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Sectoral Investment and Economic Growth: South Africa Perspective

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Abstract: The process of economic growth and the sources of differences in economic performance across nations are some of the most important and challenging areas in modern economies. Nonetheless, sustainable economic growth does not just occur without the putting proper economic policies in place. Intensive initiatives to grow South Africa's economy has been at the heart of the policy debates. Economic diversification is considered as one of the utmost essential strategies that can be used to support economic and business aspects as well as increasing their competitive advantages. This necessitates a cautious balance of factors within the market. The economy that is diversified is the one that is centred around a wide range of performing sectors and not just a few. It is the economy that is characterized by its flexibility, but not concentrated in one sector. It produces a viable cycle of economic activity where businesses frequently feed off of one another and grow bigger as the economy grows. In order to determine the impact of investing in several economic sectors for the purpose of growing South African economy, the paper employs the Social Accounting Matrix (SAM). The findings from the paper revealed that there is a strong positive relationship between economic growth and economic diversification. Investing equally in those sectors will yield fruitful results for the South African economy.

1. Introduction

A growing and sustainable economy is the goal of every nation in the world, nonetheless, sustainable economic growth does not just occur without the putting proper economic policies in place. A sustainable economic growth improves a nation's

standard of living by generating wealth and jobs, boosting the development of new knowledge and technology, and helping to ensure steady political conditions. A correlation between economic diversity and sustainability exists, also economic diversification can reduce a nation's economic volatility and increase its real activity performance (Abouchakra, Moujaes, Ramsay and Shediac, 2008). A need for cautious balance of factors within the market is very key because together these factors generate an engine that moves the economy forward.

Economic growth and development refer to a sustained rise in real output of goods/service accompanied by changes in the economic structures, values and institutions. It means improvement in the social, political and economic lives of the people. It is a period of sustained growth in material well-being, increased per capita income, happiness and welfare, including wealth of the people. It also includes changes in the physical reality as well as the state of mind of the people through social, economic and institutional processes targeted towards obtaining a better life for the citizens (Todaro and Smith, 2009).

Economic diversification is considered as one of the utmost essential strategies that are used to support economic and business aspects and increase their competitive advantages. Diversification cuts the risks of focusing on a single economic sector or business area. This contributes in maintaining the stability even in hard times, and is considered as a great tool for business and economic development (Ahmed, 2015). Diversification provides nations with the security and reliability that they need so that if one economic activity stream fails, the nation knows that they have several other options for revenue.

Pede (2013) describes economic diversity as "the existence in an area of a great number of diverse types of industries," or "the degree to which economic activity of a region is spread among a number of categories". Proponents of economic diversity advocate that diverse economies are less exposed to volatility related with the business cycle and are therefore able to escape serious fluctuations in employment and income (Dissart, 2003). This view advocates that diversity acts as an "averaging" process in which various sectors are able to reemploy displaced workers from other sectors (Frenken, Van Oort and Verburg, 2007). Kemi (2016) also views economic diversification as portion of, but differs from, economic development, as it concerns not only various outputs, but also developments in the technical and institutional activities by which output is generated and dispersed.

The economic development policy of diversification emanates from the theory that stability is accomplished through diversity. According to Wagner (2000), economic diversity has been championed as a way to attain the goals of stability and growth. Furthermore, Killian and Hady (1988) assert that diversity is likely to enhance the stability of domestic economies and improve prospects for growth. Also, Akpadock (1996) also highlighted that societies diversify their economic base to endure any future structural deviations in the national economy.

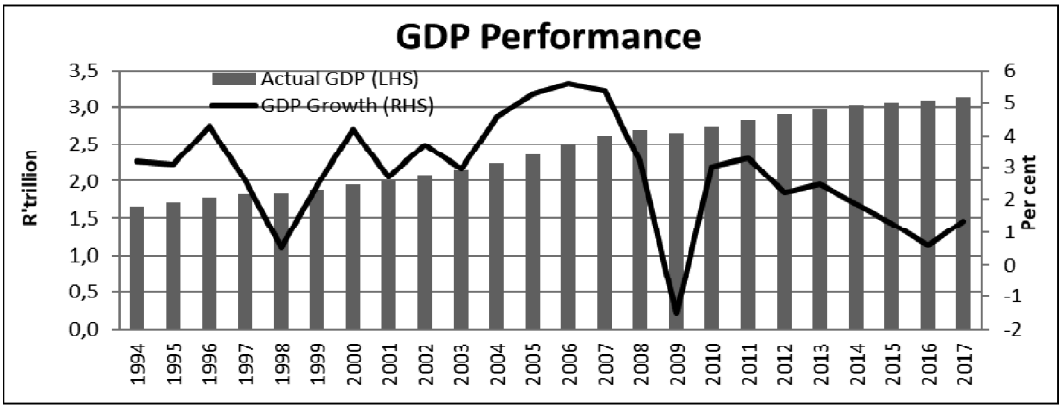
2. Overview of the South African economy

The South African economy is structured into three main sectors (i.e. primary, secondary and tertiary sector) that are considered when mesuring the GDP. These sectors consist of various subsectors. Over the last twenty two years (post democracy), the South African economy has experienced major structural changes, from a stronger manufacturing sector to minimal de-industrialsation as the country opened up to global competition.

The South African economy recorded its fastest growth rates since the 1960s over the period 2004 to 2007, with real GDP growth averaging 5.2% per annum. From a global perspective, this period was characterised by a strong bull-market and booming commodities markets as indicated in the IDC 2013 South Africa overview report. In the South African market, the agriculture sector is sufficient in all main agricultural products and has always been a net exporter of these products. Even though the sector performs a critical part in the development of the South African economy, its contribution to gross domestic product has dropped from an average of 10% in the 1960's to about 2% in 2009. During the 1950's and 1960's, agriculture contributed 15.2% and 10% of GDP respectively, and now it accounts for less than 3% of GDP. The services and manufacturing have surpassed agriculture with regards to its contribution to GDP (Economic Research Division, 2010).

