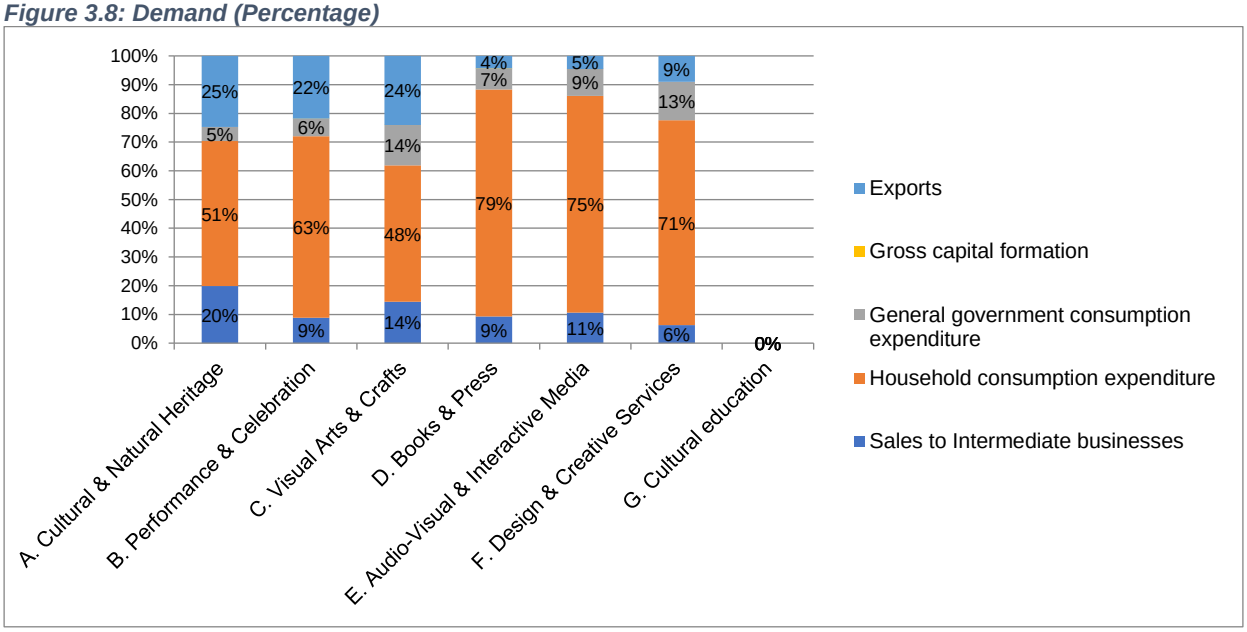
Figure 3.7: Cultural Domain Trade Balance (R Million 2016 prices)



The Audio-Visual and Interactive Media domain shows by far the highest negative trade balance. The only significant positive trade balance emanates from the Cultural and Natural Heritage, Visual Arts and Crafts domain, and the Design and Creative Services.

3.1.3 Cultural and Creative Industry Domain Demand

Figure 3.8: Demand (Percentage)



The figure above indicates that Household Consumption Expenditure is by far the largest demand factor. Sales to Intermediate Businesses ranges between 10% for the Design and Creative Services domain, and 44% for Cultural and Natural Heritage.

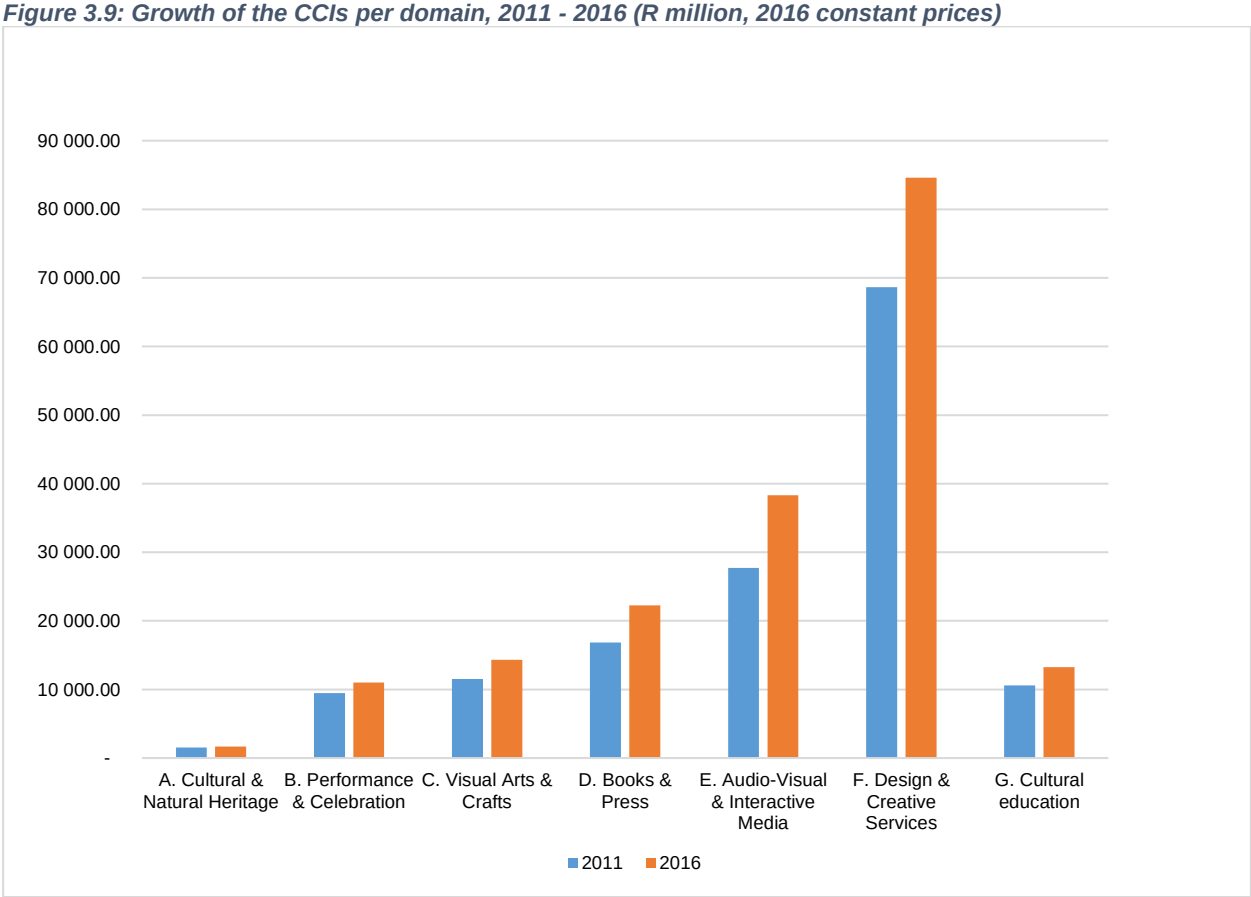
3.2 Growth and development of the CCIs

The growth and development of the CCIs is depicted in the Table: 3.1 and in Figure 3.9.

Table 3.1: Growth of the CCIs per domain, 2011 - 2016 (R million, 2016 constant prices)

Cultural Domains	2011	2016	Index 100=2011	Growth rate Average per Annum
A. Cultural & Natural Heritage	3 830.0	4 439.6	115.9	3.0%
B. Performance & Celebration	9 480.7	11 001.0	116.0	3.0%
C. Visual Arts & Crafts	11 540.6	14 318.6	124.1	4.4%
D. Books & Press	16 859.2	22 276.7	132.1	5.7%
E. Audio-Visual & Interactive Media	27 728.7	38 323.1	138.2	6.7%
F. Design & Creative Services	68 651.4	84 627.1	123.3	4.3%
G. Cultural education	10 603.4	13 267.8	125.1	4.6%
Total	**148 694.1**	**188 253.8**	**126.6**	**4.8%**

Figure 3.9: Growth of the CCIs per domain, 2011 - 2016 (R million, 2016 constant prices)



From the table and graph above, the following is of interest:

- The total CCI has grown on average at 4.8% per annum over the period 2011 to 2016. This can be viewed as a significant growth compared to the total growth of South Africa, which was only 1.6% p.a. over the same period. The tertiary sector, which is the main sector of the CCI, has grown at only 2.2% p.a. over the period 2011-2016; and
- The strong growth rate experienced by the total CCI, is to a large extent, due to the significant growth in two areas, namely: Books and Press and Audio-Visual and Interactive Media. These sectors grew at 5.7% p.a. and 6.7% p.a. respectively. It is important to note that the Audio-Visual and Interactive Media industry has grown nearly 40% over the period.

4. Economic impact analysis results

4.1 Economic Impact Analysis

This section discusses the macroeconomic impact assessment results of the CCIs on the national economy of South African. The results are also presented for the seven main cultural domains.

In general, Economic Impact Analysis (EIAs) are conducted in terms of projects that have both a capital investment phase and an operational phase. The capital investment phase refers to the

construction of the project. The jobs created during the construction phase are temporary in nature and are realised only for the construction period. Employment in regard to the construction phase is measured in terms of person-years. The operational phase relates to the continuous operation of the project, and the employment opportunities created during this phase are permanent in nature. Since jobs differ in terms of their nature, the number of jobs created during the capital investment and operational phases cannot therefore be added together. In cases where the impact is caused by existing CCI as defined in this study, only the operational phase is relevant. The macroeconomic impact assessment pertaining to this study was thus conducted for the operational phase.

The results of the macroeconomic impact analysis studies are presented according to the following themes:

- Economic growth/Impact on GDP;
- Capital usage;
- Employment/Job opportunities;
- Impact on household income/Poverty alleviation;
- Fiscal and Potential Socio-economic impacts thereof;
- Sectoral impact/Impact on main economic sectors and CCI domains; and
- Economic effectiveness criteria.

4.2 Total macroeconomic impact

In Table 4.1 below, the total contribution of the CCIs towards selected macroeconomic indicators, (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.1: Macroeconomic Impacts of Cultural and Creative Industries (R million, 2016 prices)

	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	64 741	94 018	74 218	232 977
Impact on capital usage [R million]	261 071	280 484	205 436	746 991
Impact on employment [number of job opportunities]	261 837	231 426	192 623	685 886
- Skilled impact on employment [number of job opportunities]	171 342	111 859	78 305	361 505
- Semi-skilled impact on employment [number of job opportunities]	76 448	85 526	84 377	246 350
- Unskilled impact on employment [number of job opportunities]	14 047	34 041	29 942	78 031
Impact on Households [R million]				145 580
- Low Income Households [R million]				21 847
- Medium Income Households [R million]				35 090
- High Income Households [R million]				88 643
Fiscal Impact [R million]				61 550

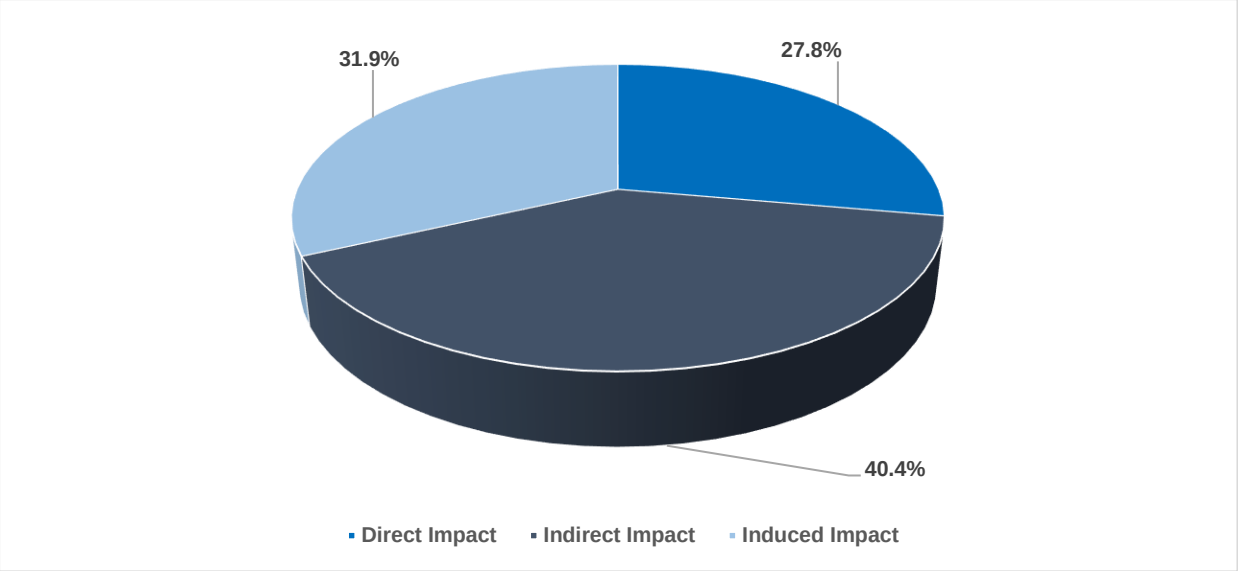
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

The results of macroeconomic indicators in the table above are discussed below.

4.2.1 Impact of CCIs on GDP

GDP in the context of the CCI is the total production of goods and services within the geographical boundaries of South Africa within a given period of time (one year), being represented mainly by labour remuneration and gross operating surplus of the industries. From Table 4.1, it can be noted that the CCIs generated a GDP of R233 billion in 2016; this contributed about 5.7% of the national GDP (GVA at basic prices). Over 70% of the CCI's GDP was generated in other non-CCI sectors due to backward linkages in the production of the CCI's products. The percentage contribution of CCI to the South African's GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below (*note*: see the definition of the direct, indirect and induced impact in the methodology section of this report).

Figure 4.1: Various Linkage Impacts of CCI on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

32% of the industry's contribution to GDP is generated from the direct impact (the production of CCI products and services). However, there is a contribution of 40.4% from the indirect impact, due to the supplying of materials to the CCI. Approximately 28% of the GDP contribution is generated by the induced impact, which results from the remuneration of labour and the resultant private consumption expenditure. As a result of the indirect and induced impact, the CCIs are expected to filter their positive impact throughout the national economy.

