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Proceedings of the 2018 African Review of Economics and Finance Conference

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Message from Conference Chair

Hotep. We are delighted to welcome you to the 2018 African Review of Economics and Finance conference.

The most serious economic problem in Africa today is inequality, but orthodox economists have consistently focused on the continent's presumed lack of growth. We now know that the celebration of 'Africa on the rise', a moment of the resurgence of growth in Africa, was premature. Not only has growth stalled: it neither brought about income nor wealth convergence. In contrast, it worsened spatial inequality, worsened gender inequality, and worsened racial inequality in terms of both income and wealth. Mainstream economics has neither been able to explain nor been able to provide guidance on how to resolve these contradictions.

Accordingly, this year's conference provides a platform for a thorough assessment of economic growth and a more direct engagement with questions of inequality. Why, for example, does growth occur amidst widening income and wealth gaps? What are the consequences of this new economic apartheid in Africa? In what ways can economics be reworked to provide appropriate analytical and policy mechanisms to better understand, transcend, and address inequality within the continent and between the continent and the rest of the world?

The conference is organised around two principal keynote addresses on these issues. The first keynote address, delivered by Professor Extraordinary Augustin Kwasi Fosu, takes us back to the resurgence of growth in the 1990s. He examines the progress made on poverty and questions whether growth and inequality in Africa have mattered in this important equation at all. In the second keynote address, Dean of the Faculty of Economic and Management Sciences and Professor of Economics at Stellenbosch University, Prof Ingrid Woolard, continues from where the first keynote address ends by investigating the dynamics of inequality, growth and domestic resource mobilisation in Africa. These speakers set the tone for the rest of the conference.

The parallel sessions address themes such as inequality, social comparisons and income aspirations; income inequality and foreign direct investment and determinants of happiness and inequality. Within these themes, the eighty five papers to be presented focus on a wide range of debates on the interface between environment and economic growth, the place of entrepreneurship and innovation in an inclusive process of economic development, asset pricing and returns, financial sector development and liberalisation, monetary policy, education and leadership and natural resource management.

As the AREF conference does not only seek to understand the African continent but also to change it, we will seek to bring these deliberations to the attention of policy makers and to the wider public. To further institutionalise these features, the scientific committee and the board of AREF have instituted the Augustin Kwasi Fosu Prize. This highly competitive annual award is made to the author(s) of the paper judged by the editors and reviewers of AREF to be the best presented at the annual conference. The award is also established in recognition of the works and contributions of the eminent African scholar, Professor Extraordinary Augustin Kwasi Fosu, and seeks to recognise similarly exemplary research or at least the potential for such path-breaking work.

The Wits Business School celebrates five decades of business education in Africa and in sculpting global leaders. The AREF team is proud to be part of this great milestone and we would like to thank the Marketing and Communications team, the Finance and Catering departments of the Wits Business School; the African Finance and Economics Consult, and the Nile Valley Consult for the excellent support in all stages of planning the conference.

Johannesburg offers a variety of activities and opportunities to immerse yourself in Africa's Eldorado and we hope you will find time to look around after the conference. You are welcome to eGoli.

Prof. Paul Alagidede
Conference Chair

Submission and Review Process

All submissions to the AREF conference were subjected to a double blind peer-review process by experts in the academy, according to the *African Review of Economics and Finance* journal refereeing standards. All manuscripts were subjected to an editorial pre-screening process by the Editors of AREF to assess suitability for the conference. The editors desk rejected papers when there were significant problems. Papers not desk rejected were then reviewed by members of the AREF international faculty or a chosen reviewer by the Editors. The review process followed a number of criteria, including: relevance of the paper to the conference themes, relevance to the audience, relevance to policy-makers, contribution to scholarship, originality and rigour of the analysis. Reviewers were from the following countries: Australia, United Kingdom, Germany, Finland, South Africa, Côte d'Ivoire and Ghana. 120 papers were submitted, of which 84 were accepted for publication in the proceedings, i.e. 70%.

Augustin K. Fosu Prize for Best Paper

The A.K. Fosu prize was awarded to recognise high quality research presented at the annual AREF conference. This highly competitive award was made to the author(s) of the paper judged by the editors of AREF to be the best presented at the conference. The A.K Fosu prize was initiated by organisers of the AREF conference to honour the contributions of the great economist and academic leader, Professor Extraordinary Augustin Kwasi Fosu (http://isser.edu.gh/index.php/senior-members/30-prof-augustin-k-fosu).

Eligibility:

- The award was open to all conference participants, however, interested delegates needed to apply specifically and indicate whether they wanted their paper(s) to be considered for the award.
- Papers were subjected to the normal African Review of Economics and Finance peer review process.
- Papers deemed publishable by the panel of reviewers were presented to the team of AREF editors.
- The award winner was selected by a vote of all the editors based on the review reports and a further assessment by the editors themselves.
- The Executive Director of the African Finance and Economics Consult informed the award recipient of the outcome.
- The award was given at the AREF Conference.

Benefits: Recipient was given a $300 honorarium, an award certificate, and an opportunity to develop the paper further for publication in AREF.

Awardee:
The A.K. Fosu prize was awarded to **Lydia Kwoyiga** for her paper titled:

Groundwater development for dry season irrigation in the northeast Ghana: the place of indigenous knowledge.

Scientific Committee

Conference Track Chairs

Poverty and Inequality
Prof Franklin Obeng-Odoom
University of Helsinki

Financial sector development and inclusion
Dr. Xolani Ndlovu
Robertson Economics, Harare

Public sector finance and Fiscal Policy
Prof Joshua Yindenaba Abor
University of Ghana

Labour Markets and Gender Economics I
Dr. Jenika Gobind
Wits Business School

Microfinance and small and medium scale enterprises I
Prof Eric Braun
INSEEC Business School

Bank Performance and Governance
Godfred Amewu
Wits Business School

Economic Growth and Efficiency
Prof Edward Nketiah-Amponsah
University of Ghana

Microfinance and Small and medium scale enterprises II
Dr. Jabulile Msimango-Galawe
Wits Business School

Macroeconomic Policy and shocks
Samuel Kwabena Obeng
University of East Anglia

External and internal finance
Prof Ferdi Botha
Rhodes University

Land, credit and water resources
Lydia Kwoyiga
Technische Universität Dresden
University for Development Studies

Labour Markets and Gender Economics II
Dr. Linda Tia Zuze
Financial Sector Deepening, Zambia

Macroeconomics and infrastructure
Dr. Rahul Nath
University of Oxford

Social History, Strategic Management and Industrial Policy
Prof Dorrit Posel
University of the Witwatersrand

Corporate governance and innovation
Prof Chris William Callaghan
SEBS, University of the Witwatersrand

Modelling asset prices and returns I
Dr. Gideon Boako
Office of the Vice President, Republic of Ghana

Agriculture, Natural resources and Environmental Economics
Usanda Gqwaru
SEBS, University of the Witwatersrand

Financial Markets, Institutions and Taxation
Prof Jennifer Foo
Stetson University

Economics of Education
David Dyason
NWU School of Economic Sciences

Behavioural Economics, Organizational Psychology and Law
Dr. Geoffry Ronald Heald
Wits Business School

Health Economics
Dr. Yvonne K. Saini
Wits Business School

Modelling asset prices and returns II
Dr. George Tweneboah
Wits Business School

Consumer behavior, liberalisation and small businesses
Dr. Julius Otieno Gogo
Maseno University

Fiscal Policy and Economic Development
Nana Kwame Akosah
Wits Business School

Finance and Development
Prof Charles Adjasi
University of Stellenbosch

Education, Leadership and Innovation
Prof Chris William Callaghan
SEBS, University of the Witwatersrand

Development Finance
Prof Eric Braune
INSEEC Business School

Environment and Growth
Dr. Amin Karimu
University of Ghana

Other Reviewers

In addition to the AREF international faculty and regional coordinators, the following individuals also reviewed the papers submitted for the A.K. Fosu prize.

Dr Ahmad Hassan Ahmad
School of Business & Economics, Loughborough University

Dr Simon Coleman
School of Business & Economics, Loughborough University

Johannes Euler
Institute for Advanced Study in the Humanities, Germany

Wadjamsse Beaudelaire Djezou
University of Bouaké/Ivorian Center for Economic and Social Research (CIRES), Côte d'Ivoire

Dr. Julius Kotir
CSIRO, Australia

Dr. Renee Horne
Wits Business School, University of the Witwatersrand

2018 African Review of Economics and Finance Conference

Full Papers and Abstracts

Inequality, social comparisons and income aspirations: Evidence from a highly unequal country

Dorrit Posel
University of the Witwatersrand and
Michael Rogan
Rhodes University

Abstract

We investigate the formation of minimum income aspirations in South Africa, a country characterised by high poverty rates and high and rising rates of inequality. Consistent with studies from both developed and developing countries, we find that aspirations increase significantly with own income and with the income of others in the community, relationships which likely reflect processes of adaptation through habituation and social comparison. We add to this literature by showing that aspirations are positively (and not negatively) associated with local levels of inequality and that aspirations respond differently to the relative success of different reference groups.

Income inequality and FDI in South Africa: An Auto Regressive Distributed Lag (ARDL) Approach

Kholiswa Malindini

University of the Witwatersrand

Abstract

This paper endeavours to examine the impact of FDI on income distribution in South Africa. The study utilized annual time series data covering the period 1970–2016, and employed an Auto-Regressive Distributed Lag Model (ARDL) and the error correction method (ECM) to investigate the long –run and the short-run parameters between the observed variables. The regression results suggest a long-run cointegration relationship among the variables. While FDI, education, domestic investment and trade openness have negative and statistically significant coefficients which suggests that these variables reduce income inequality in South Africa in the long run; financial development has a positive and a statistically significant coefficient and this implies that there is still a gap between the rich and the poor as far as access to credit markets is concerned, and this aggravates income inequality. This study recommends that more investment-inducing activities for both domestic and foreign investments be encouraged in parallel with increased investments in human capital development, as well improved access to capital markets through allowing the poor to invest in high return investments in order to achieve inclusive economic growth.

Keywords: *FDI, income inequality, cointegration, Error Correction Model*

Introduction

The South African economy has for the past two decades experienced an increase in Foreign Direct Investment (FDI) inflows. However, this increase in FDI inflows has also been accompanied by a substantial increase in income inequalities in the country. For instance, the United Nation's Conference on Trade and Development (UNCTAD, 2017), reports that FDI inflows into South Africa averaged $3114 million between 2005 and 2015. It is worth noting that despite the decline in FDI inflows in 2015 due to commodity prices, inflows to South Africa rose by 31% to $2.3 billion and it remained the top FDI destination in the region and in the continent.

Meanwhile, StatsSA (2016) reports that the Gini coefficient increased from 0.6 in 1970 and reached an all-time high of 0.69 in 2010 after which it declined to 0.66 in 2016. Despite the decrease to 0.66, this Gini coefficient is still higher compared with other countries resulting into South Africa being among the high income inequality countries in the world. This is somewhat worrying given that inequality has a potential to constrain growth, (Alesina and Rodrik, 1994); and this may probably be an indication that South Africa may not be able to achieve the 5.4 percent yearly growth rate as stated in the National Development Plan. Additionally, income inequality is directly associated with the economic state of affairs of the

country as well as social and political conditions (Milanovic and Ersado, 2010); and not only is it damaging to domestic economic growth it also weakens regional development policies.

The literature points out that the mobility of factors of production inspired by the presence of Transnational Companies (TNC) in the host country affects income distribution, (Figini and Gorg, 1999). Although many studies have found FDI to play a crucial role in stimulating economic growth, productivity and to improve the welfare of the citizens particularly in developing host countries, for example, (Chen and Chang, 1995; Olofsdotter, 1996; De Mello, 1999; Dollar and Kraay ,2000; Klein, Aaron and Hadjimicheal, 2002; Ericsson and Irandoust, 2001a; Lumbila, 2005; Li and Liu, 2005; Neuhaus, 2006; Johnson, 2006; Ndikumana and Verick, 2008; Gohou and Soumare, 2012; Umoh, Jacob, and Chuku, 2012 and Lehnert, Benmamoun, and Zhao, 2013) there are fears that despite the critical role that FDI plays in promoting growth and development in host countries; it is also responsible for the widening inequality gap in developing countries particularly in Africa (Cornia and Lipumba, 1999; Feenstra and Hanson, 1997 and Herzer, and Nunnenkamp, 2012).

Despite these fears, empirical literature is still inconclusive regarding the extent to which FDI impacts income inequality in the host country. Two competing arguments are identified, FDI on one hand, reduces income inequality when implemented in sectors that employ low-income unskilled labour, (Deardorff and Stern, 1994) or when capital, whether domestic or foreign enhances economic growth and its benefits ultimately spread all over the whole economy, (Tsai, 1995). With that said, Ramos, Ranieri and Lammens, (2013) compiled an inclusiveness index which ranges between 0 and 1, where zero implies good performance in terms of inclusiveness whereas 1 implies poor performance. The index reveals that South Africa has an inclusive value of 0.75 which implies that economic growth is not inclusive. Given this report, FDI is expected to perpetuate income inequality in South Africa.

To this end, it is crucial to identify FDI-attracting sectors and understand their distributional effects. Interestingly, Bogliaccini (2017) report that due to skill preconceptions, FDI inflows to the services sector widen income inequality than FDI in other sectors.

Both rising income inequality and increasing FDI inflows have received considerable attention in South Africa recently; however the emphasis was more on finding the efficiency outcomes of FDI (see, Asafo-Adjei, 2007; Adams, 2008; Masipa, 2014; Matjekana and Masipa, 2015 and Nchoe, 2016) while some studies focused more on the determinants of FDI in South Africa, for example, Fedderke and Romm, 2006; Luiz, Stephan, Luiz and Stephan, 2011. With regard to income inequality in South Africa; no research has been undertaken to examine the impact of FDI inflows on income inequality in South Africa.

Against this background, this paper argues that empirical evidence is still ambiguous regarding the effect of FDI on income inequality and to fill this gap by using the Gini coefficient data drawn from the Global Consumption and Income Project database (GCIP) 2016 to examine the impact of FDI on income inequality in South Africa. Specifically, it seeks to establish whether encouraging FDI inflows into the country widens the income inequality gap or not. It also aims to examine both the long and the short-run effects of FDI on income inequality in South Africa.

To accomplish these objectives, the study controls for domestic investment, education , openness and financial development and employs an Auto Regression Distributive Lag (ARDL) model which is robust for small samples and is applicable irrespective of the order of cointegration of variables. The novel aspect of this paper is its country-specific nature which

limits the generalization of results; it employs a different regression model which is robust and controls for endogeneity of FDI.

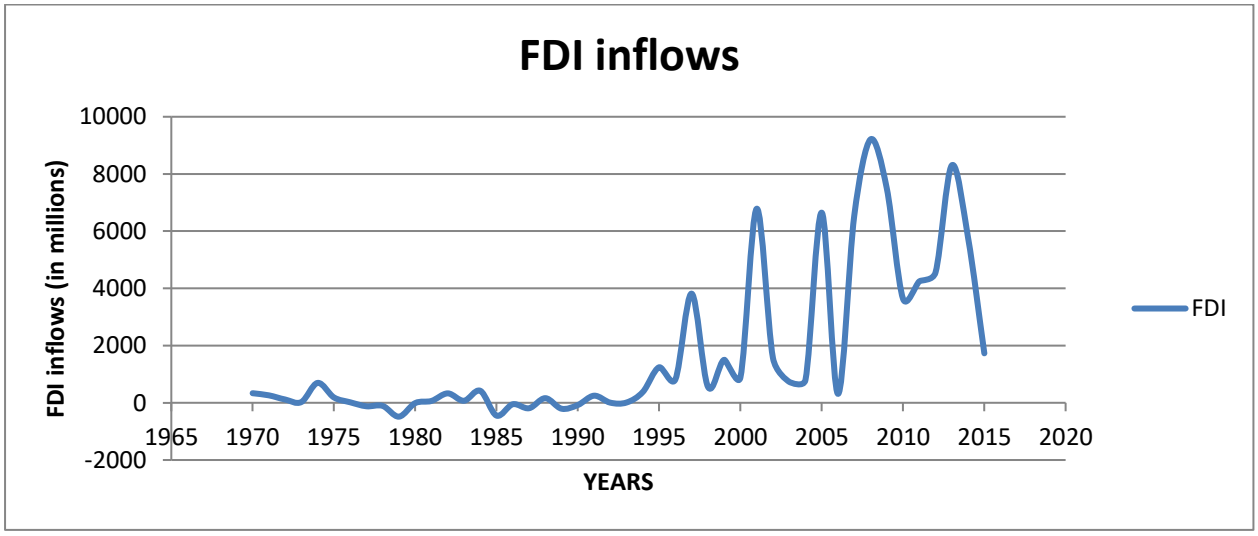
The rest of the paper is structured as follows: section 2 presents the overview of FDI and income inequality in South Africa, section 3 presents a theoretical review and empirical evidence, section 3 presents the ARDL model and the data sources used, while Section 4 presents empirical results and interpretations, Section 5 evaluates findings, draws conclusion and presents policy recommendations.

An overview of FDI and Income inequality in South Africa

FDI

The World Bank defines FDI as the net inflow of investment to acquire a lasting management interest (10% or more) in an enterprise operating in an economy other than that of the investor. FDI attraction is vital for the achievement of both macroeconomic objectives and development agenda in Africa. Economic globalization coupled with the belief that FDI-led growth addresses socio-economic challenges has seen countries formulate policies and strategies all aimed at attracting more FDI. South Africa is no exception as it has also enhanced FDI inflows through the implementation of FDI-enhancing policies such as the Bilateral Investment Treaties (BIT), International Investment agreements and investment promotion agencies (IPA). Consequently, the inward FDI trend has been rising in South Africa in the past three decades, United Nation's Conference on Trade and Development (UNCTAD, 2017).

Figure 1: Trend of FDI inflows in South Africa



Source: World development indicators- 2018

As evident in figure 1 above, from the 1970s to the early 1990s, South Africa experienced close to zero and below zero after which it fluctuated and reached an all-time high in 2008. Inflows peaked again in 2013 and due to a decline in commodity prices a inflows declined in 2015.

According to UNCTAD (2017) report, FDI inflows into South Africa averaged $3114 million between 2005 and 2015. It is worth noting that despite the decline in FDI inflows in 2015 due

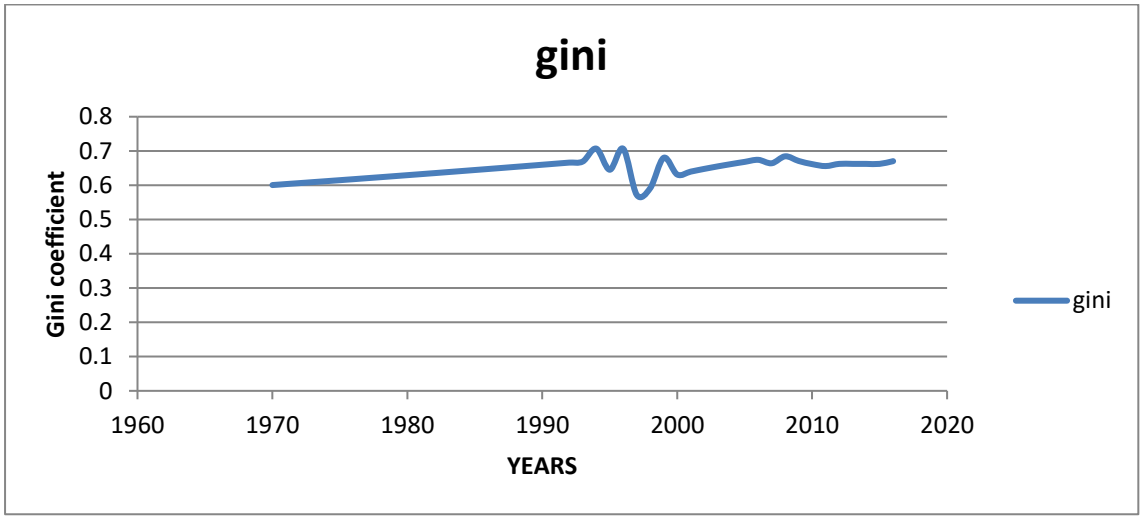
to commodity prices, inflows to South Africa rose by 31% to $2.3 billion and it remained the top FDI destination in the region and in the continent as can be seen in table 1 below.

Income Inequality

According to Ogunyomi, Daisi, and Oluwashikemi (2013) income inequality refers to the extent to which incomes are unequally distributed in a particular country.

Various methods are available to measure income inequality; however, the Gini coefficient is the most popular measure. The Gini is calculated from the Lorenz curve and when multiplied by 100 a Gini index is obtained which ranges between 0 and 1. A Gini coefficient that is approximately equal to zero implies that incomes are equally distributed while 1 implies that incomes are unevenly distributed.

Figure 2: Gini coefficient trend



Source: Global Consumption and Income Project- 2016

As seen in figure 2, the Gini coefficient depicts a positive trend from 1970 to 2016. For instance, while some African countries indicate a downward trend in terms of income inequality, for example Cameroon, Sierra Leone, and Kenya; others such as South Africa, Botswana and Zambia recorded the highest Gini coefficients of about 0.66, whereas Tanzania, Tunisia, Nigeria and Morocco recorded a Gini coefficient of about 0.4; and lastly Mauritius recorded a lowest Gini of about 0.2 on average, (Kaulihowa & Adjasi, 2017). Most importantly, the authors note that income inequality has widened in South Africa since 1994 and this hinders the effectiveness of welfare enhancement policies thereby making it difficult for economies to tackle the pressing concerns of social welfare such as the achievement of Sustainable Development Goals (SDG).

Moreover, South Africa is amongst the top outlier countries that drive income inequality in the continent which leads to the continent's Gini being significantly higher than the global average, (UNDP, 2016). Additionally, Oxfam South Africa in its 2016 report confirm that income inequality is exploding in South Africa with the rich getting richer and the poor getting poorer.

Generally, economic growth is often seen as the solution to the problem of income inequality; however, it is worth asking what is happening to growth while this explosion in inequality is continuing. According to Ostry, Berg, & Tsangarides (2014) income inequality destabilizes economic growth; and only countries with lower income inequalities have managed to achieve higher growth rates.

To this end, rising income inequality is worrying in South Africa particularly after the introduction of the Promotion and Protection of Investment Bill with which the government aims to endorse new regulations to ensure that FDI contributes to economic development. It is therefore crucial to tackle the income inequality problem as it impacts negatively the progress towards the attainment of SDGs, leading to inefficient resource allocation, wasted productive potential, high dependency ratio and impaired institutional development'.

Empirical literature

A number of studies have proven that FDI increases income inequality, whereas other studies found that FDI reduce income inequality. This study extensively examines various literature findings so as to draw inferences on the controversial issue at hand.

Feenstra and Hanson (1997) examined the effect of FDI on income inequality found that FDI accounts for over 50% of the increase in the labour wage share of total wages. Figini and Gorg (1998) extended by Feenstra and Hanson (1997) argue that the impact of FDI inflows on income distribution varies with development stages. It is assumed that the initial arrival of multinationals brings about technology spill-overs and mainly improves the skills of white-collar workers, thus increasing their productivity and wage. This is consistent with Mundell-Fleming model which argues that an increase in inward FDI in developing countries leads to a reduction in income inequality.

te Velde (2003) found that FDI tends to reduce income inequality at macro level; while micro evidence indicates that TNC compensate their employees more than their local counterparts even after controlling for the market size, location and industry (Jensen and McGillivrary, 2000; and Jenkins and Sen,2003) support this view.

Tsai (1995) concluded that FDI has increased income inequality in some of the Asian countries. Similar findings were reported by (Herzer, Hühne, and Nunnenkamp, 2014; Herzer and Nunnenkamp, 2011; Mihaylova, 2015 and Reuveny and Li, 2003). Additionally, Figini and Gorg (1998) state that wage inequality decreases with FDI stocks in developed countries, while in developing countries wage inequality increases with FDI stock, however, the effect is said to lessen as FDI further increases.

Furthermore, Bhandari (2007) developed a model predicting that FDI reduces income inequality. The findings provide evidence supporting that total FDI reduces income inequality. Herzer & Nunnenkamp (2011) examined the link between FDI and income inequality. They found that FDI has positive short run effects on income inequality; and a negative effect in the long run. This finding is consistent with Basu & Guariglia (2007) and Reuveny and Li (2003) and Choi (2006), Ucal and Haug (2014); Aghion and Howitt 1998; Banerjee & Duflo, 2003; and Dahan & Tsiddon, 1998) and Msweli (2015) who found FDI to have promoted inequality in the short run but reduced it in the long run.

The Stolper-Samuelson factor endowment trade model (1941) predicts that free trade will raise incomes of abundant factors and lower the incomes of scarce factors; however, empirical evidence is still inconclusive. For instance, Borraz and Lopez-Cordova, 2007 and Hanson and Harrison, 1999), Wood (1997) find that countries with open economies have more equal distribution of incomes. Thus, trade increases the income of the factors that are intensively utilized by exporters.

While Anderson (2005) and Adams (2008) find little impact of trade on overall income inequality; Edwards (1997) found no evidence of a link between the two variables; whereas Ogunyomi, Daisi and Oluwashikemi (2013) found trade to aggravate income inequality in Nigeria.

Literature suggests that financial development has a significant effect on income inequality in developing countries and it is assumed that when financial markets operate fairly well, they provide better opportunities to all market participants to take advantage of efficient and profitable investments, and to avoid risks, however, inconclusive results are found. For instance, Greenwood and Jovanovic (1990) as stated in (Liang, 2006) predict a U-shaped relationship between the two variables; this is based on the view that financial development will widen income inequality at the early stages of development but when more people get access to financial intermediaries while their incomes are also increasing then overall level of income inequality decreases. Seven and Coskun, (2016) found that even though financial development stimulates economic growth in developing countries it does not benefit low income earners.

Galor and Zeira 1993; Banerjee and Newman 1993 find a negative and a linear relationship between income inequality and financial development which suggests that financial development reduces income inequality. Li, Squire and Zou (1998) examined the link between financial development and income inequality and found that well developed financial markets tend to reduce income inequality. Clarke et al. (2006) investigated the link between finance and income inequality, their findings suggest that as institutions develop income inequality declines.

Data Description and Methodology

The data

Using time series data from 1970 to 2016, this paper applies the Auto Regressive Distributive Lag bounds testing approach to assess the both the long run and the short run relationship between income inequality and FDI. The data utilized in this paper is drawn from World Development indicators except for the Gini coefficient data which is drawn from the Global Consumption and Income Project (GCIP 2016).

The model

This paper examines the short and the long run relationship between FDI and income inequality in South Africa. FDI is the main explanatory variable and the study controls for domestic investment, education, trade openness and financial development.

The estimated model is specified as follows:

$$\boldsymbol{GINI_t = f(fdi_t,\ di_t, edu_t, top_{t,}\ fd_{t,} e_t)} \quad (1)$$

Where *Gini* measures income inequality using Global Consumption and Income Project (GCIP) data), *FDI* is foreign Direct investment net inflows as a percentage of GDP, *di* is domestic investment and gross fixed capital formation as a percentage of GDP is used as a proxy, *edu* is education measured using gross primary school enrollment as a proxy, *top* is *trade openness* measured as the sum of exports and imports over GDP, *fd is financial development measured by real domestic credit to private sector as a percentage of GDP,* and e_t is the error term and lastly *t* refers to time.

Given the capital intensity of the FDI attracting sectors in South Africa, *FDI* is expected to have a positive impact on income inequality. While Mah (2003) predicts *DI* to be positively related to income inequality, the neoclassical theory expects a negative relationship, as *DI* increases, more jobs are created and thus income inequality narrows, thus this paper supports the neoclassical theory. Meanwhile, the dependency theory predicts a positive relationship between *TO* and income inequality, Stolper-Samuelson through a factor endowment model argues that trade openness reduces income inequality, this is based on the view that income distribution improves if trade is pro-poor. With that said,trade openness is expected to perpetuate income inequality in South Africa due to the presence of TNC who target highly skilled labour. With regard to financial development and income inequality, this paper concurs with Greenwood and Jovanovic (1990) who predict a U-shaped relationship between the two variables. Thus, financial development is expected to increase income inequality in the short-run but reduce in the long run. Lastly, education is expected to reduce income inequality.

Econometric approach

To estimate both the short and long run relationship, the study employs the Auto-Regressive Distributed Lag (ARDL) approach to cointegration. This model is preferred for its ability to produce reliable estimates in small samples and also provides a cross-check for the robustness of the results, (Gujarati and Porter, 2009). The model does not have to establish the order of cointegration among the variables. Additionally, with ARDL it is possible to have different variables with differing number of lags.

Thus, the ARDL model employed in this study is specified as follows:

$$\Delta Y_i = \beta_0 + \pi_{yy}\, y_{t-1} + \pi_{yx} X_{t-1} + \sum_{i=1}^{p} \vartheta i\, \Delta y_{t-1} + \sum_{j=0}^{m=1} \emptyset \Delta x_{t-j} + \theta w_t + e_t \qquad (2)$$

Where:

π_{yy} and π_{yx} are long run multipliers; β_0 Intercept of the relationship in the model or a constant. θw_t is a vector of exogenous components. Lagged values of ΔY_i and Δx_{t-j} are used to model the short run dynamics of the variables, $\mathrm{e_t}$ is the Error term.
The error correction version of the ARDL model pertaining to the observed variables as it appears in equation (1) is specified as follows:

$$\Delta lnGINI_t = \beta_0 + \sum_{i=1}^{p} \omega_i\, \Delta lnGINI_{t-i} + \sum_{i=0}^{q} \gamma_i\, \Delta lnFDI_{t-i} + \sum_{i=0}^{r} \delta_i\, \Delta lnDI\, i_{t-i} + \sum_{i=0}^{s} \pi_i\, \Delta lnED_{t-i} + \sum_{i=0}^{t} \vartheta_i\, \Delta lnTOP_{t-i} + \sum_{i=0}^{u} \varphi_i\, \Delta lnFD_{t-1} + \rho_0\, lnGINI_{t-1} + \rho_1 lnFDI_{t-1} + \rho_2\, lnDI_{t-1} + \rho_3\, lnED_{t-1} + \rho_4\, lnTO_{t-1} + \rho_5 lnFD_{t-1} + \varepsilon_t \qquad (3)$$

Where, the parameters ρ_1 - ρ_5 correspond to long- run multipliers, whereas the remaining expressions with the summation sign represent the short-run dynamics of the ARDL model. Δ is the first difference operator and $\boldsymbol{e_t}$ is the white-noise disturbance term.

If a long run relationship is detected among the variables, the long-run model for the Gini coefficient can be estimated as follows:

$$\Delta lnGINI_t = \alpha_0 + \rho_0\, lnGINI_{t-1} + \rho_1 lnFDI_{t-1} + \rho_2 ln\, DI_{t-1} + \rho_3\, lnED_{t-1} + \rho_4\, lnTOP_{t-1} + \rho_5 lnFD_{t-1} + \varepsilon_t \quad (4)$$

To estimate the short run dynamics the following Error Correction Model (ECM version of ARDL) was estimated.

$$\Delta lnGINI_t = \beta_0 + \sum_{i=1}^{p}\omega_1\, \Delta lnGINI_{t-i} + \sum_{i=0}^{q}\omega_2 \Delta lnFDI_{t-i} + \sum_{i=0}^{r}\omega_3\, \Delta lnDI_{t-i} + \sum_{i=0}^{s}\omega_4\, \Delta lnED_{t-i} + \sum_{i=0}^{t}\omega_5\, \Delta lnTOP_{t-i} + \sum_{i=0}^{u}\omega_6\, \Delta lnFD_{t-1} + \propto EC_{t-i} + e_t \quad (5)$$

Where, ω_1- ω_6 are short-run parameters and $\propto \mathrm{EC_{t-i}}$ is a lagged error correction term obtained from the long- run equilibrium relationship. It represents the adjustment coefficient and should be negative, less than one and statistically significant in order to confirm the cointegration relationship.

According to Gujarati and Porter (2009) the presence of a unit root implies that the time series under investigation is non-stationary; while the absence of a unit root shows that the stochastic process is stationary. Even though the ARDL accommodates all variables irrespective of the order of cointegration, it cannot be estimated if the series includes variables with I(2). Thus, the fundamental properties of a time series were verified through the application of a unit root test at levels and first difference using both the Augmented Dickey Fuller test (ADF) and the Philips Perron tests. This is to ensure that no variable is integrated of *I*(2) and to avoid spurious results.

After ensuring that all the variables are integrated of *I*(0) OR *I*(1) but not *I*(2) then one can proceed to examine the presence of the long run relationships in equation (3). The ARDL analysis begins with testing for a long run relationship. This approach encompasses the comparison of the F-statistic against the critical values, as stated in (Pesaran, Shin & Smith, 2001). The authors report two sets of critical values that provide critical bounds for all classifications of the regressors into I(1), purely I(0) or mutually cointegrated. In order to test for the existence of a long run cointegration for the proposed model, the study employs an ARDL model bounds F-statistic test where hypothesis testing of no cointegration on the levels of variables is conducted for equation (4).

If the F-statistic exceeds the upper critical value, the null hypothesis of no long run relationship is rejected irrespective of whether the time series are integrated of the same order. And we fail to reject the null hypothesis if the opposite happens. However, if it lies within the lower and the upper bounds, then the results are inconclusive.

Estimation Results

Based on Table 2, the study confirmed that for both the ADF and PP tests the variables contained a unit root at level except for FDI. However, after first differencing all the variables were *I* (1) mostly at 1% significance level. Thus, this made ARDL bounds testing approach the appropriate method for examining cointegration.

Table 2: Unit root test Estimation

		ADF		PP	
	Variable	Intercept	Intercept and trend	Intercept	Intercept and trend
Level	LGINI	-4.24231	-5.66502	-4.276889	-5.746523
	LFDI	-1.33313	-5.868967*	-4.788854*	-5.858339*
	LEDUCATION	-1.25744	-1.452633	-1.545901	-1.753935
	LDOMESTIC_INVESTMENT	-1.7106	-2.037	-1.54134	-1.933583
	LTOP	-1.959942	-2.192089	-1.980236	-2.099978
	LFINANCIAL_DEVELOPMENT	-0.547056	-2.561166	-0.389027	-2.468815
1st Difference	LGINI	-8.186401*	-8.129193*	-15.54538*	-16.1463*
	LFDI	-8.585818*	-8.49533*	-18.04164*	-18.4812*
	LEDUCATION	-5.6103*	-5.542193*	-5.653817*	-5.588572*
	LDOMESTIC_INVESTMENT	-7.04841*	-7.04785*	-7.614254*	-8.769283*
	LFINANCIAL_DEVELOPMENT	-6.490814*	-6.419881*	-6.607281*	-6.523898*
	LTOP	-6.624056*	-6.549164*	-8.052112*	-8.319062*

Notes: *denotes the rejection of the null hypothesis at 1% level of significance. The optimal lag is determined from the Schwarz information criterion (SC).

Table 3 presents the test results for a long run relationship between the variables; the F-statistic value is 6.0 and is greater than the upper bound critical value of 3.79 at 5 percent level of significance. This implies that there is a long run relationship between the dependent and the explanatory variables. And thus the null hypothesis of no long run relationship is rejected. This means that the ECM version of the ARDL is the appropriate approach for estimating a long run relationship amongst the variables.

Table 3: Bounds test results

F-Statistic value	Significance level	Bound critical values	
		I(0) bound	*I*(1) bound
6.014720	10%	2.26	3.35
	5%	2.62	3.79
	1%	3.41	4.68

Table 4: ARDL Estimated Short-run coefficients (ECM) RESULTS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI)	-0.002925	0.002381	-1.228653	0.2272
D(EDUCATION)	0.000342	0.000787	0.433874	0.667
D(EDUCATION(-1))	0.001467	0.000785	1.868424	0.0699
D(DOMESTIC_INVESTMENT)	0.000355	0.001622	0.218974	0.8279
D(FINANCIAL_DEVELOPMENT)	0.000756	0.000458	1.649464	0.1078
D(TOP)	-0.000554	0.000844	-0.656356	0.5158
C	0.724941	0.11353	6.385432	0.0000
ECT(-1)	-1.021263	0.159807	-6.390603	0.0000
R^2= 0.930495 Adjusted R^2 = 0.304954 F-statistic = 1.487505				

Table 4 presents the short-run coefficient estimates obtained from the Error Correction Model (ECM) version of the ARDL. These coefficients indicate the speed of adjustment of the dependent variable back to equilibrium after a short run shock. According to Gujarati and Porter (2009) when the error correction term is negative and significant, a conclusion can be drawn that there exists a long run causality running from explanatory to the dependent variable.