The configuration of the South African economy has improved substantially over time. Previously, the South African economy was mainly dependent in the primary sectors due to a vast mineral resources and favorable agricultural conditions. However, the economy has experienced structural change in output in the present decade. The services sector especially financial services, portfolio investment and wholesale and retail have become the dominant players in the structure and configuration of the South African economy while the post 1994 evolution in the maufacturing sector saw a steady decline. The tertiary sector started to dominate

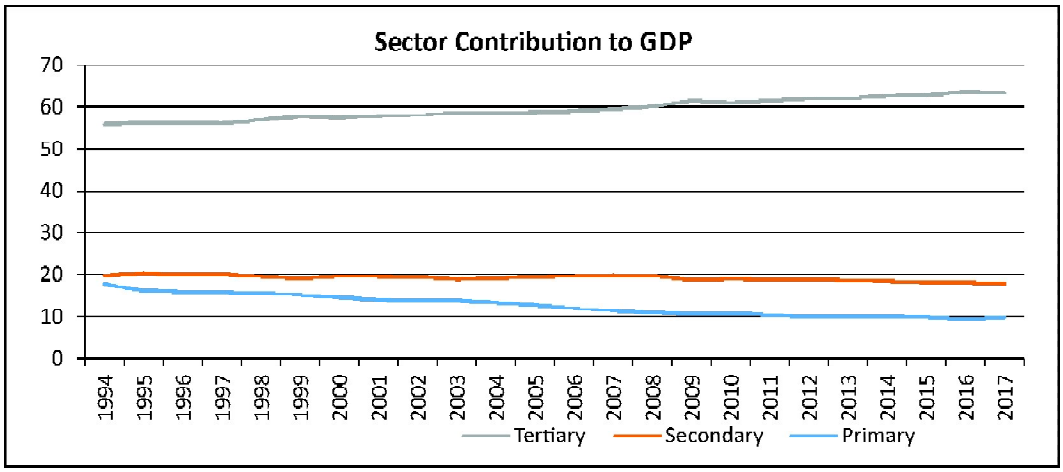
Figure 1: South Africa's growth performance from 1994 to 2017



Source: SARB

sector contributions towards the Gross domestic production in the 1990s. Sectors such as wholesale and retail trade, tourism and communications within the tertiary sector were the main contributors towards economic growth. The South African economy has bit by bit mended in the period 1999 and 2000 subsequent to the influence of the Asian predicament and the chaos in the financial markets that attacked the country during 1997 and 1998. Structural concerns such as the regulatory framework in the labour and product market have hindered the sector's growth. Hence, from 1995 to 2000 the manufacturing sector performed below expectations, by an average rate of growth of 2 per cent.

Figure 2: Sectoral contribution to total GDP



Source: Data-Stats SA; Graph-the dtl

The diagram shows that the sector which contributes the most to domestic economy is the tertiary, accounting for almost over 60% of the total since the advent of democracy. The growth in the tertiary sector came as a result of a decrease in the primary sector, which decreased from 18% to 10% from 1994 to 2017 as shown in the graph. The tertiary sector experienced the fastest growth compared to the other two sectors. Much of the tertiary sector growth was realised during the period from 2004 to 2007. The growth realized during that period might be as a result of the Accelerated and shared Growth Initiative programme that was established in 2005.

3. Objective

To examine the effect of economic diversification on economic growth of South Africa.

4. Problem statement

The economic development policies effected thus far have had to a certain degree limited outcomes. With regard to growth, South Africa is yet to bounce back from the 1998 slowdown with a growth rate at 3.1 per cent in 2000 (OECD, 2002). As stated in the 2014 -2019 Medium-Term Strategic Framework (MTSF), the National Development Plan sets an annual growth target of above 5% by 2030 and stresses actions to certify that the benefits of growth are fairly shared. However, South Africa still faces the constraints of decreasing inequality, poverty, unemployment and encouraging growth performance. Success of economic change and inclusive growth will not be realized by means of a one intervention, but from an array of mutually supportive initiatives

The success of the South African's economy is partly centred on its extraordinary mineral wealth. This is true despite the fact that relying on one commodity-based sectors continuously and heavy industry makes the country vulnerable to challenges linked to inadequate diversification. South Africa has a well-reputable manufacturing base, which was built in the early twentieth century. At a certain stage, the primary sector was South Africa's major performing sector because of abundance of mineral resources and good agricultural conditions. Its success was attributed in part to its extraordinary mineral wealth. However, a dependence on few commodities founded sectors and heavy industry exposes the country to complications related to inadequate diversification. There is on-going reliance on traditional sectors regardless of a few new interventions to diversify the economy (OECD, 2011).

5. Empirical literature

Diversification as defined by Kemi (2016). refers to a strategic route that takes companies into other products and/or markets by means of either internal or external advancement. Equally so, it entails transitioning into new fields with an intention to encourage and grow prevailing traditional products. Diversification does not hinder specialisation, but call for resources to be directed effectively. Macroeconomic planning emphasizes that diversification stimulates growth and development over the utilisation of savings from surplus sectors for use in the development of sectors that are lacking behind in the economy. There are many opportunities for diversifying an economy, such as mining, agriculture, financial services, industrialisation, information and communication technology and tourism, etc. Nonetheless, it is important to be aware of the fact that a country's dynamics need to be deliberated. This is clear since caused by structural adjustments, a model that fits an economy effortlessly well in one country might demonstrate irrelevant in another (Eko, Utting and Onun, 2013).

Papageorgiou, Perez- Sebastian and Spatafora (2013) investigated the inter-relationship between growth, structural revolution, and the different dimensions of diversification Asymptotic balanced-growth path (ABGP). They found that focusing in sectors with narrow range for horizontal diversification and quality improvement, such as primary commodities, can harm the prospects of growth, and that policy can help to avoid this problem.