4.2.2 Impact of CCIs on capital utilisation

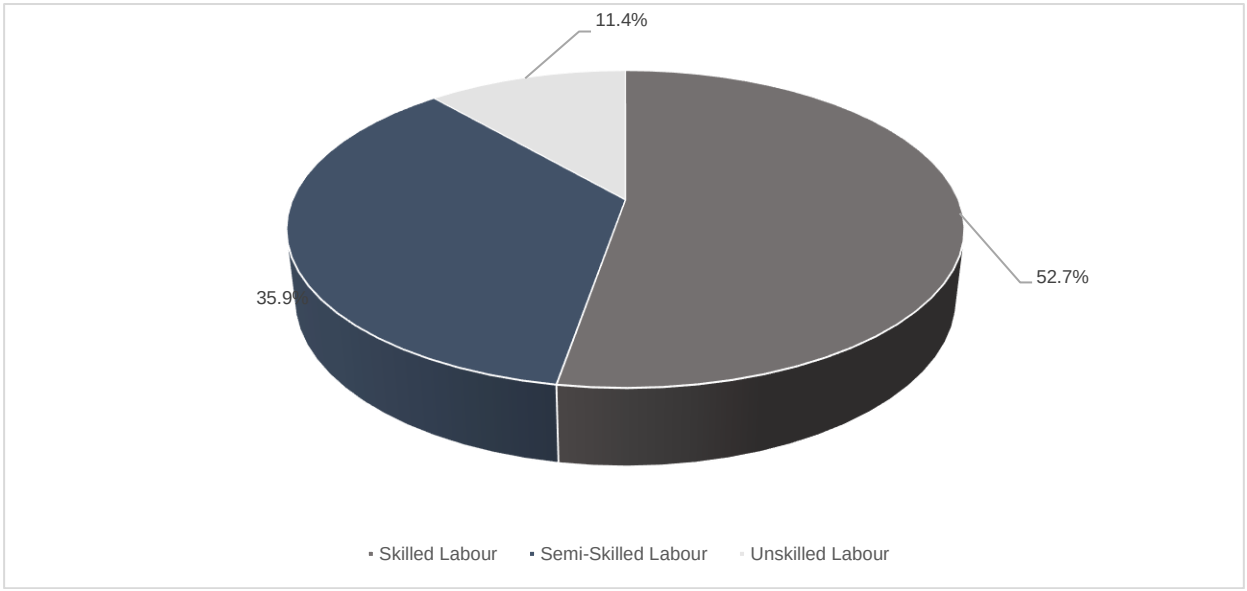
Capital is a scarce production resource in the South African economy and should be used optimally. Capital is used in the CCI to establish and install buildings, infrastructure, machinery and equipment, and so forth. The CCIs themselves utilise direct capital assets in the order of about R238 billion. This is not new capital, but capital assets currently committed to sustain the whole sector. It also utilises capital indirectly throughout the South African economy, estimated

to be worth around R200 billion. In the economic effectiveness criteria section, it will be analysed to what extent the CCI utilises capital effectively in South Africa.

4.2.3 Impact of CCIs on employment

In a country where the unemployment rate is about 27.7%[6] (using the strict definition), and where approximately 67.4% of unemployment is among workers younger than 25 years (using the expanded definition adopted in the Stats SA, Quarterly Labour Force Survey Q3 2017), it is of cardinal importance to create and maintain employment opportunities. According to Table 4.1 above, the CCIs create a total of 696 945 employment opportunities in the industry. Figure 4.2 below also illustrates the employment opportunities created by the CCI in terms of level skills.

Figure 4.2: Total Employment Impact of CCI based on the Skills Categories (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From the figure above, it can be noted that, out of 696 945 people employed in the CCIs, an estimated 53% of jobs are located in the skilled labour category. Of the total employment opportunity created in the CCI, only 36% are semi-skilled and 11% unskilled. In other words, people in the CCI are predominantly skilled and semi-skilled. Furthermore, a large portion of them are self-employed, such as artists, designers, actors and musicians.

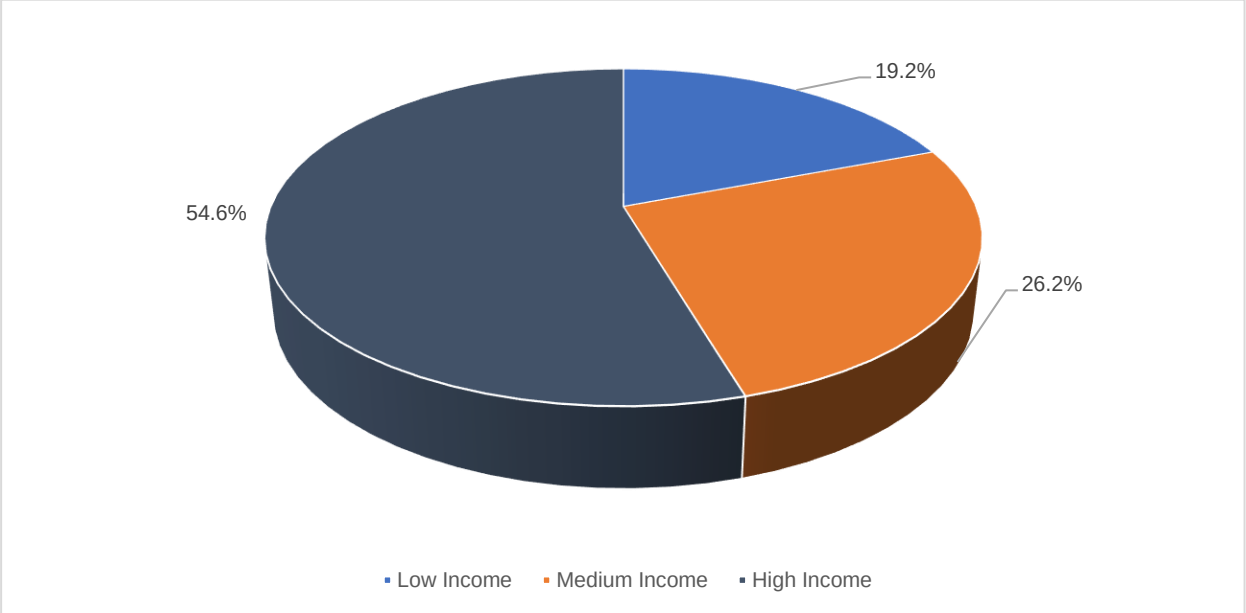
4.2.4 Impact of CCIs on household income

Households, being the basic economic unit within the economy of any country, play a crucial role in the welfare of a country. Approximately R140 billions of household income was generated in 2016, of which about R21 billion accrued to low-income households; thereby contributing to the

6 The 27.7% rate of unemployment is based on the strict definition of unemployment, which does not take into account the discourage workers. Including the discourage workers, the unemployment rate is estimated around 36.4% by Stats SA.

government objective of poverty alleviation. The figures below illustrate the percentage share of income by households group.

Figure 4.3: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the additional household income is expected to accrue to the high-income groups (approximately 61% increase in income), it should be noted that the medium and low-income groups should still benefit by 49% of the total increase in household income which is a considerable increase in those particulars household income groups.

4.2.5 Fiscal and potential socio-economic impacts of CCIs

The CCI will have a positive impact on government revenue, as shown in Table 4.2 below.

Table 4.2: Fiscal Impact of CCI (R million, 2016 Prices)

Level of Impact on Government Revenue [R million]	61 550

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.2, it is estimated that roughly R66 billions of government revenue was generated by the CCI through taxation in 2016. These taxes include all the type of taxes, such as personal income tax, company tax, value added tax, and other indirect taxes. Taxes generated by the CCIs have provided the South African government with revenue that can nominally be used to improve the living standard of the population, especially with regard to the provision of education, health, housing and quality water.

Table 4.3: Socio-economic Impacts

	Number per year
Additional Educators	17 236
Additional Hospital Beds Serviced	3 767
Additional Doctors	822
Additional Low-Cost Houses (RDP)	5 682

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Approximately 48% of the South African general government expenditure is allocated to social services (SARB Quarterly Bulletin, June 2017 S-75). If this CCI tax amount of R66 billion is translated into what can be attained in terms of social sectors (by making use of the spending pattern of the national budget), an idea can be formed of the additional number of educators, additional number of hospital beds serviced and the additional number of doctors that can be created or sustained with the tax paid by the CCIs. In this regard, the sector's tax contribution in 2016 covered the cost of around 17 235 educators; 3767 hospital beds; the cost of employing 822 doctors; and 5682 additional low-cost houses (i.e. RDP houses).

4.2.6 Sectoral impacts of CCIs

It should be apparent that, in the light of the above discussion regarding the different macroeconomic impacts of the various domains of the CCIs, the impacts will also differ in terms of the different economic sectors and CCI domains, with some sectors and domains receiving higher impacts than others from the project. The table below depicts these impacts for the four basic economic sectors and seven domains.

Table 4.4: Sectoral Impact of CCI on Non-cultural Sectors in term of GDP and Employment

	Total Impact on GDP	(%)	Total Impact on Employment	(%)
1. Agriculture	3 670	2%	40 461	10%
2. Mining	7 162	5%	11 291	3%
3. Manufacturing	22 326	14%	59 484	15%
4. Electricity and water	1 630	1%	0	0%
5. Construction	584	0%	2 823	1%
6. Trade and accommodation	27 793	18%	78 400	19%
7. Transport and communication	18 362	12%	26 994	7%
8. Financial and business services	58 286	37%	114 627	28%
9. Community services	17 087	11%	75 498	18%
Total	**156 900**	**100%**	**409 578**	**100%**

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

The sectoral impacts explain to what extent the CCIs impact the non-cultural sectors. According to the table above, the biggest sectoral benefit is the Financial and business services sector, where services obtain 37% and 28% of the benefit in terms of GDP and employment respectively.

However, it is also important to note that it is estimated that 40 461 employment opportunities in the agriculture sectors are dependent on the CCIs. This impact is mostly as a result of the endogenous effect, where the endogenous effect is created primarily by the salaries paid out in the economy and the effect thereof on food consumption. Furthermore, agriculture is a very labour-intensive sector. For instance, the impact on agriculture in terms of GDP is only 2% but in terms of employment is 10%.

4.2.7 Economic effectiveness criteria

Capital resources play a vital role in economic growth by creating new business and employment opportunities. However, as mentioned earlier, capital is usually a scarce resource in developing countries like South Africa. The calculation of effectiveness criteria consists of the GDP/Capital Ratio and Labour/Capital ratio, as well as the poverty alleviation ratio (low income/total household's income). Firstly, the GDP/Capital ratio is calculated by dividing the GDP contribution of the CCIs by the total capital utilisation committed to the sector. Secondly, the Labour/Capital ratio is arrived at by calculating the number of employment opportunities created in the CCIs per R1 million of capital utilisation. Lastly, the poverty alleviation ratio is expressed by means of the percentage of total household income that low-income households receive as a result of the existence of the CCI. The results of these three criteria are shown in table below, with a comparison between the results of the CCIs and the relevant averages for the overall South Africa economy.

Table 4.5: Economic Effectiveness Criteria of Cultural and Creative Industries (2016)

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
CCI Results	0.32	0.99	0.15
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total Economy	**0,37**	**0,92**	**0,16**

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, the CCI is average in terms of the total economy. The GDP/Capital ratio for the CCIs is 0.32 and that of the total economy is 0.37%. A better norm is to compare the CCI with the community, social and personal services sector where they are normally classified. In this case, the CCIs are much more effective – namely, they have a GDP/Capital ratio of 0.33 versus 0.25 of the community, social and personal services.

In relation to employment, the CCIs use capital more effective relative to the total economy, as well as in terms of the community, social and personal services. And in terms of poverty alleviation, the CCIs are just below the ratio of the total economy and just above the industry where it is mostly located. The reason for this is that, although the culture industry is relative labour intensive, it employed relatively more skilled personnel.

4.3 Macroeconomic impact assessment of individual cultural domains

In this section, the results of the macroeconomic impact of the individual domains are provided. It is important to note that the results of the individual domains add up to the total impact result as described above (section 4.2).

4.3.1 Cultural and Natural Heritage

The discussion below refers to the macroeconomic impacts assessment results of the Cultural and Natural Heritage sector. In Table 4.6 below, the contribution of this domain towards selected macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.6: Macroeconomic Impacts of Cultural and Natural Heritage (R million, 2016 prices)

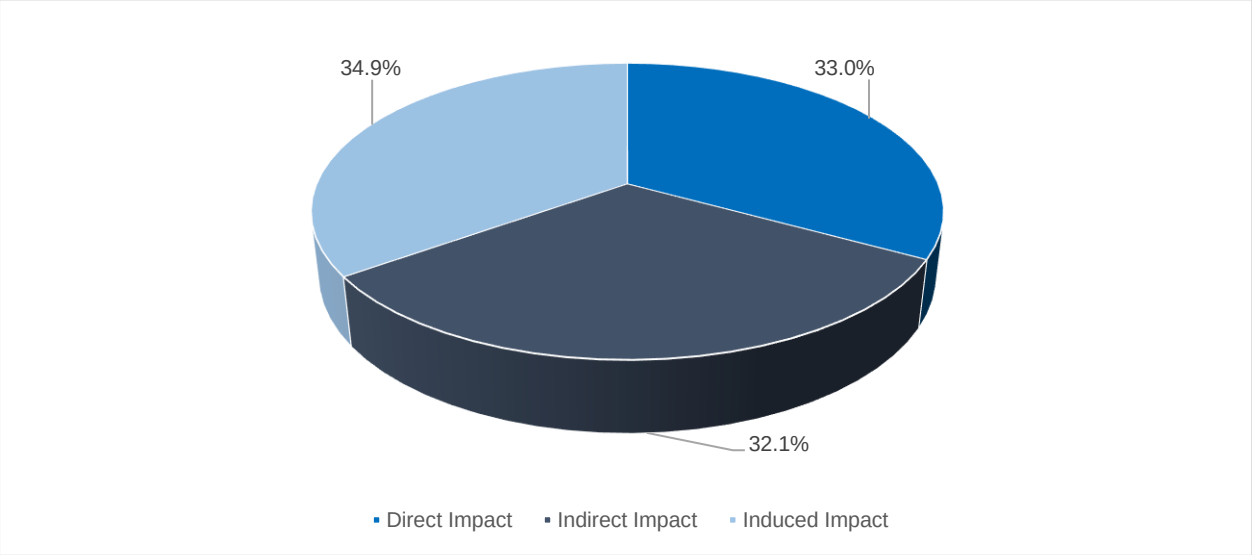
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	1839	1 790	1 942	5 571
Impact on capital usage [R million]	6540	5 482	5 390	17 412
Impact on employment [number of job opportunities]	8 272	4 261	5 101	17 634
- Skilled impact on employment [number of job opportunities]	4 051	2 151	2 042	8 243
- Semi-skilled impact on employment [number of job opportunities]	3 066	1 496	2 279	6 841
- Unskilled impact on employment [number of job opportunities]	1 155	614	780	2 550
Impact on Households [R million]				3 775
- Low Income Households [R million]				726
- Medium Income Households [R million]				1 018
- High Income Households [R million]				2 031
Fiscal Impact [R million]				1 390

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.1.1 Impact on GDP

From Table 4.6, it can be noted that this domain generated GDP of R5.6 billion in 2016, of which just over 38% is generated indirectly in the sector. The percentage contribution of this domain to the South African's GDP in terms of the direct, indirect, and induced impacts are reflected in Figure 4.4 below.