In table 4, the error correction term (-1.0) is negative and highly significant, this suggests a long run relationship running from explanatory variables to the dependent variable. It also confirms that all the variables are cointegrated. It can also be concluded that about 100 percent gap between long run equilibrium value and the actual value of the dependent variable (Gini) has been corrected. It can be also said that the speed of adjustment towards long run equilibrium is 100 percent annually.

Table 5: Estimated long-run coefficients using ARDL approach

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.02097	0.000322	-65.163194	0.0098
EDUCATION	-0.01941	0.000026	-74.16519	0.0086
DOMESTIC_INVESTMENT	-0.04500	0.000071	-6.341125	0.0996
FINANCIAL_DEVELOPMENT	0.013780	0.000018	78.269739	0.0081
TOP	-0.03755	0.000085	-44.272754	0.0144
C	0.925839	0.004185	221.246447	0.0029

Table 5 presents the estimated coefficients of the long run relationship amongst the observed variables. Based on the output from the model of income inequality, the results suggest that FDI, Education, domestic investment and Openness have negative coefficients

and are statistically significant at 1 % and 10% levels of significance. This implies that these variables reduce income inequality in the country. For instance, in the long run a 1 percent increase in FDI inflows into South Africa ,'other things being equal' leads to a 2 % decrease in income inequality. This finding is consistent with the Kuznets U-shaped hypothesis, which predicts that at the early stages of development, FDI rises with income inequality, however as development advances, an inverse relationship is observed.

These findings suggest that a 1 % increase in education, ceteris paribus, reduces income inequality by 2% in the long run. This finding is consistent with Saint-Paul and Verdier, 1993; Eckstein and Zilcha, 1994; and , Karaman, Bogovi, and Jezic, 2006; Viaene and Zilcha, 2001; as well as Jin and Lee 2013, who also found education to be one of the influential areas of both economic and social policy which reduces income inequality in the long-run.

Furthermore, the results reveal that a 1% increase in domestic investment leads to a reduction of income inequality by 0.05% in the long run. This finding supports the neoclassical theory which predicts a negative relationship, based on the view that as domestic investments rises more job opportunities are created and thus more people become employable. The findings further suggest that a 1% increase in trade openness reduces income inequality by 0.04% in the long run. This suggests that trade liberalization has an income inequality reducing effect in South Africa. This finding is consistent with Anderson, 2005 and Adams, 2008 who also found trade openness to reduce income inequality. This finding also supports Stolper–Samuelson theorem that trade openness reduces income inequality.

On the other hand, financial development has a positive and a statistically significant coefficient at 1 percent level of significance. These results suggest that financial development gives rise to income inequality. These findings reject the inverted U-shaped relationship predicted by Greenwood and Jovanovic (1990) but supports Banerjee and Newman (1993) who assert that financial development may perpetuate income inequality when opportunities to invest in profitable investments are restricted to rich individuals whose wealth is larger than a threshold level. Thus, under conditions of imperfect financial markets; only individuals with wealth larger than this threshold level may be able to take the high return investments while those with no wealth will not. Thus, the rich become richer while the poor with no access to markets become poorer.

Table 6: Diagnostic tests

	Statistics	p-value
Serial Correlation	$F(2,29) = 0.920091$	0.5208
Heteroscedasticity	$F(11,31) = 1.422660$	0.4049
Normality	$= 1.738976$	0.41916

The findings suggest that the model passed all the diagnostic tests. This implies that there is no evidence of serial correlation at 5% level of significance; the data are normally distributed and white heteroscedasticity does not exist in the model. In order to test the stability of the coefficients, the cumulative sum (CUSUM) is applied and the results are presented in figure 1 below.

Figure 3: Stability test

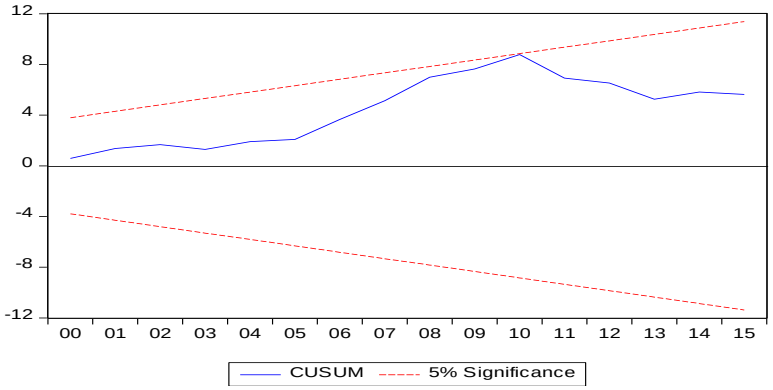


Figure 3 suggests that the CUSUM is within the 95% confidence band and this confirms the stability of the ARDL model coefficients in explaining income inequality in South Africa.

Conclusion and recommendations

This study used the ARDL model to examine both the short and the long-run relationship between income inequality and FDI inflows in South Africa for the period 1970 – 2016. The empirical analysis was done using bounds testing of the ARDL model and the results suggested that the series have a long-run association. An error correction representation was also identified whereby the associated error correction term was negative and statistically significant thus confirming the existence of a long-run relationship. The stability test suggested that the model is stable; meanwhile, diagnostic tests also indicated that the model has no serial correlation; all the variables are homoscedastic and normally distributed.

In summary, the outcome of the analysis suggests that FDI inflows reduce income equality in the long run. This implies that FDI- inducing activities in South Africa tend to reduce income gap by employing primarily low-skilled workers. Thus, based on these findings, in order to address income inequality, it is recommended that more incentives be given to foreign companies so as to stimulate a conducive investment climate that more job opportunities not only to high-skilled workers but also to semi-skilled workers and low-skilled workers, since trade openness has an income inequality reducing effect. Noteworthy, even though FDI inflows as per the findings of this study reduce income inequality; a continued effort to encourage FDI inflows into services sector will widen income inequality thus constraining inclusive economic growth.

Furthermore, more investments in human capital are recommended if the country is to achieve inclusive economic growth. Lastly, financial development can help reduce income inequality only if the country exposes the poor to better life through improved access to capital markets, and allowing the poor to invest inn high return investments. This could also be done through encouraging entrepreneurial skills amongst the poor for them to engage in productive activities and more importantly granting them access to higher education in key areas such as science so as to eventually become more innovative. Policy makers should pay attention to the financial sector as mismanagement in this regard is a recipe for disaster.

While the South African public policy aims at stimulating FDI inflows into the country so as to promote economic growth and development, this FDI promotion should happen in parallel

with the development of human resource which provides a favorable environment for all firms. Lastly, this study recommends that links between higher order value-added sectors such as services and manufacturing be created for sustainable and inclusive economic growth. These findings have opened opportunities for further research, for instance, FDI as per the findings reduces income inequality in general in South Africa. However, given that FDI flows unevenly in the country, it is important to identify the most FDI attracting sectors in the country and the effect thereof on income inequality. This can be done through the use of sectoral level FDI data.

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Determinants of Happiness and Happiness Inequality in South Africa

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Abstract

South African literature in inequality is restricted to income inequality. This paper sought to explore the trends and determinants in happiness inequality using the four waves of National Income Dynamics data. The findings indicate that while both happiness as well as income levels have increased in recent years, the inequality trends differ substantially between income and happiness measures. Despite increase in income inequality, South Africa has been registering increased happiness inequality. The paper identifies the significant determinants of happiness in South Africa and finds that the Easterlin paradox does not apply within South African context with income levels seen to positively and significantly contribute to happiness levels. The paper also found a positive and significant relationship between income inequality and happiness inequality. The papers findings indicate that happiness inequality may be a supplementary measure of inequality as it shows to differ from income inequality.

Financial Regulation and Financial Inclusion in Sub-Sahara Africa: The Moderating Role of Financial Stability

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Abstract

This paper investigates the impact of financial regulation on financial inclusion in sub-Sahara Africa considering the moderating role of financial stability. We examine the empirical relations between financial regulation and financial inclusion using a multivariate Mixed Effect framework. We obtained data from World Development Indicators (WDI) spanning from 1990 to 2014 for 48 sub-Saharan African countries. The results show that financial regulation has a negative effect on financial inclusion in sub-Sahara Africa, suggesting that tight financial regulatory reforms in a form of increase in bank regulatory capital requirement does not enhance financial inclusion. The results also show that, the interaction of financial stability and financial regulation has a positive effect on financial inclusion in sub-Sahara Africa. This suggest that financial stability negates the negative effect of financial regulation on financial inclusion in sub-Sahara Africa economies. It implies that, financial regulation has no effect on financial inclusion when financial institution are financially stable. The implications of our study is that, one of the ways sub-Sahara Africa countries can increase and get the most out of financial inclusion is to pursue policies that facilitate financial stability and deregulation of the financial sector. Such policies should be geared towards reducing the capital regulatory requirement of financial institutions, reducing transaction cost, promoting economic growth and other constraints that limit the operations and efficiency of financial institutions.

Non-linear relationship between Financial Development, Economic Growth and Growth Volatility: Evidence from Nigeria.

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Abstract

The relationship between economic growth, growth volatility and financial sector development continues to attract attention in the theoretical and empirical literature. Over time, some studies hypothesize that finance has a causal linear relationship with growth. Recently several other authors contradict this claim and argue that the relationship that exists between finance and growth is nonlinear. We investigate these claims for Nigeria for the period between 1970 and 2015, using semi-parametric econometric methods, Hansen sample splitting techniques and threshold estimator. We observed no evidence of 'Too much finance' as claimed by many researchers in recent times. We show that the relationship between financial development and economic growth is U-shaped. This is equally true for the relationship between financial development and growth volatility. We also discuss policy implications of our findings and recommend financial innovations and decentralization of stock exchanges to boost access to financial services, in addition, improved regulation to enhance financial market efficiency.

The capital account liberalization and financial sector development nexus: Evidence from Sub-Saharan Africa

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Abstract

The late 1980s saw a massive policy shift in Sub-Saharan Africa (SSA) resulting in many countries moving towards more liberal capital account regimes. This was motivated by the belief that capital account liberalization (CAL) would improve efficiency in resource allocation. Another potential benefit of CAL is that it can foster financial sector development. According to the Interest Group Theory (IGT), CAL reduces the influence of incumbent domestic firms thus promoting financial sector development. Despite the theoretical evidence backing the effects of CAL on financial sector development, research on the matter has failed to provide conclusive evidence. Furthermore, research for SSA has been scant. This paper, therefore, examines the effects of CAL on financial sector development in SSA from 1996 to 2013. The study uses dynamic panel data from 22 SSA countries and employs System Generalized Method of Moment's (GMM) estimation. The results show that capital account liberalization and trade opening, individually, have a negative influence on financial sector development in SSA. However, simultaneously opening up the capital and current accounts does foster financial sector development. The study also found that institutions play a small role in enhancing the effects of CAL on financial sector development.

Key words: *capital account liberalization, financial sector development*

Introduction and background to the study

The collapse of the Bretton Woods system, in the 1970s, saw many countries move towards capital account liberalization (CAL). Starting with the United States of America, many developed countries began to remove restrictions on capital flows to allow free movement of capital and, thereafter, many developing countries began to follow suit. However, after the crises in Mexico, Russia and South East Asia in the mid-1990s, there was a slow-down in the support for CAL (Licchetta, 2006).This is because most of these crises were viewed to be a result of rapid liberalization of capital accounts or coupling CAL with fixed exchange rate regimes. As such there was a switch in the IMF's stance to advocate for liberalization on condition that it is done in a well sequenced manner and with the appropriate prerequisites in place (Licchetta, 2006).

In Sub-Saharan Africa (SSA), CAL only gained prominence in the late 1980s under the auspices of the IMF/ World Bank recommended Structural Adjustment Programs (SAPs). These programs encouraged countries to pursue more market oriented policies and move away from excessive government intervention. As such, many countries began to privatize state owned enterprises and liberalize their financial and trade sectors. The liberalization of trade in goods and services was motivated by the belief that it improves efficiency in resource allocation. In the same vein, countries began to pursue free movement of assets based on the same arguments that it improves efficiency in allocation of resources (Henry,

2006). However, liberalization of capital accounts in SSA has been done at a slower pace, unlike trade liberalization, due to perceived negative consequences of rapid liberalization of capital accounts.

To date, while Zambia, Seychelles, Botswana, Mauritius and Uganda have fully liberalized capital accounts, countries like South Africa, Nigeria and Tanzania have opted for a more gradualist approach. For most of these countries, CAL began with countries removing controls on foreign direct investment while controls on capital outflows where maintained. Between 1982 and 1992, South Africa lifted and reinstated certain restrictions on its capital flows (Bircaba, Brixiova & Ncube, 2015).
Furthermore, Nigeria began to liberalize in 1980 reaching full liberalization of foreign exchange controls in 1998. However, after experiencing capital flight, the country moved back to somewhat tighter controls.

The major motivation for liberalization of capital accounts stems from the Efficient Allocation Hypothesis, under the neoclassical growth model, which stipulates that CAL promotes efficient allocation of resources and can foster increased economic growth and investment (Henry, 2006). Proponents of CAL have also cited other benefits including increased savings mobilization, improved monetary policy formulation and consumption smoothing (Licchetta, 2006).

Another benefit of CAL is that it can promote financial sector development. This occurs through adoption of best practices and methods of financial supervision which can improve corporate governance and promote risk diversification due to sharing of risk with foreign markets (Garcia, 2012).To add on to this, the Interest Group Theory (IGT), developed by Rajan and Zingales (2003), posits that, an open capital account, coupled with an open current account, promotes financial sector development by reducing the influence of domestic incumbent firms who lobby for financial repression. The proposed effects of CAL on financial sector development have catapulted research interest and this has been garnered by the fact that financial sector development promotes economic growth (Ndikumana, 2001; Kuada, 2016; Baltagi, Demetriades & Law, 2007; Klein &Olivei, 2001). Evidently, enhanced financial sector development is a potential channel through which CAL can promote economic growth.

Despite theoretical links between CAL and financial sector development, empirical research has done little to resolve the debate on the CAL-financial sector development nexus. Some studies that have been done have confirmed the positive link between CAL and financial sector development (Klein & Olivei, 1999; Chinn & Ito, 2002). However, this evidence is only robust for developed countries and evidence for developing countries remains scant. The little research done in SSA has provided mixed evidence (Mahawiya, 2015; David, Mlachila & Moheeput, 2014).
The variation in findings on effects of CAL has led researchers to suggest that country specific characteristics, like institutional quality, play a big role in determining whether CAL will have perceived benefits on a country (Kose *et al*, 2013; Trabelsi & Cherif, 2016; Chinn & Ito, 2007).

Some researchers have gone further to suggest that only intermediate levels of institutional quality are vital for a country to receive benefits from CAL suggesting possible non-linear effects (Klein & Olivei, 2001).If a good understanding of the effects of CAL on financial

sector development, with ramifications for economic growth, is to be established, then issues of nonlinearity/asymmetries, the proper role of institutions and their spillover effects require rigorous examination.

We therefore seek to examine the effects of CAL on financial sector development in 22 SSA countries from 1996 to 2013[1]. The choice of countries sampled is largely based on the availability of data on all variables in the empirical model. The time frame for this study is based on the measure of CAL which ranges from 1996 to 2013. This paper departs from other studies by: (i) examining non-linear effects of institutional quality; (ii) investigating the CAL-FSD nexus using a broader index of FSD and (iii) employing a new index of capital account liberalization which disaggregates CAL based on asset type while capturing the intensity of capital controls. For this study, we employ System GMM estimation techniques to control for any possible endogeneity.

Financial sector development in Sub-Saharan Africa

Financial sector development involves improving financial service provision and improving access and efficiency in financial systems. A well-developed financial sector is important for the economy in that it facilitates mobilization of savings which can promote economic growth. It can also enhance creation of products and services to facilitate payments and reduce volatility in an economy by providing instruments which smooth consumption and investment (Mlachila *et al*, 2016). Moreover, Kuada (2016) highlights that, a properly developed financial system, also reduces the cost of gathering and processing information on investment opportunities and reduces problems of asymmetric information. With such benefits of a well-developed financial sector, it is worrisome to note that, currently, financial markets in SSA remain underdeveloped and characterized by a limited range of financial products, insufficient credit allocation and underdeveloped stock markets (David, Mlachila and Moheeput, 2014: Ndikumana, 2001).

After experiencing dismal economic performance, many SSA countries began to undertake reforms implemented under the IMF/World Bank Structural Adjustment Programs in the mid-1980s.This involved implementing several reforms aimed at reforming the financial sector of SSA. Reforms included: interest rate liberalization; removal of credit ceilings and preferential interest rates; and privatization of state owned banks (Gakunu, 2007). As a result, many SSA countries experienced improved performance in their financial sectors (Otchere, Senbet and Simbanegavi, 2017). This was exhibited in the form of increased number of banks and financial institutions and increased competition (Gakunu, 2007). There was also an increase in private sector credit to GDP by 10 points from 1994 to 21 percent in 2014 and a rapid expansion in Pan African Banks which have filled gaps left by international banks (Mlachila *et al*, 2016). The region has also experienced a rapid increase in mobile payments systems such as M-Pesa, M-Shwari and Airtel money which have led to increased access to financial markets.

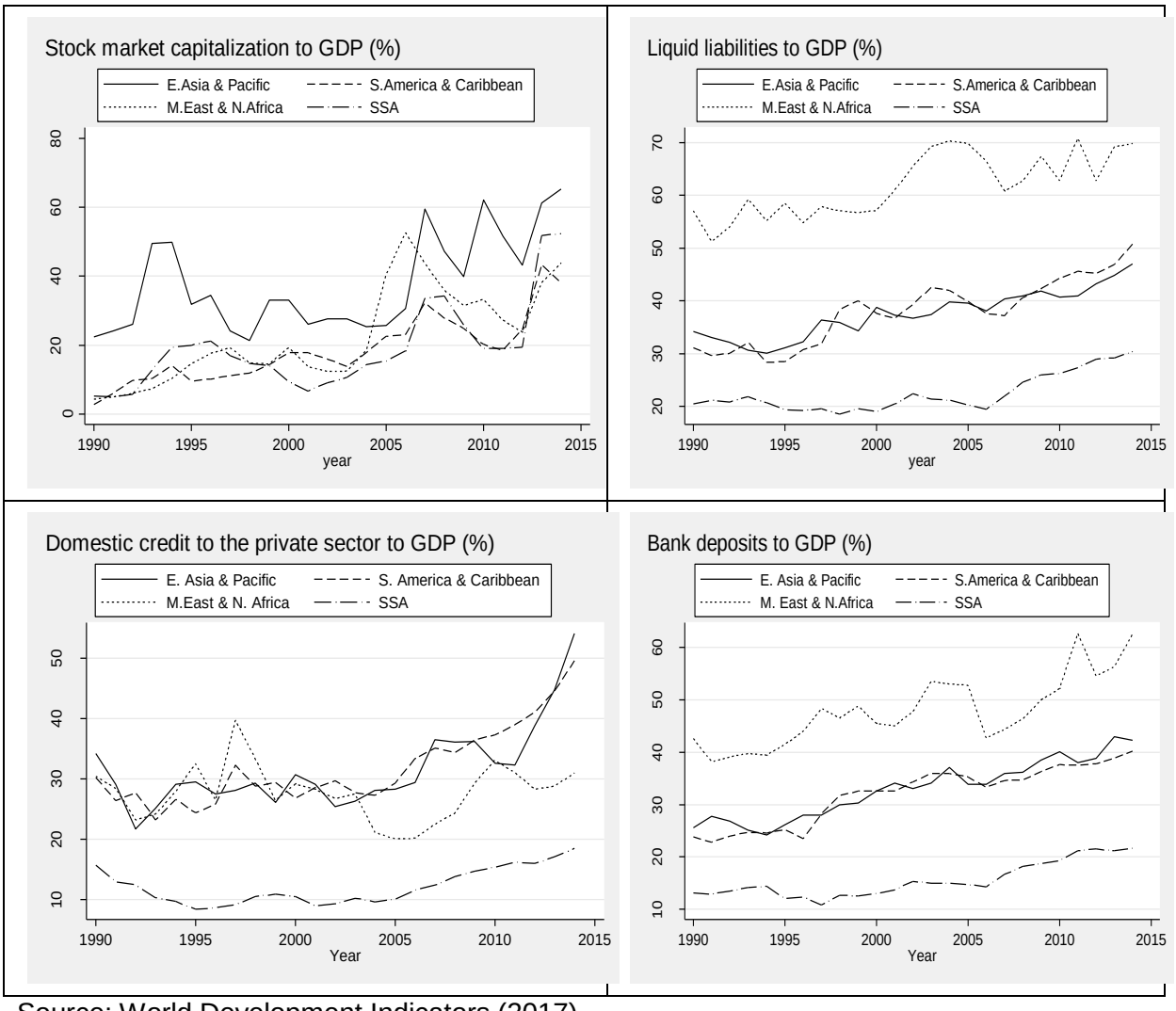
Despite this progress, SSA still lags behind in terms of financial sector development compared to other regions (Ibrahim & Alagidede, 2016; Otchere, Senbet & Simbanegavi,

[1] The list of countries sampled is included in the appendices.

2017).Firstly, the net credit to the private sector remains half the size of that in the Middle East, East Africa, Latin America and the Caribbean (Mlachila *et al*, 2016).
Stock market capitalization only grew to $294 billion in 2004 from $143 billion in 1990 compared to East Asia where stock market capitalization grew from $87 billion in 1990 to $1 trillion by 2004 (Ajakaiye, 2005). On the other hand, the number of listed companies actually declined from a 1000 in 1994 to 900 in 2004 while those in East Asia grew from 774 to 3582 in the same period (Ajakaiye,2005). To add on to this, financial deepening remains low as the ratio of broad money to GDP for SSA is about 25 percent lower than the developing country average (Gakunu, 2007). Lastly, despite the rise in mobile payments systems, financial inclusion remains low with limited access to those in hard to reach areas (Mlachila *et al*, 2016)

Figure 1 highlights some of the major indicators of financial sector development including stock market capitalization, liquid liabilities to GDP and credit to the private sector. From the graph, it is evident that SSA is lagging behind compared to other regions such as East Asia and the Middle East with regards to these financial sector indicators.

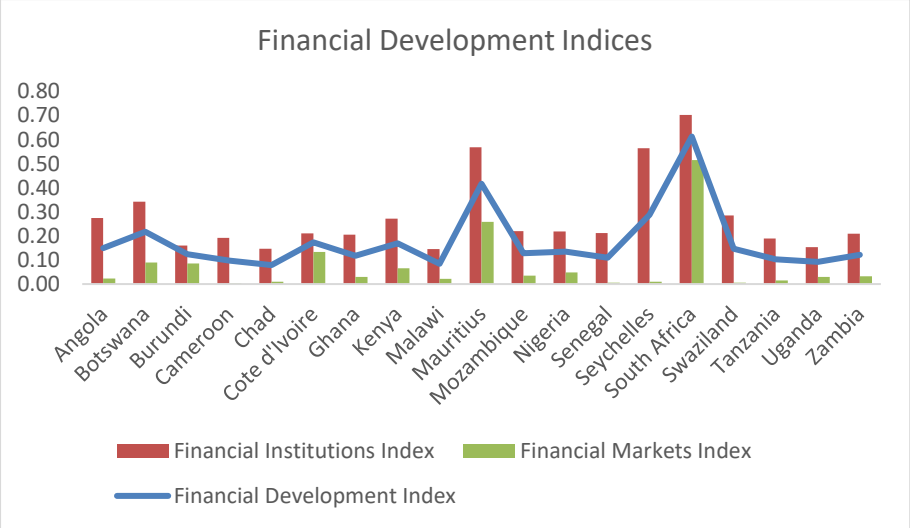
Figure 1: Financial sector development indicators (1990-2015)



Source: World Development Indicators (2017)

Figure 2 shows the asymmetries in the levels of financial sector development within SSA. The stark contrast is seen with countries like South Africa, Mauritius and Seychelles having very high levels of financial development, while countries like Burundi and Chad are at the lower end of the spectrum. The graph also shows that, for countries like Seychelles, financial institutions are more developed relative to financial markets. This is a trend which can be seen in most of SSA.

Figure 2: Financial development index (2015)



Source: IMF (2017)

Literature review

Theoretical literature review

With increasing popularity of CAL, many theories have been posited to explain the link between CAL and financial sector development. The most direct way in which CAL fosters financial sector development is through increased market size and demand for financial services. This occurs due to the fact that CAL allows agents greater opportunities for borrowing and lending across countries and unearths new sources of finance. In addition, capital account openness may increase liquidity and reduce the cost of capital, hence fostering financial development (David, Mlachila & Moheeput, 2014).

CAL also fosters financial sector development by ensuring increased competition when foreign firms are allowed to operate in domestic markets (Ellyne & Chater, 2013). This is the basic premise of the *Interest Group Theory* developed by Rajan and Zingales (2003).The theory postulates that CAL results in an influx of foreign firms who reduce the influence of incumbent domestic firms termed ‘interest groups’.
In a closed economy, these interest groups, lobby for financial repression and block new entrants thus hindering financial development (Bircan, Hauner & Prati, 2012; Rajan & Zingales, 2013). By opening capital accounts, new foreign firms can encourage banks to push for improved disclosure standards and contract enforcement because they don’t have

domestic personal connections unlike domestic firms (Rajan & Zingales, 2013). According to Law (2009), not only can trade and financial openness limit the ability of incumbents to block the development of financial markets, the new opportunities created by openness may generate sufficient new profits for them that outweigh the negative effects of increased competition.

The Interest Group Theory emphasizes that *both* the trade and capital accounts be opened for enhanced financial sector development. This is because opening up of the trade account, alone, leaves room for incumbents to petition the government to subsidize them in the face of foreign competition instead of them improving their operations (Rajan and Zingales, 2013).Opening the capital account thus reduces the government's role in directing credit to incumbents.

Likewise, opening up capital accounts requires open trade accounts to increase product market competition and give firms incentive to access finance. For this theory to hold there is need for there to be an influx in foreign firms otherwise the efficiency gains will not be realized. Inflows of foreign firms are not automatic and are dependent on many factors including, the macroeconomic conditions in the country as well as the political and institutional framework in place.

Apart from this, increased capital flows also help introduce international standards and encourage development of new financial products (Klein and Olivei, 2005; Eichengreen, 2007). This is because, foreign capital often comes packaged with technological and organizational knowhow. Thus, increased foreign borrowing and lending contribute to the development of a country's financial system since countries basically import a financial system through capital flows (Klein and Olivei, 1999). Furthermore, CAL promotes financial sector development by reducing international transaction costs (Garcia, 2012). It is important to note that, though CAL fosters financial sector development, countries with higher levels of financial sector development are in turn also believed to allocate capital more effectively and thus attract more capital inflows.

Empirical literature review

Many studies have sought to explain the link between CAL and financial sector development. These studies often rely on variables like liquid liabilities, credit to the private sector to measure financial sector development while measures of CAL are based from the IMF Annual Report on Exchange Agreements and Exchange Restrictions (AREAER) (Klein and Olivei, 1999: Chinn and Ito, 2002; Law and Habibullah, 2009). Findings from these studies often point to a positive relationship between CAL and financial sector development which is robust only for developed countries while evidence from developing countries has been mixed.

In a study for developed and developing countries, Klein and Olivei (1999) examined the effects of CAL on the financial sector between 1986 and 1995. They used liquid liabilities and claims on non-financial private sector to GDP to measure financial sector development. They found that, there was a significant effect of CAL on financial sector development in developed countries and no significant effects in developing countries. To measure CAL, they employed a SHARE index which showed the proportion of years, from 1986 to 1995, in which the country had unrestricted capital mobility. This measure, however, does not capture

the intensity of capital flow restrictions which can provide richer knowledge on effects of CAL.

Using panel data from emerging and advanced countries between 1996 and 2007, Chinn and Ito (2002) found that, financial openness, together with institutional and macroeconomic variables, explains much of the variation in financial development. They employed the Chinn-Ito index to measure CAL and private credit, liquid liabilities and several stock market indices to measure financial sector development. The study found that link between CAL and financial development was more pronounced in countries with higher legal and institutional development.

In a study for 34 SSA countries, David, Mlachila and Moheeput (2014) found no direct link between trade and capital account openness and financial sector development after controlling for factors like GDP/ per capita and inflation. They came up with a composite measure for financial sector development which included liquid liabilities and credit to the private sector by banks. Like many aforementioned studies, this paper also employs the Chinn-Ito index as a measure of CAL.

In another study for SSA, Mahawiya (2015) using data from 1980 to 2011, assessed whether simultaneous opening of the capital account and current account would foster financial sector development. The study employed a dynamic panel approach and found that simultaneously opening of the financial sector and trade led to more financial development in SADC. However, the study did not find a strong link for ECOWAS which is in line with findings by Mlachila, David and Moheeput (2014) who found no significant effect for SSA. Financial openness alone was seen to be detrimental to financial development in SADC.

Trabelsi and Cherif (2016) employed cross sectional GMM for 90 countries between 1975 and 2009. Like most studies on CAL, this study used the Chinn-Ito index as an indicator for CAL. With regards to Financial Sector development, the study used ratio of credit allocated to the private sector as well as M2 as a ratio of GDP. The study found that, in middle income countries, financial integration doesn't lead to financial development unless a set of prerequisites are already in place which include a well-developed private sector and institutions.

Baltagi, Demetriades and Law (2007) examined effects of CAL on the financial sector for 42 developing countries between 1980 and 2003.Using GMM techniques their findings showed that, simultaneous opening of trade and capital accounts is necessary for financial sector development. The study also found that the marginal effects of trade (financial) openness have the highest values when capital (trade) account has been least open. Trade openness was found to have more effects on promoting financial sector development.

Table 1: Summary of some of major studies on the relationship between CAL and Financial Sector Development (FSD)

Author	Scope	Measures of CAL	Results
Chinn &Ito (2002)	Emerging and Advanced countries (1996-2007)	KAOPEN Index	CAL positively related with private credit and stock market value added
Klein & Olivei (1999)	Developed and developing countries	KALIB index	No effect of CAL on FSD in developing countries
David, Mlachila & Moheeput (2014)	SSA, 1970-2009	KAOPEN index	No link between openness and FSD
Mahawiya (2015)	SADC and ECOWAS (1980-2011)	KAOPEN Index	CAL detrimental to FSD in SADC, no effect in ECOWAS
Trabelsi & Cherif (2010)	High and Middle income countries (1975-2009)	KAOPEN index	No effect on middle income countries

Source: Authors survey (2017).

From these studies, it is evident that the effects of CAL on financial sector development remain unclear, particularly so for SSA. One concern is that most panel studies combine developing and developed countries and do not consider the timing factor given that developed countries began to liberalize much earlier than developing countries. As such, Henry (2006) emphasized the need for separate research for developed and developing countries. This can help offer more significant findings.

Another common limitation exhibited in the literature is that most studies rely on a singular measure of financial sector development ignoring the multifaceted nature of financial systems. This paper employs a new measure which captures all elements of financial sector development including institutions and markets and captures their efficiency, access and depth. Lastly, Klein and Olivei (2001) hinted towards possible non-linear effects of institutional quality which can have implications on the effects of CAL. So far, research has done little to examine this conjecture.

Methodology

Conceptual framework

The seminal works of McKinnon (1973) and Shaw (1973) posit a positive relationship between financial sector development and interest rates and output. Complementarities between money and capital are reasons for the positive link between financial sector development and output while increases in interest rates increase financial sector development through increased savings (Law and Habibullah, 2009). With regards to CAL, the Interest Group Theory, developed by Rajan and Zingales (2003), emphasises that opening up of capital and current accounts promotes financial sector development by reducing influence of interest groups. Thus, there is a positive expected relationship between financial sector development and capital account liberalization. This paper, therefore,

incorporates variables for capital account liberalization and trade openness as well as an interactive term of the two variables in to the basic model for financial sector development as done byBircan, Hauner and Prati (2012). It has also been posited that countries with higher threshold levels of institutional quality are better able to reap the benefits of CAL (Kose *et al*, 2011). Thus, the model also includes an interactive term for capital account liberalization and institutional quality to capture this. The general model is expressed as follows:

$$FSD = f(RGDPK, RIR, KAL, TAL, KAL * INST, KAL * TAL, INFL, FDI) \quad (1)$$

FSD is financial sector development; *RGDPK* is real gross domestic product per capita; *RIR* is real interest rate; *KAL* and *TAL* are measures of capital account and current account openness respectively; *INFL* and *INST* are inflation and institutional quality; *FDI* is foreign direct investment.

Model specification

Along the lines of Law and Habibullah (2009); Mahawiya (2015), we start by specifying a static level-log panel model in the form:

$$findex_{it} = \alpha_i + \beta_1 kal_{it} + \beta_2 \ln tal_{it} + \beta_3 \ln ktal_{it} + \beta_4 \ln rgdpk_{it} + \beta_5 kins_{it} + \beta_6 kins2_{it} + \beta_7 rir_{it} + \beta_8 \ln \inf l_{it} + \beta_9 \ln fdi_{it} + \varepsilon_{it} \quad (2)$$

The subscripts "*i*" and "*t*" denote country and time respectively and *i*=1, 2…N and *t*=1, 2…T. ε_{it} is a white noise error term where: E(ε_{it})=0, E($\varepsilon_{it}\ \varepsilon_{js}$)=$\delta_{\varepsilon}^{2}$ if *j*=*i* and *s*=*t* and zero otherwise. *findex* is the measure of financial sector development; *kal* is capital account liberalization; *lntal* is the log of trade openness; *lnktal* is the log of the interactive term between capital account liberalization and trade openness; *lnrgdpk* is the log of real GDP per capita; *rir* is real interest rate; *lninfl* is the log of inflation; *kins* and *kins2* stand for the interactive term between CAL and institutional quality and its quadratic form respectively; and *lnfdi* is the log foreign direct investment.

To capture the dynamic nature of the data, we employ a dynamic model which is expressed below. This includes a lagged dependent variable to help capture past history of the dependent variable as well as possible omitted variables (Mahawiya, 2015).

$$findex_{it} = \alpha_i + \beta_1 findex_{i,t-1} + \beta_2 kal_{it} + \beta_3 \ln tal_{it} + \beta_4 \ln ktal_{it} + \beta_5 \ln rgdpk_{it} + \beta_6 kins_{it} + \beta_7 kins2_{it} + \beta_8 rir_{it} + \beta_9 \ln \inf l_{it} + \beta_{10} \ln fdi_{it} + \varepsilon_{it} \quad (3)$$

Estimation methods

In standard panel data analysis, the basic estimation methods include fixed effects and random effects. These are able to capture heterogeneity that is prevalent in panel data. However, in cases where T is small and N is large such estimators are prone to Nickell Bias (Baum, 2013). In this regard, a solution involves taking the first difference.

This can be shown in the equation below.

$$\Delta findex_{it} = \beta_1 \Delta findex_{i,t-1} + \beta_2 \Delta kal_{i_t} + \beta_3 \Delta \ln tal_{i_t} + \beta_4 \Delta \ln ktal_{i_t} + \beta_5 \Delta \ln rgdpk_{i_t} + \beta_6 \Delta kins_{i_t} + \beta_7 \Delta kins2_{i_t} + \beta_8 \Delta rir_{it} + \beta_9 \Delta \ln \inf l_{i_t} + \beta_{10} \Delta \ln fdi_{i_t} + \Delta \varepsilon_{i_t} \quad (4)$$

This creates a problem of its own since we end up having correlation between lagged dependent variables and disturbances. To solve for this endogeneity, several techniques are suggested which include instrumental variables and generalised method of moments.

System Generalised Method of Moments

The System-GMM estimator works well in cases were N is large and T is small, right hand variables are not strictly exogenous and there is heteroscedasticity and autocorrelation between individual units but not across (Baum, 2013). GMM estimators are known to be consistent, asymptotically sound and efficient in the class of all estimators that do not use any more information apart from that contained in the moment's condition[2]. We employ System-GMM in lieu of difference GMM because with Difference-GMM, lagged variables are poor instruments for first difference variables. Furthermore, the Difference-GMM magnifies gaps in unbalanced panels. Hence, Arellano and Bover (1995) suggested using the system GMM estimator which provides more efficient results[3]. This basically includes both levels and differenced terms and provides more efficient estimates. In order to verify if our model is well specified, we will observe the findings from the Sargan test for over identifying restrictions as well as the Arellano-Bond Test for first and second order autocorrelation.