According to Pede (2013) there are countless theoretical opinions that suggest that growth and economic diversity are naturally interrelated, yet such arguments can be found both in support of and in resistance to economic diversity. Proponents of economic diversity suggest that diverse economies are less susceptible to volatility associated with the business cycle and are therefore able to avoid serious fluctuations in employment and income.

ESU and Udonwa (2015) in their work on economic diversification and economic growth used an application of the error correction mechanism (ECM) to show that the way to go in maximizing gains from trade is conscious and honest efforts at diversifying the economy. The findings indicate that trade diversification offers windows of operating a strong, adaptable and stable economy, if taken seriously with commitment. Also, Ayeni (2013) studied the requisite for the Nigerian economy to be diversified away from crude oil in order to have supplementary sources of revenue generation by investigating the part tourism would perform if the Nigerian

economy is diversified through tourism applying the multivariate analysis, by means of the multiple regressions. The verdicts report the outcome from a linear model through the multiple regressions analysis for the estimate of tourism's vision in the Nigerian economy if diversified. The paper agrees to the literature and displayed the empirical support of effects of tourism on the Nigerian economy and determines that tourism would be of enormous benefit to the Nigerian economy.

Also Adeyinka *et al.* (2015) emphasised that the Nigeria government must prioritise the encouragement of the diversification of its economy and believed that it is the only viable way to persist the global economic insecurity with the volatility of oil price. In order to make possible policy recommendations, Adeyinka conducted a study to seek probable ways of diversifying the productive base of the Nigerian economy. Using descriptive method of analysis, the results show that considering Nigeria's peculiar circumstances and the successes recorded before the advent of oil, for Nigeria to break loose from the difficulties inherent in a mono-economy, mainly one largely dominated by oil, which is subject to depletion, international price shocks and unfavourable quota plan, there is a need for diversification. Possible options for diversifying the Nigerian economy appeared to be the Agricultural sector.

Many supporters of economy diversification argued that, economic diversification forms part of the preconditions for economic growth and sustainability (Odife, 2004; Olaleye *et al.,* 2013). It is commonly believed that diversifying the economy drives the economy through employment generation and it also simplifies resources strengthening. Yet, in the absence of diversification the economy may intensify coverage to opposing external shocks and macroeconomic uncertainty (Papageorgiou and Nikolas, 2013).

6. Methodology

The paper adopted Social Accounting Matrix (SAM) technique to evaluate the impact of economic diversification towards South Africa's economic growth and also to determine the linkages between various economic sectors. The South Africa 2015 SAM model becomes relevant for the purpose of this paper as it has the total coverage of different South African economic sectors.

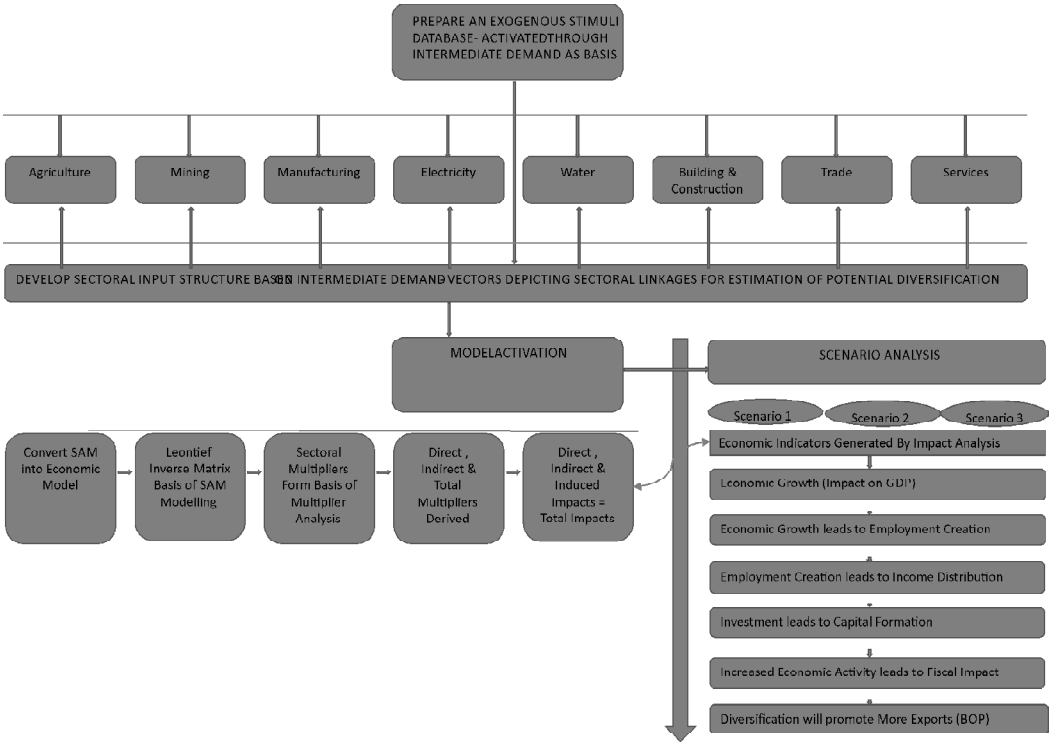
6.1. Estimating Direct, Indirect, and Induced Effects

This section describes how the shock to the economy in the form of a sector identified for diversification (i.e. supplying inputs to the other sector) affects the economy and how the associated direct, indirect, and induced effects are estimated. SAM captures

production linkages between sectors that are determined by sectors' production technologies. These linkages can be distinguished into backward and forward linkages. Larger multipliers are as a result of stronger forward and backward production linkages. Demand for additional inputs used by producers to supply additional goods or services refers to as backward production linkages. This demand then stimulates production in other sectors to supply these intermediate goods. The more input intensive a sector's production technology is, the stronger its backward linkages are. Forward production linkages account for the increased supply of inputs to upstream industries. The more important a sector is for upstream industries, the stronger its forward linkages will be. Forward linkages are particularly important for the energy sector as it provides key input into the majority of other sectors in the economy