Figure 4.4: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

33% of the GDP was generated from the direct impact of this domain. It is important to note that there is a contribution of 32% from the indirect impact to the economic sectors, and also 35% of the GDP contribution was generated by the induced impact.

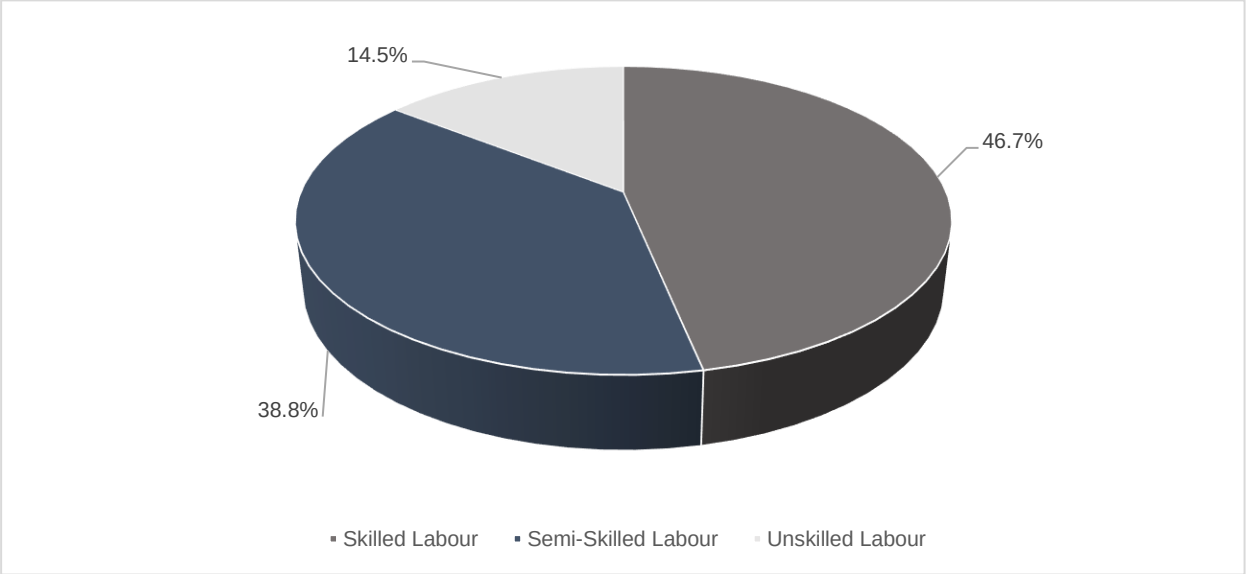
4.3.1.2 Impact on capital utilisation

This domain had a direct impact in terms of capital usage of about R6.5 billion in 2016.Moreover, it trigged ripple effects through indirect and induced capital usage of R5.5 and R5.4 billion respectively, throughout the economy of South Africa.

4.3.1.3 Impact of on employment

According to Table 4.6 above, this domain sustained a total of 17 634 employment in 2016. Figure 4.5 below illustrates the employment opportunities created by this domain in terms of level of skills.

Figure 4.5: Total Employment Impact based on the Skills Categories (%)



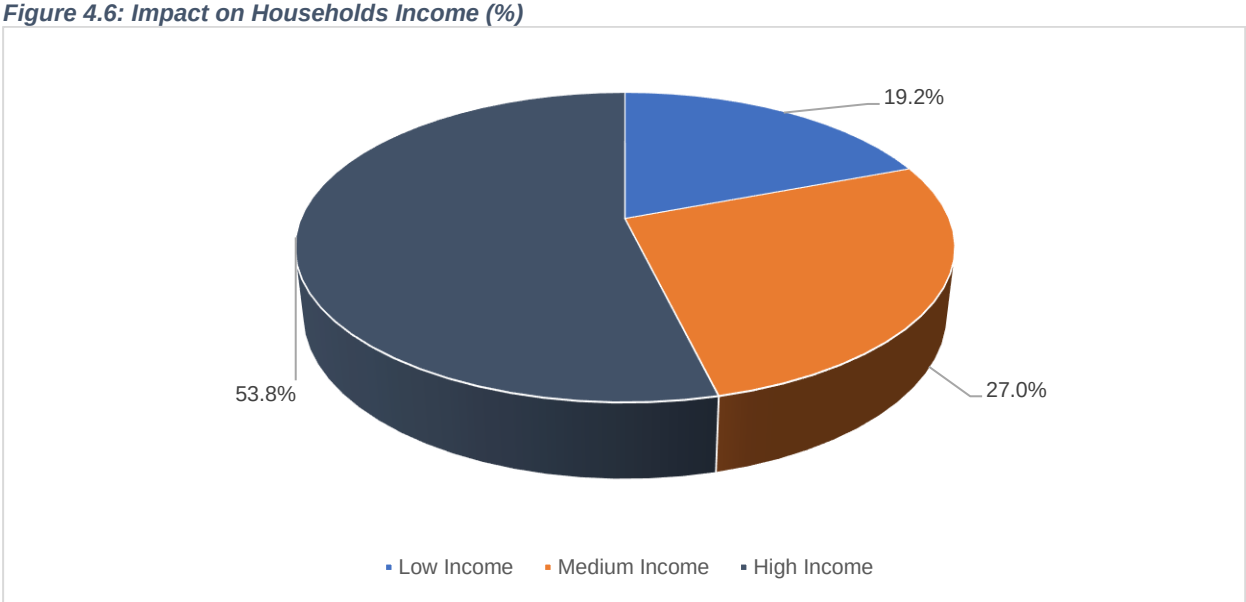
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 17 634 people employ in this domain, 46.7% of the jobs created falls into the skilled category. On the other hand, 38.8% and 14.5% of the jobs created were spread among semi-skilled and unskilled labour respectively.

4.3.1.4 Impact of on household income

Approximately R3.8 billion of household income was generated due to this domain, of which R726 million accrued to low-income households. The Figure below illustrates the percentage share of income by households group.

Figure 4.6: Impact on Households Income (%)



Source: Results generated by SAM based Macroeconomic Impact Assessment Model

Although most of the additional household income accrued to the high-income groups (approximately 54% increase in income), it should be noted that the medium and low-income groups should still benefit by 46% of the total increase in household income, which is a considerable increase in those particulars household's income groups.

4.3.1.5 Fiscal and potential socio-economic impacts

This domain will have a positive impact on government revenue, as shown in Table 4.7 below.

Table 4.7: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government	1 390

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.7, it can be deduced that just over an additional billion of national revenue was generated by this domain through taxation.

Table 4.8: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	391
Additional Hospital Beds Serviced	85
Additional Doctors	19
Additional Low-Cost Houses (RDP)	129

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.8 above, tax revenue resulting from the existence of this domain covered for: education facilities, which accommodated approximately 391 new educators; the provision of an additional 85 hospital beds; the employment of 18 doctors; and also 129 additional low-cost houses (RDP houses) in 2016.

4.3.1.6 Economic effectiveness criteria

The results of these three criteria are shown in the table below, which compares the results of this domain and the relevant averages for the overall South African economy.

Table 4.9: Economic Effectiveness Criteria of Cultural and Natural Heritage

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,32	1,01	0,19
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15

Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.32 and that of the total economy is 0.37. A better norm is actually to compare the CCI with the community, social and personal services where they are normally classified. In this case they are more effective, namely they have a GDP/Capital ratio of 0.32 versus 0.25 of the community, social and personal services. In relation to employment, this domain uses capital less effectively relative to the total economy, as well as in terms of the community, social and personal services.

4.3.2 Performance and Celebration

The discussion below refers to the macroeconomic impacts assessment results of the Performance and Celebration domain. In Table 4.10 below, the contribution of this domain towards selected macroeconomic indicators such as GDP, employment, capital usage, households' income distribution and fiscal impact are depicted.

Table 4.10: Macroeconomic Impacts of Performance and Celebration (R million, 2016 prices)

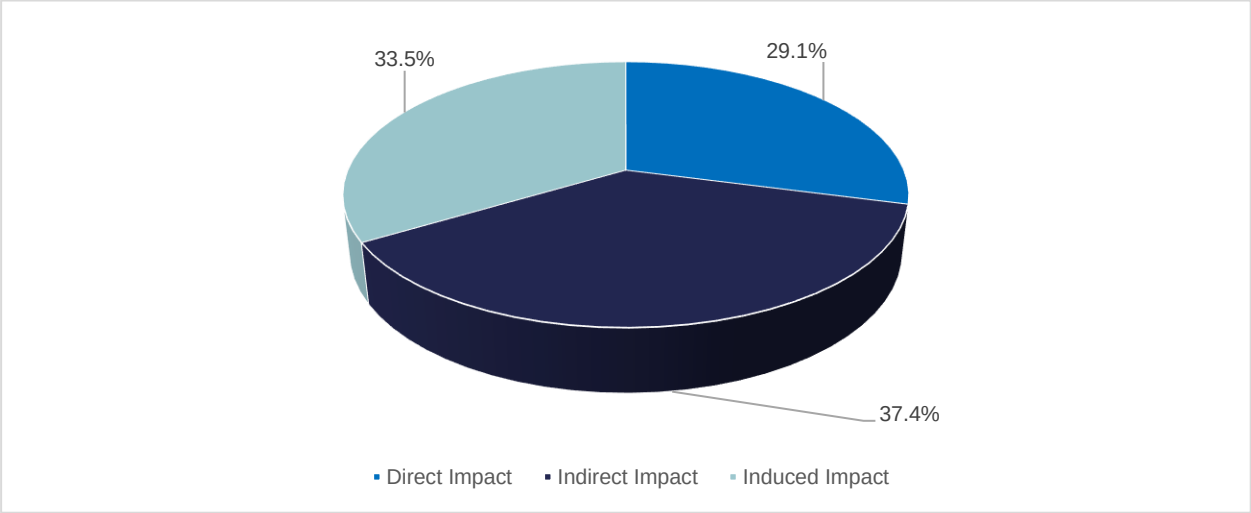
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	3 702	4 759	4 272	12 733
Impact on capital usage [R million]	15 517	14 612	11 868	41 997
Impact on employment [number of job opportunities]	14 233	11 825	11 206	37 265
- Skilled impact on employment [number of job opportunities]	7 651	5 708	4 492	17 851
- Semi-skilled impact on employment [number of job opportunities]	5 564	4 326	5 002	14 891
- Unskilled impact on employment [number of job opportunities]	1 019	1 791	1 712	4 522
Impact on Households [R million]				8 316
- Low Income Households [R million]				1 598
- Medium Income Households [R million]				2 178
- High Income Households [R million]				4 540
Fiscal Impact [R million]				3 280

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.2.1 Impact on GDP

From Table 4.10, it can be noted that the Performance and Celebration generated GDP of R12.7 billion in 2016, of which just over 37.4% is generated indirectly in other sectors through backward linkages. The percentage contribution of this domain to South African's GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.7: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

30% of the contribution to GDP was generated from the direct impact of this domain. It is important to note that there is a major contribution of 37.4% from the indirect impact to the economic sectors and 33.5% of the GDP contribution was generated by the induced impact.

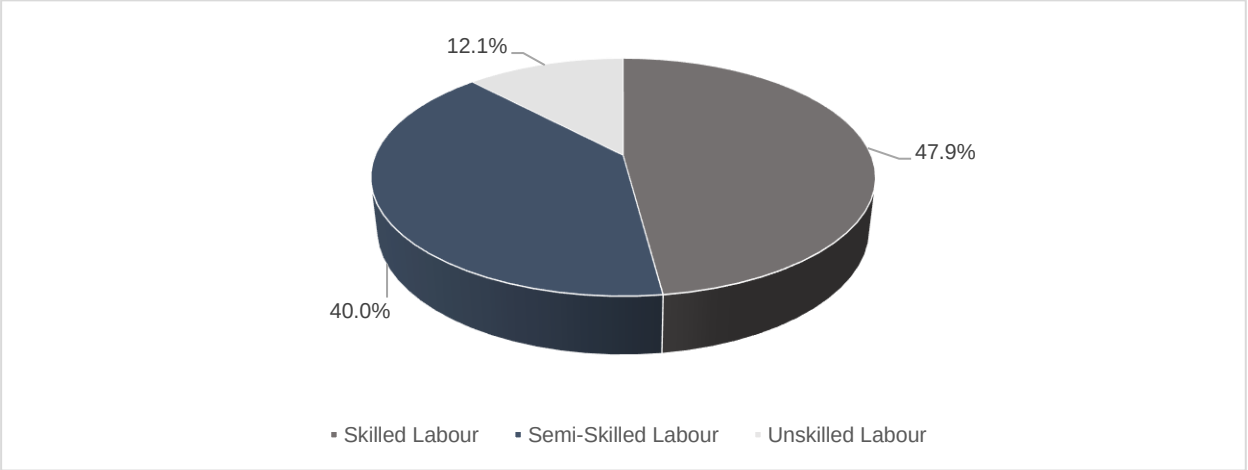
4.3.2.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R42 billion in 2016. Moreover, the domain trigged ripple effects through indirect and induced capital usage of R14 and R11.7 billion respectively, throughout the South African economy.