Data

To examine the effects of CAL on financial sector development we use panel data from a sample of 22 Sub-Saharan Africa countries from 1996 to 2013[4]. The choice of the period is largely based on availability of data since the capital account index only goes up to 2013. The selection of the 22 countries is based on availability of data.

Measures of financial sector development

The measure used to capture financial sector development is the Financial Development Index developed by Svirydzenka (2016). This is unlike other studies that rely on using the ratio of private credit to GDP or liquid liabilities to proxy for financial sector development. The advantage of this measure is that it captures how financial sectors have evolved with larger roles being played by non-bank financial institutions given that modern financial systems are now multi-faceted.

This measure also captures the fact that financial markets have developed in ways which allow individuals and firms to diversify savings and it also captures access and efficiency of markets and institutions (Svirydzenka, 2016). The index combines measures of financial institutions such as banks and those of financial markets like stock markets. This highlights the fact that financial services are provided by varied institutions (Mlachila *et al*, 2016).

[2]This is implemented using the xtabond command in STATA13
[3]This is implemented using the xtdtdsys command in STATA13
[4]The list of these countries is included in the appendixes.

Measures of capital account liberalization

One contentious issue with studies on CAL has to do with finding an appropriate measure. CAL can be measured using *de facto* measures such as the net capital flows as a share of GDP. However, these measures do not capture the policy aspirations of government. As such most studies prefer to employ *de jure* measures. Most *de jure* measures of CAL are based on data published in the IMF Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER).

The Wang-Jahan Index (2016) shall be employed as a measure of capital account liberalization. This index builds on Schindler Index (2009), which disaggregates measures of capital flows, by disaggregating all the 12 sub-categories in the AREAER and expanding the sample and time span. It also captures the broad country coverage of the commonly used Chinn-Ito Index. Another advantage of this measure is that, it disaggregates CAL based on asset types as well as residency. This index is developed by using a binary coding of 0 for restricted and 1 for fully open for each of the 12 categories of the capital account restrictions.

By using this measure, we depart from other studies that have relied on the Chinn-Ito Index. The Chinn-Ito index is constructed from four binary dummy variables that codify restrictions on cross-border financial flows (Mahayiwa, 2015). It is comprised of four binary series which measure: existence of multiple exchange rates; existing restrictions on current and capital accounts; and requirements of surrender export proceeds. While the Chinn-Ito index has its advantages, it does not disaggregate all 12 components of the AREAER and does not provide information on the prevalence of capital controls on specific type of capital flows.

Other independent variables

CPI inflation (*infl*) is used to proxy macroeconomic stability which can influence financial sector development (Kose *et al*, 2011). High inflation is viewed as having a negative effect on banking sectors and financial market development and it disturbs the capability of financial institutions to effectively allocate and distribute financial resources. Hence, inflation is expected to be negatively related to financial sector development (Ayadi *et al*, 2013).

Trade openness (*tal*) is given as exports plus imports over GDP. Higher levels of trade may be associated with higher financial sector development (Trabesli and Cherif, 2016). This variable is therefore expected to be positively related to financial development. The interactive term *ktal* is included based on the interest group theory developed by Rajan and Zingales (2003) which posits that simultaneous opening of current and capital accounts will promote financial sector development (Mahawiya, 2015) .

To capture the effects of institutional quality, we include an interactive term for CAL and institutional quality. The importance of institutions has been a recurring issue in most studies on CAL. It has been suggested that benefits of CAL are better realised in countries with higher levels of institutional quality. Ayadi *et al* (2013) suggested that legal institutions and democratic governance are important factors which improve development of financial systems. These are thus expected to positively affect financial development. Furthermore, David, Mlachila and Moheeput (2014) suggest that poor governance and political instability are some of the factors that explain differences in financial sector development in SSA. To add on to this, Kose *et al* (2011) found that countries with less corruption and red tape and

better corporate governance can promote indirect benefits of FDI such as improved financial sector development. Kose *et al* (2011) thus use an average of the WGI to capture institutional quality. We adopt this approach and develop a composite institutional quality index which is the average of the six indicators in the WGI. These include Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, Control of Corruption. The advantage of using this composite measure is that it is broad and captures a wide array of institutional quality indicators.

A major departure from other studies involves the inclusion of variables for institutional quality as quadratic terms to capture possible nonlinear relationships. This allows for the possibility that, beyond a certain level, the threshold variable becomes more or less important in determining the marginal effect of capital account liberalization (Kose *et al*, 2011).Klein and Olivei (2001) found that only intermediate levels of institutional quality where seen to have a positive influence on whether a country will benefit from CAL thus suggesting possible non-linear effects. Hence, by adopting this approach, this study seeks to examine if it is only intermediate levels of institutional quality which boost financial sector development.

rgdpk is real GDP per capita and *rir* is the real interest rate and these are included based on the postulations of McKinnon (1978) and Shaw (1978). These are expected to positively influence financial sector development. Real GDP per capita also serves as a good proxy for general development and sophistication of institutions.The level of economic development is a conditioning variable expected to induce development in the financial sector as incomes increase (Mahawiya, 2015).

Foreign direct investment (*fdi*) is included in the regression based on the fact that capital account liberalization is supposed to increase capital flows and these are believed to promote financial sector development since foreign capital flows may come packaged with guidelines and standards which may foster financial sector development. The expected sign on this is positive.

Table 5: Summary of key variables and their sources

Variable category	Frequency	Definition	Source
Findex	Annual	Financial development index	IMF
kal	Annual	Capital Account Liberalization	IMF
rgdpk	Annual	Real GDP per capita	World Bank
rir	Annual	Real Interest Rate	World Bank
infl	Annual	Inflation	World Bank
tal	Annual	Trade Openness	World Bank
fdi	Annual	Foreign Direct Investment	World Bank

Source: Authors Compilation

Descriptive statistics and correlations[5]

The *kal* index lies between 0 and 1 for countries that are very closed to those that are very open respectively. A preliminary analysis shows that capital account liberalization is positively correlated with financial sector development. Inflation, real interest rates and foreign direct investment show a negative relationship with the financial sector development index. There is need to have a comprehensive in depth analysis, however, since these preliminary analyses may not give a full picture. The descriptive statistics and correlation matrix are provided in the appendix.

Results and findings

Effects of CAL on financial sector development

We start by estimating the relationship between CAL and financial sector development using System-GMM one step estimators. The advantage of these is that they work well where T is small and N is large. GMM also helps solve for any possible endogeneity which can occur in dynamic panel models. We employ the one-step estimator because Hwang and Sun (2015) argued that efficiency gains of the two-step estimator may not be materialised in finite samples and that researchers should employ the two-step estimator only if the benefits outweigh the costs. Table 6 presents results on the estimation of the System-GMM.

The results in Table 6 below show that CAL has a negative significant effect on financial sector development in SSA. That is, a percentage increase in capital account liberalization is seen to reduce financial sector development by 0.71 percent. There are several possible reasons why this could be the case.

Firstly, this could be a result of distortions/imperfections in financial markets in SSA which make it difficult for countries to obtain benefits from CAL. These distortions include things like interest and credit controls and barriers to entry (David, Mlachila and Moheeput, 2014). For a long period of time, countries like Malawi, Tanzania, Swaziland and Zambia have had interest rate ceilings or banking fee limits determined by Government (SARB, 2014). These could prevent countries from realizing benefits of CAL on the financial sector.

Secondly, the results could imply that CAL leads to an influx of volatile capital flows which are prone to reversals and can thus potentially destabilize financial sectors in SSA. In 2007, SSA had experienced a six fold increase in capital flows from the year 2000. However, with the onset of the financial crises, capital flows to some countries declined. Countries like South Africa even experienced reversals in capital flows (Chea, 2011). Ndikumana (2003) further highlighted that, for Kenya, CAL increased vulnerability to capital flows and provided legal channels for capital flight. Such phenomena can have detrimental effects on the financial sector especially if there are weak macroeconomic fundamentals and poor regulatory frameworks in place.

[5]The tables are given in the appendices

In such cases CAL could lead to excessive risk taking and may increase a country's vulnerability to shocks and bubbles which all undermine financial sector development (David, Mlachila and Moheeput, 2014). In addition, Bicaba, Brixova and Ncube (2011) highlighted that since most SSA is becoming more integrated, the frontier economies will likely become more vulnerable to global financial shocks. Therefore, while theory suggests that CAL can promote financial sector development, if not sequenced properly and with lack of appropriate regulation in place CAL can have detrimental impacts on the financial sector.

Lastly, for most SSA countries, the financial sector has largely been made up of banks and most of these have been state owned. For instance, Botswana, Malawi, Tanzania, Uganda and Swaziland are some countries who had or have state owned banks (SARB, 2014; ABC Capital Bank, 2017). The same can be said for Seychelles which has 6 banks, 4 of which are foreign owned and 2 are government owned (Temesgen and Alcinder, 2017). Therefore, while the IGT suggests that CAL can reduce the opportunity for domestic firms to lobby the Government for financially repressive policies, this channel of transmission is undermined when government owns the financial institutions themselves or is a large shareholder. In this regards, the government owned financial intermediaries have no incentive to enhance efficiency even in the face of increasing foreign competition because most state owned enterprises are not profit oriented and are inefficient in their operations. For instance, in Nigeria, prior to reforms, the government had a predominant role in financial systems resulting in them being segmented and underdeveloped (Nathanael, 2014). In countries like Botswana, the liberalization of exchange controls helped banks by permitting them to open foreign currency accounts and offer foreign currency loans. The removal of exchange controls in 1999 also allowed residents to open bank accounts outside the country leading to an increase offshore assets and exposed local banks to more competition (Jefferis & Tacheba, 2010). Moreover, abolishing all exchange controls on capital and current transactions led to an increase in bond listings which attracted participation by both residents and non- residents. Liberia, which has a history of having no capital controls, has a relatively higher private credit to GDP ratio higher than the ECOWAS average (IMF, 2016).However, years of civil strife have negatively affected the economy and weakened the financial sector (Liberia State Department, 2017).

Furthermore, IMF (2016) reported that, foreign concession companies in Liberia rely on off shore foreign banks for main financial transactions while domestic banks are used for micro transactions. This could mean that there is some capital flight that is occurring as a result of having fully liberalized capital accounts and this can undermine financial sector development.

Effects of trade openness on financial sector development

Findings from the study suggest that trade openness has a negative significant effect on financial sector development. A percentage increase in trade openness reduces financial sector development by 0.63 percent[6]. The could be due to the fact that just opening up to trade alone leaves room for domestic incumbent firms to lobby governments to subsidize them and for them to lobby for financially repressive policies as suggested by the IGT (Rajan & Zingales, 2003). This makes intuitive sense, because opening up the trade account while

[6]These figures are rounded off from the tables

maintaining a closed capital account, gives domestic firms no incentive to improve in their operations since they do not face competition from foreign firms. Another explanation for this finding is that opening up of trade in SSA could worsen the current account deficits. This is because most SSA countries import more than they export and currently operate under current account deficits (Moussa, 2016). Opening up of a trade could worsen this and if current account deficits become unsustainable it becomes difficult to obtain necessary financing and can destabilize payment systems. Hence if a country is unable to sustain its deficit this can have detrimental impacts on the financial sector.

However, when we combine capital account openness with current account openness we find a positive significant influence on the financial sector. A percentage increase in the interactive term for CAL and trade openness increases financial sector development by 0.172 percentage points. This finding is in sync with the postulations of the Interest Group Theory which posits that individually, capital account liberalization and trade openness cannot promote financial sector development and that combined opening of capital and current accounts is what promotes financial sector development (Rajan & Zingales, 2003).This could imply that increased trade gives domestic financial firms the much needed incentive to enhance their operations and source financing from abroad.

The implication of this is that, for SSA countries to benefit from CAL there is need for sufficient levels of trade openness to foster financial sector development. Trade openness is vital for countries implementing CAL because more open economies are able to withstand the negative effects of sudden stops since they are in a better position to service external obligations since they obtain export revenues (Prasad and Rajan, 2008).Hence, such economies are less likely to default compared to economies that are more closed to trade. Cooper (1998) also posited that liberalizing capital accounts with trade distortions can lead to misallocation of resources and worsening of economic conditions. In this case if capital flows to labor intensive countries that protect capital intensive industries this can lead to reduced GDP in the country. Hence, this could explain why the interactive term for CAL and trade openness has a positive influence on financial sector development.

Effects of other control variables on financial sector development

As suggested by theory, inflation has a negative effect on financial sector development. A percentage increase in inflation reduces financial sector development by 0.064 percent. This is because, when inflation is high financial institutions lend out lower amounts and end up allocating inefficiently since asset return volatility increases (Gries and Meierrieks, 2010).

In line with the postulations of Mckinnon (1973) and Shaw (1973), GDP per capita has a positive significant influence on financial sector development from the Difference-GMM results. This is so because, GDP per capita is a proxy for economic development and hence increased GDP per capita leads to increased demand for financial products thus promoting financial sector development. Real interest rates are also positively linked with financial sector development as per the seminal works of McKinnon and Shaw (1973).

With regards to FDI, the study finds that a percentage increase in foreign direct investment leads to increased financial sector development by 0.1 percent. This suggests that increased capital flows help introduce international standards and encourage development of new financial products as highlighted by Klein and Olivei (2005) and Eichengreen (2007).

The study also sought to establish whether or not institutional quality enhances the link between CAL and financial sector development.

This involved using a composite measure which captures aspects of political stability, control of corruption, rule of law, government effectiveness, lack of violence and regulatory stability. From the findings, it is evident that institutional quality does not mitigate the negative effect on capital account liberalization on the financial sector in SSA. We find that the coefficient for the interactive term between CAL and institutional quality still holds a negative sign. This could be due to the fact that overall levels of institutional quality in SSA are very low and hence institutional quality is less important determinant of financial sector development in SSA (David, Mlachila and Moheeput, 2014). Prasad and Rajan (2008) emphasized that when institutions are very low, there is little foreign investors can do to improve corporate governance. Only at minimum threshold levels of institutions can foreign firms advocate for better governance and improved efficiency. In SSA, institutional quality is very low, in our sample, only four countries namely South Africa, Mauritius, Seychelles, and South Africa have got positive levels of institutional quality. The rest of the countries all have negative levels of institutional quality.

Furthermore, the lack of significant results could be due to the fact that there could be other forms of institutional quality which could be more beneficial for SSA such as company rights or bank supervision. Other studies which have been done like Gries and Meierrieks (2010) also found that some institutional quality variables like corruption and bureaucracy were found to be not strongly linked to finance. We also find that the interactive term for CAL and a squared value of institutional quality does not mitigate the effects of CAL on financial sector development.

Effects of CAL on financial institutions development

The study also examines the effects of capital account liberalization on the financial institutions development index. The regression estimated is given below.

$$fid_{it} = \alpha_i + \beta_1 fid_{i,t-1} + \beta_2 kal_{it} + \beta_3 \ln tal_{it} + \beta_4 \ln ktal_{it} + \beta_5 \ln rgdpk_{it} + \beta_6 kins_{it} + \beta_7 kins2_{it} + \beta_8 rir_{it} + \beta_9 \ln \inf l_{it} + \beta_{10} \ln fdi_{it} + \varepsilon_{it} \quad (6)$$

Where *fid,* is the financial institutions index provided in the Svirydzenka (2016) database.The results of the study show that CAL has a negative effect on financial institution development. However this effect is not statistically significant from zero. This would imply that CAL does not have a significant influence on financial institutions.

Effects of CAL on financial markets development

To examine the link between CAL and financial markets, the following equation is estimated.

$$fmd_{it} = \alpha_i + \beta_1 fmd_{i,t-1} + \beta_2 kal_{it} + \beta_3 \ln tal_{it} + \beta_4 \ln ktal_{it} + \beta_5 \ln rgdpk_{it} + \beta_6 kins_{it} + \beta_7 kins2_{it} + \beta_8 rir_{it} + \beta_9 \ln \inf l_{it} + \beta_{10} \ln fdi_{it} + \varepsilon_{it} \quad (7)$$

In this regression *fmd* is the financial markets index provided in the Svirydzenka (2016) database. In this case, we find that CAL has a negative significant effect on financial market

development. Hence, we can conclude that between markets and institutions, CAL is most likely to have an impact on the markets aspect of the financial sector. The regression results are outlined in Table 6.

Table 6: Summary of empirical results: System GMM

Variable	Financial Sector Development	Financial Institution Development	Financial Market Development
	Coeff. (Std Err)	**Coeff. (Std Err)**	**Coeff. (Std Err)**
findex_1	0.94 (0.72)	1.92 (0.49)***	1.01 (1.85)
kal	-0.71 (0.24)**	-0.23 (0.22)	-1.06 (0.62)*
tal	-0.63 (0.16)***	-0.33(0.155)**	-0.04 (0.4)
ktal	0.172(0.05)***	0.065 (0.047)	0.25 (0.137)*
linfl	-0.065 (0.02)***	-0.06 (0.02)***	0.007(0.005)
lgdpk	0.45 (0.09)*	0.27 (0.27)	-1.07(0.6)*
kins	-0.11 (0.08)*	-0.1 (0.08)	0.23 (0.18)
kins2	-0.12().05)**	-0.12(0.05)***	0.09 (0.11)
rir	0.0005 (0.0001)**	0.0004 (0.0001)***	0.0004 (0.0003)
fdi	0.11 (0.02)***	0.097 (0.0212)***	0.23 (0.05)***
Arellano-Bond test for AR(1)	Pr>z=0.000	Pr>z=0.000	Pr>z=0.000
Arellano-Bond test for AR(1)	Pr>z=0.089	Pr>z=0.348	Pr>z=0.052
Sargan Test	Pr>chi2=0.204	Pr>chi2=0.386	Pr>chi2=0.800

Note: ***p<0.01; **p<0.05; *p<0.1

findex is financial sector development; kal is capital account liberalization; ltal is the log of trade openness; linfl is the log of inflation; lgdp is the log of GDP; inst is institutional quality; rir is real interest rates; fdi is foreign direct investment.

Robustness checks

We perform several robustness checks to verify the robustness of our results. We first of all determine the robustness of the results in this analysis by employing the Chinn-Ito index as a measure for capital account liberalization. When we employ this index, we again find that CAL alone is detrimental to financial sector development.

Just like the previous analysis, we find that trade openness combined with CAL has a positive significant effect on financial sector development. We also examine the effects of FDI liberalization on financial sector development. The Wang-Jahan index for CAL disaggregates liberalization based on index type. From this we find that, just like in the overall CAL index, FDI liberalization has a negative effect on financial sector development.

We then analyse effects of CAL on financial efficiency which is a component under the Svirydzenka (2016) index. We examine this relationship because the Interest Group Theory posits that CAL will enhance financial sector efficiency. In this case we find a positive effect which is consistent with the efficiency enhancing effects hypothesis of CAL. However, the effect is statistically insignificant. This would seem to suggest that, although CAL improves financial sector efficiency, its overall effects on financial sector development are negative and this could be due to the fact that the other components of financial sector development are negatively affected by CAL.

Conclusions and policy recommendations

This paper sought to establish the effects of capital account liberalization on financial sector development in Sub-Saharan Africa. The results of the study show that, if implemented in isolation, CAL can have a negative effect on the financial sector in SSA. Therefore, while theory suggests that CAL can promote financial sector development by increasing market size and demand for financial services, liberalization can also have negative effects on the financial sector. This could be due to the fact that there are credit controls in SSA markets which could make it difficult to realize benefits of CAL. Furthermore, many banks in SSA have historically been state owned and these may not enhance efficiency in their operations due to an influx of foreign banks.

Hence, based on these findings, it would be advisable for countries to privatize as many banks as possible in order to ensure that efficiency gains from CAL can be obtained. Furthermore, we there is need to examine further the potential of capital flows to destabilize financial sectors in SSA.

The findings of the study also show that, CAL, if coupled with substantial levels of trade openness positively affects the financial sector in SSA. This finding supports the Interest Group Theory which posits that simultaneous opening of capital and current accounts is beneficial for financial sectors. This underscores the need for countries pursuing CAL to be significantly open to trade.

With regards to institutions, the study finds that institutions play a little role in mitigating the negative influence of CAL on the financial sectors. This is because institutional quality is very low in SSA. For institutions to assert a positive effect on the CAL-financial sector development nexus, there is need for institutions to be adequately developed. Hence, SSA could benefit from fostering increased institutional development.

In summary we conclude that, CAL if not implemented well can have negative effects on the financial sector in SSA. It is imperative, therefore, for SSA governments to ensure that they are sufficiently open to trade before they liberalize their capital accounts. We also conclude, that, though important, institutions play a less significant role in maximizing benefits from CAL compared to having an open trade regime.

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APPENDICES

A1: List of Countries Used in the Study

Southern Africa	West Africa	East & Central Africa
Angola	Burkina Faso	Central African Republic
Botswana	Ghana	Congo, Democratic Republic
Malawi	Liberia	Kenya
Mauritius	Niger	Rwanda
Mozambique	Nigeria	Tanzania
Seychelles	Senegal	Uganda
South Africa	Togo	
Swaziland		
Zambia		

Source: Author's compilation

A2: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
findex	396	0.1383	0.1132	0.01	0.64
kal	396	0.4591	0.3440	0	1
Ltall	396	4.2273	0.5001	3.2205	5.7734
linfl	372	1.9885	1.2145	-3.2068	8.3296
lgdp	396	7.7281	1.0617	5.5673	10.1182
inst	396	-0.5187	0.6559	-2.2267	0.8671
rir	332	8.1414	12.558	-94.2199	34.9541
fdi	396	4.8805	11.085	-82.8921	89.4759

Note: findex is financial sector development; kal is capital account liberalization; ltal is the log of trade openness; linfl is the log of inflation; lgdp is the log of GDP; inst is institutional quality; rir is real interest rates; fdi is foreign direct investment.

A3: Correlation matrix

	findex	*kal*	*ltal*	*Linfl*	*lgdp*	*inst*	*Rir*	*fdi*
findex	1.0000							
kal	0.1760	1.0000						
ltal	0.2382	0.1912	1.0000					
linfl	-0.0712	0.0309	0.1714	1.0000				
lgdp	0.6950	0.3364	0.4416	0.0438	1.0000			
inst	0.6100	0.3483	0.1634	-0.1964	0.6273	1.0000		
rir	-0.0905	0.0564	-0.2110	-0.3409	-0.2051	0.0421	1.0000	
fdi	-0.0219	0.1542	0.3757	0.1037	-0.1011	-0.1018	-0.1441	1.000

Note: findex is financial sector development; kal is capital account liberalization; ltal is the log of trade openness; linfl is the log of inflation; lgdp is the log of GDP; inst is institutional quality; rir is real interest rates; fdi is foreign direct investment.

A4: Robustness Tests based on the Chinn-Ito measure for CAL and a measure on Foreign Direct Investment Liberalization

Variable	**Chinn-Ito Index**	**Variable**	**FDI Liberalization**
	Coeff. (Std Err)		**Coeff. (Std Err)**
findex_1	4.46 (0.76)***	*findex_1*	4.85 (0.58)***
kaopen	-1.5 (0.81)*	*kaldi*	-0.35 (0.17)**
ltal	-0.25(0.13)*	*ltal*	-0.29 (0.129)**
tkaopen	0.39(0.19)**	*ktal*	0.08 (0.03)**
linfl	-0.009 (0.15)	*linfl*	-0.03 (0.02)
lgdpk	-0.26 (0.2)	*lgdpk*	-0.27 (0.27)
inkaopen	-0.07 (0.17)	*kins*	0.365(0.07)***
inkaopen2	-0.26 (0.07)***	*kins2*	0.096(0.03)***
rir	-0.00004(0.0002)	*rir*	0.0003(0.0001)
lfdi	0.03 (0.02)*	*lfdi*	0.04 (0.02)*
Test for AR(1)	Pr>z=0.001	Test for AR(1)	Pr>z=0.000
Test for AR(1)	Pr>z=0.85	Test for AR(1)	Pr>z=0.9
Sargan Test	Pr>chi2=0.622	Sargan Test	Pr>chi2=0.084

Note: *tkaopen* is the interactive term for CAL and trade openness; *inkaopen* and *inkaopen2* are the interactive terms for institutional quality and CAL; *kaldi* is liberalization of FDI; *kaopen* is the Chinn-Ito Index; *ltal, linfl, lgdpk, rir* and *lfdi* represent trade openness, inflation, GDP per capita, real interest rates and foreign direct investment respectively.

A5. Robustness test examining effects of CAL on financial efficiency

Variable	Financial Efficiency Index
	Coeff. (Std Err)
Effeciency_1	0.25 (0.2)
kal	0.23 (0.211)
ltal	0.223(0.18)
lktal	-0.04 (0.047)
linfl	-0.013 (0.02)
lgdpk	0.33 (0.27)
kins	-0.0057 (0.072)
kins2	-0.141 (0.038)***
rir	0.0002 (0.0001)
lfdi	0.054 (0.023)*
Test for AR(1)	Pr>z=0.000
Test for AR(1)	Pr>z=0.187
Sargan Test	Pr>chi2=0.086

Note: *Effeciency_1* is the lagged value of the dependent variable which is now financial efficiency; *NCP_1* is the lagged value of the dependent variable for the model where net credit to the private sector (NCP) is the dependent variable; *kal* is liberalization of capital account; *ltal, linfl, lgdpk, rir* and *lfdi* represent trade openness, inflation, GDP per capita, real interest rates and foreign direct investment respectively; *kins* and *kins2* are the interactive term for CAL and institutional quality and its squared term respectively.

Effect of fiscal rules on fiscal performance: The case of sub-Saharan Africa

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Abstract

This paper examines the effect of fiscal rules on fiscal deficit in sub-Saharan Africa countries. Fiscal rules impose numerical ceilings on fiscal aggregates such as budget balance, public expenditure, revenue level as well as the size of public debt. The number of countries in the region adopting the rules is on the rise with over half of them implementing various forms of the rules. Despite this policy stance, fiscal deficit remains a regular feature in most countries in the region. Whether the rules have had any effect on fiscal performance is still unclear. Using a fiscal rule index of strength constructed based on a recent and extended IMF dataset for a panel of implementing countries; we empirically assess the effectiveness of fiscal rules on fiscal balance. The empirical results reveal that fiscal rules generally contribute to improved fiscal outcomes. Particularly, budget balance and debt rules have a positive influence on the fiscal balance.

Fiscal Policy Stance, Economic Growth, Selected Macroeconomic Factors and Public Expenditure in Kenya

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Abstract

This paper investigates the relationship between fiscal policy stance, economic growth, selected macroeconomic factors and public expenditure in Kenya from 1964 to 2015 using a Vector Error Correction Model. The results indicate that there is a negative relationship between fiscal policy stance (budget deficit) and public expenditure but tax has a positive relationship with public expenditure. Fiscal policy stance and public expenditure are cointegrated as shown by the Johansen cointegration test but there is no short run causality between them as indicated by the Wald test statistics. The findings further indicate that fiscal policy stance indirectly affects public expenditure through economic growth and macroeconomic factors. This implies that fiscal policy stance does not have a strong direct effect on public expenditure as supported by the theory of fiscal policy that contends that policy makers could have a lower incentive to pursue public interests as compared to their personal interests.

Fiscal rules and fiscal space in Africa: an empirical approach

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Abstract

This study considers the effect of fiscal rules on fiscal space in African countries from 1996 to2016. We assess whether rules alone enhance fiscal space, or they must be supported by institutions design. The findings show that fiscal rules are effective in enhancing fiscal space and the effect increases with institutional efficiency. It also concluded that debt and balanced budget rules are most effective forms of fiscal rules and thus, multiple fiscal rules are found to enhance fiscal space and solvency in Africa. To check the robustness of our results we construct the fiscal rules index and employ alternative methods and results still show that fiscal rules enhance fiscal space.

How large is the wage penalty in the labour broker sector? Evidence for South Africa using administrative data

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Abstract

The public debate on the growing temporary employment services, or labour broker, sector in South Africa has been largely centred around the issue of decent work, and specifically the wage and benefits afforded to temporary workers. However, there has been limited empirical research in this area given that it is not possible to accurately identify temporary employment services as a stand-alone sector in South Africa's recent labour force surveys. In 2015, SARS and National Treasury (SARS-NT) made company and employee income tax data available for research purposes. It is the only South African dataset from the last decade that explicitly captures which firms are labour brokers and also contains individual employee wages. This paper makes use of the SARS-NT panel data from 2011 to 2015 to examine whether there is a wage penalty for employees in the labour broker sector and, if so, the magnitude of the wage differential. In the estimation strategy we control for individual and time fixed effects. In addition, we examine temporary employee wage differentials before and after their temporary employment spell. The reason for this is that temporary workers could accept such jobs due to factory closure or after being laid off, and thus wage differentials may reflect the circumstances in which they accept the job, rather than the job itself (Segal and Sullivan 1998). Providing empirical evidence on the labour broker wage penalty in South Africa is an important first step to help inform debates on the role of this sector in the South African labour market.

Age, Gender and Financial Inclusion in Zambia

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Abstract

This research provides insights into age and gender-based differences in financial inclusion in Zambia. The results are based on FinScope 2009 and 2015 data as well as the cross-sectional module of the 2015 Zambia Financial Diaries study. Results suggest that age-specific programmes can build on the gains of the last few years and contribute to greater financial access among young Zambians in the years to come. In contrast, there has been little improvement in financial inclusion among older Zambians aged 66 and older. This should be a source of concern among policy makers. Older women who are living in poor rural communities are at particular risk of financial vulnerability, because they tend to live longer than their spouses and their children may seek opportunities in urban areas. Use of mobile money services was greatest amongst Zambians aged 25 to 35, but use declined with age. Uptake of pensions was most common among Zambians aged between 25 and 65 who are more likely to be formally employed. Awareness about insurance products was high among young Zambians, but usage was low. Depending on their age, Zambians responded to unexpected financial shocks in different ways but lack of financial planning among elderly respondents is a source of great concern. The gender gap favouring women remained in terms of reliance on informal services even after other background factors were taken into account. Similarly, men were significantly advantaged in terms of formal inclusion and the use of mobile services even when other characteristics including age were accounted for. This suggests that barriers to formal inclusion and the use of mobile services for Zambian women go beyond the most obvious socioeconomic and demographic factors associated with being at risk of being financially excluded. Policy implications are discussed.

Does motherhood and caregiver penalty exist in Poland?

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Abstract

The aim of research is to identify factors influencing monthly wages in Poland obtained by all employees (regardless gender), man and women. The research is provided on the basis of the data, originating from Polish Labor Force Survey. In our analysis, we estimate econometric models, which describe salaries explained by individual characteristics of employee i.e. age, the level of education, place of living, occupation, working profile, family situation resented by number of children and elder members of family in the household; workplace characteristics such as: type of industry, public/private sector, size of enterprise.

Impact of economic recession on performance of micro and small firms in

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Abstract

The lull that trails economic activities during economic recession usually have negative impact on business activities. Given this understanding, this study examines the impact of economic recession on growth of micro businesses in Kwara State, Nigeria. It draws from the Keynesian theory of trade cycle and Schumpeter's theory of innovation. Three research questions were addressed. A self-structured questionnaire adapted from previous authors was employed with a sample size of 83 registered poultry farmers in Kwara State, Nigeria. A census-based method was employed for data collection and the descriptive statistics and multiple linear regression techniques were used for the analysis. The results obtained indicated that indebtedness is inversely and statistically significantly related to micro and small poultry firms' performance while inflation is positively and statistically significant but unemployment is negatively related but not significant to micro and small poultry firms' sales performance in Kwara State. The paper recommends initiatives that could be embraced by the government to deepen the activities of micro and small scale businesses to spur good performance in poultry industry in the country during economic recession.

Key words: *Business Growth, Debt, Economic Recession, Inflation, Unemployment, Value Innovation.*

Introduction

The word 'recession' connotes a marked slippage in economic activity (BEA, 2008). It is the period of general economic decline, typically accompanied by a drop in the stock market, increase in unemployment rate, and decline in housing market. According to Eneji, Dimis and Umejiaku (2017), recession is a business cycle contraction which results in a general slowdown in economic activities in two consecutive quarters. Within this period, many macroeconomic indicators varies, such that production, employment, investment spending, capacity utilization, household income and business profit fall while bankruptcies and unemployment rate rise (CBN, 2012). This technically implies that when an economy records two consecutive quarters of negative growth in real GDP, it is in recession.

Prior to Nigeria's colonization, the economy was dominated by agricultural products which constituted more than half of the GDP and export produce of the country (Adeyeri, Adejuwon and Kehinde, 2012), about 63.5% were mainly from crop production, animal husbandry, forestry and fish farming (Atiku, Ayomide, Olaleye, Anuoluwapo & Thaddeaus, 2017). However, with the discovery of oil in 1956, the exploration and exportation in commercial quantities, the fortunes of agriculture gradually diminished while crude petroleum replaced agricultural products as the dominant source of revenue and export earnings (Chete, Adeoti, Adeyinka, and Ogundele 2012). Although, the sales of crude oil has contributed substantially to Nigeria's revenue since 1956, by 1970, the price gained an upward trend (Uzonwanna, 2015) for a total shift from agriculture to over dependence on crude oil . Consequently, growth of other sectors in the economy became stifled as proceeds from sales of crude oil brought about cheap funds and its attendant's corruption (Adeyeye, 2018). The current recession faced by Nigeria, is perceived to occur as a result of the over dependence of the entire national economic policy on oil reserve and imported goods (Ijeh, 2010; Adeyeye, Bamidele, Ikupolati & Oni, 2016).

Nonetheless, Ariyo (1997) corroborated that agriculture has suffered long years of neglect, mismanagement, inconsistent and poorly conceived government policies (Uzonwanna, 2015), most especially, the poultry segment. The general business cycle of recession affects the performance of poultry farming, factors such as interest rates, inflation, economic growth and others help determine the availability of workers and figure into organizational plans and objectives. Decision on wages, overtime, and hiring or laying-off of workers, all hinges on economic conditions. The Nigerian situation has been tagged feeble due to the negative effects of the economic recession on the country. Every industry especially the micro and small businesses had its fair share of the troubles and companies are licking their sores with resultant effects on the masses, while retrenchment and downsizing appear to be the order of the day (Micah, Nirmala and Hari, 2015).

Whilst studies such as Chukwu, Liman, Enudu and Ehiaghe (2015) and Adetayo and Ben (2018) focused on the effect of economic recession on various aspect of Nigeria's economy, the effect of economic recession on micro and small firm's performance focusing on poultry industry has received no attention. This created the gap in knowledge that necessitated the study of the impact of economic recession on performance of micro and small businesses in Kwara State, Nigeria in the light of Keynesian theory of trade cycle (Keynes's, 1936) and Schumpeter's theory of innovation. In doing this, the following research questions were addressed:

1. To what extent does the rate of indebtedness of customers affect the performance of micro and small poultry firms?
2. To what extent does inflation rate affect the performance of micro and small poultry firms?
3. Does any relationship subsist between unemployment and performance of micro and small poultry firms?

The remaining part of this study is structured thus: 2.0 is the literature review, 3.0 is the methodology, 4.0 is the results and discussion while 5.0 and 6.0 are the conclusion and recommendations.

Literature Review

Keynesian Theory of Trade Cycle

The Keynesian theory of the trade cycle described trade cycle from the cyclical change in the marginal efficiency of capital (MEC) and argued that the principal cause of depression and unemployment is the lack of aggregate demand and reduction in investment (Jerome, 2013). It is primarily about fluctuations in the rate of investment caused mainly by fluctuation in the MEC, the expected rate of profit and the difference between the expected revenue generated by the capital employed and the cost incurred to employ that capital (Usman, 1999).

However, the Keynesian cycle, commenced with the expansion phase when MEC is high with rapid increase in the rate of investment which consequently increase output, employment and income. Every increase in investment leads to a multiple increase in income via the multiplier effect. This cumulatively continues until the boom is reached (Jhigan, 2010). As the boom progresses, the tendency for the MEC to fall because of the steady production of capital goods with declining yields and rising costs of new capital goods due to shortages and bottlenecks of materials and labour. This collapse in the marginal efficiency of capital precipitates a sharp increase in liquidity preference leading to a rise in the rate of interest. During the downturn, investment falls due to a fall in the MEC and rise in the rate of interest. This leads to a cumulative decline in employment and income via the reverse operation of the multiplier. Keynes attaches more importance to the sudden collapse of the MEC than to a rise in the rate of interest as an explanation of the downturn of the cycle leading to the crises and the depression.