It was important to firstly identify the sectors that will be impacted by diversification, such us Agriculture, Mining, Manufacturing, Electricity, Water, Building and Construction, Trade and services in order to determine inter and intra

Table 1: Model Implementation Framework



Authors own illustration

sectoral among the selected economic sectors. The database which forms the exogenous stimulus for the various sectors is made up of the intermediate demand representative of each of the sectors. Theoretically, intermediate demand denotes the intermediate inputs or commodities that are used as raw material in the sectoral production value chain. The sectoral values of intermediate demand serve as a stimulator to shock/activate the model. The modelling framework make use of embedded sectoral multipliers which are derived from the SAM inverse. The purpose of this paper is to determine the impact of investing in several economic sectors for the purpose of growing the economy of South Africa. Therefore, economic growth further leads to improved living standards, poverty alleviation (income distribution) through creation of employment, additional revenue to the fiscus that will be spend on education, health etc. as well as balance of payments. Flowing from the afore stated reasons, the subsequent action is to conduct impact analysis for the base and impact scenarios.

6.2. Model Implementation Scenario

In this section the three scenarios are analyzed, namely:

- Scenario 1: This scenario denotes the base scenario whereby the intermediate demand for inter-sectoral diversification is considered under normal circumstances pertaining to the state of the economy;
- Scenario 2: A 15% increase in intermediate demand for inter-sectoral diversification relative to Base Scenario; and
- Scenario 3: An increase in investment as per the Presidential Stimulus Packages for selected sectors relative to Base.

6.3. Sectors Identified for Diversification

Sectors identified for purposes of diversification are presented in table 2 below. The economic variable used in this paper to model diversification among sectors is intermediate demand across sectors. Thus, intermediate consumption is an accounting flow which consists of the total monetary value of goods and services consumed or used up as inputs in production by economic sectors, including raw materials, services and various other operating expenses. Any sector's production structure consists of intermediate inputs or intermediate demand. To model the substitution relations amongst the inputs of the production procedure, Constant Elasticity of Substitution

and Leontief functional forms can be applied. Combination of factors and intermediate inputs are pulled together in the output nest for the purpose of establishing the sectoral output. Hertel (1997) further explained that the functional form can be Leontief (fixed proportions or CES) while in the standard GTAP model Leontief is applied to describe intermediate demand. Therefore, since the base of any sector is represented by intermediate demand in a Leontief structure of SAM or Input output model, SAM was preferred as for impact analysis in this paper. The assumption is that different kinds of intermediate inputs are demanded in fixed percentages which are constant (or exogenously) and do not vary according to prices alternations.

7. Results

Table 2 below forms the basis to establish the structural composition and proportions of inputs/intermediate demand required for the sectors identified for diversification. This coefficient is calculated from the intermediate demand matrix of the South Africa-SAM.

It is evident from the table that the size of intermediated demand is very profound with regard to the Agriculture, Manufacturing as well as the Construction sectors.

Table 2: Sectors identified for Diversification

No	*Sectors*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
		Agriculture	*Mining*	*Manufacturing*	*Electricity*	*Water*	*Construction*	*Trade*	*Services*
						Building			
1.	Agriculture	2.28%	0.00%	6.63%	0.01%	0.00%	0.00%	0.03%	0.00%
2.	Mining	0.13%	1.15%	15.09%	16.37%	2.80%	5.86%	0.01%	0.27%
3.	Manufacturing	24.43%	15.54%	30.35%	6.30%	6.78%	30.57%	12.57%	5.62%
4	Electricity	1.39%	5.01%	1.96%	6.75%	1.05%	0.26%	0.64%	1.25%
5	Water	0.92%	1.02%	0.19%	0.02%	38.29%	0.03%	0.25%	0.14%
6	Building Construction	0.54%	0.19%	0.13%	0.01%	0.21%	6.42%	0.04%	0.21%
7	Trade	3.36%	0.70%	3.30%	0.96%	0.65%	0.96%	4.97%	14.30%
8	Services	27.40%	22.80%	17.64%	6.05%	9.40%	24.09%	23.99%	
	Total Intermediate Demand	60.44%	46.41%	75.29%	36.46%	59.19%	68.20%	42.50%	21.78%

Authors own calculation based on RSA Social Accounting Matrix

This implies that making use of a funnel approach, these are the 3 main sectors that can be considered as practical case studies for diversification from both an inter-sectoral as well as intra-sectoral perspective. Important to note is that the services component of these sectors cannot be ignored. This is due to the fact that the more the economy of a country develops over the years, the more it becomes oriented towards the services sectors. This fact is also supported by the fact that over the years, for instance the share of the manufacturing sectors has diminished in the South African economy, as can be seen in Figure 1 below. From 1994 its share in terms of GDP fell from 15.3% to 13.5%

7.1 Scenario 1: This scenario denotes the base scenario whereby the intermediate demand for inter-sectoral diversification is considered under normal circumstances pertaining to the state of the economy.

7.1.1. Summary of Direct Value of Intermediate Demand – Base Scenario

Diversification defined. In its simplest form, diversification reflects a change in business activities based on the flexible and differentiated response to changing opportunities created by new production technology or markets signals. In Table 3 below, the sectors which are sensitive to diversification are depicted.