4.3.2.3 Impact on employment

According to Table 4.10 above, this domain sustained a total of 37,265 jobs in 2016. Figure 4.8 below illustrates the employment opportunities created by this domain in terms of labour skills.

Figure 4.8: Total Employment Impact based on the Skills Categories (%)



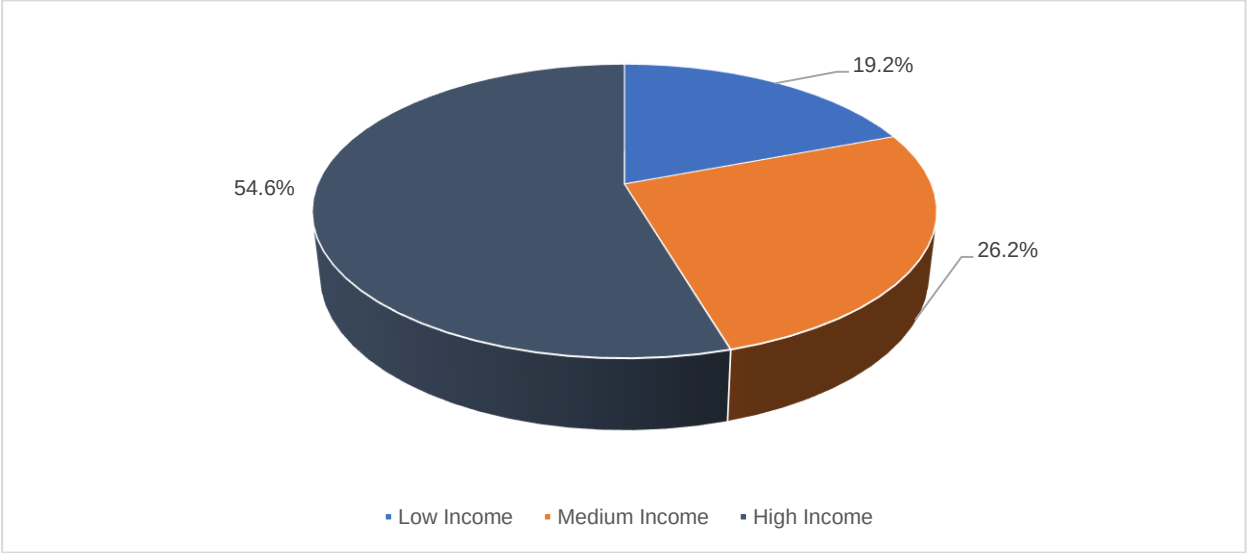
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 37 265 people employed in this domain, 47.9% of the jobs created falls into the skilled category. On the other hand, 40% and 12.1% of the jobs created were spread among semiskilled and unskilled labour respectively.

4.3.2.4 Impact on household income

Approximately R8 billions of household income was generated due to this domain, of which R1.5 billion accrued to low-income households. Figure 4.9 illustrates the percentage share of income by households group.

Figure 4.9: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the household income accrued to the high-income groups (approximately 54.6% increase in income), it should be noted that the medium and low-income groups benefited by 45.3% of the total increase in household income, which is a considerable increase in those particulars household's income groups.

4.3.2.5 Fiscal and potential socio-economic impacts

This domain will have a positive impact on government revenue, as shown in table below.

Table 4.11: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government [R million]	3 280

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From the table above, it can be observed that additional R3.3 billion of national revenue was generated by this domain through taxation.

Table 4.12: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	923
Additional Hospital Beds Serviced	202
Additional Doctors	44
Additional Low-Cost Houses (RDP)	304

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From the table above, the tax revenue of this domain was used to cover the cost of: 923 new educators; 202 hospital beds, 44 doctors; and also 304 additional low-cost houses (i.e. RDP houses) over the period provided.

4.3.2.6 Economic effectiveness criteria

The results of these three criteria are shown in table below, with a comparison between the results of this domain and the relevant averages for the overall South Africa economy.

Table 4.13: Economic Effectiveness Criteria of Performance and Celebration

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,30	0,89	0,19
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is lower in terms of the total economy. The GDP/Capital ratio for this domain is 0.30 and that of the total economy is 0.37. A better norm is to compare this domain with the community, social and personal services where they are normally classified. In this case they are much more effective, namely they have a GDP/Capital ratio of 0.30 versus 0.25 of the community, social and personal services. In relation to employment, this domain uses capital more effectively relative to the total economy and is more effective in terms of the community, social and personal services.

4.3.3 Visual Arts and Crafts

The discussion below refers to the macroeconomic impacts assessment results of the Visual Arts and Crafts domain. In Table 4.14 below, the contribution of the domain towards selected

macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.14: Macroeconomic Impacts of Visual Arts and Crafts (R million, 2016 prices)

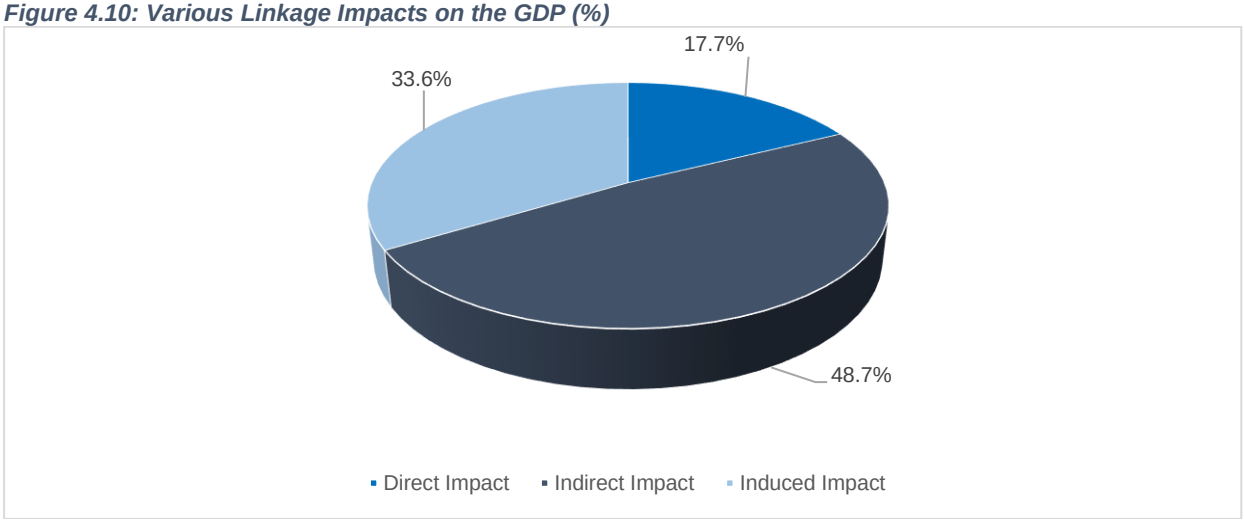
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	2 107	5 804	4 004	11 915
Impact on capital usage [R million]	10 552	14 240	11 087	35 880
Impact on employment [number of job opportunities]	17 200	12 114	10 423	39 737
- Skilled impact on employment [number of job opportunities]	5 221	5 639	4 222	15 082
- Semi-skilled impact on employment [number of job opportunities]	11 138	4 351	4 586	20 074
- Unskilled impact on employment [number of job opportunities]	841	2 123	1 616	4 580
Impact on Households [R million]				7 850
- Low Income Households [R million]				1 265
- Medium Income Households [R million]				1 942
- High Income Households [R million]				4 643
Fiscal Impact [R million]				3 841

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.3.1 Impact on GDP

From Table 4.14, it can be noted that this domain generated GDP of R11.9 billion in 2016, of which just over 48% is generated indirectly. The percentage contribution of this domain to South African's GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.10: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

It is important to note that there is a major contribution of 48.7% flows from the indirect impact to the economic sectors. However, 34% of the GDP contribution is generated by the induced impact and 18% of the industry's contribution to GDP was generated from the direct impact of this domain.

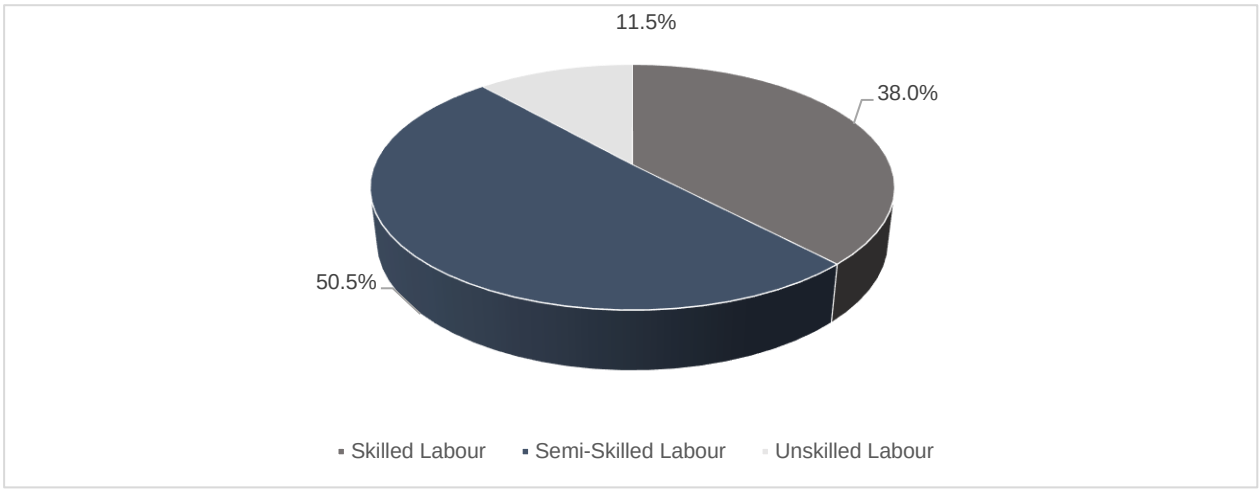
4.3.3.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R10.6 billion in 2016. Moreover, the domain trigged ripple effects through indirect and induced capital usage of R14 and R11 billion respectively, throughout the economy of South Africa.

4.3.3.3 Impact on employment

According to Table 4.14 above, this domain sustained a total of 39 737 jobs. Figure 4.11 below illustrates the employment opportunities created by this domain in terms of level of skills.

Figure 4.11: Total Employment Impact based on the Skills Categories (%)



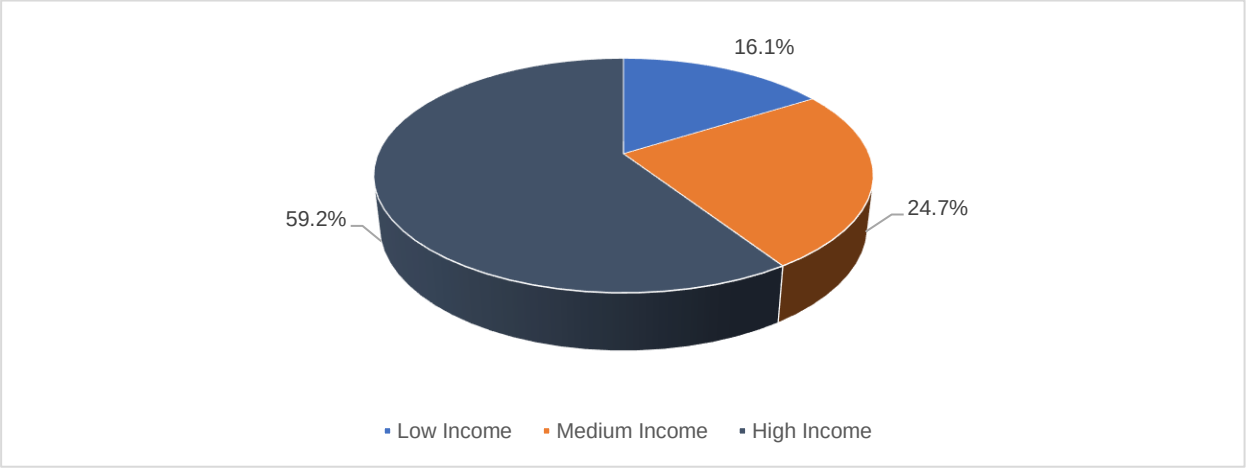
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 39 737 people employed in this domain, 50.5% of the jobs created falls under skilled labour category, and38% and 11.5% of the jobs created were shared among semiskilled and unskilled labour respectively.

4.3.3.4 Impact on household income

Approximately R7.8 billion in household income was generated in 2016, of which approximately R1.2 billion accrued to low-income households, thereby contributing to the government's target of poverty alleviation. Figure 4.12 illustrates the percentage share of income by households group.

Figure 4.12: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the household income accrued to the high-income groups (approximately 59% increase in income), it should be noted that the medium and low-income groups should still benefit by 41% of the total increase in household income, which is a considerable increase in those particulars household's income groups.

4.3.3.5 Fiscal and potential socio-economic impacts

This domain will have a positive impact on government revenue, as shown in Table 4.15 below.

Table 4.15: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government [R million]	3 841

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.16, it can be observed that additional R3.9 billion of national revenue was generated by this domain through taxation.

Table 4.16: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	1 059
Additional Hospital Beds Serviced	232
Additional Doctors	51
Additional Low-Cost Houses (RDP)	349

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.16 above, the tax revenue of this domain was used to cover the cost of: 1 059 new educators; 232 hospital beds and51 doctors; and also 349 additional low-cost houses (i.e. RDP houses) over the period provided.

4.3.3.6 Economic effectiveness criteria

The results of the three criteria are shown in table below, with a comparison between the results of this domain and the relevant averages for the overall South African economy.

Table 4.17: Economic Effectiveness Criteria of Visual Arts and Crafts

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,33	1,11	0,16
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.33 and that of the total economy is 0.37. A better norm is to compare this domain with the community, social and personal services where they are normally classified. In relation to employment, this domain uses capital less effectively relative to the total economy, as well as in terms of the community, social and personal services.