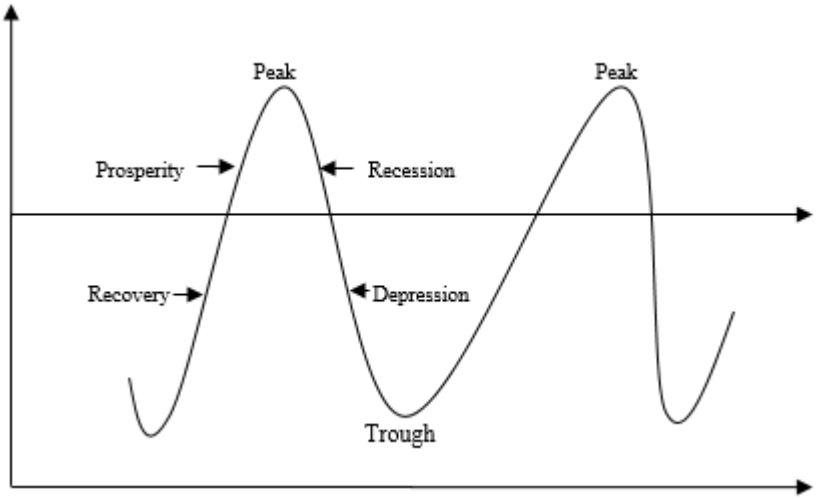
Concept of Economic Recession

Economic recession is a negative growth for two consecutive quarters. It is a general downturn in any economy and associated with slow gross domestic product, high inflation rate and high unemployment (Krugman, 2013). Recession usually occurs when there is a widespread drop in spending; it is a business cycle contraction which resulted in a general slowdown in economic activities. Jhingan (2010) perceived business cycle/economic cycle as a type of fluctuation found in the aggregate economic activities of a nation that organize their work mainly in business enterprises. A cycle consists of expansions occurring at about the same time in many economic activities followed by similarly general recession, contractions, and revival which merge into expansion phase of the next cycle. The series of changes is recurrent and not periodic. It is characterized by the boom in one period and collapse in the following period. Thus its effect on the economy of Nigeria till date has presented a negative impact on micro and small firms' performance especially in the poultry sector.

Concept of Business Cycle

A business cycle is an erratic short run fluctuation in economic activities around the economy long run growth trend (Dagum and Bianconcini, 2010) based on four distinct phases: expansion, peak, recession and trough (CBN, 2016). (See Figure 1 below)

Figure1: Phases of business cycle



Source: Adopted from I-Hsien and Yu-Cheng (2011)

In the expansion phase of economic cycle, various economic factors such as, production, wages, profits, employment, demand and supply of products and sales tend to be increasing (Ekpo, 2013). This is followed by the peak phase where the economy starts operating at full employment and high degree of business activities reflected in the vigorous rate of capital investment and consumption and characterized by growth in production and investment spending (Razauskas, 2009). The third phase is the recession phase characterized by a downturn in economic activities associated with the falling level of GDP, consumption and investment expenditure. Inflation and interest rates are also declining, with unemployment rising (Batini and Laxton, 2007). Finally, the depression which is characterized by economic downturn, where economic activities decline below the normal level and the growth rate becomes negative (Ansel et. al, 2002). However, this study focusses on Nigeria in the third phase of the business cycle, recession, hence investigating its impact on micro and small business performance in Kwara State Nigeria.

Effects of Recession on Businesses

The economic recession has caused many businesses including the formidable giant's corporation across the world including Nigeria to collapse. Davis (2010) submitted that the aftermath of these slowdowns of businesses can be very damaging, and sometimes catastrophic. In this light, the following are the effect of recession on business as opined by Koo (2009), Eze (2009), Vaitilingan (2009) and Pettinger (2016).

First is *unemployment*, according to Keynes (1940) is a phenomenon that occurs when a person is actively searching for employment but could not find one and often used to measure the health of the economy. The Nigeria's unemployment rate was recorded at 12.1 percent in the first quarter and progressively increased to 14.2 in the last quarter of 2016 being the ninth consecutive quarter of increase in unemployment rate since 2009 (National Bureau of Statistics (NBS), 2016), still rising that by the last quarter of 2017,it was 18.8 (NBS,2017). Consequently, firms downsized and fewer people are engaged in performing more work. Productivity per employee may increase, but morale may suffer as hours become longer and work becomes more difficult. Also, wage increase stopped and fear of further layoffs persisted with low efficiency level of production. Thus, people spent basically

on the essentials to keep the belly filled, leaving poultry products for the consumption of the well-to-dos thus reducing performance in the industry.

Furthermore, *indebtedness and bankruptcy in industries* affect the micro and small firms' performance. Indebtedness is the state of owing something (usually money) to someone in the time of financial difficulties which shows the way liability is being incurred on goods and services purchased on credit (Roget, 2014). The customers who bought on credit may pay slowly, lately, partially or not pay at all. Hence, with reduced revenues, the affected farmers would pay the bills more slowly, late, or in bits than the original credit agreement required. Late or delinquent payments will reduce the valuation of the firms' debt, bonds and ability to obtain finance. Businesses without major cash reserves and large capital base may find difficulty in running their day to day activities, some businesses may have a harder time surviving a recession, consequently, bankruptcies may therefore occur at a high rate (Koo, 2009). The inability to service their debts and interest, damages the firm's credibility for further borrowing. Also, if the firm's debts cannot be serviced or repaid as agreed according to the borrowing contract, then bankruptcy may ensue (Oludayo and Okwara, 2012) resulting to insolvency rather than performance. The goods produced by the poultry farmers during recession also suffer in terms of quality. In an attempt to reduce the costs, the company may compromise the quality or quantity of the products as a common reaction of many businesses in steep recession. Also, such firms spend less on advertising and marketing. Advertising agencies also abate the dissemination of information to customers and market because of the squeeze, whether print, broadcast or online (Cascio, 1993).
More so, low output caused by the lower investment with potential to damage the long term productive capacity of the economy. Thus, if recession is short, the lost output may be quite limited and the economy can bounce back quickly but if prolonged, this loss becomes greater and could eventually collapse the production capacity of the economy (Pettinger, 2016). *In addition, a stunted economic growth through inflation will* result to high interest rate, unstable exchange rate with attendant negative effect on micro and small firm's growth

Also, the problem of economic recession lies with the indiscriminate laying off of staff with little or no consideration placed on experience and requisite professional skill. The danger is often enormous as the industries affected may lack competent staff to sustain productivity (Elizur and Sagie, 1999). Lastly, recession reduces the living standard of people especially those who are dependent on wages and salaries. The loss of job is known to have adverse effect on the stability of families, individual's health and wellbeing (Vaitilingan, 2009). Despite the claim of a healthy economy, the effect of economic recession has always been an outright disaster. As a result of recession, the economy has been witnessing downturn in stock prices, contraction in capital investment, general collapse of public infrastructure, closedown of factories and relocation of productive facilities to neighboring countries, the continuous rise in unemployment which is compounded by endemic corruption has almost groundeds the economy to a halt (Akin, 2010).

Schumpeter theory of Profit through innovation

Economic fluctuations, as introduced by Schumpeter (1934) is a four-stage phase: booming, recession, regression, and re-booming which relied on two realms of economic analysis. The first realm is grounded on the circular flow of income (traditional economic theory) that profits derived from positions of market power in perfectly competitive conditions would be driven to zero. However, Schumpeter in his work 1943, argued that perfectly competitive

markets had never existed and would never exist, so comparisons with this hypothetical statement are unhelpful.

The second realm is that of novelty-creating economic activity (innovation) which generates new sources of value-adding productive endeavour and disturbs the circular flow of income to a disequilibrium state. The profits is the creative process that added new value to the income stream - and this type of departure from a hypothetical absence of any kind of market power is highly socially beneficial, since everyone enjoys higher income in the long run as a result (Cantwell, 2001). In this sense, innovation is a function of the entrepreneur. The most important part of this analysis of Schumpeter consists of innovations that might improve the product, process, open a new market or new ways of organization to enhance performance of micro and small firms in order to restore the economy.

Methodology

The quantitative approach was employed for this study using survey design for data collection in an attempt to elicit primary information from registered poultry farmers in Kwara State. Kwara State is one of the agrarian States in Nigeria with 80% of the population residing in the rural areas and 90% are farmers. Production of livestock such as sheep, goat, and poultry birds are equally popular in the region. Recession in this state in relation to poultry industry is in its ebb, hence its suitability for this study. The study is carried out at the firm level. A census-based sampling method was employed as a result of the small size of the sample frame. A self-structured 5-likert scale questionnaire from Chukwu et al. (2015) and Adetayo and Ben (2018) was adopted in collecting data from 83 registered respondents. The face and content validity was carried out while a pilot test-re-test was conducted to establish the reliability of the instrument at 85% Pearson-Moment correlation coefficient. Descriptive statistics and multiple linear regression analysis technique were used for the data collected. The results are presented at $P< 0.05$, the conventional acceptable level of significance for social sciences.

Dependent Variable: Performance

Performance is the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. Respondents were asked to evaluate the performance for the 5 years (2013-2017) in terms of sales of the farm products (Eggs; live, frozen or grilled –birds) with 2013 as the base year. The variable took the value of ‘0’ if not applicable (N/A) in any year, decreased sales scored ‘1’ and increased sales scored ‘2’. A firm could score between ‘0’ and ‘40’.

Independent Variables

The independent variables for the data collected are Indebtedness, unemployment and inflation. Each variable has 6 items. Respondents were to tick between 5 and 1, hence a respondent could score highest 30 and lowest 6.The items for each variable were transformed into one construct.

Indebtedness

Indebtedness have 6 items measured by percentage of debtors versus cash sales; rate of bad debts; percentage of creditors paid and unpaid; rate of cash purchase; interest rate on credit facilities as a measure of debt ratio and sources of funds.

Unemployment

This variable have 6 items measured by level of employment; the purchasing power of citizens; and spending habits on poultry products.

Inflation

The variable is measured by increased price of products and increased cost of material.

Results and Discussions

Descriptive Statistics

The descriptive analysis revealed some general features of the poultry farmers. For instance, about three-quarters of owners/managers of poultry firms are males at the average age of 40years.This implied that majority of the farmers are young men, implying the gender inequality in poultry business but with high prospects for effectiveness and efficiency. 97.6% have formal education, which is very advantageous to the industry as it enables them to understand the economic situation in terms of the operations. The study also showed that 39.8% poultry farmers were motivated into the business because of profit making while 31.3% was due to lack of job in the country. This implied people in poultry business actually desire a venture with a bountiful return on investment to improve their standard of living and solve their economic problems.

Multiple Linear Regression Analysis Result

A multiple linear regression analysis was employed to test the multiple effect of economic recession on poultry sales performance. The regression model for the study is as follows:

$Y = \beta 0 + \beta 1x1 + \beta 2x2 + \beta 3x3 + e$…… (Cohen, 2008)

Where; Y = Dependent variable representing sales performance

β0,Y- intercept, constant
β_{1-3}, regression coefficient
X= 1 - 3 , the predictors (independent variables)
$\beta_1 X_1$= Indebtedness
$\beta_2 X_2$ =Inflation
$\beta_3 X_3$ = Unemployment
β1, β2, β3= Co-efficient of independent variables
e = Error term, (0, 1) normally distributed with mean 0 and variance 1.

Table 2: Multiple Linear Regression Analysis Result

Variables	Model
Constant	38.008
Indebtedness	-.435
	(10.286)**
Inflation	.327
	(7.373) *
Unemployment	-.082
	(1.738)
R	.688
R Square	.478
Adjusted R Square	.469
F-value	94.776**

**P < 0.01, *P < 0.05, t-value in parenthesis
Source: Author, Field Study (2018)

Table 2 presents the regression analysis results between the dependent variable (performance) and the independent variables (Indebtedness, Inflation and Unemployment). The whole model shows that, there is a significant relationship between economic recession and micro and small poultry firms' performance. The total variance explained by the model as a whole was 46.9%, F=94.78 at P<. 01.

The result indicated that the rate of indebtedness is significantly and negatively related to micro and small poultry firms' performance *in* Kwara State*.* That is, indebtedness has a negative impact on micro and small poultry firm's performance, in other words, indebtedness is inversely related to sales performance which consequentially affect access to formal finance to boost the ventures. This is in consonance with Keynes (1936) position that in the period of economic recession the marginal efficiency of capital (MEC) collapses due to sharp increase in interest rate. Indebtedness is a phenomenon that has posed a danger on performance of poultry industry. Many could no longer afford poultry feeds because of outstanding debts thereby affecting performance. Since eggs are perishable, it becomes necessary to dispose them on credit to avoid loss through spoilage. Moreover, birds that are due for sales remains a liability when not disposed at the particular time hence indebtedness accrued. Ogunrinde (2006) stated that an industry that is not financially buoyant may not sustain its performance during economic recession. Hence, for farmers to maintain its sustainability during economic recession, the principle and policy of credit limitation and payment of old debt before the new one should be adopted to reduce the possibility of any bad debt that might arise from credit sales. However, Kebede and Simesh (2015) contended that the availability of other sources of finance should be considered and explored in raising funds. The farmers were able to sustain performance by raising funds through clusters of corporative associations which they belong. These enabled them to raise cheap capital at lower interest rate and in line with Schumpeter's argument that entrepreneurs should seek creative ways of generating value-adding productive endeavor which will disturb the circular flow of income. Moreover, the Schumpeter theory of innovation, according to Adeyeye, Ndibe, Ochepa, Abdulwaheed, Daniya, Dauda and Dokochi, (2015) argued that micro and small business owners need to explore diverse forms of innovation such as introduction of new methods of selling their products aside the traditional ways leading to indebtedness at this level of trading and also expand into new markets to tackle indebtedness and business performance (Adeyeye, Bamidele, Ikupolati & Oni, (2016).

Inflation has *a* positive and statistically significant impact on micro *and* small poultry firms' performance in Kwara State. The result showed that firms' performance is predicted to increase by 32.7% when inflation goes up by one. Thus increase in price of feeds for birds and other inputs which led to a marginal increase in price of eggs has an impact on sales performance. Similar study by Liman *et. al.* (2013) revealed that inflation is not a catalyst to the success of every business as it gradually erode the profit and revenue of the company through the increase in price of production. This study also toe the line of Keynes theory on trade cycle that during economic recession, the quality of goods and services drop because of the inability of price to move in proportional rate with increase in overhead cost which will eventually affect sales negatively. However, given the nature of business investigated, if the farmers reduce the quality of feeds being given to the birds and they are not likely to get any good yield in terms of egg laying by the birds. Hence with increase in price of feeds given to the birds, the poultry farmers could not afford to reduce the quality of feeds given to the birds. Rather the farmers have adapted to the changing situation by finding alternatives such as sourcing for other cheaper source of local components of feeds without compromising the nutritional content at a slightly higher production price that consequently affect sales performance. This has confirmed Schumpeter theory of innovation by introduction of a new source of raw materials. The poultry farmers have been able to use the knowledge of their operating environment to their advantage.

Finally, the result showed that there is a negative but insignificant relationship ($r = .042$; $p = .355$) between unemployment as a measure of purchasing power of citizens and sales performance at 5% significant level. This contradicts the findings of Emma (2014) on implication of global economic meltdown in Nigeria where he argued that global economic crisis has led to dramatic increase in the number of people joining the ranks of unemployed and leading the large number of population into state of poverty which is influenced by weak purchasing power of citizens. However, the finding supported Ademola and Micah (2015) on strain during economic recession on Honey Well flour mill in terms of staff layoffs, and downward review of salaries which were found to be nonexistent. Thus in answering the third research question, increase in unemployment has not hindered people from purchasing poultry eggs, since it is mostly eaten by children, pregnant women and sick people.

Conclusion

The study examined the impact of economic recession on performance of micro and small businesses in Kwara State, Nigeria using poultry firms' as sample. The study analyzed the impact of three variables (indebtedness, inflation and unemployment) on performance by sales and concluded by answering the research questions that the rate of indebtedness of customers has a negative impact on the micro and small poultry firms' performance. Also, there is a positive and statistically significant relationship between inflation and micro and small poultry firms performance. However, unemployment has a negative impact on micro and small poultry firms' performance in Kwara state but not statistically significant.

Recommendations

In view of the foregoing, the following recommendations are made

- Micro and small poultry firms' training should include trade credit management to reduce indebtedness.

- The government should continue to ban the importation of poultry products and encourage the use of local products for feeds production.
- Friendly policies should be made to encourage exportation of poultry products that will encourage more youth involvement and thus reduce unemployment.
- Federal Government initiative of one meal per day school programme in the basic schools should be implemented across the States of the federation to boost demand and enhance performance.

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Competition and Profitability of Microfinance Institutions: Empirical Evidence from Ghana

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Abstract

The paper examines the determinants of competition and also investigate the relationship between competition and profitability of Microfinance Institutions (MFIs) in Ghana. We construct the Lerner Index as a measure of competition. Our empirical investigation is based on panel data from 58 MFIs spanning 2000-2014. The results from the empirical investigation indicate that both firm characteristics and macroeconomic variables play a significant role in the determination of competition in the MFI industry. Capitalisation and credit risk impact positively on competition. On the other hand, MFI size and macroeconomic variables have negative effect on competition. Also, our econometric analysis provides evidence that competition impacts negatively on profitability of MFIs. The results of this study indicate that policies that allow MFIs to sustain some level of market power might be essential for the profitability of the MFI industry. Also the evidence obtained in this study is crucial for policy formulation in the credit market, that could improve the accessibility to quality or/and quantity of finance especially for low income earners.

An integrated approach to risk assessment and success of SMEs

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Abstract

Despite the many government programmes that have been put in place to assist with small business development regarding financial and non-financial support, South African small and medium-sized enterprises (SMEs) still face high rates of failure. The present study is an empirical investigation into the role and influence that endogenous and exogenous risk factors play in reducing failure and increasing the success of SMEs. Recognizing that entrepreneurship extends beyond the economic domain, complexity and systems theory are employed to formulate hypotheses which predict that various forms of capitals and risk factors impact SME success and increase the likelihood of its occurrence. More broadly, the purpose of this study is to develop a framework for an integrated risk assessment model that can be used to assess SMEs more holistically in terms of risk and success.

The study is a cross-sectional, quantitative study, where primary data (n = 286) is collected from SMEs through self-administered questionnaires. The survey data was analysed using correlational analysis, hierarchical multiple regression and mediation analysis.

The study findings show that financial capital and entrepreneurial self-efficacy emerged as significant predictors of SME success. Moreover, the results confirm the mediating effect of financial capital between entrepreneurial self-efficacy (finance and growth) and financial performance. In terms of modelling, the controlled integrated model shows that the effect of each risk factor is stronger when compared to individual effects only. These findings highlight that funding models need to incorporate such significant endogenous and exogenous risk factors which affect the success of SMEs in South Africa.

The study makes an important contribution to both theory and practice by developing an integrated risk assessment model that will enable funders and other interested stakeholders to accurately (quantitatively, objectively and holistically) assess the risks, as well as the likelihood of success of SMEs before interventions (financial or non-financial), are required. It is also anticipated that the devised model can improve the current funding approval rate, and reduce bad debt and failure rate of SMEs as it allows for the early elimination of high-risk enterprises. The study findings also have implications for incubators and other SME agencies that provide training for entrepreneurs as the integrated model highlights which forms of capital mitigate risks and which areas require development to ensure SME success.

An analysis of liquidity management practices of banks in emerging market economies

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Abstract

Liquidity management in banking firms is not an easy task since banks' cash inflows and cash outflows are stochastic as they depend on market conditions and other agents' behavior. Given the complexity of liquidity management in banks, this study seeks to investigate liquidity management strategies employed by banks in emerging markets by answering the following questions: Do banks in emerging markets have optimal levels of liquidity they pursue? If so, how fast do they revert to their desired liquidity level when confronted with shocks that move them away from their target level? What factors drives liquidity ratios of banks in emerging markets? The sample of the study is comprised of forty (40) commercial banks operating in eleven (11) emerging market economies. The sampling window is confined to the period 2011 to 2016 which evades structural breaks associated with the 2007/9 global financial crisis. For estimation, the two-step system GMM estimator which controls unobserved heterogeneity and endogeneity was employed. The study found that banks in emerging markets have target liquidity ratios they pursue and partially adjust due to adjustment costs emanating from market imperfections. Moreover, past levels of bank liquidity, bank size, asset quality, profitability, deposit-loan synergy, transaction deposits and level of savings were found to be the key determinants of bank liquidity in emerging markets. On the other hand, the level of bank capital, deposit insurance and monetary policy were found to be indeterminate factors of bank liquidity dynamics in emerging markets. Overall, the study established that risk aversion and prudence play a significant role in explaining the amount of liquid assets maintained by banks in emerging market economies. Among other things, the study recommends that regulators in emerging markets should reinforce good liquidity management practices exhibited by banks by monitoring the compliance of banks to the LCR rule which encourages banks to maintain liquid assets that correspond to their expected net cash outflows over a 30-day period.

Determinants of universal banks performance in Ghana

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Abstract

Bank performance is vital due to its contribution to economic growth and development. Thus, it is important because commercial banks have to generate enough returns to attract goodwill from their stakeholders and prospective investors. This study evaluated the determinants of commercial banks performance using annual financial data from 2005 to 2014. The findings from the Panel Fixed Effects and Random Effects regression result show that asset quality, leverage and bank size have significant impact on commercial banks performance but not management quality and inflation. The outcome shows that leverage poses both negative and positive impact on profitability. Asset quality has negative effect on bank performance. The results also reveal that bank size positively influence commercial banks performance in Ghana. In conclusion, the study recommends that the commercial banks should adopt policies that would enhance and help forecast inflation rate and control their leverage level to sustain their performance.

Corporate governance and financial performance of Ghanaian rural banks

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Abstract

A number of corporate scandals such as WorldCom and Enron cited governance weaknesses resulting from not suitable and unproductive control mechanisms(Biswas & Bhuiyan 2008). This study examined the relationship between corporate governance and financial performance of Rural Banks in the Ashanti Region. The study sampled 24 rural banks in Ashanti Region between the periods of 2011 to 2015. Panel data regression model was used to analyse the data in explaining the effect of governance variables on performance. Financial performance variables includes return on assets and return on equity whiles corporate governance variables includes board size, board composition, board competence and dividend payout. The study revealed a negative relationship between performance and board size, positive relationship between performance and board composition, board competence and dividend payout. The study further revealed a negative relationship between performance, debt structure (debt ratio) and age of rural banks.

On The Economics of Defense: Does Military Expenditure Impact Economic Growth? The case of Kenya

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Abstract

Over the years, Kenya has experienced a tremendous growth in defense spending in the advent of rising violent cross-border and domestic terrorism. The per capita spending grew from about 4.1 This disproportionate growth presents a new economic challenge as it competes against other public sector needs whose importance cannot be underscored. In this paper we employ a mix of strategies to verify whether defense spending impacts on economic growth in the case of Kenya. First, we employ the Engle and Granger (1987) two-step co-integration analysis in elucidating their long-run equilibrium relationship. Secondly, we use the Granger causality tests to establish the direction of causality between defense spending and economic growth. The paper uses annual data from: the Stockholm International Peace Research Institute between the period 1963-2016 to collate military expenditure estimates; World Development Indicators; World Penn Tables and the Republic of Kenya statistical abstracts to collate data on economic growth.

Keywords:*Defense, Expenditure, Economic Growth, Causality.*

Introduction

By the late 1990s, Kenya had hit the global headlines with rising cases of terrorist attacks that were threatening key sectors of the economy. The 1998 bombing of the United States Embassy in Nairobi was a major indicator that Kenya needed to rethink its defense operations going forward. The bombing was characterized by insurmountable destruction of property, loss of lives, physical impairment, psychological effects on families and permanent distortion of the welfare of hundreds of families (Helling, 2004; Macintyre et al., 1999; Pfefferbaum et al., 2003, 2006). Despite the magnitude of this bombing, it was not the first of its kind. There had been all sorts of violent instabilities through which Kenya reaffirmed its need to strengthen its military order. A spotlight example would be the failed military *coup d'état* of 1982 that attempted to overthrow the government of then President Daniel Moi. Though the reasons for the attempted coup are scanty, pundits of political warfare and military involvement point to poor and unequal remuneration of military officers, rent seeking and low budgetary allocations as some of the reasons that triggered the military involvement

into domestic political affairs (Zimmermann, 1979; Johnson et al., 1983; Kimenyi and Mbaku, 1996; Lofchie, 1972; Powell, 2012).

In the efforts to streamline national defense and ensure the safety of Kenya's territorial boundaries, adequate budgetary allocation were inevitable. The Stockholm International Peace Research Institute (SIPRI) data indicate that defense spending has been on the rise since 1963 in absolute terms. Conversely, Kenya's GDP indicate almost a similar trend along the time series even growing faster beginning the 1990s (see figure 1).

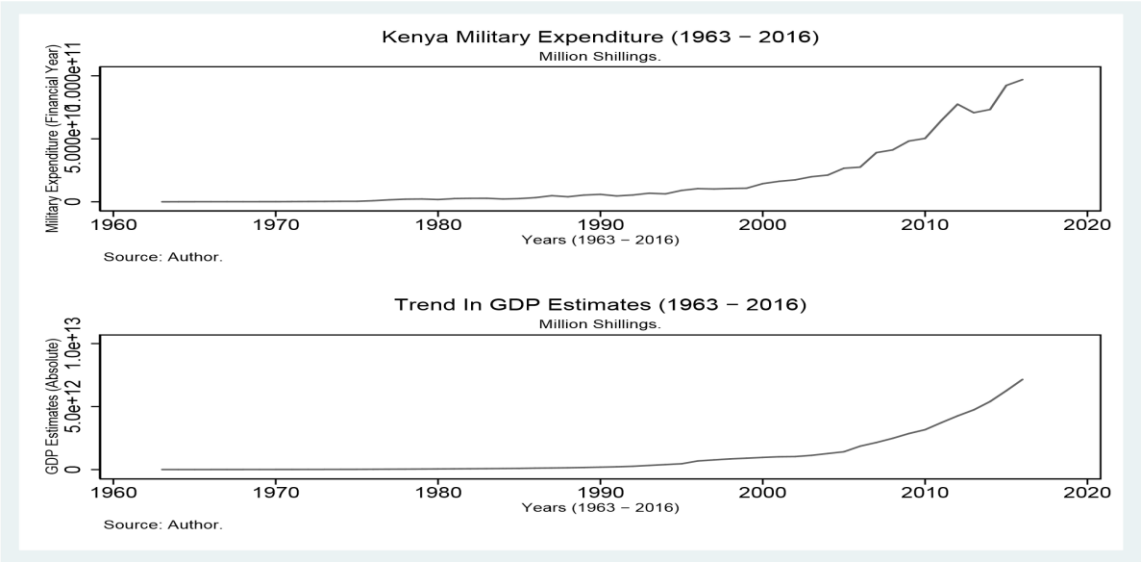

Figure 1: Kenya Military Expenditure trend versus GDP (Absolute values)

Judging from the absolute values of military expenditure along the time series does not tell us much about the increase in defense allocation against the economic ability to finance it. However, as per figure 2, our argument does not change. The share of military expenditure to GDP shows a significant rise along the time series thus showing that over time, Kenya has allocated more resources to defense[7]. Arguably, other macroeconomic needs could have been substantially crowded out.

[7] We also deflated the military expenditure (base year, 2009) and the results showed a similar trend even though there was a conspicuous jump in expenditure around 1975. Viewed against the real GDP, this jump is also evident and the trend remains high thereafter.

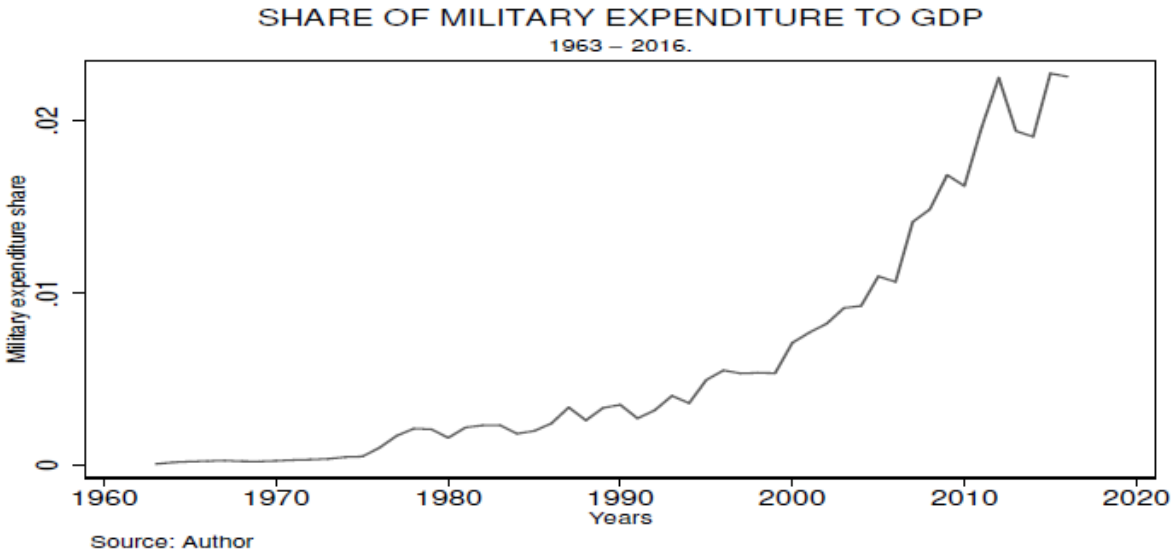

Figure 2: Share of military expenditure to GDP

Even with the evidential need for security and regional stability, one would want to know how spending on defense relate to economic growth and whether there is a causal effect from one of the two time series variables to the other. Of interest too would be to know how these two variables relate in the long run. The answers to these empirical questions are valuable for decision makers and policy analysts in making decisions on spending scarce national resources and actual wealth creation. It is also primarily fundamental for further causal empirical analysis by academics and researchers. In this paper, we seek to establish the direction of causality between military expenditure and economic growth. We also investigate the long-run relationship between the two variables.

The relationship between defense spending and economic grown has been widely studied. Yet, despite varying application of sophisticated models, the conclusions have been substantially divergent (Joerding, 1986; Zimmermann, 1979; dAgostino et al., 2018; Manamperi, 2016; Dunne and Tian, 2013). Following Benoit (1978), significant policy improvements around financing defense were experienced especially in the developed economies. Earlier beliefs had been that defense expenditure reduced resources available for other economic needs such as infrastructure, investment and social services and thus slowing economic growth. However, Benoit (1978) found out that whereas this belief would hold in developed economies, there were vast inconsistencies in developing countries. Counter intuitively, countries with substantially high budgets for defense relative to GDP grew noticeably faster than countries whose defense spending was low.

This result led to vast research on the channels through which defense spending would impact economic growth. Two channels have been documented even though they vary depending on the type of countries or regions being analysed. The first channels views defense from a positive perspective. It opines that increase in defense spending can lead to economic growth through aggregate demand increased and employment (Manamperi, 2016). The economy also experiences higher human capital levels through increase training and education, adoption of technology and a conducive political and social environment. The second channel is contrary to the first. It views defense spending from a negative standpoint. Increased allocations to defense spending is considered hurtful to the economy as it crowds out resources from their efficient allocations (Lipow and Antinori, 1995).

Dunne et al. (2005) groups the influence of military expenditure into three macroeconomic channels namely demand, supply and security effects. These channels follow the Keynesian multiplier where an increase in defense spending would imply a rise in demand for goods and services leading to increased employment of factor resources. In this way, defense spending positively impacts economic growth. However, owing to national accounts dynamics, this result is not straight forward. Considering a budget deficits in most developed and developing countries, increasing defense spending further dampens the exchange rate thus considerably crowding out private investments in addition to a larger debt burden. In this scenario, defense spending negatively affects economic growth. The supply effects tend to push optimal levels of factors of production from the frontier in a case of increased defense spending thus negatively affecting the economic growth. The factors of production such as natural resources, labour, human capital can be crowded out by heightened defense spending. Lastly, the security effects channel generally implies that with relative peace, the economy is able to operate in a more conducive environment thus experiencing growth. Therefore, an increase in defense expenditure positively impacts economic growth in this channel.

These approaches have been used to analyse the relationship between defense spending and economic growth in different countries. Whilst results have been far inconclusive, there are few studies seeking to unravel the potential endogeneities of defense spending. In this study, we focus our analysis on causality between defense spending and economic growth and their potential long run equilibrium for the case of Kenya.

Literature Review

Following the work of Benoit (1978) substantial research around the relationship between military expenditure and economic growth has burgeoned. In the centre of this research has been the crucial question on what are the consequences of spending more or less in defense on a host of other economic objectives. Whereas peace and stability is integral for economic growth, means of attaining and sustaining it can crowd out other necessary expenditures and eventually derail development. The chain of causation in this literature has not been conclusive. Different studies have arrived at opposing conclusions citing the peculiarities of each country's economic strength and nature of active threats to peace.

Benoit (1978) finds that unlike developed economies, developing countries present vastly different scenarios in as far as causality is concerned. States that invested more in defense seemed to grow faster than those with marginal defense funding. This therefore implies that defense spending could have a positive effect on development. Cohen et al. (1996) finds that even if there is a positive impact of military expenditure to growth, the link can be traced indirectly through investments. The peace dividend that most of literature has missed as an indirect link becomes evident when the long run analysis is considered.

Similar research has demonstrated a contrasting argument on the chain of causation and the ultimate long run equilibrium. Heo (1999) finds that the effects of defense spending on growth are negative both directly and indirectly and also present a lagged negative effect. Defense spending substantially reduces investments and hence lowering exports. On the other hand, defense spending is also viewed as a catalyst of technological expansion that spurs positive externalities into the economy (Yakovlev, 2007). It may conversely lead to

inflationary pressure as government pushes more resources to defense spending ultimately crowding out other spending needs.

Dunne and Mohammed (1995) uses a sample of relatively homogeneous Sub Sahara African countries. The study establishes a negative relationship between defense spending and economic growth when a time series analysis is employed. However, using a cross sectional analysis of the same countries, these results are not immediately established adding to the inconsistency of this evidence. Mylonidis (2008) controls for country level institutional variations in a panel study for economic growth. The study concludes that on the average military spending has an overall negative effect on economic growth. The intensity of the effect seemed to increase with time across the panel of European countries pointing to the fact that increasing defense spending derails economic growth. In a complete contrast, Wang et al. (2012) established that defense spending has a larger loading factor into the productivity Malmquist Index and thus significantly seems to bolster economic growth in OECD countries.

A vast majority of papers on this subject assume a priori that defense spending in effect impacts on economic growth. However, the endogeneity of defense spending in the size of the economy has continued to raise concerns among researchers (Gokmenoglu et al., 2015). In other studies, it has been established that either defense spending has a sufficiently weak impact on economic growth or no correlation all together. Using the Granger causality approach Joerding (1986) finds that defense spending is weakly related to real income of the 57 developing countries considered. The study concludes that most of research done before had assumed a strong relationship between the two variables for which the granger causality tests suggested that defense spending is not strongly exogenous. Kusi (1994) considers a larger sample of 77 developing countries from the Joerding (1986)'s study in determining the causal relationship between defense spending and economic growth. By considering a time series approach, Kusi (1994) shows that the relationship between defense spending and economic growth cannot be generalized across countries. There are inherent in-country effects that tend to reverse the chain of causality between the two variables. The study shows that in one of the countries considered, there was evidence of bi-directionality, a uni-directional relationship in 1 countries and no evidence of any relationship in 62 countries. The argument is that the deviation in results may among other things be on the sample period considered and the level of socioeconomic development of the concerned country. Indeed, developing countries across the world present vastly different challenges and characteristics (Todaro and Smith, 2012). An analysis that pools these countries together not only fails to pay attention to dynamically changing environments but also can lead to wrong conclusions (Kusi, 1994). As such, a country specific study, rather than a cross country study is more plausible in studying the relationship between economic growth and defense spending.

Other studies have established relationships between defense spending and other economic variables. Chang et al. (2001) established that defense spending and real income had a bi-directional relationship for Taiwan while China's real income seemed to impact defense spending. Dakurah et al. (2001)'s granger causality test for 62 developing countries establishes a causal relationship between defense spending and real income while Dunne and Perlo-Freeman (2003) finds that economic growth impacts defense spending in the case of Greece, Portugal and Spain.