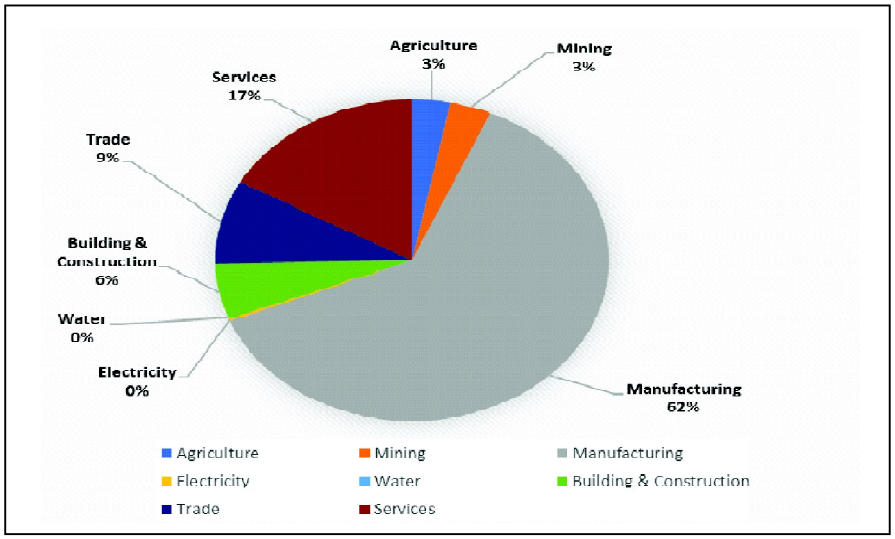
Table 3: Summary of Direct Value of Intermediate Demand per Sector and Diversification Sensitivity (R Millions, 2018 Prices)

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
	Agriculture	*Mining*	*Manufacturing*	*Electricity*	*Water*	*Building & Construction*	*Trade*	*Services*
Total Intermediate Demand	5,940	6,663	170,668	611	63	10,048	23,589	32,947

Sources: RSA SAM

In scenario 1 it is assumed that a total of R250.5 billion from the various sectors is earmarked for diversification. From Table 3 above, it is evident which sectors will experience the highest inter-sectoral shift in term of intermediate demand. These sectors are Manufacturing, Services, Trade and Building Construction. Mining and Agriculture will but not to a great extent. The values depicted in the table above for the identified sectors, form the basis of the inter-sectoral shock the results which are discussed in the subsequent section.

Figure 3: Summary of Direct Value of Intermediate Demand per Sector and Diversification Sensitivity (Percentages, 2018 Prices)- Scenario 1



The outcome of the sectoral amount of intermediate demand estimated to be allocated for diversification, follows the sectoral pattern presented in the Figure 3 above. For instance, services, trade, manufacturing, building construction and mining present ample opportunities for diversification in line with the overall national developmental imperatives. Massol and Banal-Estanol, (2014) believed that in an under-developed and second world economies, growth in the economy is determined by specialization in raw material exports and agricultural sector. Though, during the phases of economic development, the sectors structure experience certain changes. Economic growth is related to increasing the share of industry sector, and decreasing the share of agriculture in GDP (Punnyasavatsut and Coxhead, 2002; Arandjelovic et al., 2013, Savic, 2014). Additionally, the industry sector becomes more profitable than agriculture. Factors like technologies, knowledge, human and physical capital help in establishing a more efficient industry sector.

7.1.2. Macroeconomic Impact Results of Intersectoral Diversification – Base Scenario

The macroeconomic impact of the combined effect of intersectoral shift of intermediate demand as result of diversification are presented in table 4 below.

Table 4: Macroeconomic Impact of Diversification Sensitivity (R Millions, 2018 Prices) - Base Scenario

	Direct impact	*Indirect impact*	*Induced impact*	*Total impact*
Impact on Gross Domestic Product (GDP)	R15,080	R10,026	R20,309	R45,415
Impact on capital formation	R12,521	R19,358	R37,660	R69,539
Impact on employment [Numbers]	50,186	60,229	90,472	200,887
Skilled impact on employment	4,121	6,399	12,358	22,878
Semi-skilled impact on employment	8,103	12,739	48,554	69,396
Unskilled impact on employment	37,961	41,091	29,560	108,612
Impact on Households				R33,517
Low Income Households				R6,503
Medium Income Households				R7,268
High Income Households				R19,746
Fiscal Impact				R13,069
National Government				R12,097
Provincial Government				R124
Local Government				R848
Impact on the Balance of Payments				R5,562

The results revealed in Table 4 above indicate the intersectoral impact for the base scenario effect induced by inter and intersectoral diversification on the South African economy. In short, the findings from the first scenario or base scenario revealed that macroeconomic impact of the combined effect of intersectoral shift of intermediate demand as result of diversification has the potential to:

- Generate additional annual GDP in the region of R45.5 billion, annually on the South African Economy;
- Generate an additional R69.5 billion in new Capital Formation throughout the RSA economy. The R69.5 billion constitutes the total new infrastructure investment that will be channeled to the projects earmarked for diversification;
- Sustain an additional 200 887 new job opportunities, of which just over 108 612 will be for unskilled and semi- skilled workers; thereby significantly contributing to the State's job creation targets;

- Generate just over R33.5 billion n annually in additional household income, of which almost R6.5 billion on will accrue to low income households; thereby significantly contributing to the State's target of poverty alleviation;
- Generate additional Government Revenue of just over R13.1 million annually at all three levels of government. The main sources of this government revenue will be derived from direct and indirect taxes, where direct tax consists mainly of personal income tax and company tax; and
- Contribute to R5.6 billion in terms of balance of payments.

Scenario 2: A 15% increase in intermediate demand for inter-sectoral diversification relative to Base Scenario

In Scenario 2, it is postulated that in order to increase the economic prospects and benefits of diversification, the requisite amounts of intermediate demand for the sectors involved and identified in the diversification programme need to be increased with the expectation of incremental impacts as a resultant of the linkages that occurs across these sectors. A 15% increase, which is regarded as conservative and not excessive so excessive threshold was assumed for this scenario. The rationale behind is that in relation to sectoral shift, i.e., allocating intermediate demand from one sector to another (low value sector to high value sector). Caution should be exercised not to overestimate the amount of sectoral shift. This can have unintended consequence as well as effects to other sectors, thus adversely defeating the objectives of diversification.