4.3.4 Books and Press

The discussion below refers to the macroeconomic impacts assessment results of the Book and Press domain. In Table 4.18 below, the contribution of the domain towards selected macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.18: Macroeconomic Impacts of Books and Press (R million, 2016 prices)

	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	8 722	9 027	8 879	26 628
Impact on capital usage [R million]	26 038	27 537	24 411	77 985
Impact on employment [number of job opportunities]	26 054	24 563	23 231	73 849
- Skilled impact on employment [number of job opportunities]	7 251	11 022	9 369	27 642
- Semi-skilled impact on employment [number of job opportunities]	16 264	10 061	10 211	36 536
- Unskilled impact on employment [number of job opportunities]	2 540	3 480	3 650	9 670
Impact on Households [R million]				17 427
- Low Income Households [R million]				2 827
- Medium Income Households [R million]				4 274
- High Income Households [R million]				10 325

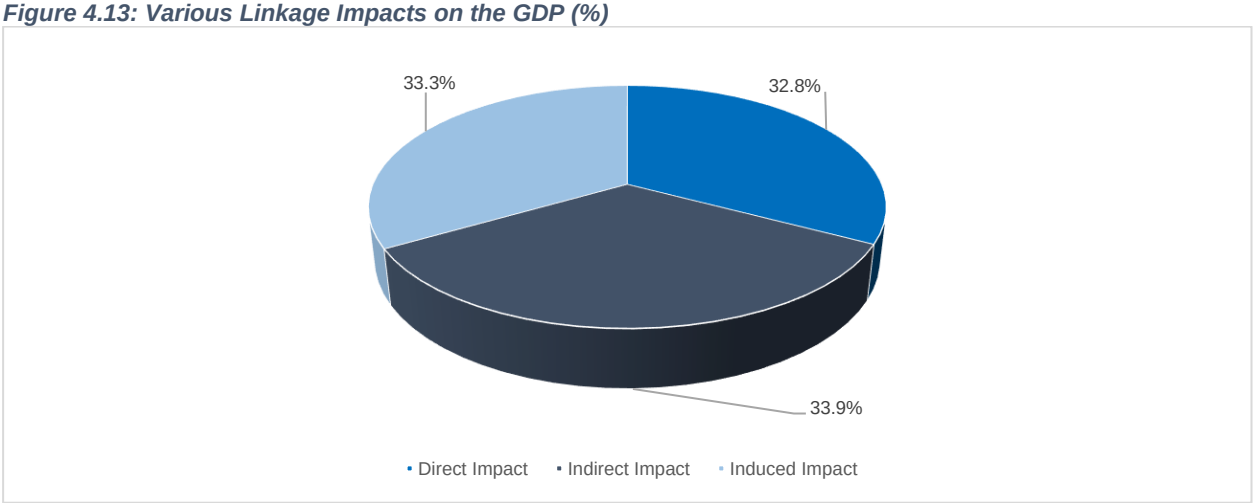
Fiscal Impact [R million]				6 350

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.4.1 Impact on GDP

From Table 4.18, it can be noted that this domain generated a GDP of R26.6 billion over the programming period, of which just over 51% was generated by the indirect and induced impact through the backward linkage. The percentage contribution of Books and Press to the South African's GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.13: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

33% of the industry's contribution to GDP was generated from the direct impact of this domain. It is important to note that there is a major contribution of 34% flows from the indirect impact to the economic sectors and 33% of the GDP contribution is generated by the induced impact.

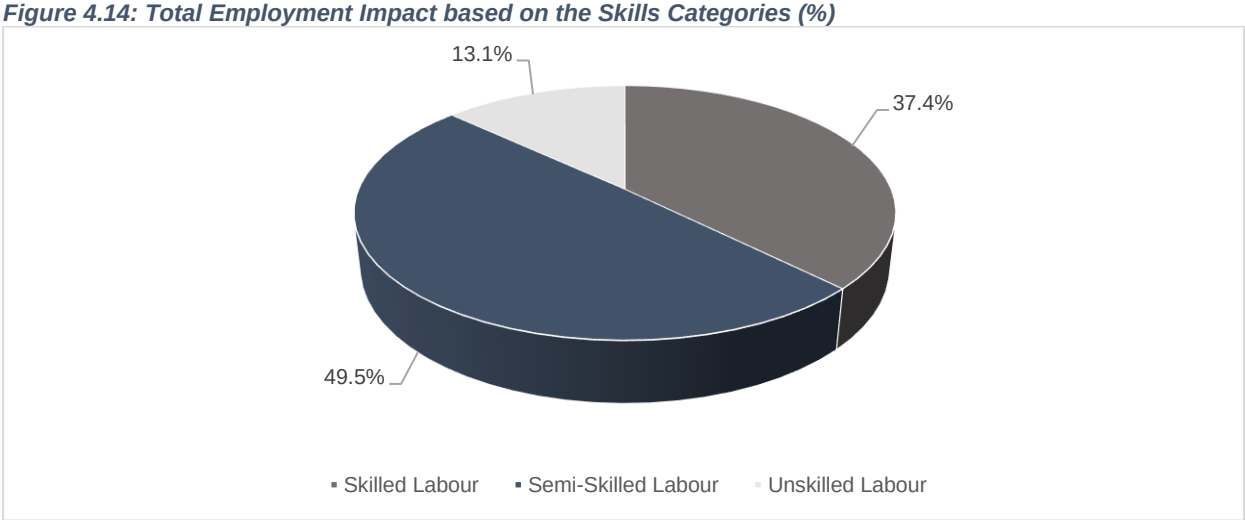
4.3.4.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R26 billion in 2016. Moreover, the domain trigged ripple effects through indirect and induced capital usage of R25.5 and R23.2 billion respectively throughout the economy of South Africa.

4.3.4.3 Impact on employment

According to Table 4.18 above, this domain sustained a total of 73 849 jobs in 2016. Figure 4.14 illustrates the employment opportunities created by the Books and Press Domain in terms of labour skills.

Figure 4.14: Total Employment Impact based on the Skills Categories (%)



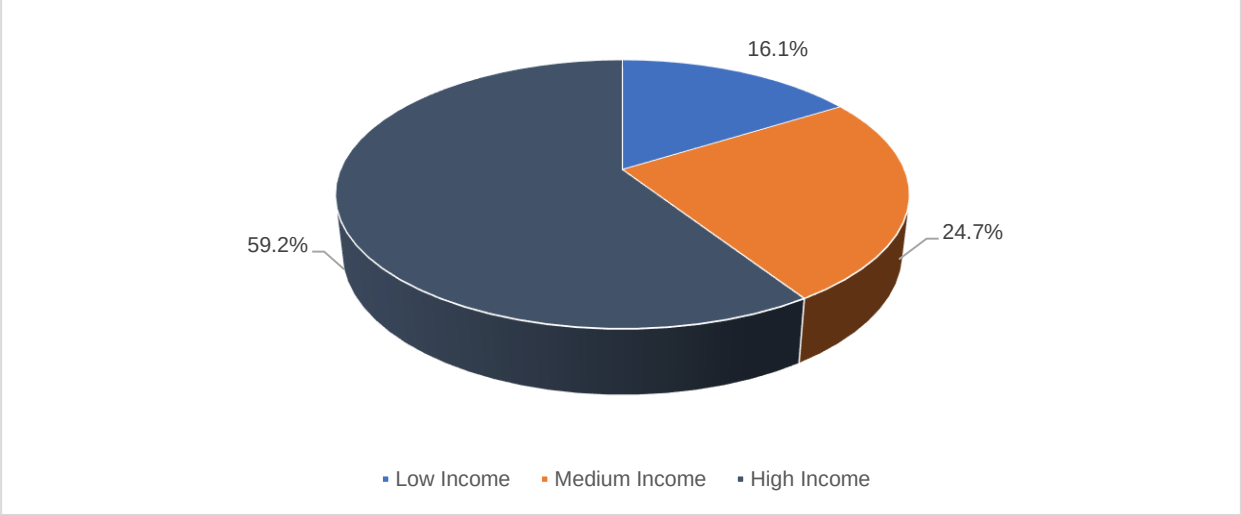
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 73 849 employment created in this domain, 49.5% of the jobs created falls under semi-skilled category, 37.4% and 13% of the jobs created was shared among skilled and unskilled labour respectively.

4.3.4.4 Impact on household income

Approximately R17 billion in additional household income was generated, of which approximately R2.8 billion accrued to low-income households, thereby contributing to the government's target of poverty alleviation. Figure 4.15 illustrates the percentage share of income by households group.

Figure 4.15: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the additional household income accrued to the high-income groups (approximately 59.2% increase in income), it should be noted that the medium and low-income

groups benefited by 40% of the total increase in household income which is a considerable increase in those particulars household's income groups.

4.3.4.5 Fiscal and potential socio-economic impacts

This domain will have a positive impact on government revenue, as shown in Table 4.19 below.

Table 4.19: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government	6 350

Source: Results generated by SAM based Macroeconomic Impact Assessment Model

From Table 4.20, it can be observed that R3.8 billion of national revenue was generated by this domain through taxation.

Table 4.20: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	1 776
Additional Hospital Beds Serviced	388
Additional Doctors	85
Additional Low-Cost Houses (RDP)	585

Source: Results generated by SAM based Macroeconomic Impact Assessment Model

From Table 4.20 above, the government revenue generated by this domain potentially covered the cost of: 1776 new educators; 388 hospital beds; 85 doctors; and 585 additional low-cost houses (i.e. RDP houses) in 2016.

4.3.4.6 Economic effectiveness criteria

The results of the three effectiveness criteria are shown in table below, with a comparison between the results of this domain and the relevant averages for the overall South African economy.

Table 4.21: Economic Effectiveness Criteria of Books and Press

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,34	0,95	0,16
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.34 and that of the total economy is 0.37. A better norm is actually to compare this domain with the business services where they are normally classified. In this case the domain is less effective compare to business services namely they have a GDP/Capital ratio of 0.34 versus 0.38 of the business services. In relation to employment, this domain is better compared to the total economy and also more effective compared to the business services sector.

4.3.5 Audio–visual and Interactive Media

The discussion below refers to the macroeconomic impacts assessment results of the Audio-visual and Interactive Media domain. In Table 4.22 below, the contribution of the domain towards selected macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.22: Macroeconomic Impacts of Audio-visual and Interactive Media (R million, 2016 prices)

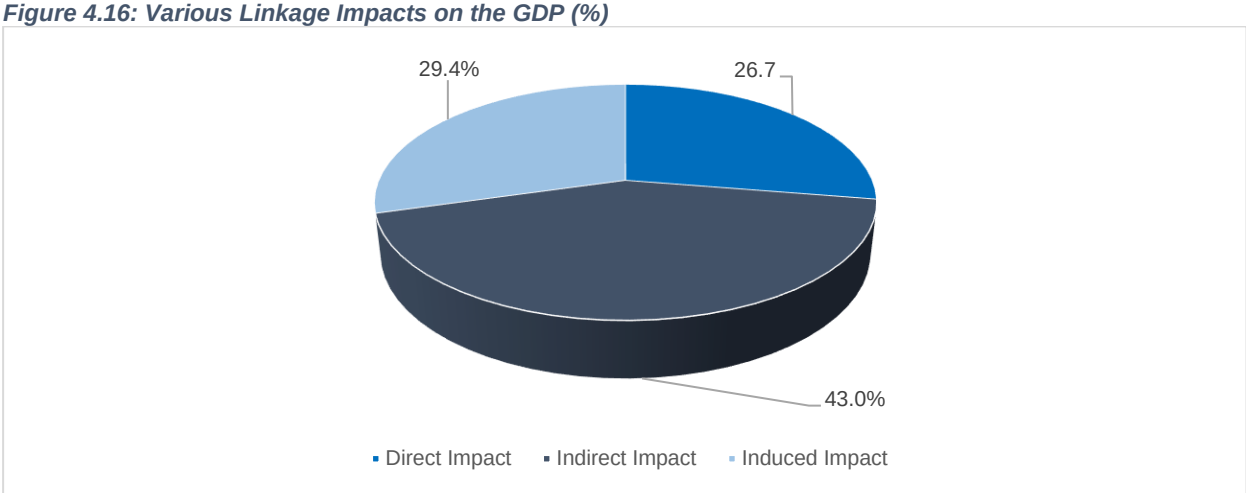
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	10 479	17 272	11 549	39 299
Impact on capital usage [R million]	52 434	50 087	31 925	134 446
Impact on employment [number of job opportunities]	43 746	41 808	30 029	115 582
- Skilled impact on employment [number of job opportunities]	30 202	20 501	12 188	62 892
- Semi-skilled impact on employment [number of job opportunities]	11 075	15 160	13 162	39 398
- Unskilled impact on employment [number of job opportunities]	2 468	6 146	4 678	13 292
Impact on Households [R million]				22 680
- Low Income Households [R million]				3 393
- Medium Income Households [R million]				5 441
- High Income Households [R million]				13 846
Fiscal Impact [R million]				10 184

Source: Results generated by SAM based Macroeconomic Impact Assessment Model

4.3.5.1 Impact on GDP

From Table 4.22, it can be noted that this domain generated a GDP of R39 billion in 2016, of which just over 73% was generated by the indirect and induced impact through the backward linkage. The percentage contribution of BP to South African's GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.16: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

It is important to note that there is a major contribution of 43% flows from the indirect impact to the economic sectors. However, 29% of the GDP contribution is generated by the induced impact and 27% of the industry's contribution to GDP was generated from the direct impact of this domain.