Literature on Kenya is vastly scant. Despite the key role played by Kenya's defense systems in the horn of Africa, researchers have not been concerned with the need to understand the effects of increasing defense spending on the country's economic performance. Whereas Omitoogun (2003) documents the veracity of military expenditure data given by Kenya and other selected African states to SIPRI, the study notes the low use of the data owing to lack of publicity by stakeholders. Governments also do not promote the circulation of published budget documents. Even though the latter may not apply for Kenya whose democratic space and citizen participation in government budgeting has sufficiently increased over years, there lacks publicity of such data by academics and the media. Nonetheless, the question on whether financing defense impacts growth and what their long run relationship is cannot be underestimated. This paper is therefore a step into analysing Kenya's defense economics and the desirable optimal expenditure on defense.

Methodology and Data

We relied on data from SIPRI on different measures of military expenditure for Kenya. Even though there are various measures of military expenditure data, this paper uses the data measured at financial years. GDP data for Kenya is available from the World Development Indicators data sets. For both military expenditure and GDP, we considered the measures at constant 2010 prices. The time consideration was informed by the availability of reliable military expenditure data.

We sought to establish the causality between military expenditure and economic growth. For this objective, we employed the widely used Granger causality test owing to Granger (1969). Considering two time series variables, X Granger-causes Y if Y is better predicted by past values of both X and Y than it can be explained using past values of Y alone. There are several approaches to obtaining the test statistic although the use of statistical packages has made it sufficiently straight forward. We follow the Toda and Yamamoto (1995) vector autoregressive (VAR) procedure due to its comprehensive pre-test treatment to time series data. Furthermore, Granger causality test is primarily data driven and therefore does not require any theory a priori.

Testing for stationarity

We proceed firstly by considering the stationarity of our variables of interest. We employ both the Augmented Dickey-Fuller test (ADF) and the Phillips-Perron (PP) unit root tests. The use of either test is in most cases necessary but not sufficient (Gokmenoglu et al., 2015). The benchmark ADF test suffers several shortcomings. Among them is the little power to discriminate between a stochastic and a deterministic trend when data is subject to structural breaks. In a case of structural breaks, the ADF is biased towards non-rejection of a unit root.

At least, with the PP test, we may not have to worry much about the almost obvious structural breaks as is the case in our data around 1978. At the same time, both of our variables have a time trend as clearly, expenditure and GDP grow over time. We therefore incorporate a constant and trend in both ADF and PP tests. The PP test is also robust to serial correlation due to the use of the Newey-West heteroscedasticity and autocorrelation consistent covariance matrix estimator. The null hypothesis of the PP test is similarly specified as in the ADF test.

Testing for co-integration

Macroeconomic variables are vastly dynamic and their paths over time, stochastic. Even more importantly, these variables elicit intrinsic relationships. Co-integration, unlike correlation provides for the determination of the long run equilibrium relationship between to two time series variables. These relationships are instrumental for policy as analysts get to understand the responses of a set of co-integrating variables in a given time series. We therefore test for co-integration between defense spending and GDP for the case of Kenya.

For this exercise, we use the Engle and Granger (1987) two-step approach which is primarily a residual based test. In this test, the time series variables of interest must be integrated of order 1 such that they are stationary at first difference. These variables are co-integrated if their linear combination is fundamentally I(0). The linear combination can be represented mathematically as;

$$\beta[y_t\,, x_t]' = \epsilon_t \tag{1}$$

where β is the vector of co-integration and ϵ_t is the stationary equilibrium error. One of the advantages of the Engle and Granger (1987) test is that irrespective of the number of variables being modelled, it assumes a single co-integrating vector.

Relative to our current study, this test typically employs the OLS estimator for which a theory specifying the empirical relationship between the two variables is fundamental. A normalizing assumption such as $\beta = (1 - \beta)$ is made to uniquely identify the co-integrating vector using OLS. At this point, we cannot fully submit to a functional specification of whether defense spending impacts economic growth or vice versa. Nonetheless, for co-integrating variables, the choice of normalization is typically asymptotically irrelevant (Granger, 1969). We therefore assume an arbitrary functional application that specifies the long-run relation between defense spending and economic growth given by;

$$Grth_t = \beta_t Milex + \epsilon_t \tag{2}$$

Note that this is the static equation since we do not consider other dynamics in the variables and serial correlation in the error term. As such, the OLS estimator will be given by;

$$\overline{\beta}_t = \frac{\sum_{t=1}^{T} y_t x_t}{\sum_{t=1}^{T} x_t^2} \tag{3}$$

Even though the denominator and numerator converge to complicated functions of Brownian motions as T $\rightarrow \infty$, $\overline{\beta_t}$ still estimates the true β regardless of the relationship between x_t and ϵ_t.Typically, the estimate is usually said to be *superconsistent* as it converges to the true value faster than a static OLS with stationary series. However, its inference is never straightforward owing to its nonstandard distribution and also whether deterministic terms such as the time trend and drift were originally specified.

Summarily, we proceed to test the co-integration by obtaining the estimate β_t in equation 2 followed by testing for unit root in the residuals in the second stage. For purposes of testing for the unit root in the residuals, we perform both the ADF and Phillip Perron tests. We also assume a null hypothesis of co-integration given as;

$$H_o : \epsilon_t = I(1) \qquad H_a : \epsilon_t = I(0)$$

That is to mean that the null hypothesis assumes that ϵ_t is non-stationary implying no cointegration between defense spending and economic growth while the alternative hypothesis states that t is stationary thus implying co-integration. Since the co-integrating vector β is unknown, the ADF test statistic based on the estimated residuals does not follow the standard DF distribution under the null hypothesis of no co-integration (Phillips and Ouliaris, 1990). At the same time Hansen (1992) argues that the distribution of the ADF statistic depends on whether deterministic terms such as trend and drift are contained within the time series. We however use the critical values provided by Hamilton (1994) to deal with this shortcoming.

Granger Causality test

The aim of this paper is fundamentally to ascertain the chain of causation between defense spending and economic growth as well as emphasize further empirical analysis on the implications of defense budgeting for Kenya. Causality can either be bidirectional or unidirectional and therefore, the tradition is to estimate both regression estimates with an assumption that the error terms are not statistically correlated. Joerding (1986) suggests that past literature that considered an OLS estimation of defense expenditure and economic growth did not pay attention to the possibility that defense expenditure could be endogenous to economic growth. As such, there has been strong emphasis on establishing the direction of causality between the two variables so as to fit a more realistic functional form. At the same time, these estimations are better understood if they are country specific.

We assume a simple VAR functional form since both of the variables of interest are stationary at first difference8. For each of the VAR fitted, the null hypothesis of granger causality assumes that estimated coefficients of the lagged values of the variable are jointly zero. From reviewed literature, the relationship between defense spending and economic growth can be unidirectional or bidirectional (Dunne and Mohammed, 1995). We therefore fit two VAR estimations and test for granger causality using the Wald test. We consider;

$$Milex_t = \alpha + \sum_{i=1}^{n} \beta_i Milex_{t-i} + \sum_{i=1}^{n} \gamma_i Grth_{t-i} + \mu_{1t} \quad (4)$$

$$Grth_t = \lambda + \sum_{i=1}^{n} \zeta_i Grth_{t-i} + \sum_{i=1}^{n} \sigma_i Milex_{t-i} + \mu_{2t} \quad (5)$$

The test assumes that μ1t and μ2t are not correlated. Further, $\sum_{i=1}^{n} \beta_i Milex_{t-i}$ represents all appropriate lags of military expenditure in equation 4 and similarly in $\sum_{i=1}^{n} \gamma_i Grth_{t-i}$ on the other hand captures the lags of the GDP measure as fitted in equation 4 as well as similar application in equation 5 for all $i = 1963,1965 \ldots 2015,2016$.

Empirical Results

Summary Statistics

For the objectives of this paper, we only considered two time series variables. The two time series have shown a straight forward relationship over the time period 1963 - 2016. Figure 1 shows the trend over time where growth in nominal terms is evident. However, figure 2

[8] Stationarity is required for Granger causality. See stationarity test results in in table 2

depicts a disproportionate growth in military expenditure as a share of GDP. Nonetheless, a statistical outlook of the two variables over time is captured in the summary statistics table 1.

Table 1: Summary statistics

Variables	Sample size	Mean	s.d	Min	Max
Military Expenditure	54	$1.702e^{10}$	$2.564e^{10}$	$2.320e^{07}$	$9.699e^{10}$
GDP	54	$1.716e^{12}$	$1.019e^{12}$	$3.720e^{11}$	$4.300e^{12}$

Note: Both military expenditure and GDP are measured in local currency (KES) and in constant prices. We also use the government financial year values for both variables for consistency and comparability.

The sample involves 54 years from 1963 to 2016. The choice of the sample was necessitated by the availability of military expenditure data in SIPRI. Kenyan military expenditure data is rated as reliable and therefore, we were convinced that it is valuable in empirical research.

Testing for Unit Root

This paper sought to accomplish two simple yet vital tasks. First, we sought to establish the long-run relationship between defense spending and economic growth and secondly to verify the direction of causality between the two variables. This analysis is particularly important for Kenya's future approach to defense spending in the wake of rising terror and threat to regional peace.

Table 2: ADF and PP test results

ADF	**Level**		**First differences**	
	t-Statistic	Prob.*	t-Statistic	Prob.*
Log Military expenditure	-3.2615	0.0840	-7.4765	0.0000
Log GDP	-2.3968	0.3769	-6.2929	0.0000
Phillips-Perron	**Level**		**First differences**	
	t-Statistic	Prob.*	t-Statistic	Prob.*
Log Military expenditure	-3.2543	0.0853	-7.6435	0.0000
Log GDP	-2.187	0.4867	-6.2940	0.0000

Note: We show results at both level and first differences for both of the variables starting with the ADF and followed by the PP tests.

Table 2 presents the ADF and PP unit root test results. The variables showed a tendency to move along time and therefore we included the trend in both of the tests. We use the Akaike Information Criteria to determine the optimal lag length. Clearly, both test indicate that military expenditure and GDP are non-stationary at level but stationary at first differences. Therefore at level, we fail to reject the null hypothesis that the series has a unit root. PP test

affirms the results further taking care of possible structural breaks especially in Kenya's GDP data.

Testing for Cointegration

As earlier noted, we followed the Engle and Granger (1987) approach to co-integration owing to its fewer distributional assumptions it imposes on the data9. Unlike the Johansen test however, Engel-Granger does not allow the identification of the number of co-integrating vectors. However, in our application this limitation may not be important since we have a bivariate case of only two variables and hence at most we shall have one co-integrating relationship.

We concluded from table 2 that our series of interest are both integrated of order one. This is a requirement that allows us to proceed to examine whether the residuals of our fitted regression are stationary based on the Engle and Granger (1987) residual based approach. Table 3 shows that our test statistic at |3.217| is less than the critical value of |3.49631| provided by MacKinnon (2010) in absolute terms10. We therefore fail to accept the null hypothesis of a unit root since we find that the residuals are stationary. This implies that both defense spending and GDP are co-integrated.

We conclude a long run relationship exists between defense spending and economic growth.

Table 3: Augmented Engle-Granger test for cointegration

Number of lags = 3				N (1st step) = 54
	Test Statisitc	1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-3.217	-3.580	-2.930	-2.600

Note: *MacKinnon approximate p-value for Z(t) = 0.0190. Critical values from MacKinnon (1990, 2010). First step includes linear trend.

Granger Causality Test

To this far, we have evidence that defense spending is not only cointegrated with GDP but also seems to have a long-run equilibrium relationship. Our overarching objective was fundamentally to verify whether the two variables have a long-run equilibrium relationship and finally the direction of causality. These two objectives thus set the ground for further macroeconomic evaluation.

[9] We instrument this test on Stata using Schaffer (2010) user defined command. In the era of high powered computer applications, many tests in statistics have become exemplary easy to carry out.

[10] For the Engle and Granger (1987) test, the critical values are provided in MacKinnon (2010) and so we do not rely on the test reported critical values.

Table 4: Panel A: Fitted VAR results

	Model 1	Model 2
Dependent Variables	Ln Milex	ln GDP
L.ln Milex	0.951***	-0.00549*
	(0.0167)	(0.00318)
L.ln GDP	0.0441***	1.006***
	(0.0131)	(0.00251)
Observations	53	53

Note: Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Panel B: Granger causality test results

Equation	Excluded	chi2	Prob > chi2
Ln Milex	Ln GDP	11.2810	0.0010
	ALL	11.2810	0.0010
Ln GDP	Ln Milex	2.9916	0.0840
	ALL	2.9916	0.0840

Note: The optimal lag length supported by AIC was 1.

Table 4 comprises of panel A which basically captures the VAR we fitted for the Granger causality test. Therefore, we concentrate on results in panel B for which the Wald statistics for both estimations are presented. As earlier noted, we assume as usual the null hypothesis of no causality between defense spending and GDP. Our results show that for the case of Kenya, causality is only unidirectional where GDP is found to granger cause defense spending. We therefore fail to accept the null hypothesis that GDP does not granger cause defense spending. In the contrary, we fail to reject the null hypothesis that defense spending does not granger cause GDP. Summarily, the relationship between defense spending and economic growth is unidirectional and runs from economic growth to defense spending.

Conclusion

Our study aimed at achieving two simple but vital objectives for further research interest. The motivation for the study stemmed from disproportionate defense budgeting for Kenya in the wake of competing economic needs. In addition, the inconclusive findings in literature around the relationship between defense spending and GDP necessitated a country specific analysis to establish this relationship and at the same time motivate further research.

Our findings converge to past studies on long-run equilibrium relationship between defense spending and economic growth. However, the causality established is counter intuitive especially for Kenya. In fact, Kusi (1994) found no causality between defense spending and GDP for Kenya. Two arguments for this finding would be that the time series considered is relatively shorter than our current study and secondly that by considering a panel of 77 developing countries, Kusi (1994) fails to consider country specific effects.

A general argument as to why Kenya over time allocated disproportionately more resources into defense was primarily to protect her investment interests both locally and internationally. Ultimately, such high defense spending was expected to trigger economic growth more rapidly. However, the study findings emphatically disabuse this notion in which Kenya's investment in defense does not optimally guarantee automatic growth in GDP. In fact, our findings can extrapolate the approach that only when Kenya is able to exogenously grow its GDP that it can afford to set aside more resources for defense.

However, it is important to underscore that this paper fairly serves as a starting point for a country based debate on defense budgeting. This is important noting that Kenya's service sector which contributes about 63 percent to GDP is dominated by tourism. Since 2010, tourism has been the hardest hit by terrorism where countries abroad and in Africa have issued numerous travel bans to Kenya. Hence, further research is encouraged. In its limitation, we suggest that despite whether aggregate defense spending hurts or promotes economic growth, it would be important to look at the impact of major defense components such as arms imports, domestic production of armaments, defense research and development and personnel training as these components affect a country's macroeconomic variables.

It is important to note that whereas this would be a valuable empirical approach, most countries do not have publicly available military expenditure data at a disaggregated level. We encourage future research that will undertake a multi-equation modelling in which broader effects can be estimated and at the same time issues around the endogeneity of defense spending addressed. Augmenting defense spending into dynamic growth models can also help inform optimal spending routines in the presence of competing economic needs.

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Democracy and Economic Growth: Evidence from the Southern African Development Community

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Abstract

This study investigates how democracy affects economic growth in Southern African Development Community (SADC) countries for the period 1995–2010. An attempt is also made in this study to investigate the potential non-linear effects of democracy on economic growth – is there a threshold above which democracy exerts a negative effect on economic growth? Building upon previous research work on the relationship between democracy and economic growth, we employ fixed effect to account for unobserved country-level heterogeneity and minimise the omitted variable bias. The results suggest that democracy (proxied by Support Vector Machines Democracy Indicator) have a robust positive impact on economic growth. There is also evidence to suggest non-linear effect of democracy on economic growth — democracy initially facilitates and enhances economic growth at low levels of democratization, but exerts a negative effect once a critical threshold of democratization is reached or exceeded. This result holds over a large battery of robustness checks where we consider different regression specifications, alternative and recent measures of democracy (such as Cheibub, Gandhi, and Vreeland's democracy-dictatorship measure and Polity2 index), controlling for additional variables (such as inflation, trade openness, education, net official aid, population and government expenditure), and challenge our results by changing the sample of countries (i.e. excluding South Africa from the sample).

An Analysis of Technical Efficiency in Post Reformed ECOWAS

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Abstract

The post reformed ECOWAS economic growth in the last decades have been impressive, growing at least 5% annually. Scholars have speculated what caused such growth, citing FDI, financial expansion and infrastructural development as the key stimulant. Not excluding the positive effect of these factors, none of them explains better than technical efficiency (TE). This paper investigated the ECOWAS technical aspect of growth, concentrating on regional, national and sectorial economies. Forty-two years of data from 1970-2011 and thirteen countries were considered. By means of Adjusted Output Stochastic Frontier Model (AOSFM), we found ECOWAS economy driven by labor intensive structure. The pattern of TE trending in all aspect of the economies are fairly stable and very low (below the optimal limit). The regional economy reported a lower margin of efficiency, about 26%, hence higher level of inefficiency. At sector level, manufacturing sector is the most efficient economy (with an average TE of 34%), followed by Service (16%). However, the least performer is the Agricultural sector (14%). At country-Level, the degree of efficiency is very high. The Gambia (88%) and Cote D'Ivoire (85%) are the most efficient economies while Nigeria (27%) inhabits the least spot. CFA economies (84%) are the more efficient than Non-CFA economies (66%). Promoting of specific training is necessary model to wedge the skills gap in the workforce. A functional institution is necessary to supports R&D, innovation and labor movement across the borders to accelerate growth, as enshrined in the free movement of goods and person acts.

The effects of oil price shocks on Nigerian and Kenyan financial markets

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Abstract

Using a Structural Vector Autoregressive Model (SVAR), this paper examines the effects of oil price shocks in Kenya and Nigeria using data from September 1997 to December 2015. Comparing the results for a net oil importer (Kenya) and net oil exporter (Nigeria), we find that the 2008 oil structural break (oil price collapse) is statistically significant for both countries. The relationship between oil prices and Nigerian financial markets appears stronger after the 2008 structural break. There is evidence of “wealth transfer” between the two countries via their financial markets in the event of a positive shock to oil prices. Market-based oil hedging strategies are suggested for a large oil exporter like Nigeria.

Terms of trade, real exchange and economic performance of African countries under different exchange rate regimes

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Abstract

This paper investigates how terms of trade shocks are handled by 22 primary commodity exporting African countries that operate different exchange rate regimes. This study uses a structural VAR with both long- and short-run restrictions to analyse how real output, the real exchange rate and price level respond to terms of trade shocks in these countries. This technique allows inter-dependence between the terms of trade and exchange rate. Using a defined set of classification variables, 22 countries were identified as having either fixed or flexible exchange rate regimes. The findings support the view that exchange rate regime matters as to how countries respond to an exogenous external shock like terms of trade shocks. In addition, the results also highlight the importance of terms of trade shocks for the economic performance of these economies.

Estimating Macroeconomic Policy Reaction Function for Ghana: Bayesian Quantile Analysis at levels and Time-Frequency Domain

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Abstract

Price stability has taken centre stage in policy and academic discourses in Ghana, following the adoption of Inflation targeting regime. Nonetheless, Ghana's headline inflation has over the years drifted away from the medium term target of 8±2%, casting doubt on the effectiveness of the current policy regime to adequately address lingering inflationary pressures. We thus examine the historical policy behaviour of Bank of Ghana (BOG) by estimating the monetary policy reaction function (MPRF) for Ghana within the context of Taylor-type rules. Using quarterly aggregated dataset for the period 2001Q1-2017Q4, we also derive a segregated dataset from the latter by separating inflation and output gaps into positive and negative gaps. Each dataset is further decomposed into three different wavelet time scales using Maximal Overlap Discrete Wavelet Transforms (MODWT) with Debauchies least asymmetric filter of length 8 (LA8), yielding 8 different sample datasets. In terms of estimation techniques, we determine BOG monetary policy rule at the tails using both Frequentist and Bayesian quantile regressions. Briefly, the finding exhibit clear evidence of asymmetric (nonlinear) behaviour as policy parameters change across quantiles and time scales. This suggests that the linear Taylor rule may not provide adequate reflection of full policy dynamics at the tails of interest rate distribution. We uncover high degree of policy inertia by BOG, although this is both quantile and time-scale dependent. Our empirical result remits cogent and diverse implications for monetary policy implementation in Ghana.

Niche Funding and "de-risking" the micro- and small enterprise credit environment

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Abstract

The potential ability of the micro- and small-enterprise market to create jobs and livelihoods is particularly relevant in South Africa. This segment of the economy is furthermore highly represented in the informal economy. According to the Bureau of Economic Research and the Small-Enterprise Development Agency, in the 2nd quarter of 2015 StatsSA reported that 67% of all micro- small and medium-enterprises were in the informal market. The potential role of this informal entrepreneurial activity is profound and is specifically mentioned in the National Development Plan, which predicts that the informal sector will create 11 million new jobs by 2030.

The Jobs Fund, which has been in operation since 2011, has invested heavily into the micro-, small- and medium-enterprise sector, in terms of linking with partner organisations from a variety of sectors. Through the Jobs Fund's partners (JFPs), the Fund has experimented with business models and support packages for job creation, and has actively engaged with questions around sustainability and relevance. A large proportion (63%) of the Jobs Fund portfolio currently comprises of projects engaging in the enterprise development sphere, in a variety of ways.

Some of the most salient characteristics of enterprises (and often the reason for failure) in the micro- and small (and by implication, often informal and home-based) market relate, inter alia, to low productivity, low income, poor access to information, and lack of access to capital/finance.

Various combinations of these issues are addressed through different project or business models as implemented by JFPs. The specific "suite" of support services is largely determined by the characteristics of the sector the partner operates in, as well as the partner's own interests. In this environment the Jobs Fund has often played the role of "de-risker" to make it possible for small enterprises to access loans from private sector institutions. The Jobs Fund injects funds into the risk-return equation, thereby effectively lowering the risk for the lender, making the loan agreement possible.

In practice, through on-lending, incubators, micro-finance and general enterprise development as implemented by JFPs, one central question has arisen which encapsulates the essence of engaging with the informal and vulnerable businesses operating on the edge of the economy, namely: what does this business need in order to stay in business?

International experiences offer some interesting approaches to engage in the informal sector. The Indian government launched the Credit Guarantee Fund Scheme (CGTMSE) for

Micro and Small Enterprises in 2000. Essentially, the CGTMSE partners with private and public financial institutions who then are approached by entrepreneurs/business owners (or prospective entrepreneurs) for loans of varying sizes. The bank/financial institution then assesses the applicant without the traditional requirement for collateral from him/her. The cost of the risk is borne by the funding from the CGTMSE. Furthermore, this model has a built-in social protection component. In very broad terms, the financial institution can, for a limited time, give the business owner a “payment holiday” in instances where he/she is grappling with what is ultimately the normal processes of building a business. This assists in keeping the business afloat during times where there is little cash-flow.

Access to Finance: An Analysis of Policies in Uganda and Implications for Early Stage Enterprise Finance

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Abstract

This research seeks to analyze policy interventions in Uganda to improve access to finance and the implications for early stage enterprise finance and in particular the extent to which they address credit constraints of early stage enterprises. The objective is to link the interventions to the enterprise growth cycle and identify gaps and the implications for early stage enterprise finance. The policies were classified into two categories. Firstly, policies to address the problem of information asymmetry and secondly, policies to address the problem of moral hazard.

This research will demonstrate that the persistent enterprise growth constraints are linked to the access to finance policy gaps and emphasize the need to address key gaps in early stage enterprise finance.

Factors influencing participation by small-scale agriprenuers in agro-processing activities and the moderating effects of transactions costs

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Abstract

Participating in the agriculture and agro-processing value chain has the ability to enhance sustainable competitive advantage of small-scale agribusinesses in South Africa. The study empirically investigated the extent to which agro-processing participation is determined by human-social capital and market access factors, while accounting for the moderating effects of transactions costs. To test the study hypotheses, a structured questionnaire was administered to small-scale agripreneurs at farmer gatherings across regions in South Africa. Results indicate that, both human and social capital factors showed a positive and significant influence on agro-processing participation. Study findings further highlight the importance of market access and transaction costs to small-scale agripreneurs.

Household savings: cross-country analysis

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Abstract

Savings of the households, observed in different countries, depend on different factors such as level of economic development and level of life, age structure of the society, culture, life style and tradition, level of financial market development and the variety of financial products and services choices available. The aim of our investigation is comparison of savings behavior choices in different countries in the period 2002-2017. In our study, we analyze household savings, their changes in considered countries during years of analysis, and how they are “invested”. Investigation is provided for 27 OECD countries however, we also consider some non-OECD countries, which represent important part of the world economy i.e. China, Russia and South Africa. More detailed analysis is provided for United States and European Union countries because of data availability. We apply statistical analysis to describe the structure of savings behavior choices and determine what factors influence the levels and structure of savings the most, employing national, World Bank and OECD data sources.

Firms' Debt Structure and Debt Choice Determinants in Africa

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Abstract

This study therefore analyzes the debt structure of 500 listed firms picked from 17 African countries during the period 2000 to 2016. More specifically, the study investigates (1) the structure of bank debts, non-bank private debts and public debts as used by listed firms in Africa (2) the maturity structure of corporate debts in Africa and (3) the firms' determinants of debt type. A cross-sectional data is obtained from firms' annual reports which are sourced from Osiris database.

A preview of our sample indicates that most listed firms borrow from banks and non-banking institutions. The non-banking institutions include leasing companies, trade finance companies and institutions related to the borrowing firms such as associate companies. On the other hand, there are very few firms that have issued corporate bonds in the domestic bond markets in Africa.

External Financing Perceptions by Sub-Saharan Entrepreneurs: A Qualitative approach

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Abstract

Based on the interviews of 18 Cameroonian entrepreneurs we study how the entrepreneur's locus of control and motivations influence their perception of bank loans. Also, we evaluate the mediating roles of the managerial team and the entrepreneur's social network in this relation. Our results are manifold. First we show that venture creation was not the initial professional choice of most of the entrepreneurs in our sample. Then we distinguish three classes of entrepreneurs according to their professionalization process. Finally, we shed light on the relationships between entrepreneurs' motivational trajectories and their acceptance to meet bank requirements.

The Main Lessons of Managing for Quality from the Experience of Japan since WWII

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Abstract

The present paper gives a brief review of the history of development of industrial society since the Industrial Revolution in England but with a focus on Japan since the WWII. It does so in order to derive relevant lessons for future industrial policy and practice in new and emerging industrial nations. It did not take long after the rise of modern industry in Great Britain for humanists such as Mr Robert Owen to show their revulsion at emerging injustices and to propose a different culture of enterprise for the world. Since that time there emerged two views of enterprise: **1.** the first said that championing profit at all costs is an end in itself for the sole benefit of businessman – this is the capitalist approach; and **2.** the second said that profit of enterprise is to be pursued as a means by which to improve the condition of the workers, the community, and society as a whole – this is the humanist approach first championed by Robert Owen predating socialist ideas. The paper draws on the role of the quality gurus to show that both views have been delicately balanced in the practice of Japanese industry since the Second World War (WWII).

Getting the most out of a collaborative Social System Structure in South Africa

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Abstract

This paper draws from research that applied Systems Thinking to the development of suitable social structures that may aid or enhance social learning within the South African context. The South African social system is rigid and top-down. Communities use protest as a bottom-up form of participation to control the lack of procedural clarity that hinders sustainable social transformation. A qualitative research approach was adopted using Grounded Theory methodology to investigate the social system structure in South Africa. Thirty-five (35) participants were interviewed and three focus groups were convened. The analysis showed that the South African social system structure is characterised by a lack of openness, inflexibility, non-adaptability and an inability to learn. Based on the findings, recommendations are shared on the validity of an appropriate social system structure for South Africa that may facilitate stakeholder/citizen participation in social transformational activities.

Key words: *Social system, social system structure, collective social learning, active citizenry, change, Imbizo / Padare Collaborative Framework*

Introduction

As people learn together they re-shape their values, learn to appreciate and respect one another in a process that can modify their culture. This process calls for individuals and collectives to come together and share knowledge. Arguably, such a process is of great importance for South Africa to eradicate the socio-economic challenges in order to sustainably improve the general welfare of its citizens. The South African society does not seem to be fully participating in building a sustainable future for themselves and for their children. This paper is an exploration of collaborative social system structures for the attainment of effective levels of active citizenry in South Africa.

The paper focuses on the core of the Imbizo/Padare conceptual framework (Toendepi, 2013) as it presents the fundamental elements of a social system structure where society and its leadership learn together. The core depicts an organic and circular social system structure that relies on the interdependence of its components. The learning process within this core is concurrent, cyclic and there is free exchange and sharing of knowledge. The components of the core need each other in defining the challenges, exchanging knowledge, tabling needs and aspirations, also putting forward, and implementing the relevant solutions.

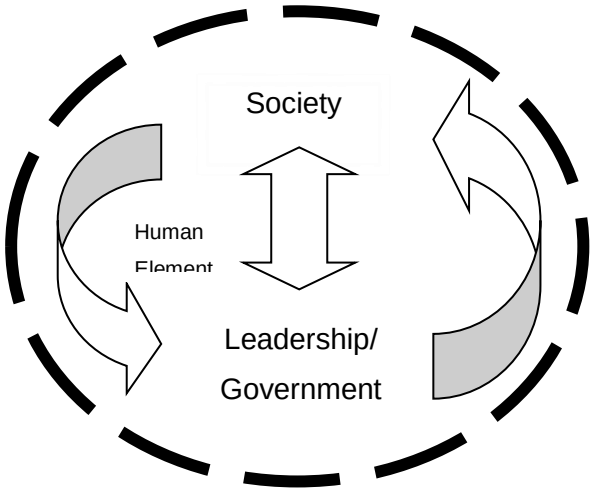

Figure 1: Social Learning in the Core. Adopted from "A Systemic Perspective to wealth Creation in South Africa through Learning and Adaptation" (Toendepi, 2013, p. 215).

Objective

To explore collaborative social system structures for the attainment of effective levels of active citizenry in South Africa.

Literature Survey

Poverty levels in South Africa rose in 2015 with the poverty head count increasing to 55% from series low of 53.2% in 2011 (Statistics South Africa, 2017, p.14). Currently the majority of the South African population is still living in poverty and deep deprivation in provinces like Limpopo and Eastern Cape (Statistics South Africa, 2017). Some sectors, like the financial sector, institutional environment, business sophistication and innovation that is benefiting from good scientific research institutions perform extremely well and the Global Competitiveness Index (GCI) of 2017 ranks others, like education, labour market efficiency and the health sector, extremely low.

The Global Competitive Index 2017-18 calls for a more human centric economic progress that is focused on human well-being. The Index also seeks to help decision makers understand the complex nature of the developmental challenges and how designing better policies is embedded in the process of private-public collaboration. South Africa's economy is almost at a standstill due to low international demands for its commodities and the unemployment level that is at 25% (Statistics SA, 2017) and is rising. Political uncertainty in 2017 negatively affected the business confidence in South Africa (GCI, 2017).

Poverty, unemployment and inequality are the most profound socio-economic challenges facing the majority of South Africans today. Due to a lack of social structures for dialogue, people resort to violent demonstrations, protests, strikes and other unorthodox ways of dealing with social problems in order to voice their demands. Active citizenry is a process that involves voluntary participation of citizens and is focussed on the collective problem solving and collective change efforts (Jacobs, Cook & Carpini, 2009). The participation of citizens in the democratic activities requires suitable social structures or platforms where people can make their voices heard. Currently in South Africa, the involvement platforms

lack clarity on the operationalisation of the consultation processes (Booysen, 2009; Buccus, Hermson, Hicks & Piper, 2007). The participation process was allowed to degenerate to a point where today there is no significant participation hence the citizens ride on the protest actions.

Social Complexity within social structures

At the dawn of democracy, South Africa moved into a complex governing space where the oppressive systems had to be disengaged and replaced by democratic processes and procedures. Electoral participation levels were very pleasing but the continued institutionalisation of the public participation system created challenges that are persisting 24 years into democracy. Due to government's failure to provide suitable structures and platforms for public engagement, most aggrieved communities have protest action as a form of reclaiming their participation rights. Protest action has become a success if it is measured from the observed government response to protest action where high-level delegations are dispatched to the affected areas. Booysen (2009) argues that South African communities still use protest as a self-initiated bottom-up form of participation due to lack of responsive relationship with the authorities as well as lack of delivery on promised services.

High complexity within the social system fosters the degeneration of social problems into wicked problems. Wicked problems increase in complexity by overlapping with each other. Social complexity is then a result of the overlap of once discrete problematic situations converging and changing character to become multi-causal problems in a social system (Metcalf 2014). Davis (2015) notes that complexity is now the greatest challenge facing leaders in short to medium terms. Hence, Davis (2015) points out how more holistic and integrated approaches are required to match these complexities. Walton (2016) concurs and state how complex systems stimulate emergent properties that cannot be understood in isolation.

The objective of this paper is to highlight the need for effective structures for active citizenry that are in line with the communities' values and norms. The interaction between the components of the system results in the overall behaviour of the system. Hence, the insights provided by complexity theory can help improve understanding of complexities of strategy development as well as public policy formulation in South Africa today.

Walton (2016) highlights policy-making process as a complex system and affirms that the group and dialectical methods be seen as important for translating complexity theory understanding into action that can change the system. However, processes that determine policy action across multiple perspectives are required and these include sense making (Snowden, 2011) and network governance arrangements (Klijn & Edelenbos, 2013). According to Klijn (2008), network governance is public policy making and implementation that uses the relationship networks between government, business and civil society.

These governance networks can be develop from local levels or can be mandated from central government (Heritting & Vedung, 2012). Toendepi (2013:242) similarly suggests miniature structures for networking in South Africa to be introduced from the grass roots level and duplicated throughout society. Walton (2016) asserts that for effective handling of complex challenges action will always be required across the traditional boundaries. Likewise, Klijn and Edelenbos (2013) identified the central element in network governance as the ability to bring multiple perspectives into the deliberative decision making process. Walton (2016) stresses on how the eradication of complex challenges within a social system is aided by bringing several perspectives together at ideation and implementation stages.

Complex Adaptive systems

According to Yukawa (2015) in an attempt to solve complex adaptive problems the leadership quality and what the leadership does is critical. The engagement of people in confronting the challenges, adjusting their values, changing perspectives and learning new habits are prerequisites for leaders in attempting to dissolve challenges (Yukawa, 2015). However, managing complexity calls for more than just technical knowledge, it requires fundamental shift in peoples' thinking systems, beliefs and attitudes (Yukawa, 2015). Senge, Hamilton and Kania (2015) agrees and state that systems change needs more than data and information; it requires real intelligence and wisdom. In South Africa it also requires the realisation that the theories of engagement created within and for individualistic cultures are not at home within communal cultures (Heleta, 2016). Public management practices that are consistent with the local culture will bear solutions that are more fruitful.

Social system

Metcalf (2014) refers to systems as having a lot to do with collective parts in some spatial relation to each other. Whole societies and organisations are social systems consisting of individuals, teams, leaders and dominant coalitions. Metcalf (2015) states that what distinguishes these elements of a system is not their physical or spatial proximity but the fact that the elements are interdependent and behave as part of a system. Most approaches to social systems design place emphasis on the participation of the stakeholders. A social system involves interactions and interdependencies among its parts that have different functions and characteristics. As a result, it is the parts' collective behaviour in relation to each other that matters (Metcalf, 2014).

To be able to think systemically and holistically about the total transformation of a society, leaders need to first understand the properties of their social systems and lead from within the system. Members of the system require each other in order to achieve their goals, hence within a social system people exist in relationships (Wan-Ching, 2012). As a result, leadership decisions need the input of those affected by such (Toendepi, 2013). In complex adaptive systems like the South African social system, solutions do not reside with the executive but in the collective intelligence of people at all levels. Such systems can self-organise when collective intelligence is utilised to foster commitment and willingness to change (Senge, 1996).

Muthein (2013:126) is of the view that the key challenges that are hindering the building of "a capable developmental state" in South Africa not only stem from lack of capacity but also from lack of coherence in galvanising consciousness necessary for the achievement of consensus for the development of such a state. It appears the current paradigm is not able to resolve the current socio-economic challenges. Therefore, leadership in the South African context need to encourage continuous learning through active citizenry/stakeholder engagement. During such a process, leaders have to ensure an inclusive co-creation culture that is sensitive to individual differences such as personality, value system, gender and thought process (Viljoen, 2015).