7.2. Summary of Direct Value of Intermediate Demand – Scenario 2

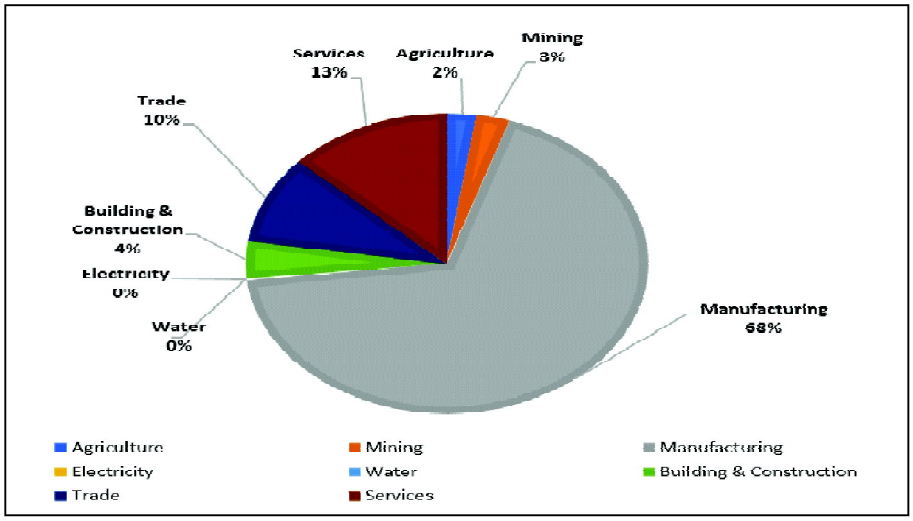
Table 5: Summary of 15% Incremental Direct Value of Intermediate Demand per Sector and Diversification Sensitivity (R Millions, 2018 Prices)- Scenario 2

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Sectors	*Agriculture*	*Mining*	*Manufacturing*	*Electricity*	*Water*	*Building & Construction*	*Trade*	*Services*
Total Intermediate Demand	11,285	12,661	324,269	1,161	119	19,090	44,819	62,600

Sources: RSA SAM

In scenario 2, it is assumed that a total of R476 billion from the various sectors is earmarked for diversification. In Figure 4 it is evident that the manufacturing

Figure 4: Summary of 15% Incremental Direct Value of Intermediate Demand per Sector and Diversification Sensitivity (Percentages, 2018 Prices) - Scenario 2



sector provides adequate source of intermediate demand for prospects of diversification.

7.2.1. Macroeconomic Impact Results of Intersectoral Diversification – Scenario 2

The macroeconomic impact of the combined effect of intersectoral shift of intermediate demand as a result of diversification are presented in Table 6 below.

Table 6: Macroeconomic Impact of Diversification Sensitivity (R Millions, 2018 Prices)- Scenario 2

	Direct impact	*Indirect impact*	*Induced impact*	*Total impact*
Impact on Gross Domestic Product (GDP)	R21,112	R14,036	R28,433	R63,581
Impact on capital formation	R18,782	R29,037	R56,490	R104,309
Impact on employment [Numbers]	90,335	108,412	162849.6	361,597
Skilled impact on employment	7,418	11,518	22,244	41,180
Semi-skilled impact on employment	14,585	22,930	87,397	124,913
Unskilled impact on employment	68,330	73,964	53,208	195,502
Impact on Households				R46,924

contd. table 6

	Direct impact	*Indirect impact*	*Induced impact*	*Total impact*
Low Income Households				R9,104
Medium Income Households				R10,175
High Income Households				R27,644
Fiscal Impact				R19,604
National Government				R19,355
Provincial Government				R204
Local Government				R1,441
Impact on the Balance of Payments				R10,012

The table above indicates that the intersectoral impact for Scenario 2 effect induced by inter and intersectoral diversification on the RSA national Economy The results showed that a 15% increase in intermediate demand for intersectoral diversification relative to Base Scenario has the potential to:

- Generate additional annual GDP in the region of R63.5 billion, annually on the South African Economy;
- Generate an additional R104.3 billion in new Capital Formation throughout the RSA economy. The R104.3 billion constitutes the total new infrastructure investment that will be channeled to the projects earmarked for diversification;
- Sustain an additional 361 597 new job opportunities, of which just over 195 502 will be for unskilled and semi- skilled workers; thereby significantly contributing to the State's job creation targets;
- Generate just over R46.9 billion n annually in additional household income, of which almost R9.1 billion on will accrue to low income households; thereby significantly contributing to the State's target of poverty alleviation; and
- Generate additional Government Revenue of just over R19.6 million annually at all three levels of government. The main sources of this government revenue will be derived from direct and indirect taxes, where direct tax consists mainly of personal income tax and company tax.
- Contribute to R10.1 billion in terms of balance of payments.

In Scenario 3, it is postulated that in order to increase the economic prospects and benefits of diversification, this will be stimulated by the package to resuscitate the South African Economy in terms of investment in key sectors. Those sectors are as follows:

- Agriculture – A Capital / Investment of injection of R20 Billion
- Mining – A Capital / Investment of injection of R40 Billion
- Manufacturing - A Capital / Investment of injection of R10 Billion
- Electricity - A Capital / Investment of injection of R 100 Billion
- Tourism - - A Capital / Investment of injection of R15 Billion
- Infrastructure - A Capital / Investment of injection of R50 Billion

7.3. Summary of Economic Impact Stimulus Package induced Diversification in terms of GDP and Employment Creation – Scenario 3

Table 7: Summary of Economic Impact Generated by Stimulus Package induced Diversification in terms of GDP and Employment Creation – Scenario 3