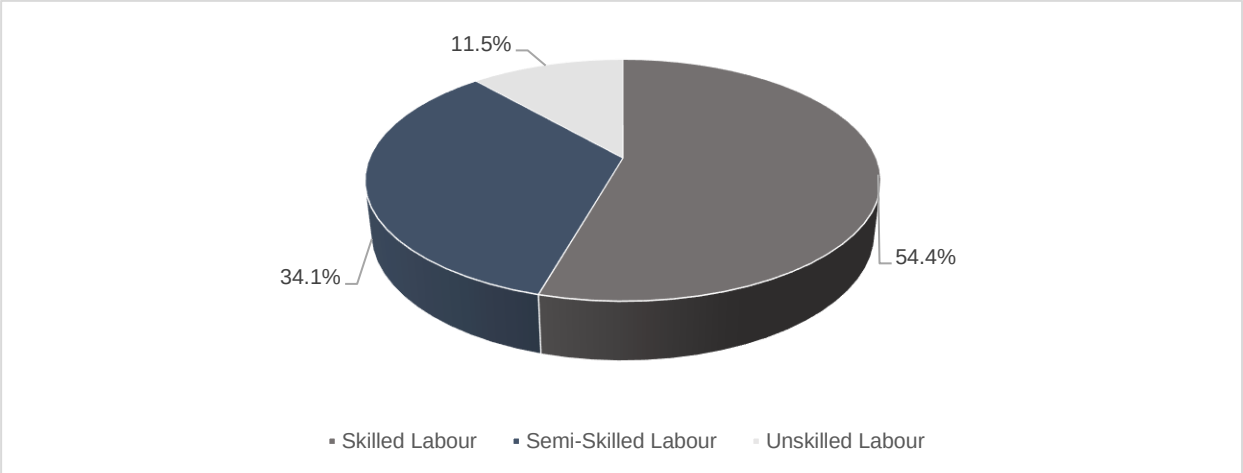
4.3.5.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R52 billion in 2016, moreover the domain trigged ripple effects through indirect and induced capital usage of R50 and R32 billion respectively, throughout the economy of South Africa.

4.3.5.3 Impact on employment

According to Table 4.22 above, this domain sustained a total of 115 582 jobs in 2016. Figure 4.17 below illustrates the employment opportunities created by the Audio and Interactive Media domain in terms of labour skills.

Figure 4.17: Total Employment Impact based on the Skills Categories (%)



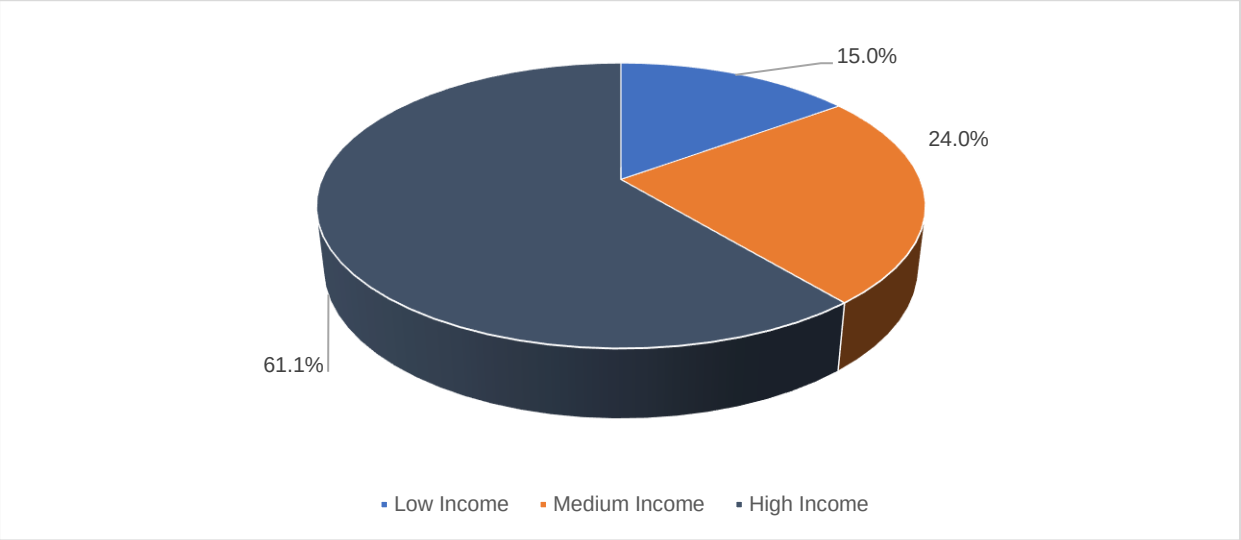
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 115 582 employment created in this domain, 54% of the jobs created falls under skilled category, 34% and 11.5% of the jobs created was shared among semi-skilled and unskilled labour respectively.

4.3.5.4 Impact on household income

Approximately R23 billion in additional household income will be generated, of which approximately R3 billion will accrue to low-income households, thereby contributing to the government's target of poverty alleviation. Figure 4.18 illustrates the percentage share of income by households group.

Figure 4.18: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the additional household income accrued to the high-income groups (approximately 61% increase in income), it should be noted that the medium and low-income groups benefited by 39% of the total increase in household income, which is a considerable increase in those particulars household's income groups.

4.3.5.5 Fiscal and potential socio-economic impacts

This domain will have a positive impact on government revenue, as shown in Table 4.23 below.

Table 4.23: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government [R million]	10 184

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.23, it can be observed that additional R11 billions of national revenue was generated by this domain through taxation.

Table 4.24: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	2 878
Additional Hospital Beds Serviced	629
Additional Doctors	137
Additional Low-Cost Houses (RDP)	949

Source: Results generated by SAM based Macroeconomic Impact Assessment Model

From Table 4.24 above, government revenue generated by this domain in 2016 covered the cost of: 2 878 new educators; 629 hospital beds; 137 doctors; and 949 additional low-cost houses (i.e. RDP houses).

4.3.5.6 Economic effectiveness criteria

The results of the three effectiveness criteria are shown in table below, with a comparison between the results of this domain and the relevant averages for the overall South African economy.

Table 4.25: Economic Effectiveness Criteria of Audio-visual and Interactive Media

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,31	1,16	0,15
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.31 and that of the total economy is 0.37. A better norm is actually to compare this domain with the business services where they are normally classified. In this case the domain is less effective compare to business services namely they have a GDP/Capital ratio of 0.31 versus 0.38 of the business services. In relation to employment, this domain fairs relatively better compared to the total economy and the business services sector.

4.3.6 Design and Creative Services

The discussion below refers to the macroeconomic impacts assessment results of the Design and Creative Services domain. In Table 4.26 below, the contribution of the domain towards selected macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.26: Macroeconomic Impacts of Design and Creative Services (R million, 2016 prices)

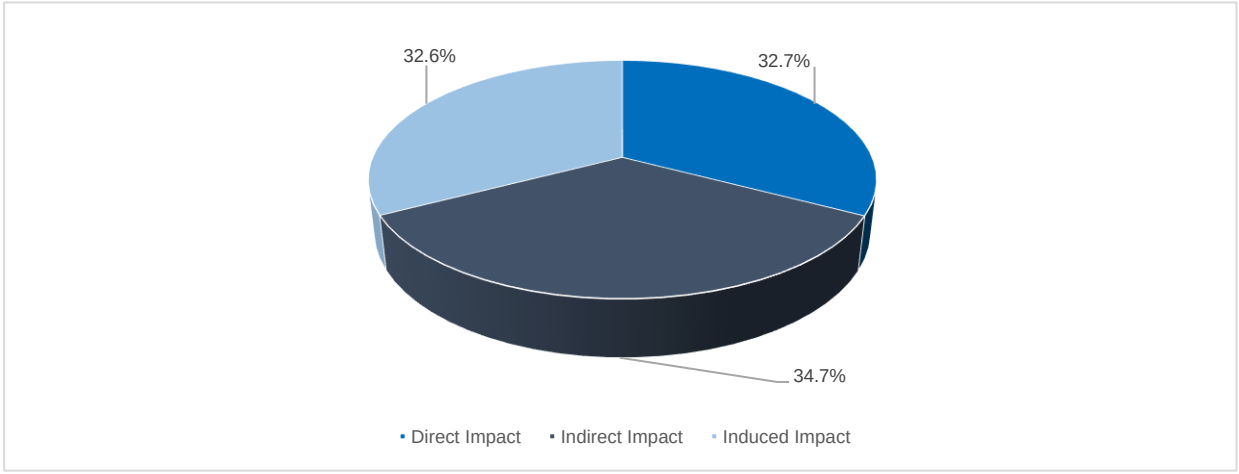
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	31002	32843	30938	94783
Impact on capital usage [R million]	125496	96836	85603	307935
Impact on employment [number of job opportunities]	123725	83590	79992	287307
- Skilled impact on employment [number of job opportunities]	88359	39908	32670	160937
- Semi-skilled impact on employment [number of job opportunities]	29341	31435	34843	95620
- Unskilled impact on employment [number of job opportunities]	6024	12247	12478	30750
Impact on Households [R million]				60807
- Low Income Households [R million]				8381
- Medium Income Households [R million]				14196
- High Income Households [R million]				38229
Fiscal Impact [R million]				26686

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.6.1 Impact on GDP

From Table 4.26, it can be noted that this domain generated a GDP of R95 billion in 2016, of which just over 67% was generated by the indirect and induced impact through the backward linkage. The percentage contribution of Design and Creative Services to the South African GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.19: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

It can be noted that there is a major contribution of 33% flows from the direct impact to the economic sectors. However, 67% of the GDP contribution is generated by the indirect and indirect impact equally from this domain.

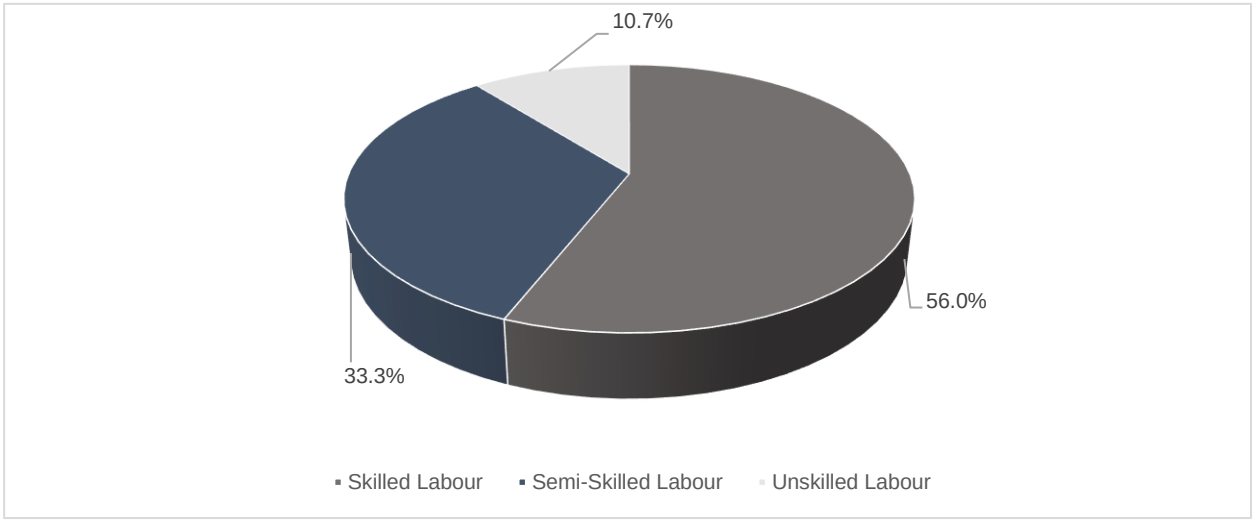
4.3.6.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R125 billion in 2016. Moreover, the domain trigged ripple effects through indirect and induced capital usage of R97 and R85 billion respectively, throughout the economy of South Africa.

4.3.6.3 Impact on employment

According to Table 4.26 above, this domain sustained a total of 287 307 in 2016. Figure 4.20 below illustrates the employment opportunities created by the DCS in terms of labour skills.

Figure 4.20: Total Employment Impact based on the Skills Categories (%)



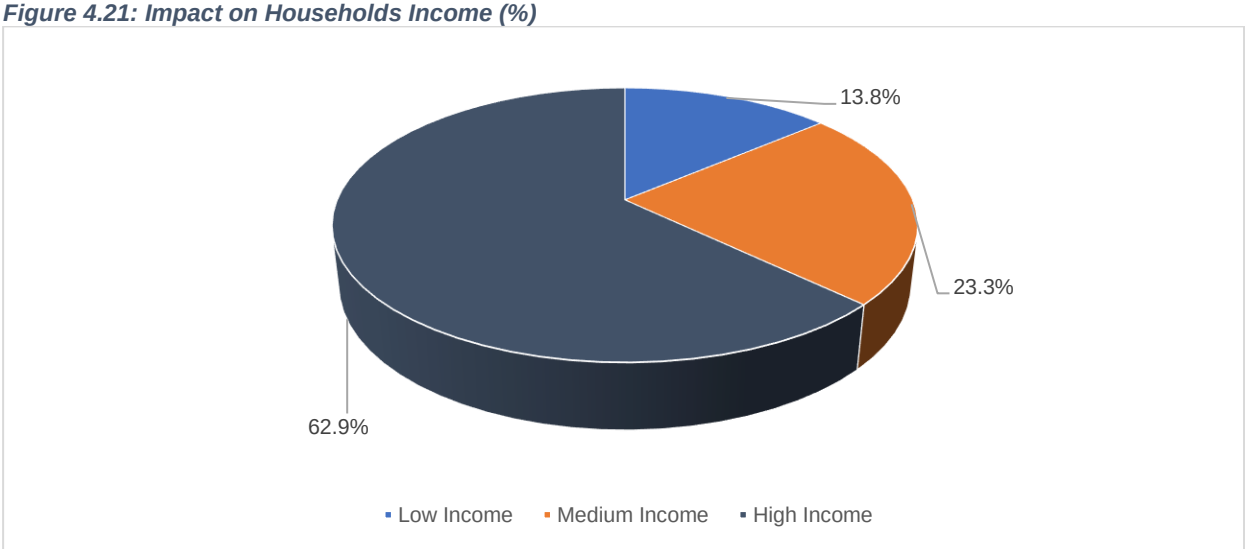
Source: Results generated by SAM based Macroeconomic Impact Assessment Model

From a total estimation of 287 307 employment created in this domain, 56% of the jobs created falls under skilled category, 33% and 11% of the jobs created was shared among semi-skilled and unskilled labour respectively.