African Social System

The African traditions such as Ubuntu have a huge role to play in an African social system by determining its structure (Mbigi & Maree, 1995). According to Mangena (2016); Broodryk

(2008); Mbigi (2005); Mokgoro (1998), Ubuntu is generally defined as a world-view of African societies and a determining factor in the formation of perceptions which influence social conduct. The Ubuntu philosophical discussion is relevant in African social systems debate because of the dire need to re-engage with the indigenous knowledge and practices that seem to be overshadowed by western thinking systems. Heleta (2016) concurs with Molefe (2016) in alluding to the fact that time has come for the South Africans and the continent as a whole to end the domination of western epistemological traditions, histories and figures and incorporate more relevant South African perspectives and African epistemologies to how Africans can govern themselves. The African philosophy of Ubuntu forms the basis of most African thinking systems or worldviews.

Ubuntu is a metaphor that describes group solidarity where such group solidarity is central to the survival of the community (Mangena, 2015; Mbigi, 2005; Mokgoro, 1998). Ubuntu is based on the premise that *"umuntu ngumuntu ngabantu"* in Zulu/IsiNdebele, or *motho ke motho ka batho ba bangwe* (Sesotho) or *munhu munhu pavamwe* in Shona.

The application and meaning of Ubuntu in the context of this paper is that an individual's existence only makes sense when viewed in relation to the group. The group is taken to mean the community or the society. In essence, Ubuntu is the foundational element that shapes the structure of the African social system. Block (2008) mentioned how the major determinants of structure are the social mechanisms like beliefs and practices.

African socialisation may appear as overshadowed by modernity, yet it still bears great effect in shaping the behaviours of the youths. An example is when growing up; eating from the same plate was symbolic in that it fostered sharing, dialogue, negotiation and appreciation of one another. The Ubuntu ethics are dialogical, consensual and spiritual according to (Mangena, 2016), who further elaborates that the dialogue goes beyond being localised among the humans to involve the creator and the ancestors. Hence, the community spirit engraved in the African worldview should form the basis of the social structures suitable for collective engagement. The spirit of Ubuntu that embraces the shared values maintains the social relationships and practices within an African social system.

Mbigi and Maree (1995) observed that the African society can never be restored to a pre-colonial stage, but it is possible to establish contacts with familiar landmarks of "modernity under indigenous impetus". An African social system can still be described as bearing elements of the traditional African values like Ubuntu. Mokgoro (1998) argued that there still exists opportunities to align these cultural values to the present day.

Collective Social Learning

Social learning is gleaned as a genuine exchange of ideas between individuals, groups and communities (Van der Post, Franz & Laland, 2016; McCarthy, Crandall, Whitelaw, General & Tsuji, 2011). Such a process can create networks and wider societal structures that allow those who share same epistemological beliefs to come together and define their challenges and table solutions influenced by their societal norms and values. Therefore, social learning is a learning process that surpasses individuals to be located within social structures such as organizations and institutions (Reed *et al.,* 2010:1) and it stimulates collective social transformation.

McCarthy *et al.,* (2011) states how social learning occurs as people share their experiences, ideas and environments with the group for mutual benefit. As a result social learning

stimulates raised levels of consciousness in individuals participating and at the same time spiralling up the learning from the individual level to the collective through social influence (Toendepi, 2017; Bener, Caglayan, Henry & Pralat, 2016; Reed, *et al.,* 2010). Social learning goes beyond interaction to the deliberation and negotiation of common rules, norms and power relations (Cundill, 2010; Reed, *et al.,* 2010). These collaborative processes result in collective shift of worldviews as well as behaviour within a social system as people question the validity of their thinking systems.

The circular structures (Dawson, 2007; Ackoff, 2004) are functional hierarchies that emphasize process in time and are a conceptual tool rather than a physical arrangement. In South Africa, there is a need for suitable platforms/structures that can allow society to converse and share information freely. Social learning in the South African context would result in the co-creation of meaning only if it is facilitated by suitable social structures that take cognitive of the people's values and norms. Social learning is a process of social change in which people learn from each other in ways that can benefit wider societal systems. The participating people continually transform the structures through interplay and exchange of knowledge. Knowledge actually resides in the citizens and it is only those participating in the learning process who push for more knowledge.

Effective social learning takes place when there are suitable and effective social structures that embrace democratic processes of engaging society. The major concern of this paper is to explain the importance of an organic and flexible structure of engaging people with various ideas and interests so as to benefit the majority of people who are living in poverty and avail them an opportunity to participate in matters that concern them, their life/development and that of their children.

Research Method

A qualitative research was conducted, which depended mainly on eliciting personal experiences, and oral history of the participants through phenomenological based interviews that focused on what the participants knew and/or have experienced individually or collectively, which informed their realities. The sample constituted of mature South Africans who had lived in both periods of during and post-apartheid and were in the age group of between 35-65 years in 2010-2011 when most of the data was collected. Thirty-five (35) participants were identified through theoretical sampling. There were 23 males and 12 females drawn from across all races. All the 35 participants were from Gauteng province of South Africa. The data was augmented by data from the three focus groups.

Each focus group had an average of seven (7) participants. The first focus group participants were drawn from high/medium income area of Johannesburg; (7 participants, 2 males and 5 females; 3 members of this group were black and 4 were white). Members of the second focus group were drawn from the low income and urban area of Johannesburg. The group had eight participants, all women and all black. The third focus group consisted of participants drawn from rural Limpopo province. All participants in this focus group were black (3 male and 4 women). Data was collected over a period of 10 months from September 2010 to June 2011. On average, each interview lasted for 50 minutes and each participant was interviewed at least twice with a two months interval between the interviews.

Grounded Theory, as cited by Strauss and Corbin (2008, 1998), was the main methodological approach for the research. All data collected was analysed from a Grounded

Theory orientation. Theoretical sampling allowed this researcher to simultaneously collect, code and analyse data before deciding what data to collect next and where to find it (Glaser & Strauss, 2007). The data analysis relied on iterative coding using the three coding techniques of open, axial and selective coding (Strauss & Corbin, 1998). Concepts were created from codes with similarities and the concepts with similar properties formed the categories. Broader categories were developed through the constant comparative method (Allan, 2003; Glaser & Strauss, 2008).

Findings

Twenty-seven (27) categories emerged in the main research from the constant comparative analysis. This paper only dwells on one category of leadership.

Leadership has been widely researched and the consensus on what it is; is premised generally on the leader, the followers, their aspirations and the environmental complexity. On the African continent, the Ibrahim Price for Achievement recognises leadership excellence. The prize is an annual award given to any African leader who strives to excel at exceptional leadership.

> *"The award is given for exceptional leadership, not for reasonable performance."* $P_{RR2}27$

Previous laureates of this award include former South African President, Nelson Mandela, former Mozambique President, Joaquim Chissano, former Botswana President, Festus Mogae, former President Hifikupunye Pohamba of Namibia, Former President Petro Pires of Cape Verda and the 2017 laureate Ellen Johnson, the former President of Liberia. She is the 5th to be awarded the price since its establishment in 2007 because the late former president Nelson Mandela's was an honorary. For the years 2009, 2010, 2012, 2013, 2015 and 2016 none of the political leaders in Africa met the established criteria. Complex social issues that include unemployment, poverty, high corruption levels, disease and jihads challenge the political leaders and impacts negatively on social transformation in individual countries.

> *"The challenge of leadership in our complex society is how to make the vision of our society come alive in the lives of ordinary citizens"* $P_{RR}4$
>
> *"Leadership in complex societies requires wisdom to hold together shared goals and forge ways of being and doing that demonstrates congruence between the personal, the professional and the political."* $P_{jr}7$

South Africa has been slipping into despair and restlessness due to the "triple challenges" of unemployment, poverty and inequality. Service delivery protests, cash heist, students' unrest, corruption and xenophobia are the complex social issues that require excellence in leadership.

> *"Leadership in complex societies require wisdom to hold together shared goals and forge ways of being and doing that demonstrates congruence…….South Africa can however get itself back on track through "selfless leadership," i.e. leadership that is willing and humble enough to reconnect with the needs and aspirations of the general populace."* P_{RR2}, 4, 5.

Former President Jacob Zuma was described as being very good at identifying and articulating the problems that are facing the nation and even better at:

> *"…tabling proposed solutions to these problems, but he needed to come clean on the Government's abilities to play a meaningful role beyond policies and regulations in the fight against unemployment and poverty."* $P_{jr}3$

The leadership in the country is being blamed for focusing more on political patronage rather than empowering the poor. Data gathered from the groups showed that ordinary citizens are well aware of the socio-economic problems they are facing at a grass root level and are willing to tackle these developmental problems together with the leadership.

> *"Yet the leadership assumes people want and are happy with handouts."* $P_{cg}64$

Most participants agreed that handouts are for deserving cases such as people with disabilities and the elderly.

> *"Leadership in complex societies needs to embrace the involvement of citizens in the planning and implementation of programmes that are for their own development."* $P_{RR}45$

The problem noted was that the leadership strongly believe they can design solutions to people issues. Yet the participants want the leadership to consult them and allow the general populace to participant in developmental issues.

> *"Government assumes a mantle of all knowledge and forgets that ordinary citizens are aware of their problems and have solutions that are compatible with their culture and beliefs.* $P_{RR}45a$
>
> *"The idea of delivering development to the poor on a silver plate is at the heart of failure to close the gap between vision and reality".* $P_{sd1}25$

Participation is a human right that gives the people a voice. Generally, citizen participation is a concept focuses on "shared governance" where the citizens are engaged in discussions that examine their challenges and result in a range of agreeable solutions. Most participants were aware of this process but did not give ideas as to how this participation process should be conducted.

> *"...That's the nature of engagement… in that process what must happen is that we must engage. There is not just other alternative; we know this from three decades in Trade Unions movement. Disputes are settled around the table, that's the end of every conflict in a normal society* $P_{sd3}17$, *17a 17b.*
>
> *"Leadership in complex environments need to embrace the involvement of citizens in the planning and implementation of programmes for their own development"* $P_{RR}45$
>
> *"Solution to better governance is citizen involvement"* $P_{RR}17$

Through inclusive exchange of ideas, research has proved that as communities learn together, they influence each other on their common values and reach consensus on a way forward.

> *"Experience has shown that we succeed when we work together"* $P_{sd4}19$
>
> *"It is about building growth coalitions between business, government and the Unions. When did the latter champion the former"* P_m37

The FIFA world cup of 2010 is a good example in South Africa where consensus was reached. During the world Cup the country was said to have worked together to achieve a dream of greatness.

> *"…Therefore rallying behind common goals is not a challenge to this nation what is needed is to always be on one accord, Oneness as at Pentecost where everyone was rthymically in sync. Pentecost enabled communication even if people were speaking in their own languages. It is amazing how such people understood each other. Therefore, all markers of identity that we hold on to are irrelevant, what we need are conversations."* $P_{sd2}9a$
>
> *"2010 FIFA World Cup was undoubtedly the most exciting project"* $P_{sd4}19$

"During World Cup we worked together to realize our dream of greatness" $P_{RR2}2$

"The MGD's represent the most determined national and global effort to galvanise action towards shared common goals. Goals are unlikely to be achieved without the active involvement of civil society and other critical stakeholders such as academia and business, these critical partners in development will similarly discuss and work towards developing innovations that will ultimately help us all make decisions that are in the interest of all SAs" $P_{jz}64$

However, some participants voiced a concern on how the leadership often abuse the participation process.

"Voter turnout does not show that citizens are involved….Voter turnout does not give quality participation by citizens…That's actually abuse of citizens at polls" $P_{RR}18, 23, 20$

"Citizens should act like stakeholders in companies" $P_{RR}20a$

Citizens have a right to participate in matters that affect them despite their intellectual capacity. However, their views are often criticised as simplistic and detached from empirical reality. Some participants argued that they are often side-lined in decision making because they live in poverty, yet…

"Material poverty is not necessarily lack of capacity for creativity" $P_{RR}23$

"Mobilize inventiveness of ordinary people. We forward to an on-going collaboration" $P_{sd4}20, 21$

"Poor governance breeds corruption and political instability." $P_{sd1}29$

Most participants are aware of "poor governance" but do not hold the Government accountable mainly because they view themselves as being responsible for the Government since they voted it into power.

"It seems the only time Government can be punished for poor governance is at the polls. People are not sure of the next Government's performance and therefore are okay with what is going on currently and just keep hoping for improvement."

Complex social challenges need to be acknowledged because a problem that is not acknowledge is a problem that is not understood in its entirety.

"African governments must move away from harping on about their liberation efforts of the past and should start looking towards the future and focus on delivery.$P_{RR2}24$

"As a society built on principles of democracy and solidarity" $P_{jz}53$

"The Nation now wants action; it is now time to act quickly and decisively." $P_{jr}23$

The findings showed that the South African society is not fully participating in building a future for themselves and that of their children. The participants discussed income and material poverty but were hopeful that they could work with Government to solve these challenges. The majority of the participants want to participate in devising alternatives to dealing with these challenges but do not know how and where to table their contributions.

Discussion and Conclusion

Based on the findings the following conclusions and discussions are drawn. Structure unifies societal values, interests, needs and communicates preferences. The core of the Imbizo/Padare framework (Toendepi, 2013), illustrates a designed suitable structure that can provide space for people to share knowledge within a South African context. Although its organisation is depicted as a diagram, in fact structure is virtual. According to Giddens (1996), structure is seen as similar to a code or set of rules that govern possible selections of social action.

The fundamental element of the core of the framework is that it links the people/society processes and aspirations to leadership on one hand and to social learning on the other. These elements were deemed critical to improving the current state of the South African social system. It therefore means that structure is the tool used to organize the practices of the social system as it defines the rules, procedures and the communication channels (Giddens, 1996; Senge, 1990). The manner in which the knowledge is shared, developed and shaped into societal norms exerts pressure on any existing structure so as for it either to transform itself or to re-organise itself in order to accommodate the aspirations of a wider participants' base.

Most importantly, the conceptual framework engaged the leading idea that collective /social learning in the South African context needed structural changes, and that it is the responsibility of the leadership to design such structures that should involve the general populace. For such structures to be effective, they have to be informed by the social mechanisms like culture and beliefs (Yukawa, 2015; Block, 2008). Sustainable societal transformation is achieved when the social system, its components of structure, people and leadership are learning together. Hence, this core of the framework emphasized the linkage between the three components. Once people are unified around shared values and interests, it becomes easier to motivate collective action towards positive outcomes of an integrated social system (Burnham, 2013).

In Figure 1 (the core of the Imbizo/Padare Conceptual Framework) it has been shown that society and leadership/Government should learn together in an ideal environment. The two need each other in defining the problems, exchanging knowledge, tabling needs and aspirations and in putting forward and implementing the relevant solutions. The cyclic and concurrent learning in the framework is showing how the basic structure influences what is to be done by the society whose interactions in turn re-shape the social structure in order to be more accommodative. Thus moving from control were those at the top purport to know all to an inclusive debate and collective solutions. The aim of the framework is to assist South Africa in the renewal of social relationships.

The core of the framework needs to push the desires and aspirations of the people, agreed upon in the continuous dialogues that ensue because society knows exactly what their problems are and hence must be part of the solutions. The beauty of an effective collaboration strategy is that everyone wins. Governments will begin to create policies with a greater alignment with social values of its constituencies.

The African traditional values of Ubuntu influenced the above framework through the emphasis on group solidarity, humanistic and collective unit principles (Mangena, 2016; Mbigi, 2005). Ubuntu is engraved within African people and is the spirit that maintains social relationships and practices in their day-to-day functioning. Therefore engaging people on a familiar platform stimulates ownership and facilitates social cohesion and inclusivity. The core of the framework is calling for a radical restructuring of the fundamental relationship between the leaders/government and the governed (Toendepi, 2013).

The findings showed that the South African society is aware of the socio-economic challenges facing them and hence leadership cannot say that it knows better what society wants and that it purports to have ideal solutions. Ideal solutions must not be delivered to society. Society must participate in shaping the solutions to their own problems. Therefore, the right information required in making accurate decisions is with the people and can only

be bought to the fore through suitable collaborative social structures of involvement. By understanding people's communication requirements, how knowledge and information is disseminated in a social system, the leadership can spearhead effective collaborative social learning that can shift the current controlling system to a more collaborative and integrated one.

Limitations and future research

This research's limitations stem from the fact that the data used was localise around Gauteng province because of the convenience sampling techniques used. Arguably, that 80% of the South African population is homogenous hence; people in other areas are able to relate the findings to their situations. The challenges that the core of the framework might have are also acknowledged. These challenges include how to deal with information overload as the various conversations are ensued. The framework is prone to generating vast amounts of data which, if properly analysed can provide valuable information. However, the challenge is not only about volume, but also about timeliness, and whether the leaders are able to act on the insights gleaned from the collected conversation data.

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Strategic management practices and global performances of public universities in Kenya

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Abstract

Strategic management practices in the institutions of higher learning in Kenya suffers serious problems. There seems to be no enough information and attention about acquisition of the implementation of strategic management practices. Public universities have to review themselves in line with globalization and keep up with the changes. The dynamics of globalization, technology and competition have forced changes in the institutions of higher learning to focus more on the external world than ever before. Strategic management is a dynamic process which plays an effective role in solving performance problems of an organization and in which performance of an organization is consistently evaluated and examined. The purpose of this paper is to emphasize the importance of strategic management and its influence on performance of public universities in Kenya, reveal what should be done by determining the shortages arising from current practices during the stages of planning, implementation, and control regarding strategic management and performance. It was recommended that strong university linkages and partnership that enhance mutual learning, research and innovation, among others should be developed. Though the Kenyan government embraced the use of strategic management and advocated for its use in the public sector institutions which include public and private universities. The pertinent question is whether the strategic plan in the period 2013 – 17 has improved global performance of Kenyan's universities with references to the period 2018 global ranking.

Foreign Direct Investment and Food Security in South Africa: A Spatial Analysis at the Local Municipal Level

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Abstract

There is currently little literature exploring the relationship between foreign direct investment (FDI) and food security within the South African context. Moreover, existing literature in the context of other countries, does not take into account the spatial factors that determine the uneven distribution of FDI and hunger within countries. The contribution of the paper is to bridge this gap by analysing the impact of FDI on food security at the local municipal level in South Africa, taking into account the spatial dynamics, and further investigating employment as the conduit through which FDI impacts on hunger. The results of the analysis indicate that municipalities that receive higher levels of FDI, experience lower levels of hunger in comparison to other local municipalities. The results show the importance of an equitable distribution of FDI across local municipalities, as a means to alleviating hunger and food insecurity in the country.

Groundwater development for dry season irrigation in the north east Ghana: the place of indigenous knowledge

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Abstract

The use of groundwater resources for dry season irrigation has gained currency in both the northern and southern parts of Ghana. The north east of the country has seen the cultivation of vegetables using groundwater from shallow aquifers in the dry season: an emerging livelihood activity which lessens food insecurity and stems the tide of rural-urban migration. Groundwater development and farming practices in northern Ghana are deeply rooted in indigenous (local) knowledge. Although there are challenges to this approach to water scarcity, groundwater dependent dry season farming is a practical way of coping for many northern Ghanaians. Using the Atankwidi catchment of the White Volta as a case study, this paper examines the role of indigenous (local) knowledge for the development of groundwater resources and how farmers cope with inadequate groundwater availability for dry season farming. A descriptive survey, relying on interviews, personal observation, and informal discussions and existing literature was employed in the study. Evidence from extensive analysis revealed that indigenous knowledge enabled farmers to locate groundwater points, determine the source and timing of groundwater recharge. Traditional communities are also able to identify period for constructing wells, and yields per well through elaborate calculus. In addition, local knowledge enabled farmers adopt coping strategies of conjunctively using groundwater with alternative water and practice efficient irrigation to cope with insufficient groundwater resources. We argue that indigenous knowledge serves as a useful tool in sustaining dry season irrigation despite the challenges of lack of government support, inadequate groundwater resources from climate change and population growth.

Protecting the right to strike

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Abstract

The right to strike has its inception in Section 23 (2) (c) of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996). This paper focuses on that right and whether there is a need to protect this very right. The research objective is, to demonstrate that the proposed amendment to existing section 65 (1) (c) of the LRA is a contradiction of section 23 (2) (c) of the Constitution of the Republic of South Africa (Act No. 108 of 1996). A qualitative content analysis was relied upon to screen current and relevant content based on recent literature as directed by the research question. Authors Demiroka, Baglamaa, and Besgula (2015, p. 2460) cite (Camnalbur, Bayraktar & Amuce, 2013) state that content analysis "is a widely used qualitative research methodology which includes screening printed, or visual materials systematically, and analysing them based on identified categories, thematically". In determining which content to select, key words were identified as guided by the research question. Due to the nature of the recent events, topical and current content was sought, therefore, online news websites and commentary by experts in the field of Labour Relations were seen as primary sources. Limitations identified included the research methodology and the exclusive focus on the employee rather than both employer and employee. The limitations have pointed to the recommendations that suggest that a quantitative study be undertaken and that recommendations be made to legislators to reconsider the proposed amendment to section 65 (1) (c) of the LRA.

Female-headed households, Children Educational Investments and Imperfect Credit markets: Is it worth special interventions?

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Abstract

Rural dwellers often lack the credit that can allow them to smoothen consumption over their lifetime. In this paper, we compare income and educational investments differences across male and female-headed households in rural Ghana using the latest round of the Ghana household living standard survey (GLSS6). We also examine the 'role-model exposure effect' in educational investments. Income levels for female-headed households on average is found to be lower than that of male-headed households. However, female-headed households with lower levels of income tend to invest more on children's education compared with male-headed households with higher household incomes. This finding is consistent if we limit the educational investment to children aged 6 to18 years, and also if we disaggregate the analysis for each income quintile. In terms of pathway, we find that female-headed households dwelling in district or metropolitan areas that has ever had female district or metropolitan chief executives (DCE/MCE) tend to invest more in children's education. Given imperfect credit markets in rural Africa, higher educational investments could be taking place at the expense of other household outcomes such as food and leisure. Different interventions ought to be designed for different households - with moral suasion a powerful tool for male-headed households and economic empowerment and direct educational support for female-headed households.

The impact of affirmative action on gender wage discrimination in South Africa

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Abstract

Since the development of the Sustainable Development Goals in 2015, the issue of gender equality and women empowerment has gained a great deal of international attention. Gender equality is considered to be a basic human rights principle that should exist to all members of society, however, gender-based discrimination continues to persist worldwide, depriving women of their basic rights and opportunities. Affirmative action policies have been quickly adopted by many countries around the world as a means to address these inequalities in employment and education while promoting diversity, and redressing historical wrongdoings. However, despite some progress worldwide, gender disparities remain astonishingly high especially in developing countries around Africa. Hence, the question remains of whether these affirmative action measures have yet to achieve their intended effects. This study investigates empirically the impact that affirmative has on gender wage discrimination in South Africa. More specifically, it examines the long-term effectiveness of affirmative action on gender wage discrimination by occupation using Blinder-Oaxaca decomposition model for the years 1995 and 2004.

Spatial spillover effects of aggregate infrastructure stock (quantity) and quality

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Abstract

This paper analyses spatial spillovers from aggregate infrastructure stock and quality in Sub Saharan Africa (SSA). Investigation of spillovers from the perspective of clustered infrastructure stock and quality indices is novel in this study. We found evidence of positive spillover effects from foreign aggregate infrastructure quality while foreign aggregate infrastructure stock imply negative spillovers. Thus, while infrastructure quality enhancement invigorates the surrounding regions, infrastructure stock development may provide a competitive advantage that draws economic factors from the surrounding regions and hence exerting a negative pressure on their respective economic activity. Domestic aggregate infrastructure quality (stock) shows positive (negative) growth effects.

Public debt and economic growth in Africa: Is there a causal effect?

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Abstract

The paper examines whether public debt has a negative causal effect on economic growth using a sample of African countries over the period 1971-2012. It makes use of an instrumental variable method. Public debt is proxy by external-debt-to GDP ratio. The results show a negative linear correlation between debt and economic growth but a positive non-linear correlation between debt and economic growth in both the short-and and long-term. We however do not find any statistically significant causal effect of debt on economic growth in the overall sample with debt considered in both linear and non-linear forms. However, we find evidence of a negative long-term causal effect of debt on economic growth for a sub-sample of African countries (for a 5-year cumulative growth rate model). We also find that countries that underwent sovereign debt restructuring over the study period experienced relatively lower levels of economic growth with the effects being higher in the short-term compared to the long-term. We caution against African countries adopting a relaxed approach towards dealing with debt build-ups even though no statistically significant causal effect of debt on economic growth is found. This is because, we explore the direct effect of debt on economic growth which does not in any way preclude any indirect effects. The main takeaway is that there is a negative but statistically insignificant causal effect of external debt on economic growth in Africa.

Equity Pricing New Keynesian Models with Nominal Rigidities and Investment

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Abstract

This paper derives explicitly an equity pricing relationship in a simple New Keynesian model. This relationship is used to study the equity pricing implications of New Keynesian models. I find that New Keynesian models suffer from the same asset pricing shortcomings as more traditional RBC versions and that this can be attributed to the presence of nominal rigidities. I then add capital adjustment costs to study how the interaction of both investment adjustment costs and capital adjustment costs affect the results.

Executive compensation packages of bidder and acquirer firms after successful African M&A deals

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Abstract

This study examines the impact of mergers and acquisition deals on various executive pay schemes and factors that drive these pay rise in Africa from 2002 to 2016. We find that executives and board of directors of African acquiring firms are rewarded significantly for carrying out successful M&A deals in the year of merger, both for our total sample and the South Africa and Other Africa sub-samples. Besides, pay rise is strongly impacted by size of the deal across all various forms of executive pay. We also find that pay increases are high for executives who acquire private targets but no evidence was found to support the impact of domestic acquisitions. South African executives are rewarded more based on market perception of the deal quality. Increase in compensation is not affected by industry classification, diversification and international operation, cross-listing and mode of payment, although there is evidence of the influence of equity mode of payment for the South African market. Further, we distinctively examine the impact of corporate governance factors on pay rise and observe that firms with larger outside board of directors' representation negatively determine executive total pay and there is no evidence that CEO's age and gender influence executive pay. However, the experience of the CEO has a very high positive influence on the level of compensation for South Africa. Finally, we conclude that board of director's total reward is also higher in the year of deal completion and is influenced, to a large extent, by size of M&A deal.

Introduction

Corporate governance studies on executive compensation schemes have received considerable amount of attention over the years. Majority of these studies concentrate on the determinants of pay incentives and how to align these incentives to firm performance, with little emphasis on the influence of major markets activities. Mergers and Acquisitions (M&A) are one of those major market activities that provides the platform to study executive pay since it alters firm size and structure and has the potential to immensely affect performance. Not only that, but M&A activity can completely change the compensation levels of managers, irrespective of whether the deal is in the interest of shareholders (Bliss and Rosen, 2001). A very good example is the awarding of bonuses and other incentives packages to executives whose firms acquired other firms. For example, in 2002, the chairman of Chase Manhattan Corporation, William Harrisson, signed a deal to buy J.P. Morgan & Company for $30.9 billion. And, as a reward for overseeing the deal, the board paid Harrison a bonus of $20 million (half in restricted stocks) to be spread over two years. Harrison's three lieutenants also received special bonuses of $10 million each, in addition to their regular salaries and bonuses (Sorkin, 2002). Similarly, in a seminal article, Andre, Kooli, and L'her (2004), analysed executive compensation packages before and after a successful merger between

two Canadian firms, Abitibi and Donohue. They realized that, the real value creation for this deal laid heavily in the hands of the executives. The merger deal triggered a massive change in the execution packages of the acquiring firm (Abitibi), in spite of its indebtedness, making the executives richer.

Generally, the extant literature on the M&A activities and executive pay nexus agrees that acquirer's executives are awarded higher compensation. For instance, Lambert and Larcker (1988) analysed the executive compensation (EC) of 35 samples of U.S.A firms involved in large M&A deals from 1976 to 1980. The data comprised of short-term incentives (salary + bonuses) and long-term (equity ownership) of CEOs and top three managers of the firms. They specifically looked at the effects of M&A deals on EC types. Using a two-year window (2 years before and two years after M&A deals), they estimated changes in the short term EC and found that good M&A deals significantly increase both the cash value and total wealth of CEOs and top managers Their result is consistent with recent studies such as Girma, Thompson and Wright (2006) and Guest (2009).

However, what is not clear is whether the pay increases are due to compensation for extra work owing to increase in firm size, internal growth generated by merger synergy or lack of proper governance controls. The very few studies on the subject report contradictory results. Some studies argue that changes in executive compensation after M&A are positively related to synergy gains from the merger and managerial productivity (Harford and Li, 2007; Anderson et al. 2004). While others contend that acquirers' executives rather pursue merger deals to increase firms size, which subsequently comes with an increase in compensation (Bodolica, & Spraggon, 2015).

Competition for managers with top talents by firms has resulted in a more competitive pay practices for the top executives, creating a greater gap in the compensation of the executives and the average employee (Barkema & Gomez-Meejia, 1998; Siegel & Hambrick, 2005). That, however, does not preclude that the CEO does not influence the process. If these compensation increases are not due to internal growth but rather through managerial desire to increase firm size, then this is a clear violation of the principal-agent theory which posits that executive remuneration must be structured in a way to align managerial and shareholders interest. The contention in literature on this matter and most especially the drivers of higher compensation warrants a deeper investigation into managerial pay after successful M&A deals. Interestingly, almost all the studies on the subject are done in advanced markets and little is known on how executive packages for top managers, in emerging markets like Africa, behaves after successful M&A deals.

Mergers and acquisitions activities were once a US market medium for firms seeking to diversify their operation, increase firm efficiency and market control. However, currently, M&A activities have become a global phenomenon, attracting huge capital flow across continents. Besides, what is most interesting about the current global M&A boom is the degree of involvements of emerging markets. According to Bodolica and Spraggon (2015), the significant increase of M&A deals in emerging markets is possibly due to massive wave of privatization of state own business, starting from 1990, giving firms the freedom from government controls and ease to engage in M&A deals. The speedy involvement of emerging market firms in the global M&A landscape is a clear signal of possible shift of concentration, in the area of research, from developed markets and that is precisely what this study seeks to lead.

Africa, over a decade, has become an important medium of investment for most global investors. Being an emerging continent, there are numerous growth opportunities in various sectors. As a result, corporate international investors will take advantage of the immense opportunities and growth. Industries of interest for the M&A investors is diverse but with leading concentration on mining, energy, utilities and financial sectors. The African continent has seen monumental growth in M&A deals both in deal count and volume (Wilson & Vencatachellum, 2016). For instance, in 2010 the total value of deals amounted to $44 billion which was a record high, according to the same author. The trend of M&A activities on the African continent has been on the increase despite a drop in 2011, possibly due to the political instability at the northern part and the insurgence of religious-motivated terror attacks. In spite of the 2011 drop, the year still recorded a deal of $27 billion in value, according to (Jeanne, 2016). Our study is highly motivated as well by the increasing trend in M&A activities in Africa and the quantum of opportunities to both academics and investors.

This study also contributes to recent literature by examining the various factors that could influence the post-merger compensation packages of top managers. Undoubtedly, firms that undergo successful M&A deals are likely to experience a transformation in their corporate structure in line with EC determinants. Our baseline hypothesis is the established agency theory argument that, a change in the job structure of an agent should usually call for a revision of incentive package to properly align the interest of the agent to that of the new shareholders (Jensen & Meckling, 1976). Barkema and Gomez-Mejia (1998) suggest three blocks of EC determinants, namely: (i) criteria which includes peer compensation package, firm size, performance, market and individual characteristics; (ii) contingencies are made up of firm's strategy, industry concentration, R&D level, national culture and tax system; (iii) corporate governance which entails ownership structure, shareholders right and power of board of directors. The above determinants are documented across literature to contribute to compensation package design. Some could be measured numerically while others are virtually difficult to measure. For the purpose of this study, we shall employ a number of them in our analysis.

The empirical literature on EC are predominantly based on the agency theory. The theory according to Arnold and De Lange (2004) provides a theoretical foundation to understand human organization arrangement including executive compensation, auditing and bonding arrangement. It is a theory that shows the relational dynamics between two parties. The relation as defined by Jensen and Meckling (1976) as "*a contract under which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making*". The theory describes the scenario where the principal, in this case, the firm's stockholders, are not physically managing the firm they own. They subsequently hire an agent, in our case the executives or managers, to manage the firm on their behalf, which involves delegating decision-making authority to the agents. The agency theory assumes that: principals are risk averse, material remuneration are necessary to motivate agents to work (in the interest of principal), higher monetary incentives causes better managerial effort and the effort of the agents is difficult to observe (Long & Walkling, 1984; Shapiro, 2005). An agency dilemma occurs when the principal is unable to assess and monitor agent's behaviour (Lambert, Larcker & Weigelt, 1993).

In practice, the agency theory is concerned about organizational and market mechanisms that reduce the conflict of interest between principals and agents. And to deal with the

agency delemma, some advocates of the theory suggested two blocks of remedy. First, providing compensation packages tied to performance matrices and adopting efficient control measures to protect shareholder's wealth (Fama & Jensen, 1983; Gaughan, 2015; Tosi, Werner, Katz, & Gomez-Mejia, 2000). Second, Agrawal and Knoeber (1996) identified market for corporate control, use of outside board directors, debt financing and shareholding positions (by large block shareholders, institutions and the firms executives) as the best mechanism to control agency problems. Earlier works by Jensen and Meckling (1976) and Jensen and Murphy (1990) suggest that managerial compensations should be linked to performance and must be split into long and short terms. Consequently, the discussions, in this paper, are guided mainly by the agency theory.

Existing literature on EC suggests a very strong positive statistical relationship between firm size and EC. Thus, holding all other things equal, when a firm undertake M&A it experiences an increase in size with a resultant increase in EC. Consistent with Bebchuk and Grinstein (2005), Erel, Liao, and Weisbach (2012) observe that increase in firm size results in parallel increase in EC whereas the reverse is not always the case. Thus, managers are incentivised to do everything possible to increase firm size even if it is not in the interest of shareholders. Furthermore, in line with agent-principal theory, firm performance is one of main determinants of executives remuneration designed to motivate manager to pursuit shareholder value maximization. Some studies, however, suggest that in practice, there exist rather a weak relationship between firm performance and EC (Gigliotti, 2013; Kubo, 2005), contrary to the agency theory, suggesting that executives might take advantage of weak internal corporate governance mechanism to influence the pay schemes in their own interest independent of shareholder's value creation (Girma, Thompson, and Wright (2006). The dominance of firm size over performance in determining EC, as shown in various studies, provides enough motivation to further explore the performance and EC nexus, especially within emerging market environment.

Deal-specific factors have the potential to influence the compensation structure of management owing to the influence it has on firm size and structure. Focusing on deal size, the size of deal (or the value of the target) will eventually determine the size of the acquired firm after the merger. Guest (2009) provides proof in support of positive effect of deal size on the level of executive pay. Hence, if the size- to compensation proposition holds, then we expect executives to be paid higher for acquiring bigger firms. Secondly, cross-border acquisitions could attract different compensation, compared to domestic acquisitions, mainly due to extra managerial effort and skills needed to complete the deal and managing it. According to Duru and Reeb (2002), cross-border deals result in more complex firm structure due to factors such as cultural, national, geographical and currency differences.

Guest (2009) argued that cross-border and public acquisitions have more positive impact on executive pay owing to the level of target. He explains further that when target firm's management pay level is higher than that of the home firm, there is a higher tendency to raise the home firm's pay to ease the integration of the two firms. Thirdly, the market reacts to deal announcements base on the perception of the quality of the deal. The market perception is usually capture by the movement of stock price upon announcement. Thus, a good deal will result in a positive cumulative abnormal returns (CAR) while bad acquisitions reflect negative CAR. A positive CAR is, therefore, an indication of good managerial effort which could subsequently impact pay as well. When an M&A deal is financed with equity, it

has the possibility to alter the share ownership and thus reducing or reinforcing the influence of some major individual or institutional shareholders in decision making.

Furthermore, in emerging markets, many M&A deals occur in order to strengthen the ownership and power of controlling shareholders. This gives management a broader room to have more control over the board (usually constituted by management and controlling shareholders) resulting in taking investments decisions that might not increase firm value but rather favour management interest. Empirically, a study conducted by Dutta, Saadi and Zhu (2013) involving Canadian acquirers shows that M&A deals financed with equity exhibit good short-term performance due to positive stock price movement (positive CAR). It implies, therefore, that the mode of payment of a deal (either by cash, equity or mix) could have sequential link to management pay movement.