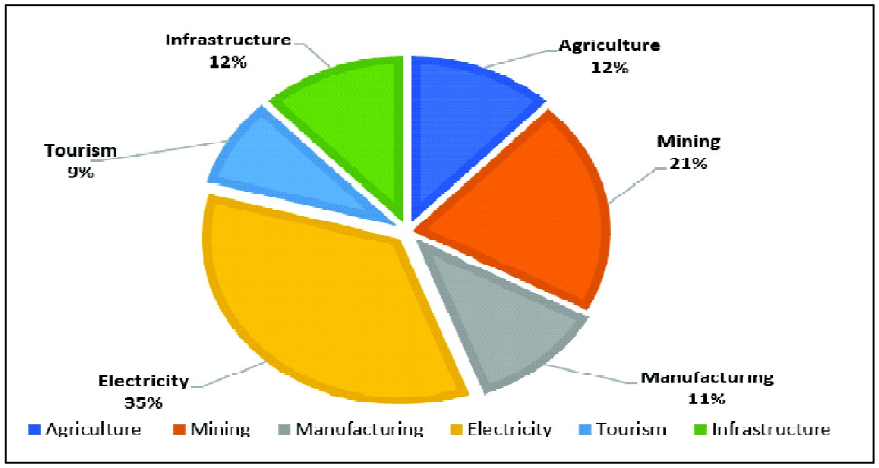
	1	*2*	*3*	*4*	*5*	*6*
	Agriculture	*Mining*	*Manufacturing*	*Electricity*	*Tourism*	*Infrastructure*
GDP, 2018 Prices, R Billion	R13.3	R23.0	R12.6	R38.6	R9.6	R13.2
Employment, Number of Jobs	275 250	183 894	154 125	316 142	118 338	227 331

Authors Calculations

From Table 7 it is evident that Capital injection in the energy sector, especially in renewable energy, agriculture sector, infrastructure will lead to enormous job creation as a result of diversification interventions. Mining and Employment will also yield significant employment opportunities for the RSA economy.

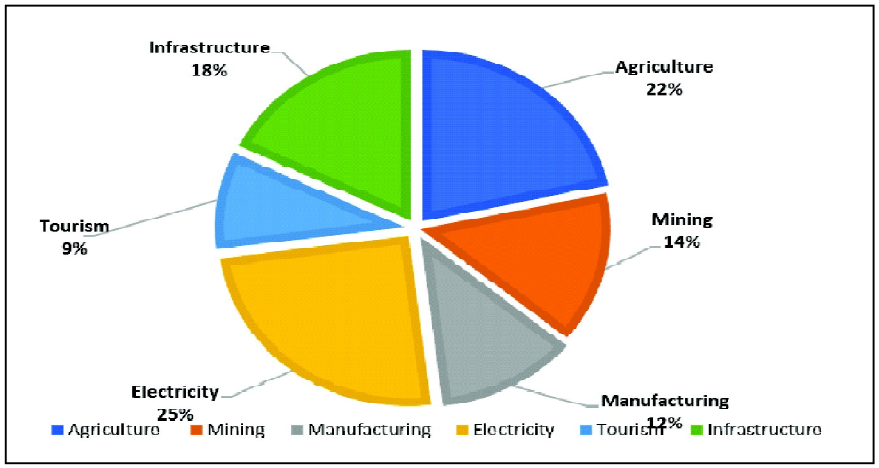
In Figure 7 below, the Sectoral Economic Impact Generated by Stimulus Package induced Diversification in terms of GDP percentages is presented for Scenario 3.

Figure 5: Sectoral Economic Impact Generated by Stimulus Package induced Diversification in terms of GDP [%]– Scenario 3



In Figure 6 below, the Sectoral Economic Impact Generated by Stimulus Package induced Diversification in terms of GDP percentages is presented for Scenario 3.

Figure 6: Sectoral Economic Impact Generated by Stimulus Package induced Diversification in terms of Employment [%]– Scenario 3



From Figure 6 it is evident that capital injection in the energy sector, especially in renewable energy, agriculture sector, infrastructure will lead to enormous job creation as a result of diversification interventions. Mining and Employment will also yield significant employment opportunities for the RSA economy.

It is important to note that in order to put the nature and magnitude of the impact of diversification in context, the marginal effect should be considered. This implies that the marginal impact (percentage difference) between Scenario 2 as compared to Scenario 1 (Base Scenario) should be taken into account. Similarly, the marginal impact (percentage difference) between Scenario 2 and Scenario 3 (Impact scenario) should also be looked into.

Table 8: Macroeconomic Impact of Various Scenarios

Economic Indicators	*Scenario 1: Base Scenario*	*Scenario 2*	*Scenario 3*
Impact on Gross Domestic Product (GDP)	R45,415	R63,581	R110,343
Impact on capital formation	R69,539	R104,309	R343,376
Impact on employment [Numbers]	200887	361597	1275170
Skilled impact on employment	22878	41180	282898
Semi-skilled impact on employment	69396	124913	530270
Unskilled impact on employment	108612	195502	462002
Impact on Households	R33,517	R46,924	R59,942
Low Income Households	R6,503	R9,104	R11,767
Medium Income Households	R7,268	R10,175	R12,214
High Income Households	R19,746	R27,644	R35,962
Fiscal Impact	R13,069	R19,604	R26,506
National Government	R12,097	R19,355	R21,796
Provincial Government	R124	R204	R400
Local Government	R848	R1,441	R1,554
Impact on the Balance of Payments	R5,562	R10,012	R13 ,712

From table 8 above it is evident that the macroeconomic impact results generated by scenario 3 are profound. The main reason is that a cumulative R235 Capital injection in the economy will generate huge impacts on the South African economy.

In Table 9, the marginal impact, difference of impacts relative to the base scenario is provided in term of value. This is due to the fact that it is important to put the marginal impacts into perspective or else the actual impacts won't convey the correct message. Economic theory is about marginal impacts as opposed to absolute impacts. Also as expected, the marginal difference between Scenario 3 and the base scenario is significant.