4.3.6.4 Impact on household income

Approximately R61 billion in additional household income will be generated, of which approximately R8.4 billion will accrue to low-income households, thereby contributing to the government's target of poverty alleviation.

Figure 4.21: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Mode)

Although most of the additional household income accrued to the high-income groups (approximately 63% increase in income), it should be noted that the medium and low-income groups benefited by 37% of the total increase in household income which is a considerable increase in those particulars household's income groups.

4.3.6.5 Fiscal and potential socio-economic impact

The Design and Creative Services domain will have a positive impact on government revenue, as shown in Table 4.27 below.

Table 4.27: Fiscal Impact (R million, 2016 prices)

Level of Impact on Government Revenue	R million
National Government [R million]	26 686

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.27, it can be observed that additional R27 billion of national revenue was generated by this domain through taxation.

Table 4.28: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	7 507
Additional Hospital Beds Serviced	1 641
Additional Doctors	358
Additional Low-Cost Houses (RDP)	2 475

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.28 above, government revenue generated by this domain in 2016 covered the cost of: 7 507 new educators; 1 641 hospital beds; 358 doctors; and 2475 additional low-cost houses (i.e. RDP houses).

4.3.6.6 Economic effectiveness criteria

The results of these three criteria are shown in table below, with a comparison between the results of this domain and the relevant averages for the overall South Africa economy.

Table 4.29: Economic Effectiveness Criteria of Design and Creative Services

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,31	0,93	0,14
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16
Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

Source: Results generated by SAM based Macroeconomic Impact Assessment Model

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.31 and that of the total economy is 0.37. A better norm is actually to compare this domain with the business services where they are normally classified. In this case the domain is less effective compare to business services namely they have a GDP/Capital ratio of 0.33 versus 0.83 of the business services. In relation to employment, this domain is more effective compared to the total economy and the business services sector.

4.3.7 Transversal Domain and Cultural Education

The discussion below refers to the macroeconomic impacts assessment results of the Transversal Domains and Cultural Education domain. In Table 4.30 below, the contribution of these domains towards selected macroeconomic indicators (such as GDP, employment, capital usage, households' income distribution and fiscal impact) are depicted.

Table 4.30: Macroeconomic Impacts of Transversal Domain and Cultural Education (R million, 2016 prices)

	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Impact on Gross Domestic Product (GDP) [R million]	6 890	22 522	12 635	42 047
Impact on capital usage [R million]	24 494	71 691	35 152	131 336

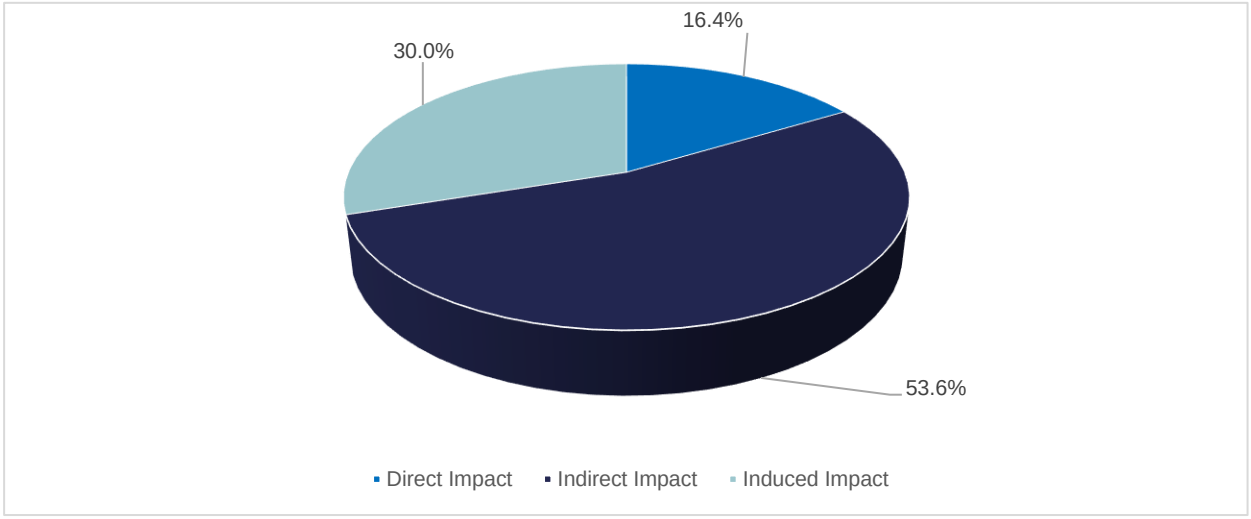
Impact on employment [number of job opportunities]	28 607	53 264	32 642	114 513
- Skilled impact on employment [number of job opportunities]	28 607	26 929	13 322	68 858
- Semi-skilled impact on employment [number of job opportunities]	-	18 697	14 293	32 990
- Unskilled impact on employment [number of job opportunities]	-	7 638	5 027	12 666
Impact on Households [R million]				24 724
- Low Income Households [R million]				3 656
- Medium Income Households [R million]				6 041
- High Income Households [R million]				15 028
Fiscal Impact [R million]				9 819

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

4.3.7.1 Impact on GDP

From Table 4.30, it can be noted that this domain generated a GDP of R42 billion in 2016, of which just over 83% was generated by the indirect and induced impact through the backward linkage. The percentage contribution of this domain to the South African GDP in terms of the direct, indirect, and induced impacts are reflected in the figure below.

Figure 4.22: Various Linkage Impacts on the GDP (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

It can be noted that there is a major contribution of 53% flows from the indirect impact to the economic sectors. However, 30% and 16% of the GDP contribution was generated by the induced and indirect impact respectively.

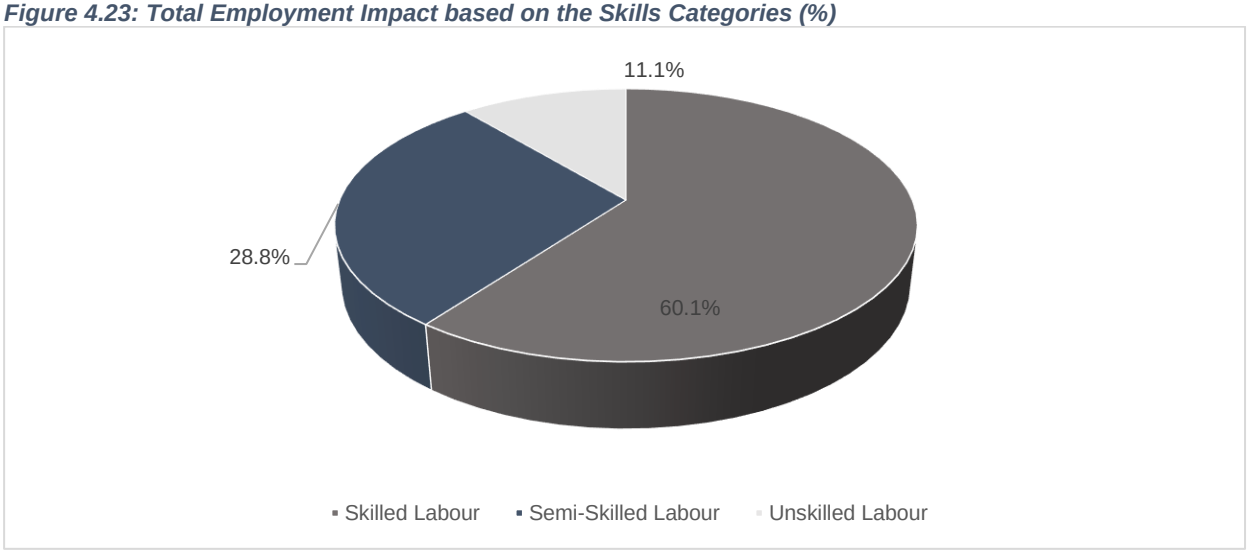
4.3.7.2 Impact on capital usage

This domain had a direct impact in terms of capital usage of about R24 billion in 2016. Moreover, the domain trigged ripple effects through indirect and induced capital usage of R72 and R35 billion respectively, throughout the economy of South Africa.

4.3.7.3 Impact on employment

According to Table 4.30 above, this domain sustained a total of 114 513 jobs in 2016. Figure 4.24 below illustrates the employment opportunities created by this domain in terms of labour skills.

Figure 4.23: Total Employment Impact based on the Skills Categories (%)



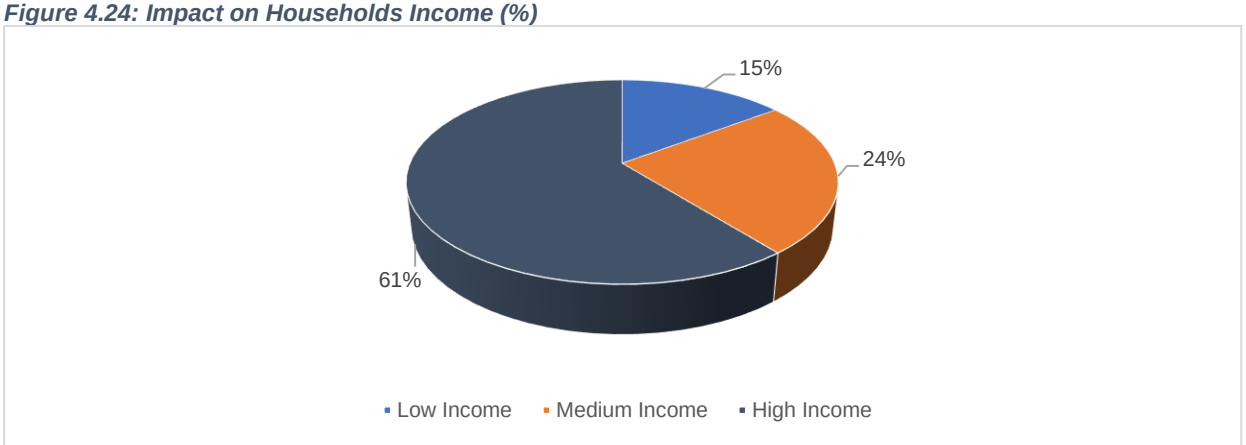
(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From a total estimation of 114 513 employment created in this domain, 60% of the jobs created falls under skilled category, 29% and 11% of the jobs created was shared among semi-skilled and unskilled labour respectively.

4.3.7.4 Impact on household income

Approximately R24.7 billion in additional household income will be generated, of which approximately R3.6 billion will accrue to low-income households, thereby contributing to the State's target of poverty alleviation. The Figure below illustrates the percentage share of income by households group.

Figure 4.24: Impact on Households Income (%)



(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

Although most of the additional household income accrued to the high-income groups (approximately 61% increase in income), it should be noted that the medium and low-income groups benefited by 39% of the total increase in household income which is a considerable increase in those particulars household's income groups.

4.3.7.5 Fiscal and potential socio-economic impacts

The Transversal Domain and Cultural Education will have a positive impact on government revenue, as shown in Table 4.31 below.

***Table 4.31: Fiscal Impact (R million, 2016 prices)**:*

Level of Impact on Government Revenue	R million
National Government	9 819

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.31, it can be observed that additional R10 billions of national revenue was generated by this domain through taxation.

Table 4.32: Socio-economic Impacts

Social Indicators	Number per year
Additional Educators	2 702
Additional Hospital Beds Serviced	590
Additional Doctors	129
Additional Low-Cost Houses (RDP)	891

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

From Table 4.32 above, government revenue generated by this domain in 2016 covered the cost of: 2 702 new educators; 590 hospital beds; 129 doctors; and 891 additional low-cost houses (i.e. RDP houses).

4.3.7.6 Economic effectiveness criteria

The results of these three criteria are shown in table below, with a comparison between the results of the Cultural Education and the relevant averages for the overall South Africa economy.

Table 4.33: Economic Effectiveness Criteria of Transversal Domain and Cultural Education

	GDP/Capital Ratio	Labour/Capital Ratio	Low/Total Income Households Ratio
Theme Results	0,32	0,87	0,15
Comparative Sectoral Results			
Agriculture, hunting, forestry and fishing	0,28	1,56	0,15
Mining and quarrying	0,77	1,61	0,14
Manufacturing	0,37	0,91	0,16

Electricity, gas and water supply	0,23	0,26	0,15
Construction	0,48	1,42	0,16
Wholesale and retail trade	0,54	1,38	0,23
Transport, storage and communication	0,32	0,60	0,19
Financial, insurance, real estate and business services	0,38	0,83	0,15
Community, social and personal services	0,25	0,78	0,14
Total	0,37	0,92	0,16

(Source: Results generated by SAM based Macroeconomic Impact Assessment Model)

With regard to the GDP/Capital ratio, this domain is less effective in terms of the total economy. The GDP/Capital ratio for this domain is 0.32 and that of the total economy is 0.37. A better norm is to compare this domain with the Community, social and personal services where they are normally classified. In this case the domain is more effective compare to Community, social and personal services, namely they have a GDP/Capital ratio of 0.32 versus 0.25 of the business services. In relation to employment, this domain is less effective compared to the total economy, but is the same as the Community, social and personal services sector

5. Conclusion

In this study, the macroeconomic impact of the CCI sector in South Africa was determined by making use of the CSA that is embedded in the CCI SAM and the Macroeconomic Impact Assessment Model (MIAM). The main advantage of this study is that it has been performed on a very detail basis. Clearly, data can only be enhanced when it can be broken down to such an extent that it can be referenced to practical examples in the economy. From the reports analysis, it is clear that South Africa's CCI sector has a sizeable impact on the economy. The essence of the total macroeconomic impact results can be summarized as follows (all figures for 2016):

- The impact of the creative economy (which incorporates the CCIs and the ACH sectors) on the GDP of South Africa was approximately R232 977 billion;
- The usage of capital (directly, indirectly and induced) was estimated to be R74 billion;
- The CCIs sustained 685 886 job opportunities (direct, indirect, and induced);
- The total impact on household income amounted to R145.6 billion, of which 15% was earmarked for lower-income households. Thus, of the total income generated directly and indirectly through the CCIs, a significant percentage reached the poor communities in South Africa;
- The annual fiscal impact of the CCIs amounted to approximately R61.5 billion per annum through direct and indirect taxes. The sector financed the following socioeconomic services:
    - 18 395 educators;
    - 4 020 hospital beds;
    - 877 doctors; and
    - 6 06 low-cost houses (i.e.RDP houses); and

- In terms of the effectiveness of the use of capital for job creation within the South African economy, the CCIs performed above the national average. This specifically relates to the average of the economy and the sector where the CCIs are mostly located, namely the community, social and personal services.