Even though M&A deals are expected to create value for shareholders (Berry, 2000; Dorata, Williams, Michael & Rao, 2008; Dutta & Jog, 2009; Gregory & McCorriston, 2005), the extent of management's influences and issues of corporate controls rather influences executives taking investment decisions to satisfy their personal interest. Some writers have argued that, the best way to tackle these issues of imbalances in executives' incentives, most especially during M&A deals, is to improve board monitoring and constituting independent boards consisting of more outside directors, who are not managers of the firm, and increase equity ownership by directors (Herman, 1981; Patton & Baker, 1987). The underlying logic in this argument rests in the assumption that the disparities seen in most executive compensation packages is as a result of improper monitoring and the unwillingness of boards to pin compensations to performance. In fact, the assumption that outside directors are independent, cannot be influenced by firm executive and can represent the interest of shareholders might not be totally accurate (Kren & Kerr, 1997). This raises concern about strength of corporate governance issues and how these variables influence the award of executive remuneration.

Most often, behavioural and personality factors (such as CEO age, race and gender, board and management ownership, board diversity and others) also play a principal role in compensation inequalities. For instance, Rosen (1981) and Larcker and Tayan (2015) identify the bargaining power of the two parties, board quality and monitoring, private latent benefits of key stockholders and majority ownership influence are some of the major political factors that come to play in determining EC. Similarly, Chalmers, Koh and Stapledon (2006) explain that the duality of CEOs as board chairman gives them too much of managerial power which they use in their favour to demand ridiculous pay. Besides, according to Jensen (1993), large boards are more subject to managerial influence, less effective in communication and are highly prone to *free-riding problems*. Typically, African firms in general exhibit weak corporate governance mechanisms (such as CEO's board chairmanship position, board quality and diversity) and as such, managers are likely to use their influence to request unrealistic incentive packages after going through a successful M&A deal (Ntim, 2015; Ntim, Lindop, Osei, & Thomas, 2015; Ntim, Opong, & Danbolt, 2015). Finally, company-specific characteristics such as diversity of firm, financial leverage, growth opportunities, industry classification and peer competitors incentive package also play essential role in approving EC packages for acquirer's executives (Bebchuk & Fried, 2005; Bloom & Michel, 2002).

This study seeks to investigate the effect of M&A deals on the remuneration packages of acquirer's managers in Africa. We further examine the link between executive compensation and three blocks of factors that have the potential to alter executive pay after merger. First, we test the impact of firm size, previous pay, firm profitability and sales growth on compensation, as suggested by literature. Establish the link between these variables and executive pay is important because, as stated earlier, most of the studies on this subject were conducted on advanced markets and the same results might not apply to the African context due to institutional, cultural and market difference.

Secondly, we consider deal-specific variables such as size of deal, merger type, mode of payment and target's listing effect. Our next set of variables include firm-specific factors (firm foreign ownership, diversification and international operation of acquirers and industry classification) and the role they play in determining pay variation. Finally, we investigate the influence of strength of corporate governance mechanism and CEO personality (executive and board ownership, outside directors, board size, board diversity, CEO age, sex and race) in awarding managerial pay. For example, Yim (2013) documents that bonus pay decreases two years after merger while salary and equity-based incentives were persistent, suggesting that younger CEOs are more likely to engage in M&A deals with the intention to reap long-term incentive gain.

Our findings contribute to the global literature on the subject and can help to develop corporate governance manual and compensation policies in Africa. Also, the findings provide clear insights into the agency theory and executive interest within the African context. A strength of this study is that, we consider changes in various forms of executive compensations to understand the dynamics of the association that exist between various variables of interest.

The study proceeds as follows: Section two presents data and methodology while Section three provides the empirical results and Section four concludes.

Methodology

Data

Data are sampled from four different regional blocks (North, West, East and Southern Africa).[11] This data groupings assist us to test for regional differences. The data needed for our analysis are drawn from Bloomberg database and manually extracted from annual reports of the selected firms. Samples on M&A deals start with firms that are listed on the selected African exchanges from 2002 to 2016 and should have traded on the exchange for at least seven years with available data on EC disclosed in their financial statements.[12] In addition, inclusion also required availability of data on M&A completion date and acquisition

[11] The grouping is motivated by the market and cultural similarities. At least two countries have been selected from each block based on data availability (Egypt, Morocco, Tunisia, Nigeria, Ghana, Ivory Coast, Kenya, Tanzania, Uganda, Botswana, Namibia, Zimbabwe, Mauritius and South Africa).

[12] We start our sample selection from 2002 because firms in South Africa were required to start disclosing compensations for their executives in 2002 and results can only be available at the end of the year (IoD, 2002). So we use that as a starting point for all countries and firms. This study considers a three-year window for our analysis. And as such, we will need three-year firm data for post-merger analysis up to 2016.

form for at least three years before and after the completion of the acquisition deal. We set these requirements in order to meet the basic conditions for balanced panel data without the loss of generalizability. Panel data analysis is best for our work because of the advantages of more degrees of freedom, lesser collinearity among the variables and having both cross-sectional and time-series observations (Gujurati, 2003). The seven-year time series balanced panel data is adequate to analyse any cross-sectional link between our variable (Core, Guay, & Larcker, 2003; Core, Holthausen, & Larcker, 1999).

Data on ECs for top three managers (although we still keep firms in our sample if at least two executives meet the criteria) is classified into four different types: salaries/bonuses, equity, stock-options and total compensation. The total value of equity compensation is computed as the product of accumulated number of outstanding shares, awarded in a given year, multiplied by the market value of the stock at the end of the year. Similarly, the stock option compensation is the total value of options awarded over the year. Further, the managers must be in office at least three years before and three years after the acquisition. The above selection criteria yield a total sample of 164 firms. Finally, monetary figures captured over time cannot be analysed without considering the time value of money effect. Therefore, all monetary data collected for analysis are deflated to 2002 USA Consumer Price Index (CPI) since 2002 is the first year for which information could be available (that is three years before the earliest acquisition year of 2005). In addition, all currencies are standardized to a base currency, which is the USA dollar. It is justified, therefore, to use the USA CPI to adjust for inflation across all countries in our sample. Variables used in the analysis are explained in Appendix A.

Model specifications and estimation strategy

This study employs panel data which spans the period 2002 to 2016 and is *balanced.*[13] Panel data has the benefits of more information, more variability, less collinearity among variables, more efficiency, greater degree of freedom, accounts for individual heterogeneity and ideal in the dynamics (changes that follow the same individual units through time). First, our main aim in this analysis is to investigate possible changes in magnitude of the various EC components before and after a successful takeover. In other words, we examine how the EC would have been without the impact of M&A deals. To establish this relationship and also control for factors that determine executive incentives, as outlined in literature (Agarwal, 1981; Bloom & Michel, 2002; Hartzell & Starks, 2003; Larcker & Tayan, 2015), we build our basic model as follows;

$$\ln EC_{it} = \alpha_0 + \alpha_1 \ln EC_{it-1} + \alpha_2 \ln Sales_{it} + \alpha_3 ROA_{it} + \alpha_4 MTB_{it} + \sum_{j=5}^{m} \alpha_j Controls_{it} + \gamma_i + \lambda_t + \varepsilon_{it} \quad (1)$$

where EC_{it} is the compensation type of top three managers of firm i at time t. EC_{it-1} is lagged variable of the compensation type and α_1 specifically captures the degree of compensation changes. From literature, some major factors have been identified to influence executive incentives and therefore needs to be controlled for. Moreover, from the agency theory perspective, EC will be positively related to firm performance factors. Thus, we

[13] The data is balanced because all panel units have the same number of observations. For example firm A might be observed from 2002 to 2007, while firm B is observed from 2005 to 2010 but they all have the same number of observations.

introduce $Sales_{it}$, ROE_{it}, and MTB_{it} which represent sales, accounting return on equity and market to book value of equity respectively (details of variables are presented in Appendix A). We also introduce other control variables ($Controls$) to address specific objectives and m-2 is the number of controls. Finally, we include firm-specific fixed effects (γ_i) and time-specific effects (λ_t) to capture unobservable variations in compensations across firms and economic-wide shocks over time respectively, ε_{it} is the error term.

Executive compensation and how it relates CG variables has endogeneity issues which leads to bias and inconsistent variable estimation if not properly dealt with (Roberts & Whited, 2011). Nickel (1981) and Anderson and Hsiao (1982), noted that the introduction of lagged dependent variable as explanatory variables in panel data models (dynamic panel) creates bias results when the Ordinary Least Squared (OLS) and the fixed-effects estimators are used and the direction of the biasness is opposite to the dynamic relation. Besides, economically, how to compensate executives affect how firm perform; the reverse will also be true. In this case, EC and firm related performance variables (say ROA) are co-determined. One possible approach in dealing with this issue is to use system of equations where in one equation performance and other control variables depend on EC while in the other equation EC and the same control variables depend on performance. However, solving such system of equations requires the use of strict exogenous instruments: that can be in only one equation but not both which is difficult to find.

We recognise that the dynamic nature of EC and the compensation-performance relationship, as outlined in equation (1) presents endogeneity concerns. To address these concerns, we use the Generalised Method of Moment (GMM) estimator, introduced by (Arellano & Bond, 1991), which eliminates these endogeneity issues (Wintoki, Linck & Netter, 2012).

As suggested by Anderson and Hsiao (1982), we use the first difference approach to modify our model (equation 1) to purge out any firm-specific fixed effects.

$$\begin{aligned}\Delta \ln EC_{it} = {} & \alpha_0 + \alpha_1 \Delta \ln EC_{it-1} + \alpha_2 \Delta \ln Sales_{it} + \alpha_3 \Delta ROA_{it} \\ & + \alpha_4 \Delta MTB_{it} + \sum_{j=5}^{m} \alpha_j Controls_{it} + \gamma_i + \lambda_t + \varepsilon_{it}\end{aligned} \quad (2)$$

where Δ is a difference operator (e.g. $\Delta EC = EC_t - EC_{t-1}$). It is worth mentioning that the GMM does not solve completely all endogeneity issues as an instrumental variable technique. From equation (2) for instance, the use of first difference approach will induce a correlation between the lagged executive compensation variable and the error term. The traditional approach, as used in natural experiment studies, is to choose strict exogenous instruments, which are extremely difficult if not impossible to find in corporate governance research. As a standard approach in GMM estimations, we employ past realisations (lags of variables in levels dated t-2) of our independent variables as instruments and year dummies. According to Guest (2009), valid instruments for dynamic panel models such as that represented in equation (2) are those dated t-2 and earlier. This approach has also been used by corporate governance studies on executive pay such as Girma, et al. (2006). To test for the validity of the instruments and correct functional form, we adopt the Sagan test. We also report the second-order serial correlation test since the dynamic panel GMM estimator requires the absence of second-order serial correlation.

Results and discussion

A summary of the data is provided in Table 1. The total sample is made up of 164 firms listed on various African stock exchanges. We also present statistics for only South African and *Other African* firms, which has been categorised under executive compensation types, financial variables, deal characteristics and corporate governance variables[14]. A quick comparison of the executive compensation types for all samples before and after merger reveals a substantial difference in mean compensations. For instance, out of the 164 total deals, mean cash (salary and bonus) increased from USD3.11 million to USD 5.56 million, while South Africa samples increased from USD 2.62 million to USD 3.38 million and Other African firms saw an increase from USD 3.54 to USD 7.48 million, with wide range of standard deviations. Similar trends are observed for equity, stock option (Stop) and total compensation (Total).

On the other hand total sales increased by 5.0% with a 3% increase in standard deviation for the total sample; that for South African firms also increased by 5% with 2.8% in standard deviation while the rest of Other African firms' total mean sales increased by 24% with a respective increase of 36% standard deviation. Similar results are seen for market to book value (MTB) across all samples. While our Total sample and Other African firms show a reduction in mean and standard deviation for ROE and ROA, South African firms recorded an increase in both mean and standard deviation of ROE and ROA; highlighting the inconsistency in movement of executive pay with regards to increase in firm profitability during acquisitions for Other African firms. It is clear to observe that an increase of 68% in ToCom resulted only in 5% change in sales and 9% increase in profitability (ROE) while a 91% rise in Other African firms' ToCom translated into 24% increase in sales and a drop of 24% in profitability (ROE) after acquisition.

Concerning deal characteristics, the total sample has a mean deal value of USD 796.06 million while the cumulative average abnormal returns around the deal announcement dates is 9.82%. Of the 164 firms, about 65% acquisitions came from the same industry, 71.34% of target firms were domestic, 20.12% were acquired using stock as mode of payment, 64.63% are diversified in their operations and have international operations while 28.66% of the targets were listed on a foreign exchange. The last panel of Table 1 reveals the corporate governance factors of our sample that relate to compensation schemes. The average size of board of governors is about 10 of which female representation is less than 4% (i.e 3.98%) and 46% of the board size is made up of independent members. Relatively, South African firms have higher independent and outside board and female representation than the Other African firms. This is expected because, as noted by Ntim (2015), African firms exhibit weak corporate governance structures and porous female executive board representation. Besides, a little above 11% of the South African firms have black CEOs and about 47.78% institutional ownership compare to 48.28% and 27.87% respectively for Other African firms.

[14] Our total sample is sub-divided into South Africa and other African firms (hereafter referred to as Other African samples). The word "Other" is used as a noun. So Other African firms refers to all firms in Africa except South African firms.

Table 1: Descriptive statistics

		Total Sample		South Africa		Others	
		Mean	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**
Executive compensation types							
Cash (mil)	Post-Aq	5.56	18.38	3.38	5.32	7.48	24.65
	Pre-Aq	3.11	10.44	2.62	6.09	3.54	13.16
Equity	Post-Aq	3.43	28.38	1.15	1.41	5.51	38.93
(mil USD	Pre-Aq	1.47	10.30	0.76	0.98	2.99	15.64
STOP	Post-Aq	-	-	1.36	2.67	-	-
(mil USD	Pre-Aq	-	-	0.70	1.66	-	-
ToCom	Post-Aq	12.40	50.56	6.31	9.60	17.08	68.56
(mil USD	Pre-Aq	6.96	23.78	3.75	6.39	8.93	32.03
BoCom	Post-Aq	0.53	0.80	0.90	0.86	0.21	0.58
(mil USD	Pre-Aq	0.43	0.65	0.73	0.70	0.15	0.45
Financial variables							
Sales	Post-Aq	2303.16	7765.34	4825.31	10821.57	70.91	254.37
(mil USD)	Pre-Aq	2188.62	7542.22	4596.72	10530.38	57.32	186.83
ROA (%)	Post-Aq	8.04	13.88	8.70	17.65	7.33	9.46
	Pre-Aq	8.73	9.56	8.30	9.26	9.12	9.86
ROE (%)	Post-Aq	18.09	28.43	20.48	35.26	15.75	20.65
	Pre-Aq	19.83	24.00	18.86	29.43	20.70	18.02
MTB	Post-Aq	1.89	5.28	1.21	1.64	1.60	7.08
	Pre-Aq	0.90	1.72	1.09	1.11	0.99	1.37
Deal characteristic variables							
Deal value(mil USD)		796.06	3077.66	502.14	955.71	1056.92	4127.58
CAR(-25, 25), %		9.82	17.85	11.36	18.12	8.46	17.60
Same (%)		65.24	47.77	62.34	48.77	67.82	46.99
Dom (%)		71.34	45.36	74.03	44.14	68.97	46.53
MoP (Stock), %		30.12	40.21	33.38	42.60	27.24	37.99
D&I (%)		64.63	47.96	64.94	48.03	64.37	48.17
Public (%)		28.66	45.36	31.17	46.62	26.44	44.36
Corporate governance variables							
BoSize		10.81	3.31	10.71	3.11	10.82	3.46
OutD (%)		46.0	20.0	54.60	14.94	38.54	20.45
BoGen (%)		3.98	8.67	6.78	10.89	8.79	10.49
Age (years)		49.95	6.47	49.62	6.78	50.25	6.21
RaceC (%)		31.10	46.43	11.69	32.34	48.28	50.26
InsO (%)		38.18	25.22	47.87	21.84	27.87	25.38

Note: This table contains the descriptive statistics of compensation, deal, firm and corporate governance variables. The total sample is sub-divided into two groups: South Africa and Other African firms and the descriptive statistics are presented in column 5-8. For executive compensation and financial variables, we present values for pre and post-merger. All monetary data are standardized to a base currency, which is the USA dollar and deflated to 2002 USA Consumer Price Index (CPI).

To get some idea about the trend of compensation change over time, we plot the various pay components awarded to executives from three years before acquisition (t-3) to three years after acquisition (t3) in our samples, as shown in Figure 1. The purpose of Figure 1 is not to show the level of compensation amounts but rather to give an idea of the trend. The outlook of the compensation plots are not different from the statistical information shown in Table 1. For instance, from Panel A and Panel B, the compensations shot up drastically in the year of acquisition but decline following acquisition. The only difference in Panel C is that it shows a trend towards higher compensation (except for stock options) increase that persisted into year-one after merger before declining in the second and third years. It could also be observed that, compensation levels after the year of merger never return to the same levels as seen prior to merger. This gives an indication, even though not conclusive, that executives are compensated for increase in firm size and complexity in firm structure years following acquisition. The above observation does not discount the fact that, the decline in various compensation levels after merger year could be attributed to spreading the

compensation awarded over some few years after merger. Collectively, the information exhibited in Table 1 and Figure 1 indicates that executives are extremely rewarded for carrying out successful M&A deals in Africa.

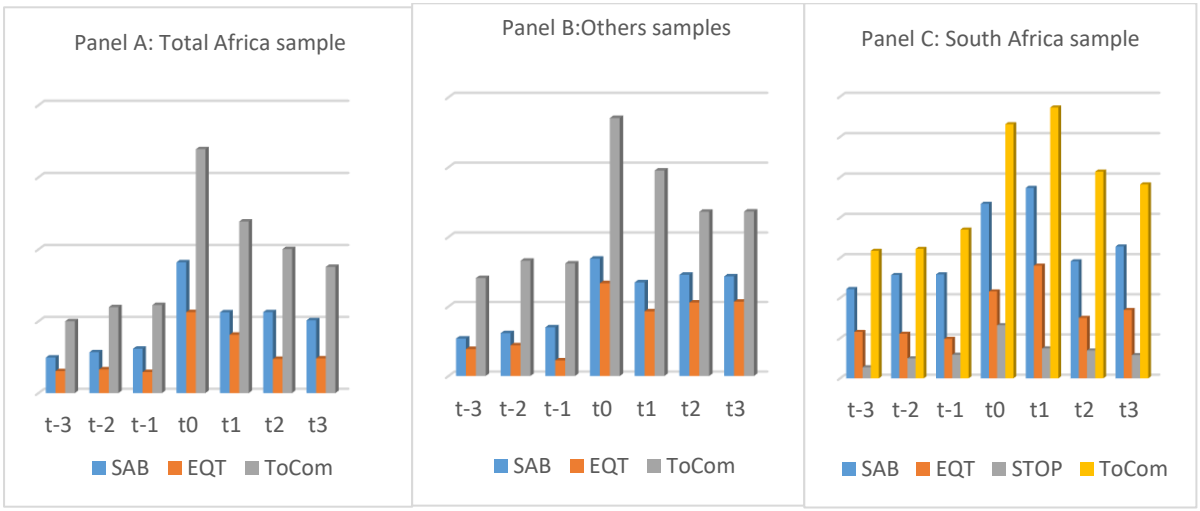

Figure 1: Various compensation components

Note: This figure shows a plot of compensation types (cash –SAB, equity – EQT, stock option –STOP and total compensation (ToCom) from three years before merger (t-3) to three years after merger (t3)

The results of the study extend previous studies by providing an extensive panel analysis of various factors and how they impact EC changes post-acquisition. Most importantly, the simultaneous presentation of South African and Other African results provides a better platform to critically discuss the major differences between these two subgroups. The discussion of our results are presented within scope of the agency theory framework and guided by political and corporate governance mechanism as it pertains to Africa and other emerging markets. Tables 2, 3 and 4, present the various estimation results of equation (2) for various executive compensation components. Namely: Cash (Salary & bonuses), Equity and Total compensation (ToCom). The Sargan and second-order serial correlation p-values are statistically insignificant at all levels clearing our estimations of instrument invalidity and serial correlation issues. Our results are robust and consistent throughout the study.

First, we examine the effect of M&A deals on compensation for our total African sample. Model 1 of Table 2A looks at the influence of M&A activities on various components of executive pay after controlling for the effect of acquirer's size (sales), return on equity (ROE) and market to book values (MTB). Our results show significant positive coefficient of our lagged dependent variable for all pay components, which is an indication of persistence in EC growth. Consistent with existing literature, the positive and significant coefficients of firm size and market to book value (at 5% and 1% level respectively), for compensation components, confirm a positive relationship of these variables with changes in EC packages. Market to book value is used to proxy for firm growth potential. The positive statistical significance of variations in various EC components and MTB value suggest that the cash, equity and total EC of acquirers' executives after M&A considers managerial effort to increase firm growth.

Cash and equity compensations are, however, not affected by firm size. There is, also, no evidence of significant relationship between changes in EC and ROE. The finding suggests that profitability, as measured by return on equity does not play any significant role in determining the compensation level of executives in Africa. It is worrisome if the compensation of management can be increased significantly without considering whether their actions are in the interest of shareholders. This observation is a violation of the agency theory that aligns executive compensation to performance. Possibly, the only performance measure considered by the board of directors before awarding those colossal incentives is the successful completion of the M&A deal irrespective of the short-term value creation.

Concerning the impact of M&A deals on compensation around the year of merger, we observe that executives of acquirers experience significant increase in total pay at the end of the acquisition year. The years following acquisition have experienced drops in compensation. The decline persisted further into second and third year after merger deals. Usually, the compensation packages approved for directors are not paid upfront at the end of acquisition year (as reported in USA and UK studies) but rather spread over period of years. In this study, it is observed that greater portion or lump-sum of approved compensations are rather paid at the end of acquisition year. The significant drop in pay level in year two and three is as a result of pulling-out effect of pay for executing the deal. Perhaps, rise in pay levels years after merger compare to payments prior to merger, as shown in Figure 1, can be attributed to increase in firm size and structural complexity.

Next, we investigate the influence of deal size and market response on the executive pay rise. First, we believe the size of the merger deal and the way and manner the market responds to the merger announcement could influence the award of compensation packages. To achieve this objective, we standardised the deal size by dividing the deal value by acquirer's book value to get the deal ratio. We then introduce a dummy that takes 1 if the deal ratio is greater than 10%, else 0. Year dummies are also created to capture the yearly effect after merger. Secondly, we introduce a dummy that takes 1 if a firm has a positive cumulative abnormal returns, else 0 and with dummies to capture year effects. We then estimate the effect of these two factors on our sample as reported in model 2 and 3 of Tables 2A. Model (2) estimates deal size effect while model (3) estimates effect of market response after controlling for deal size. The coefficient of the acquisition year dummies are positive and significant (at least 10% significant level) indicating a positive relationship between deal size and executive pay, consistent with Guest (2009). The result offers some support for the empire-building motive for M&A. It's so because, if firm size greatly affects pay level, then bigger deals should translate into higher pay rise irrespective of whether the deal is in the interest of shareholders or not. Counter argument within the agency theory framework suggest that, bigger deal obviously increase firm size, resulting in firm complexity, which requires lot of energy to manage. Hence, managerial effect must be compensated through corresponding pay rise.

Furthermore, after controlling for deal size we notice a weak significant effect of market response on executive pay. It should be noted from Table 1 that the CAR(-25,25) is positively high (9.82%), implying that deals are generally value-enhancing, reflecting the approval of the market.. Even though the significance of the market response is weak, it however suggest that compensation committees do consider, to some extent, the perception of investors about the deal quality. In other words, investors agree that the decision to

acquire another firm is a good one and the executives are applauded for their action. The effects of both deal size and market response dies down in subsequent years.

We now consider the results for the two sub-groups (Other and South African samples). The findings (see Table 2B and 2C) for both Other and South African firms are similar to those of the total sample in terms of the persistence in pay increase (Lagged EC), significance of the market to book value, deal size effect and the effect of M&A deals on pay increase. However, there are some variations and similarities in some of the results between those of Other African and that of South African firms. First, whereas the coefficient of firm size (sales) is significant for cash, STOP and ToCom for South Africa, it is only significant for total compensation for Other African firms. As far as the South African board of directors are concern, the level of acquirer's sales in the year of acquisition plays a significant role in approving managerial cash, equity option and total compensation. In this case, management are likely to devote considerable amount of time to the technicalities and success of a deal in order to improve performance measures such as total sales. So, within the South African context, executive's pays will be affected badly if the firms fail to take advantage of the merger to increase sales.

According to the M&A literature, that greater portion of executive pay increases after merger are through bonuses (Grinstein and Hribar, 2004). Besides, increase in sales improves the cash position of the acquirer. Therefore, it is expected that sales should strongly influence post-merger cash pay, contrary to the result for Other African firms. If total pay is the only incentive pay that is effected by sales (for Other African firms). Then, it goes to suggest that other peripheral incentive rewards (except salary, bonus and equity pay) are strongly tie to acquirers sales. This finding is quite interesting because literature, generally, has been quite on the effects of these peripheral incentives (such as insurance, allowances, and others) but it is a potential avenue to hide managerial rent demands to avoid unnecessary external attention.

Second, sales positively impacts total pay for both sub-sample and even the total sample, consistent with other studies (Girma et al, 2006; Baker, Jensen, & Murphy, 1988), while there is no impact on equity pay. If, indeed, compensation schemes such as equity pay are tied to performance indicators, how could it not be affected by changes in sales. The reason is that, there has been calls to use equity pay as means to align managerial interest to that of shareholders (Jensen and Murphy, 1990) and as such, the equity pay awarded to managers after M&A gives them ownership in the new firm. This compensation is granted to executives irrespective of whether there has been an increase in sales or not. What matters in this case is the completion of the M&A deal which has no direct link, to large extent, with growth in sales.

Third, we see from Table 2C also that MTB values have positive relation with equity and stock option pay rise but not cash. In fact, the coefficients of MTB values for cash pay are rather negative (even though not significant) when we control for deal size and market response. The possible justification for such an observation could be that firms with relatively higher growth prospects after going through M&A, prefer to award their management with higher equity related compensations but not cash, in line with our earlier conclusion of the use of equity compensations to align managerial and shareholders' interest. This is so because, according to Liu, Padgett and Varotto (2017), stock options are most often

included in managers' long-term compensation packages since it is best in capturing the upside potential of fast growing firm.

Table 2A: Effects of M&A on the executive compensation for African firms

	AFRICA								
	Cash			Equity			Total		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.1621	0.1634	0.1683	0.4062	0.4435	0.4745	0.1273	0.1493	0.1274
	[1.72]*	[1.84]*	[1.67]*	[1.99]**	[2.04]**	[2.25]**	[2.12]**	[1.99]**	[2.12]**
Sales	0.0505	0.0492	0.0432	0.0964	0.2364	0.2698	0.0544	0.1174	0.0534
	[0.72]	[0.69]	[0.57]	[0.31]	[0.49]	[0.79]	[2.12]**	[1.74]*	[3.42]***
ROE	0.0001	0.0001	0.0001	-0.0034	-0.0032	-0.0034	0.0004	-0.0027	0.0003
	[0.15]	[0.11]	[0.14]	[-0.97]	[-0.87]	[-0.96]	[0.70]	[1.11]	[0.59]
MTB	0.0014	0.0014	0.0015	0.0146	0.0144	0.0135	0.0025	0.0035	0.0019
	[8.45]***	[8.38]***	[8.11]***	[5.55]***	[5.93]***	[6.04]***	[17.08]***	[12.16]***	[15.33]***
Merger effect									
Merger year	0.3607	0.3125	0.3294	0.4008	0.6571	1.7065	0.4069	0.3125	0.4311
	[6.45]***	[3.94]***	[3.11]***	[1.72]*	[1.70]*	[1.98]**	[6.67]***	[3.36]***	[3.33]***
After 1 years	-0.123	-0.151	-0.0274	-0.5721	-0.9732	-1.3547	-0.1713	-0.0688	0.0197
	[-1.64]	[-1.39]	[-0.21]	[-1.48]	[-1.50]	[-1.62]	[-1.06]	[-0.76]	[0.14]
After 2 years	-0.1901	-0.2117	-0.1391	-2.1104	-2.1295	-2.3329	-0.3317	-0.5443	-0.1144
	[-	[-	[-1.65]*	[-3.82]***	[-	[-2.40]**	[-4.72]***	[-2.57]**	[-0.67]
After 3 years	-0.2635	-0.2688	-0.2724	-1.9513	-2.6644	-2.7655	-0.3158	-0.4822	-0.2721
	[-	[-	[-3.10]***	[-2.48]**	[-2.56]**	[-2.60]**	[-4.31]***	[-2.28]**	[-2.00]**
Deal size									
Merger year		0.0908	0.0944		2.0091	1.9993		0.1807	0.1782
		[2.40]**	[1.87]*		[2.14]**	[2.15]**		[2.36]**	[1.97]**
After 1 years		0.0532	0.0652		0.8898	0.9195		-0.1839	0.0197
		[0.62]	[0.60]		[1.01]	1.062189		[-1.41]	[0.14]
After 2 years		0.0444	0.0496		0.1829	0.1956		0.2137	-0.1144
		[0.66]	[0.49]		[0.25]	0.271988		[0.97]	[-0.67]
After 3 years		0.0075	0.0032		1.3741	1.4594		0.1737	-0.2724
		[0.93]	[0.03]		[1.10]	[1.09]		[0.83]	[-1.00]
Market response									
Merger year			0.0246			1.4001			0.1606
			[1.72]*			[1.73]*			[1.81]*
After 1 years			-0.1767			0.5122			-0.1038
			[0.13]			[0.79]			[-0.81]
After 2 years			-0.1036			0.1676			-0.3221
			[-0.98]			[0.21]			[-1.02]
After 3 years			0.0071			-0.0641			-0.0926
			[0.07]			[-0.09]			[-0.69]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.5544	0.4523	0.5782	0.5524	0.4571	0.4769	0.8132	0.7841	0.7902
Serial corr (p-value)	0.3815	0.1445	0.3608	0.9416	0.8712	0.7674	0.4901	0.6059	0.4959
Observation	596	596	596	596	596	596	596	596	596

Note: Estimation results of our total African sample (164) with the elements in row 2 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. For each independent variable, the t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 2B: Effects of M&A on the executive compensation for Other African firms

OTHER AFRICAN COUNTRIES									
	Cash			**Equity**			**Total**		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.1361	0.1322	0.1348	0.0803	0.0833	0.0812	0.2912	0.2512	0.2417
	[1.94]*	[1.89]*	[1.91]*	[2.38]**	[2.41]**	[2.17]**	[3.85]***	[3.44]***	[3.21]***
Sales	0.0597	0.0635	0.0523	0.2971	0.2367	0.3939	0.0456	0.0437	0.0227
	[0.68]	[0.78]	[0.61]	[1.04]	[0.92]	[1.37]	[2.03]**	[1.65]*	[1.74]*
ROE	0.0017	0.0017	0.0017	0.0001	0.0044	0.0037	0.0012	0.0008	0.0004
	[0.51]	[0.54]	[0.54]	[0.01]	[0.34]	[0.30]	[0.60]	[0.39]	[0.19]
MTB	0.0009	0.0009	0.0009	0.0166	0.017	0.0169	0.0018	0.0017	0.0017
	[13.51]**	[10.79]**	[10.06]**	[19.91]**	[26.04]**	[26.26]**	[20.78]**	[18.66]**	[16.77]**
Merger effect									
Merger year	0.3166	0.1286	0.2197	0.5075	0.5393	0.7489	0.4129	0.1647	0.3662
	[5.11]***	[1.68]*	[1.71]*	[1.83]*	[1.74]*	[1.92]*	[5.03]***	[2.38]**	[2.05]**
After 1 years	-0.1431	-0.1954	-0.1803	-0.5181	-0.2969	-0.409	-0.0582	-0.0701	-0.1387
	[-2.22]**	[-2.20]**	[-1.76]	[-2.48]**	[-0.73]	[-0.94]	[-0.66]	[-0.51]	[-0.69]
After 2 years	-0.1572	-0.2401	-0.2255	-1.0298	-0.8935	-0.1834	-0.3599	-0.456	-0.26775
	[-2.54]**	[-3.15]***	[-1.99]**	[-2.82]**	[-1.61]	[-0.26]	[-4.07]***	[-3.01]***	[-2.15]
After 3 years	-0.3204	-0.3607	-0.3473	-1.2575	-1.409	-0.6487	-0.4025	-0.4304	-0.4776
	[-4.60]***	[-4.05]***	[-3.23]***	[-3.37]***	[-1.88]*	[-1.73]*	[-5.23]***	[-3.37]***	[-2.47]**
Deal Size									
Merger year		0.388	0.392		0.0013	0.1652		0.4207	0.4329
		[2.47]**	[2.97]**		[1.90]*	[2.01]**		[2.35]**	[2.39]**
After 1 years		0.0987	0.1002		-0.3159	-0.2052		0.0049	-0.0094
		[0.73]	[0.73]		[-0.60]	[-0.36]		[0.02]	[-0.05]
After 2 years		0.1578	0.1581		-0.0573	0.019		0.2118	0.2317
		[1.06]	[1.05]		[-0.09]	[0.02]		[1.09]	[1.22]
After 3 years		0.0842	0.0821		0.6362	0.7234		0.0816	0.066
		[0.85]	[0.81]		[0.67]	[0.77]		[0.57]	[0.49]
Market response									
Merger year			-0.1232			-0.4631			-0.2878
			[-0.75]			[-0.47]			[-1.56]
After 1 years			-0.027			-0.0615			0.0884
			[-0.23]			[-0.14]			[0.50]
After 2 years			-0.0233			-1.2419			-0.2958
			[-0.17]			[-1.30]			[-1.38]
After 3 years			-0.0203			-1.1651			0.0596
			[-0.15]			[-0.02]			[0.43]
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.4475	0.4699	0.45981	0.1275	0.1137	0.1218	0.1816	0.1727	0.1658
Serial corr (p-value)	0.9322	0.9549	0.9655	0.7849	0.7742	0.7766	0.956	0.9251	0.9543
Observation	289	289	289	289	289	289	289	289	289

Note: Estimation results of our Other African sample (87) with the elements in row 2 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. For each independent variable, the t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively

Furthermore, it is not startling to observe (see Table 2C) that coefficient of ROE (significant 1% level) positively impacts equity compensation. Following the above argument, when executives' interest is align through the use of equity compensation, management are force to work strategically to boost the performance of shares which increases the total value of equity allocation. This reasoning does not apply to the Other African firms partly due to the inactiveness of the Other African capital market and executive's unwillingness to welcome equity (ownership) compensation but rather cash incentives no matter the effect on shareholder's value. These disparities in the results of the two sub-sample groups buttresses the view that some advanced emerging markets, such as South Africa, have better corporate governance mechanism to monitor and supervise directors when it comes to approving compensations for themselves and executives.

Besides, from Table 2C, the positive influence of M&A on pay extends to a year after merger before declining as seen in Other African sample. This observation is in line with results in US and UK studies where executives receive greater portion of their compensation (for carrying our successful merger) in year one and two post-merger. Perhaps, European and American majority share ownership in South African firms could be influencing the nature of incentive disbursement. Finally, the influence of market response on EC as discussed under the total African sample rather emanates from the response from the South African market but not Other African markets. Relatively, the South African capital market is more actively traded and considered relatively efficient; hence, it is able to process and transmit information to reflect market reaction. Consequently, we conclude that market response has positive impact on South African, not Other African firm, executives' pay growth in the year of merger.