Table 9: Total Macroeconomic Impact Analysis of various scenarios [Marginal Impact, Value]

Economic Indicators	*Scenario 1: Base Scenario*	*Marginal Impact Difference between Scenario 2 and Base Scenario*	*Marginal Impact Difference between Scenario 3 and Base Scenario*	*Marginal Impact Difference between Scenario 2 and Scenario 3*
Impact on Gross Domestic Product (GDP)	45,415	18,166	64,928	46,762
Impact on capital formation	69,539	34,770	273,837	239,068
Impact on employment [Numbers]	200,887	160,710	1,074,283	913,573
Skilled impact on employment	22,878	18,302	260,020	241,718
Semi-skilled impact on employment	69,396	55,517	460,874	405,357
Unskilled impact on employment	108,612	86,890	353,390	266,500
Impact on Households	33,517	13,407	26,425	13,018
Low Income Households	6,503	2,601	5,264	2,663
Medium Income Households	7,268	2,907	4,946	2,039
High Income Households	19,746	7,898	16,216	8,317
Fiscal Impact	13,069	6,535	13,437	6,903
National Government	12,097	7,258	9,699	2,441
Provincial Government	124	80	277	196
Local Government	848	594	706	113
Impact on the Balance of Payments	5,562	4,450	126,150	121,700

In Table 10 the marginal impacts are presented in terms of percentage differences among the various scenarios for the various economics impact indicators.

8. Key findings

The results revealed that among the major sectors that contribute the most to economic growth because of diversification are Manufacturing, Services and Trade. This is in line with how the economic structure is composed currently as compared to decades ago. The RSA economy is more shifting to a service-oriented economy. It is important to note that although the afore stated sectors are profound in terms of the contribution to economic diversification, through the linkage effect they are still to some extend piggy backing on the other sectors such as agriculture, mining

Table 10: Macroeconomic Impact Analysis of various scenarios [Percentage Marginal Impact]

Economic Indicators	*Base Scenario*	*Marginal Impact Difference between Scenario 1 and Base Scenario*	*Marginal Impact Difference between Scenario 3 and Base Scenario*	*Marginal Impact Difference between Scenario 2 and Scenario 3*
Impact on Gross Domestic Product (GDP)	R45,415	29%	59%	42%
Impact on capital formation	R69,539	33%	80%	70%
Impact on employment [Numbers]	200887	44%	84%	72%
Skilled impact on employment	22878	44%	92%	85%
Semi-skilled impact on employment	69396	44%	87%	76%
Unskilled impact on employment	108612	44%	76%	58%
Impact on Households	R33,517	29%	44%	22%
Low Income Households	R6,503	29%	45%	23%
Medium Income Households	R7,268	29%	40%	17%
High Income Households	R19,746	29%	45%	23%
Fiscal Impact	R13,069	33%	51%	26%
National Government	R12,097	38%	44%	11%
Provincial Government	R124	39%	69%	49%
Local Government	R848	41%	45%	7%
Impact on the Balance of Payments	R5,562	44%	96%	92%

and energy sectors. Therefore, that is where the intra-sectoral and inter-sectoral relationships become of crucial importance in such a way that sectoral shift in terms of intermediate demand renders diversification effective.

As far as Agriculture, Mining and Construction are concerned, their economic diversification impacts appear minimal. With regard to the agriculture sector, a number of constraining factors to achieving maximum sector potential of diversification can be listed such as food security, incidence of food and mouth disease, listeriosis as well as uncertainness with regard to land policies, the impact of drought, anti-competitive practices such as the import of cheap agricultural products etc. With regard to mining, envisaged high electricity costs in South Africa pose a major constraint to the prospects of diversification, uncertainty in the policy environment

such as the current mining charter, labour unrests associated with union actions. Lastly, construction sector in South Africa is although moving towards green construction methods and techniques such as green buildings and roads, the monopolies that exists in the construction industry such as cement industry, bricks manufacturing industries are reluctant to abandon the conventional and lucrative construction ways.

Regarding the linkage effect of diversification (direct, indirect and induced effect), it is important to note that although when introducing a diversification intervention, in case the direct impacts in a specific focus sectors may appear insignificant, the indirect and induced impact through intersectoral linkage effect can be very significant as a result of the whole multiplier effect. There is a ripple effect to other sectors.

9. Conclusion

In conclusion, the effect of economic diversification on economic growth depends on the nature of an economic base of an economy. Therefore, the degree of economic diversification should match the nature of the RSA economic base to achieve the goal of economic growth. In the context of the RSA economy, a more diversified economic structure should be adopted to enhance the economic growth.

The findings hold policy implications. To many decision makers and policy makers in RSA, economic diversification seems to be a desirable path to pursue. However, this dissertation posits that the practice of economic diversification should be moderated by the conditions of economic base. The economic growth base is a result of economic and demographic development other than policy and its diversification. This will only be realized through a short term, medium term and long-term development process as well as correct economic policy mix.

If diversification is enhanced it leads to more economic development. This is due to the fact that diversification leads to additional production on the economy. It provides additional commodities which open up new local and international markets (exports). It also leads to clustering and agglomeration of related industries such as SEZ with the resultant positive effects on economies of scale. As a result, more high valued products are produced as a result of diversification. The unit costs of production of diversified commodities are becoming less which lead to industries becoming more profitable. As a result, a portion of profits are saved and invested which result in additional investment and production across sectors in the economy.

The greatest benefit is economic growth which leads to more employment opportunities to be created when the economy becomes more diversified. Once more employment opportunities are created, income distribution is enhanced and poverty alleviation is somewhat effected. Additional income generated by industry also implies that more corporate tax and other tax revenue (fiscal impact) will be realized which will also enable the state to spend on social and other socio-economic programs. However, the converse is that some diversification programs tend to be more capital intensive than labour intensive especially in the manufacturing sector. It is important to highlight that diversification programs would also require highly skilled labour force, hence the SETAs must also align their skills development programs and workplace skills plans to accommodate diversification initiatives.

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