6. Appendix A: Definition of Macroeconomic Aggregates

Impact analysis was based on a number of standard economic parameters and the results were presented under the following headings:

- Impact on Gross Domestic Product (GDP);
- Impact on Capital Utilisation;
- Impact on Employment Creation;
    - Skilled labourers
    - Semi-skilled labourers
    - Unskilled labourers
- Impact on Households Income (Income distribution);
- Fiscal Impact;
- Impact on Balance of Payments, as a result of Imports and Exports;
- Social Impacts; and
- Efficiency Criteria

The following is a brief overview of the definition of each of these economic parameters.

6.1 GDP/Value Added

GDP reflects the annual total value of goods and services produced in a country's border. It is used to measure indicators such as economic growth and standard of living (GDP per capita).

GDP consists of three elements namely:

- Remuneration of employees.
- Gross operating surplus (which includes profit and depreciation).
- Net indirect taxes.

6.2 Impact on Capital Utilisation

Capital investment refers to an acquisition of capital assets or fixed assets such as buildings, manufacturing plants, machinery and equipment, etc. Capital, together with labour and entrepreneurship, are the basic factors of production needed in an economy. The effectiveness and efficiency with which these factors of production are combined influence the overall level of productivity/profitability processes, bearing in mind that productivity is affected by an array of factors of which appropriate technology and skill level of the labour force are two important elements**.**

6.3 Employment Creation

Labour is a key element of the production process and is also an indicator of the economic distribution of wealth. This study determined the number of new employment opportunities that will be created by the investment and operation of the Cultural and Creative Industries.

6.4 Household Income

One of the elements of the additional value added (i.e. GDP) emanates from the economic activities of the Cultural and Creative Industries is remuneration of employees, which, in turn, affects household income. The MEIA measures the magnitude of changes that will occur to household income and spending/savings patterns. As such, this study highlights the impact of the Cultural and Creative Industries on poverty alleviation throughout the economy.

6.5 Fiscal Impact (Government Income and Expenditure)

The government is directly and indirectly affected by the economic and business activities that are directly and indirectly linked to the Cultural and Creative Industries. Therefore, it is important to calculate the fiscal impact of the investment and operation of the Cultural and Creative Industries. Usually, the government receives income in the form of property income, direct tax, (mainly personal tax and company tax), indirect tax (VAT) that results from additional household spending.

6.6 Impact on the Current Account of the Balance of Payments

The Cultural and Creative Industries have direct, indirect and induced impacts on the exports and imports of goods and services that take place across all of the various economic sectors (cultural industries and non – cultural industries) that are interlinked in an economy. Imports consist of direct and indirect material imports, as well as goods consumed by households that are imported as a result of the induced impact.

6.7 Social Impacts

Community services such as hospitals and schools can be positively impacted as a result of an increase in government income derived from direct and indirect taxes associated with the Cultural and Creative Industries.

The calculation of these social impacts was based on a significant number of assumptions related to government expenditure patterns. These social impacts provide an indication of the socio-economic benefits that may arise from activities linked to the Cultural and Creative Industries due to their proposed increased production activities.

6.8 Effectiveness Criteria

The macro-economic impact of a project is evaluated in terms of effectiveness criteria that measure the extent to which the project utilises resources efficiently. Since capital is a scarce resource in South Africa, the effectiveness of the utilisation of capital in terms of labour (i.e. new job opportunities) and GDP creation in relation to the total South African economy, is used as a measure of economic effectiveness. These effectiveness criteria are the most reliable indicators as to whether the Cultural and Creative Industries are effective or not.

In order to make these comparisons, two key multipliers/ratios are calculated i.e.

- The Gross Domestic Product (GDP)/Capital ratio (GDP/Capital ratio), and
- The Labour/Capital ratio.

Using these ratios, the contribution towards economic growth and job creation relative to the capital employed in the process can be established. If the decision maker considers continuous, long-term economic growth to be more important than job creation in the short-term, then the GDP/Capital ratio is the more important one of the two measures of macro-economic effectiveness. On the other hand, if job creation, particularly in the short-term, has priority, the Labour/Capital ratio is more important.

7. Appendix B: Capital and Production Ratios for the Cultural and Non-Cultural Sectors

7.1 Calculation of Ratios

One of the drivers in the modelling system is the ratios/ multipliers. In preparation for this, a set of ratios were prepared to compile the direct multipliers. The GDP multiplier is derived from the value added components in the SAM, while the employment and capital (stock) multiplier are determined with exogenous data and production data used from the SAM. The employment and the capital ratios were conducted with the same method for the satellite approach and will be discussed in more detail below.

7.1.1 Calculation of the Employment Ratio

The 41 employment ratios each consists of the following:

$$\frac{\text{Employment Number}}{\text{Production Rand Value}}$$

As already discussed, the production value is sourced from the SAM. The employment number was derived from the Labour Force Survey data for the applicable sectors. Although some of the sector was in line with the arts and culture sectors, some had to be carefully applied. To create a best fitted ratio, direct multipliers from the 2015 National SAM were used as benchmark to align the various ratios. An additional ratio was used where the labour force survey data were divided with the production data sourced from the financial statistics for comparison purposes. With those three ratio sets of information, the final set of employment ratios were estimated for the 41 sectors. Sources used to verify the employment numbers and ratios were the Job Creation Report and the Western Cape Arts and Culture study.

7.1.2 Calculation of the Capital Ratio

The 41 employment ratios will be each consists of the following:

$$\frac{\text{Capital Stock Rand Value}}{\text{Production Rand Value}}$$

As already discussed, the production value is sourced from the SAM. The capital stock value was derived from the Financial Statistics data for the applicable sectors. Although some of the sectors were in line with the arts and culture sectors, some had to be carefully applied. To create a best fitted ratio, direct multipliers from the 2015 National SAM were used as benchmark to align the various ratios. An additional ratio was used where the capital stock data were divided with the production data sourced from the financial statistics for comparison purposes. With those three ratio sets of information, the final set of capital stock ratios were estimated for the 41 sectors. The Employment and capital ratios are depicted in the table below.

Table 7.1: Employment, Capital and GDP Ratios

Cultural Domains				Direct Labour Multipliers	Direct Capital Multipliers	Direct GDP Multipliers
Domain	Productive activities[1]					
	ISIC 4		Description			
A. Cultural and Natural Heritage	9000	1	A. Creative, arts and entertainment activities- Stamps and collectors, Items	1,24	0,63	0,22
	9102	2	Museums activities and operation of historical sites	1,96	1,86	0,59
	9103	3	Botanical and Zoological Gardens and Nature Reserve Activities	1,89	1,49	0,59
	4774	4	Retail sale of second-hand goods	1,75	1,15	0,19
B. Performance and Celebration[2]	9000	5	B. Creative, arts and entertainment activities-Performing arts and Cultural events	1,30	1,41	0,40
	3220	6	Manufacture of musical instruments	0,95	1,42	0,24
	5920	7	Sound recording and music publishing activities	1,16	1,81	0,41
	4762	8	Retail sale of music and video recordings in specialised stores	1,79	0,70	0,54
C. Visual Arts and Crafts3	9000	9	C.Creative, arts and entertainment activities- Fine Art and other visual art ex. Cartoonists	1,67	1,45	0,24
	7420	10	Photographic activities	1,11	1,38	0,25
	5819	11	Other publishing activities	1,33	1,63	0,45
	3211	12	Manufacture of jewellery and related articles	1,15	0,56	0,10
	7220	13	Research and experimental development on social sciences and humanities	2,11	1,59	0,69
D. Books and Press	9101	14	Library and Archives activities	1,25	1,49	0,59
	5811	15	Book publishing	1,13	1,58	0,45
	5813	16	Publishing of newspapers, journals and periodicals	1,05	1,04	0,38
	5819	17	Other publishing activities	2,09	1,06	0,22
	4761	18	Retail sale of books, newspapers and stationary in specialised stores	1,25	1,10	0,54
	6391	19	News agency activities	2,09	1,50	0,36
	6399	20	Other information service activities n.e.c.	1,82	1,57	0,38
	*4649**	21	*Wholesale of other household goods**	1,59	1,22	0,56
	9000	22	D.Creative arts and entertainment activities- Services of authors, composers, sculptors and other artists, except performing artists	1,74	1,02	0,47
E. Audio-visual and Interactive Media	5820	23	Software Publishing	1,99	1,57	0,23
	5911	24	Motion picture, video and television programme production activities	1,88	1,14	0,31
	5912	25	Motion picture, video and television programme post-production activities	1,66	1,41	0,31
	5913	26	Motion picture, video and television programme distribution activities	1,88	0,95	0,30
	5920	27	Sound recording and music publishing activities	1,99	1,57	0,41
	5914	28	Motion picture projection activities	1,35	1,73	0,37
	6010	29	Radio broadcasting	0,77	1,37	0,23

Cultural Domains				Direct Labour Multipliers	Direct Capital Multipliers	Direct GDP Multipliers
Domain	Productive activities[1]					
	ISIC 4		Description			
	6020	30	Television programming and broadcasting activities	1,03	1,46	0,23
	6312	31	Web portals	1,05	1,32	0,37
	7722	32	Renting of video tapes and disks	1,08	1,02	0,53
	6391	33	News agency activities	1,26	1,45	0,37
	*4762**	34	*Retail sale of music and video recordings in specialised stores*	1,02	1,05	0,54
	4791	35	Retail sale via mail order houses or via Internet	1,65	0,74	0,09
F. Design and Creative Services	7410	36	Specialised design activities	1,33	1,46	0,32
	7110*	37	Architectural and engineering activities and related technical consultancy	1,53	1,51	0,44
	7310	38	Advertising	1,44	1,46	0,31
G. Cultural Education			Arts and Cultural education	2,16	1,85	0,49

Table 7.2: Employment Ratios (Skilled, Semi-Skilled and Unskilled)

Cultural Domains				Skilled	Semi-skilled	Unskilled	Total
Domain	Productive activities1						
	ISIC 4		Description				
A. Cultural and Natural Heritage	9000	1	A. Creative, arts and entertainment activities- Stamps and collectors Items	0,7	0,5	0,1	1,235
	9102	2	Museums activities and operation of historical sites	1,1	0,8	0,1	2,0
	9103	3	Botanical and Zoological Gardens and Nature Reserve Activities	1,0	0,7	0,1	1,9
	4774	4	Retail sale of second-hand goods	0,3	0,5	1,0	1,7
B. Performance and Celebration2	9000	5	B. Creative, arts and entertainment activities- Performing arts and Cultural events	0,7	0,5	0,1	1,3
	3220	6	Manufacture of musical instruments	0,2	0,7	0,0	0,9
	5920	7	Sound recording and music publishing activities	0,3	0,8	0,1	1,2
	4762	8	Retail sale of music and video recordings in specialised stores	0,3	0,5	1,0	1,8
C. Visual Arts and Crafts3	9000	9	C. Creative, arts and entertainment activities- Fine Art and other visual art ex. Cartoonists	0,9	0,6	0,1	1,7
	7420	10	Photographic activities	0,8	0,3	0,1	1,1
	5819	11	Other publishing activities	0,3	0,9	0,1	1,3
	3211	12	Manufacture of jewellery and related articles	0,3	0,8	0,1	1,2
	7220	13	Research and experimental development on social sciences and humanities	1,2	0,8	0,1	2,1
D. Books and Press	9101	14	Library and Archives activities	0,7	0,5	0,1	1,2
	5811	15	Book publishing	0,3	0,8	0,1	1,1
	5813	16	Publishing of newspapers, journals and periodicals	0,3	0,7	0,0	1,0
	5819	17	Other publishing activities	0,5	1,5	0,1	2,1
	4761	18	Retail sale of books, newspapers and stationary in specialised stores	0,2	0,4	0,7	1,3
	6391	19	News agency activities	1,5	0,5	0,1	2,1
	6399	20	Other information service activities n.e.c.	1,3	0,4	0,1	1,8
	*4649**	21	*Wholesale of other household goods**	0,2	0,5	0,9	1,6
	9000	22	D. Creative arts and entertainment activities- Services of authors, composers, sculptors and other artists, except performing artists	1,0	0,7	0,1	1,7
E. Audio-visual and Interactive Media	5820	23	Software Publishing	0,5	1,4	0,1	2,0
	5911	24	Motion picture, video and television programme production activities	1,3	0,4	0,1	1,9
	5912	25	Motion picture, video and television programme post-production activities	1,2	0,4	0,1	1,7
	5913	26	Motion picture, video and television programme distribution activities	1,3	0,4	0,1	1,9
	5920	27	Sound recording and music publishing activities	1,4	0,5	0,1	2,0
	5914	28	Motion picture projection activities	1,0	0,3	0,1	1,3
	6010	29	Radio broadcasting	0,5	0,2	0,0	0,8
	6020	30	Television programming and broadcasting activities	0,7	0,2	0,1	1,0
	6312	31	Web portals	0,7	0,2	0,1	1,0

Cultural Domains				Skilled	Semi-skilled	Unskilled	Total
Domain	Productive activities1						
	ISIC 4		Description				
	7722	32	Renting of video tapes and disks	0,2	0,3	0,6	1,1
	6391	33	News agency activities	0,3	0,9	0,1	1,3
	*4762**	34	*Retail sale of music and video recordings in specialised stores*	0,2	0,3	0,6	1,0
	4791	35	Retail sale via mail order houses or via Internet	0,2	0,5	0,9	1,7
F. Design and Creative Services	7410	36	Specialised design activities	1,0	0,3	0,1	1,3
	7110*	37	Architectural and engineering activities and related technical consultancy	1,1	0,4	0,1	1,5
	7310	38	Advertising	1,0	0,3	0,1	1,4
Cultural Education19		39	*Technical and vocational secondary education**	1,2	0,8	0,1	2,2