Table 2C: Effects of M&A on the executive compensation for South African firms

	SOUTH AFRICA											
	Cash			**Equity**			**Stop**			**Total**		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.0702	0.0644	0.0707	0.031	0.01	0.0204	0.1703	0.2913	0.2479	0.06	0.0103	0.101
	[1.80]*	[2.71]**	[1.75]*	[2.68]***	[2.19]**	[2.38]**	[1.69]*	[2.58]**	[2.18]**	[1.80]*	[2.63]**	[1.98]**
Sales	0.1172	0.135	0.1394	0.0082	0.064	0.0742	0.8064	0.4282	0.5998	0.062	0.0125	0.104
	[2.91]***	[3.17]***	[3.28]***	[0.04]	[0.26]	[0.29]	[2.22]**	[1.88]*	[1.77]*	[2.40]**	[2.39]**	[2.30]**
ROE	0.0008	0.0009	0.0009	0.0067	0.0072	0.0079	0.0022	0.0036	0.0059	0.0005	0	0.0001
	[1.27]	[1.53]	[1.42]	[3.17]***	[2.80]***	[2.72]***	[0.26]	[0.46]	[0.80]	[0.79]	[0.02]	[0.07]
MTB	0.0003	0.0008	0.0009	0.0294	0.0245	0.0228	0.0167	0.0146	0.0133	0.022	0.056	0.0054
	[0.11]	[-0.33]	-0.32]	[2.04]**	[2.21]**	[2.42]**	[1.41]	[1.23]	[1.27]	[1.92]*	[2.54]**	[1.84]*
Merger effect												
Merger year	0.289	0.3941	0.3761	1.2784	0.5615	-0.4197	0.6082	0.0082	1.331	0.3256	0.404	0.4084
	[4.18]***	[3.19]***	[2.67]***	[2.32]**	[2.09]**	[2.54]**	[1.65]*	[1.71]*	[1.91]*	[3.20]***	[3.36]***	[2.33]**
After 1 years	0.2126	0.2842	0.1388	0.0744	0.2704	0.3061	0.055	0.0927	2.1064	0.2219	0.1439	0.032
	[3.08]***	[2.30]**	[1.79]*	[1.24]	[1.86]*	[1.79]*	[0.05]	[0.06]	[1.07]	[2.66]**	[2.26]*	[1.81]*
After 2 years	-0.149	-0.2173	0.1599	-0.7273	-0.938	-0.8519	-1.2214	-0.8752	-0.4582	-0.2355	-0.2308	-0.1186
	[-2.23]**	[-2.53]**	[-1.28]	[-2.12]**	[-2.04]**	[-1.88]*	[-1.54]	[-0.76]	[-0.26]	[-1.82]*	[-1.83]*	[-0.57]
After 3 years	-0.2722	-0.259	-0.2382	-0.3641	-1.0882	-0.5906	-2.2409	-3.6884	-1.4196	-0.1583	-0.3661	-0.3578
	[-1.99]**	[-2.05]**	[-1.89]*	[-1.27]	[-2.13]**	[-1.50]	[-2.36]**	[-2.39]**	[-0.86]	[-1.20]	[-2.89]**	[-2.06]**
Deal Size												
Merger year		0.2026	0.203		1.6077	1.5847		0.5269	0.0723		0.0317	0.0026
		[2.41]**	[1.93]*		[1.73]*	[1.82]*		[1.83]*	[1.64]		[2.19]**	[2.01]**
After 1 years		0.1486	0.1622		0.4821	0.5262		-0.09	-0.6076		-0.1469	-0.1323
		[1.01]	[1.15]		[0.95]	[1.14]		[-0.04]	[-0.32]		[-1.17]	[-1.10]
After 2 years		0.1232	0.1314		0.3908	0.4346		-1.009	-1.0484		0.0474	0.0611
		[0.89]	[0.95]		[0.68]	[0.79]		[-0.62]	[-0.62]		[0.26]	[0.37]
After 3 years		-0.043	-0.0482		1.3196	1.2867		2.0314	2.1456		0.287	0.2794
		[-0.30]	[-0.36]		[2.04]**	[1.96]*		[1.08]	[1.17]		[1.66]*	[1.65]*
Market response												
Merger year			0.0253			1.5313			-1.3199			0.0306
			[1.69]*			[2.14]**			[-0.68]			[2.01]**
After 1 years			-0.2121			0.0616			2.9369			-0.1698
			[-1.23]			[0.13]			[1.39]			[-1.06]
After 2 years			-0.0813			-0.1071			-0.1728			-0.1603
			[-0.51]			[-0.20]			[-0.09]			[-0.81]
After 3 years			-0.0261			-0.6975			-2.6758			0.001
			[-0.19]			[-1.61]			[-1.39]			[0.01]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.8986	0.8881	0.8749	0.4784	0.6703	0.6049	0.2472	0.1892	0.3014	0.1275	0.1127	0.1033
Serial corr (p-value)	0.2209	0.1899	0.2000	0.2724	0.2266	0.2393	0.9403	0.3855	0.6181	0.4502	0.8129	0.7882
Observation	308	308	308	308	308	308	308	308	308	308	308	308

Note: Estimation results of our total African sample (77) with the elements in row 2 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. For each independent variable, the t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Additionally, we investigate whether target's nationality (domestic versus cross-border) and form (private versus public) influence executive compensations after merger? We examine these factors by including dummies to capture the effect of private (takes 1 if the target is private, else 0) and domestic acquisitions (takes 1 if the target is in the same country as acquirer, else 0). The results for our total Africa sample are presented in Table 3A. We control for deal size and market response due to the impact of these factors on executive in our previous analysis, even though the impact of market response is weak. Models 1, 2 and 3 present the results for domestic, private and both private and domestic acquisitions respectively.

Contrary to Conn, Cosh, Guest and Hughes, (2005), the coefficient of the domestic acquisition dummies around acquisition are not significant for all pay types, suggesting that domestic acquisition does not have impact that is more significant on pay rise after merger. It follows that executives of firms who acquire domestic targets are not paid higher than their cross-border acquisition counterparts. Concerning private or public acquisition, our results (see model 2 of Table 3A) show significant positive coefficient of private acquisition variables, in the year of merger, for cash (at 10% level), equity (at 5% level) and total compensations (at 10% level). In model 3 of the same table, we include both domestic and private acquisition variables but this does not make any difference to the results. The only obvious observation is that private target acquisitions have a stronger impact on equity compensation. Such an observation could suggest that acquirers who target private firms reward their executive more with equity. Could it be the case that acquirers who finance deals with equity are likely to be rewarding executives with the same equity or otherwise.

Table 3B and 3C present the results for Other and South African sub-groups respectively, regarding the effects of domestic (model 1) and private (model 2) target acquisitions. In model (3), we test the combine effect of domestic and private acquisitions. Yet, this makes no significant difference in our outcomes concerning the impact of domestic against cross-border or private against public acquisitions on executive pay growth. Specifically, we observe, from Table 3B (Other African firms), that both domestic and private target acquisition do not cause any significant impact on variation in executive pay even after controlling for deal size and market perception. It is worth to note, for instance, that the p-values for cash (1.58) is higher than that of equity (1.12) regarding private target acquisition, even though they are both insignificant. It turns to suggest that there could be a propensity to reward executives with cash compensation more than equity, in line with our earlier argument that managers deliberately avoid equity compensations due to inactivity on Africa capital market.

For South African market, domestic acquisitions do not influence pay variation immediately after the merger. The effect (positive) is rather felt in the second and third year after acquisition. The result implies that executives of South African acquirers that target domestic firms experience a significant pay increase in and after two years after acquisition. One reason could be that, the pay increase in later years could be as a result of performance related compensations, since acquirers in general do not perform well immediately after merger. In this case, domestic acquisitions can easily recover from poor performance due to same market dynamics, labour and culture conditions relative to cross-border mergers.

Our result is consistent with Guest (2009) who find a significant decline in executive pay in second year after merger for UK cross-border targets contrary to the firm complexity, currency

and cultural differences reasons that have been projected in literature (Duru and Reeb, 2002). Hence, with respect to compensation changes after merger, we do find difference between the influence of domestic and cross-border acquisitions, however, not immediately after deal completions but after two years. Similarly, we observe a significant impact of private acquisition on executive pay but the strength of the impact is weak for cash and total pay. The relationship for equity compensation is stronger (at 5%) which declines significantly in all the three years post-merger. This is contrary to the argument that the significant increase in executive pay after merger is purely from bonus payments but not salaries and equity pay. Therefore, there is significant difference between private and public target acquisition for only equity pay changes.

Turning to stock options, acquirer's executive stock option compensation is insensitive to variations in neither private, domestic nor market response (see Table 3C). Farther, the weak significant relation with deal size disappears after controlling for market response (Table 2C). In spite of the strong relationship between stock price movement and stock option values, it is astonishing to observe that stock option compensation has no link with market response due to M&A while equity compensation does. Could this observation suggest that using of stock options is not a widely used executive compensation type for South African executives when they engage in M&As? The dissimilarity in our results to those of previous studies could be due to geographical, cultural and market differences as argued by Duru and Reeb (2002).

We next investigate whether compensation variations around merger years are due to the impact of some potential firm-specific factors. If M&A activities provide information for executive remuneration determination, then acquirer's firm-specific variables could have a probable contributing effect as well. We employ five acquirer firm-specific dummies: company industry effect (takes 1 if acquirer is a financial firm, else 0), diversification and international operations (takes 1 if acquirer is diversified and has international presence, else 0) and cross-listing effects (takes 1 if acquirer is listed on a foreign exchange, else 0). More so, we want to have insight into the possible effect of mode of payment (cash, equity or mix) on pay variations. We consider deals that are paid purely with equity. Equity as mode of payment is chosen because of its potential to align managers and shareholders' interest as evident in literature and in line with the principal-agent argument. We include a dummy that takes 1 if the deal is paid with equity, else 0. The results are presented in Table 4[15].

Generally, it is observed that the inclusion of the firm-specific variables in our estimation do not alter the inference drawn from earlier analysis. We find no evidence of the impact of acquirer's industry and diversification with international operations on changes in various compensation components. A closer look at our total Africa sample shows a positive significant relation between equity mode of payment and equity compensation in merger-year and one year after merger with a significant decline in the second year after acquisition. It could also be seen that both private target acquisitions and stock mode of deal payment significantly impact changes in equity compensation. It follows that firms that acquire private targets with equity award their management with significant equity incentives. We provide two main explanations to the above observation. First, these acquirers might be suffering from

[15] For each compensation component, we estimate the coefficients of the factors (firm-specific factors, mode of deal payment effects) individually, with control variables and fixing all in one single estimation. The purpose of brevity, we present the results for only the latter because, there are no significant difference in the individual results and those presented in Table 4.

liquidity problems (low or insufficient cash position). Hence, they will not have enough cash to settle cash compensations. Their liquidity problem could push them to pursue other firms with excess liquidity. Secondly, a section of the M&A literature contends that private target acquisition improves stock market value upon M&A announcement (Bae, Chang, and Kim, 2013; Shams, Gunasekarage and Colombage, 2013). Knowing that private target acquisition adds value to equity, managers will be willing to accept more equity compensation, thus, the significant link between private target acquisition and executive equity compensation.

Furthermore, Sapp (2008) studied a sample of Canadian M&A deals and found that cross-listed firms pay their executives higher than the non-listed. Our result for equity compensation, as reported in Table 4, is consistent with this study and others (Ntim, et al, 2015; Livne, Markarian, and Mironov, 2013). The cross-listing effect is significantly after one years of acquisition completion. Usually, firms that cross-list do so on advanced markets with the advantage of raising capital with low cost, increase firm liquidity, firm visibility for global recognition and many more. Besides, the increasing significance of cross-listed firms on equity pay variation is, once again, explained by the use of equity to converge the interest of shareholder and managerial. In fact, cross-listed firms, in principle, are obliged to follow strictly the lay down corporate governance laws, most especially on information disclosure. Compliance with these international requirements builds a stronger corporate governance mechanism of the acquirers leading to closer monitoring and incentive distribution. Besides, the increase in firm size and operational complexity that comes with cross-listing call for attractive pay scheme to motivate executives to perform (Sapp, 2008).

For the Other African and South African samples, the main variable that distinctively separates the two is the influence of mode of payment. While mode of payment negatively relates cash pay for South African firms, the reverse holds for Other African firms, even though the relation is weak. Mode of equity payment, however, impacts positively on equity compensation up to one year after merger for South African sub-sample. Once again, the dissimilarity in the two sub-samples is explained by our earlier argument regarding difference in strength of corporate governance practices and market liquidity.

Table 3A: M&A and executive compensation: impact of domestic and private acquisitions

	AFRICA								
	Cash			**Equity**			**Total**		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.0002	0.1619	0.171	0.3954	0.4561	0.4625	0.1476	0.1165	0.1193
	[2.01]**	[2.30]**	[1.83]*	[1.98]*	[2.04]**	[2.36]**	[2.70]***	[1.93]*	[1.98]**
Sales	0.1601	0.0558	0.056	0.0752	0.0928	0.2383	0.0765	0.0924	0.0941
	[1.28]	[0.78]	[0.76]	[0.23]	[0.28]	[0.64]	[2.01]**	[1.98]**	[1.92]*
ROE	0.0354	0.0001	0.0001	0.0029	-0.00243	-0.0025	0.0017	0.002	-0.002
	[0.46]	[0.12]	[0.12]	[0.88]	[-0.67]	[-0.75]	[1.21]	[1.36]	[1.34]
MTB	0.0003	0.001	0.001	0.0136	0.0128	0.0132	0.0027	0.0028	0.0026
	[1.44]	[6.95]***	[6.99]***	[5.77]***	[4.97]***	[6.05]***	[13.78]***	[10.92]***	[10.01]***
Merger effect									
Merger year	0.0712	0.2758	0.2113	0.7026	2.9953	0.639	0.416	0.5431	0.4992
	[1.77]*	[2.89]***	[1.68]*	[1.91]*	[2.06]**	[2.61]**	[3.89]***	[4.17]***	[2.85]***
After 1 years	-0.3229	-0.1205	-0.0393	-1.1431	1.1057	-0.9947	-0.2156	-0.0403	0.0993
	[-3.14]	[-0.89]	[-0.22]	[-2.05]	[-0.75]	[-1.36]	[-2.4]	[-0.29]	[0.51]
After 2 years	-0.2661	-0.2816	-0.2157	-2.4066	-0.7476	-1.6326	-0.37652	-0.20489	-0.1206
	[-2.95]	[-2.78]	[-1.57]	[-2.84]	[-1.60]	[-1.84]	[-3.82]	[-1.55]	[-0.66]
After 3 years	0.0009	-0.3127	-0.3147	-1.6352	-0.0052	-1.2044	-0.2444	-0.2629	-0.1954
	[6.67]	[-2.89]	[-2.40]	[-1.75]	[-0.01]	[-1.25]	[-2.52]	[-2.28]	[-1.10]
Deal Size									
Merger year			0.0977			1.9367			0.1921
			[1.89]*			[2.11]**			[1.84]*
After 1 years			0.0663			0.9581			-0.1974
			[0.60]			[1.16]			[-1.60]
After 2 years			0.045			0.439			0.0453
			[0.43]			[0.62]			[0.34]
After 3 years			0.0083			1.6291			0.0417
			[0.09]			[2.00]			[0.33]
Market response									
Merger year			0.387			1.4500			0.1151
			[1.74]*			[1.71]*			[1.86]*
After 1 years			-0.1669			0.6492			-0.0796
			[-1.38]			[1.03]			[-0.65]
After 2 years			-0.1223			0.1019			-0.285
			[-1.16]			[0.13]			[-1.84]
After 3 years			0.0001			0.0263			-0.0912
			[0.09]			[0.04]			[-0.70]
Domestic acquisition effect									
Merger year	0.1267		0.1504	-0.3674		0.7087	0.0456		0.0553
	[1.16]		[1.23]	[-0.46]		[0.70]	[0.89]		[0.36]
After 1 years	-0.0635		0.0063	0.7993		1.6458	0.0147		0.0746
	[-0.57]		[0.05]	[1.17]		[1.14]	[0.12]		[0.54]
After 2 years	0.2034		0.13	0.4628		1.3409	0.0597		0.1873
	[1.64]		[1.01]	[0.59]		[[1.43]	[0.44]		[1.09]
After 3 years	0.0055		0.0602	-0.4265		0.7969	-0.1152		-0.0339
	[0.05]		[0.48]	[-0.52]		[0.85]	[-0.97]		[-0.23]
Private firm acquisition effect									
Merger year		0.1216	0.1504		1.7445	2.1472		0.1892	0.2052
		[2.07]**	[1.83]*		[2.55]**	[2.36]**		[1.82]*	[1.73]*
After 1 years		-0.0058	0.0063		1.6789	1.3619		-0.1963	-0.2234
		[-0.05]	[0.05]		[1.19]	[1.28]		[-1.29]	[-1.41]
After 2 years		0.1253	0.13		-2.0221	-2.4073		-0.15027	-0.1894
		[0.99]	[1.01]		[-0.79]	[-0.59]		[-0.97]	[-1.05]
After 3 years		0.0664	0.0602		-2.0828	-1.1232		-0.0627	-0.0563
		[0.59]	[0.48]		[-0.79]	[-0.55]		[-0.50]	[-0.38]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.895	0.5939	0.6184	0.5537	0.4262	0.4096	0.7875	0.8404	0.8482
Serial corr (p-value)	0.3321	0.5612	0.6001	0.9909	0.3554	0.8322	0.6584	0.8854	0.4552
Observations	596	596	596	596	596	596	596	596	596

Note: the t-statistics of the respective coefficient are captured in parenthesis [.]; *Serial corr* is p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 3B: M&A and executive compensation: impact of domestic and private acquisitions for Other African firms

OTHER AFRICAN COUNTRIES									
	Cash			**Equity**			**Total**		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.5949	0.462	0.6263	0.6841	0.5039	0.6466	0.2878	0.3138	0.2366
	[3.88]***	[3.70]***	[4.11]***	[8.53]***	[5.73]***	[6.32]***	[3.6]***	[4.80]***	[2.75]***
Sales	0.0201	0.3019	0.021	-0.5669	-0.5095	-0.5985	0.0715	0.07	0.1318
	[0.19]	[1.65]	[0.17]	[1.31]	[1.06]	[1.12]	[1.67]*	[1.75]*	[1.87]*
ROE	0.0041	0.005	0.0055	0.0003	0.0129	0.0075	0.0021	0.0013	0.0011
	[1.33]	[1.46]	[1.59]	[0.03]	[1.53]	[0.59]	[-0.66]	[-0.40]	[0.31]
MTB	0.0014	0.0012	0.0014	0.0111	0.0127	0.0113	0.0025	0.0025	0.0025
	[6.94]***	[7.54]***	[6.98]***	[10.98]***	[15.05]***	[9.15]***	[16.45]***	[16.14]***	[14.26]***
Merger effect									
Merger year	0.1884	0.4588	0.0375	0.2082	0.9735	1.567	0.4111	0.6507	0.8207
	[2.37]**	[2.40]**	[2.15]**	[0.18]	[2.73]	[0.96]	[2.85]***	[3.44]***	[2.89]***
After 1 years	0.3379	-0.0722	-0.2131	-1.8803	0.7694	-1.2913	-0.0245	0.0781	0.0023
	[1.92]	[-0.34]	[-0.63]	[-1.99]	[1.51]	[-1.00]	[-0.21]	[0.42]	[0.01]
After 2 years	0.0634	-0.3025	-0.269	-2.6447	-0.4037	-0.8683	-0.3808	-0.3601	-0.0656
	[0.32]	[-2.36]	[-1.41]	[-1.16]	[-1.25]	[-0.59]	[-1.54]	[-1.28]	[-0.26]
After 3 years	-0.0321	-0.2501	-0.1373	-2.5936	-0.4137	0.084	-0.2731	-0.4039	-0.1577
	[-0.20]	[-1.03]	[-0.73]	[-1.59]	[-1.36]	[0.06]	[-1.37]	[-1.83]	[-0.65]
Deal size									
Merger year			0.5049			2.1123			0.5265
			[2.95]***			[2.16]**			[2.65]***
After 1 years			0.3233			1.0722			0.025
			[1.62]			[1.11]			[0.14]
After 2 years			0.0612			1.6306			0.1948
			[0.44]			[1.69]			[1.03]
After 3 years			0.083			2.2267			0.0609
			[0.59]			[1.98]			[0.41]
Market response									
Merger year			0.0046			-1.321			-0.4346
			[0.02]			[-0.96]			[-2.02]
After 1 years			-0.0259			0.8346			0.0235
			[-0.15]			[0.79]			[0.15]
After 2 years			-0.0206			-0.974			-0.3177
			[-0.13]			[-0.75]			[-1.61]
After 3 years			-0.0005			-1.7354			-0.0317
			[-0.00]			[-1.37]			[-0.23]
Domestic acquisition effect									
Merger year	-0.3379		-0.3939	-0.4853		-0.9068	-0.0381		-0.0938
	[-1.02]		[-1.32]	[-0.37]		[-0.65]	[-0.22]		[-0.49]
After 1 years	0.0634		0.1024	0.9563		1.1342	-0.0831		-0.0226
	[0.32]		[0.52]	[0.83]		[1.07]	[-0.47]		[-0.12]
After 2 years	-0.0321		-0.0681	0.7073		0.6526	0.0111		-0.0881
	[-0.20]		[-0.39]	[0.57]		[0.52]	[0.06]		[-0.45]
After 3 years	-0.1765		-0.2061	-0.153		-0.2272	-0.2206		-0.2269
	[-1.26]		-1.3369	[-0.14]		[-0.21]	[-1.76]		[-1.57]
Private firm acquisition effect									
Merger year		0.754	0.215		1.3256	1.6204		0.3064	0.4445
		[1.59]	[1.08]		**[1.21]**	[1.47]		[1.56]	[1.60]
After 1 years		0.1103	0.0227		-0.4502	-0.582		-0.1826	-0.167
		[0.47]	[0.09]		[-1.51]	[-0.07]		[-1.01]	[-0.75]
After 2 years		0.2354	0.1693		-1.3045	-0.612		-0.0172	-0.1483
		[1.49]	[0.93]		[-0.95]	[-0.08]		[-0.09]	[-0.62]
After 3 years		0.094	-0.0533		-1.5843	-1.5527		-0.0214	0.1598
		[0.61]	[-0.29]		[-1.05]	[-1.07]		[-0.13]	[-0.75]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-	0.1477	0.786	0.1824	0.129	0.1486	0.275	0.1203	0.1673	0.1214
Serial corr (p-	0.259	0.3365	0.537	0.1444	0.5545	0.167	0.8838	0.234	0.9607
Observations	287	287	287	287	287	287	287	287	287

Note: t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 3C: M&A and executive compensation: impact of domestic and private acquisitions for South African firms

	SOUTH AFRICA											
	Cash			**Equity**			**Stop**			**Total**		
Models	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Lagged EC	0.0818	0.0203	0.0826	0.1427	0.3249	0.1316	0.5105	0.3669	0.5365	0.1457	0.0827	0.115
	[1.96]**	[2.22]**	[1.88]*	[1.93]*	[2.10]**	[1.78]*	[7.43]***	[4.12]***	[7.43]***	[2.48]**	[2.32]**	[1.77]*
Sales	0.1295	0.1164	0.1515	0.0121	0.0877	0.1466	0.1609	0.0052	0.2682	0.0374	0.0078	0.0323
	[3.01]***	[3.08]***	[3.41]***	[0.03]	[0.66]	[0.43]	[0.35]	[0.02]	[0.74]	[1.90]*	[1.72]*	[1.83]*
ROE	0.0008	0.0007	0.001	0.0056	0.0056	0.0053	0.0005	0.0009	0.0012	0.0005	0.0002	0.0004
	[1.08]	[0.90]	[1.37]	[2.21]**	[2.34]**	[1.82]*	[0.11]	[0.14]	[0.21]	[0.47]	[0.17]	[0.35]
MTB	0.0001	0.0002	0.0008	0.0244	0.0252	0.0279	0.0123	0.0093	0.0058	0.0063	0.0062	0.006
	[0.04]	[0.05]	[0.26]	[2.5]***	[3.91]***	[3.95]***	[0.76]	[0.60]	[0.31]	[3.30]***	[3.22]***	[3.56]***
Merger effect												
Merger year	0.1439	0.1779	0.1775	0.0182	0.9504	0.241	0.2098	0.3679	1.1432	0.4266	0.4937	0.5382
	[1.85]*	[3.00]***	[2.13]**	[2.04]**	[1.87]*	[2.28]**	[1.71]	[1.74]*	[1.55]*	[2.58]***	[3.64]***	[2.02]**
After 1 years	0.2321	0.119	-0.1863	1.1184	0.369	-0.4612	-0.7527	-2.1861	0.0763	-0.3228	-0.1092	-0.0585
	[1.88]*	[2.10]**	[-0.83]	[1.70]*	[0.75]	[-0.64]	[-0.60]	[-0.76]	[0.03]	[-0.60]	[-0.82]	[-0.27]
After 2 years	-0.3998	-0.0902	-0.3859	-1.6926	-0.5193	-1.5734	-3.3278	-2.4589	-2.2513	-0.4864	-0.1139	-0.3332
	[-3.62]***	[-0.77]	[-2.22]**	[-2.58]**	[-0.94]	[-2.60]**	[-2.87]***	[-2.07]**	[-1.01]	[-4.22]***	[-0.73]	[-1.57]
After 3 years	-0.5032	-0.5017	-0.5481	-1.8649	-0.4995	-1.4378	-2.4973	-1.4248	-3.8054	-0.4164	-0.2064	-0.3048
	[-3.73]***	[-3.71]***	[-3.09]***	[-2.08]***	[-0.84]	[-1.76]*	[-1.89]*	[-1.51]	[-1.64]	[-2.65]**	[-1.63]	[-1.75]*
Deal Size												
Merger year			0.1598			0.261			0.2089			0.0808
			[2.03]**			[2.29]**			[0.10]			[2.40]**
After 1 years			0.1811			0.4576			-1.5214			-0.1214
			[1.23]			[0.62]			[-0.69]			[-0.86]
After 2 years			0.1749			1.0536			-0.6571			0.1143
			[1.28]			[1.79]			[-0.4]			[0.65]
After 3 years			0.2215			1.5358			3.6545			0.1588
			[0.35]			[1.43]			[2.05]			[0.25]
Market response												

Merger year			0.0167			1.6792			1.2433			0.0465
			[2.11]**			[2.28]**			[0.61]			[2.26]**
After 1 years			-0.2315			-0.2329			2.517			-0.1368
			[-1.31]			[-0.21]			[0.94]			[-0.90]
After 2 years			-0.1598			-0.1693			1.2334			-0.1573
			[-1.01]			[-0.24]			[0.62]			[-0.84]
After 3 years			-0.1271			-1.0096			-0.8727			0.0233
			[-0.88]			[-1.16]			[-0.45]			[0.14]
Domestic acquisition effect												
Merger year	0.1958		0.0613	1.2352		1.7055	0.2614		0.3758	-0.1112		-0.0491
	[1.48]		[0.35]	[1.25]		[1.03]	[0.16]		[0.19]	[-0.56]		[-0.20]
After 1 years	-0.0029		0.2867	0.867		1.4429	0.2698		-1.7247	0.1388		0.2651
	[-0.02]		[1.14]	[1.03]		[1.34]	[0.16]		[-0.89]	[0.88]		[1.43]
After 2 years	0.3179		0.4386	1.7343		1.6468	1.843		0.8413	0.3398		0.5569
	[2.30]**		[2.31]**	[1.87]*		[2.31]**	[2.32]**		[0.48]	[2.10]**		[2.67]**
After 3 years	0.2966		0.3068	1.7689		2.0448	0.3134		3.3933	0.2069		0.1774
	[1.97]**		[1.81]*	[1.98]**		[2.19]**	[0.18]		[1.88]	[1.14]		[0.65]
Private firm acquisition effect												
Merger year		0.188	0.2461		0.8132	1.9342		-0.1502	-3.0549		0.2068	0.2025
		[1.86]*	[1.72]*		[2.34]**	[2.44]**		[-0.11]	[-1.49]		[1.92]*	[1.92]*
After 1 years		-0.2898	-0.27		-1.4755	-1.7765		1.3195	-0.9022		-0.1831	-0.2908
		[-1.02]	[-1.24]		[-2.27]**	[-1.54]		[0.82]	[-0.50]		[-1.17]	[-1.48]
After 2 years		-0.0531	-0.1354		-1.133	-1.6506		0.8199	-1.3179		-0.1268	-0.3332
		[-0.36]	[-0.79]		[-1.78]*	[-1.72]*		[0.56]	[-0.80]		[-0.68]	[-1.23]
After 3 years		0.3163	0.1601		-1.5481	-1.913		-0.4175	-3.3668		-0.007	-0.1265
		[1.20]	[0.88]		[-2.02]**	[-1.45]		[-0.29]	[-1.60]		[-0.04]	[-0.56]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.9611	0.8336	0.9541	0.3902	0.6815	0.3123	0.1999	0.0865	0.1085	0.1303	0.1466	0.2659
Serial corr (p-value)	0.2072	0.3554	0.2513	0.4793	0.2015	0.2215	0.045	0.6532	0.1441	0.9358	0.8246	0.8512
Observations	308	308	308	308	308	308	308	308	308	308	308	308

Note: Estimation results of our total African sample (77) with the elements in row 2 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. For each independent variable, the t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 4: M&A and executive compensation: impact of industry, diversification and international operation and cross-listing

	AFRICA (164)			SOUTH AFRICA (77)				OTHER AFRICA (87)		
Components	**Cash**	**Equity**	**Total**	**Cash**	**Equity**	**Stop**	**Total**	**Cash**	**Equity**	**Total**
Lagged EC	0.1171	0.6433	0.1207	0.0918	0.004	0.5327	0.103	0.6066	0.2023	0.2866
	[2.16]**	[3.09]***	[1.85]*	[1.97]**	[2.02]**	[2.36]**	[2.51]**	[4.62]***	[2.39]**	[3.33]***
Sales	0.0048	0.0176	0.0771	0.0449	0.1631	0.5468	0.0539	0.1292	0.2338	0.0048
	[0.06]	[0.11]	[1.98]*	[2.02]**	[1.14]	[1.63]	[2.65]***	[0.79]	[0.46]	[2.03]**
ROE	0.0008	-0.0004	0.0019	0.0007	0.0019	0.0006	0.0006	0.0066	0.0021	0.0035
	[0.75]	[-0.23]	[1.34]	[1.04]	[1.85]*	[0.09]	[0.93]	[1.52]	[0.18]	[-0.82]
MTB	0.0008	0.009	0.0026	-0.0001	0.0137	0.0053	0.026	0.0012	0.3333	0.0023
	[6.09]***	[4.68]***	[9.28]***	[-0.07]	[1.87]*	[0.30]	[1.84]*	[1.31]	[1.88]*	[7.66]***
Merger effect										
Merger year	0.0186	0.3587	0.3097	0.0634	1.8248	2.899	0.5658	0.0445	1.1523	0.3943
	[2.04]**	[2.27]**	[1.83]*	[2.30]**	[2.14]**	[1.90]*	[1.85]*	[2.12]**	[2.00]**	[1.75]*
After 1 years	0.1379	0.2318	-0.0108	0.1126	-1.1765	-4.147	-0.1221	-0.365	1.285	0.0912
	[0.65]	[0.20]	[-0.05]	[0.49]	[-0.96]	[-1.12]	[-0.53]	[-0.79]	[0.97]	[0.25]
After 2 years	-0.0324	-1.8828	-0.103	-0.3083	0.0572	-6.6077	-0.3995	-0.0907	1.3214	0.3868
	[-0.17]	[-1.38]	[-0.42]	[-1.47]	[0.05]	[-2.02]**	[-1.53]	[-0.40]	[1.27]	[1.01]
After 3 years	-0.2515	-1.3388	-0.3007	-0.5868	0.9185	-7.0538	-0.538	-0.2646	0.7204	-0.1077
	[-1.11]	[-0.94]	[-1.23]	[-2.33]**	[0.73]	[-1.90]*	[-1.63]	[-0.93]	[0.64]	[-0.26]
Deal Size										
Merger year	0.2285	1.9896	0.1527	0.1339	0.6248	0.7117	0.085	0.6509	0.3128	0.4399
	[1.74]*	[2.12]**	[2.10]**	[1.87]*	[1.92]*	[0.32]	[2.46]**	[3.33]***	[2.45]**	[2.00]**
After 1 years	0.1004	1.312	-0.2382	0.1418	-0.0693	-1.5131	-0.0838	0.377	-0.6631	-0.0677
	[0.89]	[1.44]	[-1.83]*	[0.94]	[-0.08]	[-0.58]	[-0.60]	[1.76]	[-0.92]	[-0.32]
After 2 years	0.1867	0.861	0.0337	0.1223	0.7853	-0.0628	0.1339	0.1977	0.0346	0.2082
	[1.51]	[1.12]	[0.25]	[0.89]	[1.43]	[-0.04]	[0.80]	[1.34]	[0.05]	[1.03]
After 3 years	0.0425	2.5651	0.0249	-0.0193	1.3522	1.297	0.3133	0.1056	0.2254	-0.0862
	[0.34]	[2.79]	[0.19]	[-0.14]	[1.21]	[1.06]	[1.09]	[0.64]	[0.30]	[-0.47]
Market response										
Merger year	0.0756	1.3806	0.1234	0.0381	2.5742	1.0979	0.1333	-0.0857	-0.4185	-0.2467
	[0.65]	[2.43]**	[1.90]*	[1.65]*	[2.93]***	[0.76]	[1.69]*	[-0.40]	[-0.42]	[-1.20]
After 1 years	-0.1591	0.8775	-0.0957	-0.1974	-0.7454	3.1306	-0.1343	0.0337	-0.3431	-0.0603
	[-1.35]	[1.02]	[-0.79]	[-1.13]	[-0.62]	[1.11]	[-0.82]	[0.19]	[-0.53]	[-0.36]
After 2 years	-0.104	0.5929	-0.3066	-0.1337	0.7057	1.4494	-0.0256	0.0528	-1.2267	-0.3726
	[-0.94]	[0.71]	[-1.92]	[-0.86]	[0.76]	[0.75]	[-0.13]	[0.32]	[-1.06]	[-1.55]
After 3 years	-0.0576	-0.5253	-0.0906	-0.1406	-0.9325	-1.155	0.0104	0.0567	-0.8217	-0.0739
	[-0.60]	[-0.63]	[-0.69]	[-1.05]	[-0.93]	[-0.62]	[0.06]	[0.41]	[-0.97]	[-0.51]
Private firm acquisition effect										
Merger year	0.1357	2.6278	0.1937	0.1445	3.397	0.6859	2.3102	0.2705	1.4807	0.3262
	[1.84]*	[2.43]**	[1.98]**	[1.88]*	[2.22]**	[1.21]	[1.72]*	[1.34]	[2.13]**	[2.13]**
After 1 years	-0.0416	-3.8225	-0.2427	0.3941	0.3503	3.6859	0.3507	-0.0377	-2.3778	-0.16
	[-0.28]	[-3.64]**	[-1.39]	[2.07]**	[1.91]*	[1.21]	[1.72]*	[-0.14]	[-1.93]*	[-0.59]
After 2 years	0.0606	-3.5001	-0.162	-0.0661	-1.8727	1.5302	-0.2801	0.1726	-1.3233	-0.1909
	[0.42]	[-2.39]**	[-0.871]	[-0.36]	[-1.78]*	[0.51]	[-1.02]	[0.85]	[-1.68]*	['-0.69]
After 3 years	0.0142	-4.0058	-0.0733	0.133	-1.4594	-2.511	-0.0098	-0.1899	-2.1773	-0.1726
	[0.09]	[-3.89]***	[-0.46]	[0.62]	[-0.91]	[-1.09]	[-0.05]	[-0.87]	[-2.17]**	[-0.72]
Industry effect										

Merger year	-0.0128	-0.4115	0.0774	0.1443	-0.8782	-1.7071	0.0656	0.0727	0.1603	0.0632
	[-0.08]	[-0.42]	[0.47]	[0.98]	[-0.92]	[-0.99]	[0.31]	[0.40]	[0.16]	[0.30]
After 1 years	-0.1412	-0.9907	0.0471	-0.132	0.944	[1.0740]	0.0251	0.1193	-0.97	-0.0694
	[-1.06]	[-1.23]	[0.31]	[-0.79]	[0.80]	[0.59]	[0.15]	[0.47]	[-1.30]	[-0.34]
After 2 years	-0.2011	0.5554	0.0114	0.0921	-0.1722	0.1086	0.206	-0.1066	-0.7253	-0.4862
	[-1.42]	[0.59]	[0.07]	[0.63]	[-0.22]	[0.07]	[1.07]	[-0.52]	[-0.77]	[-1.95]
After 3 years	-0.0497	-0.0153	-0.0076	0.1238	-0.8817	-1.6439	0.0517	-0.0481	-1.6801	-0.3469
	[-0.31]	[-0.02]	[-0.05]	[0.73]	[-0.89]	[-0.86]	[0.24]	[-0.26]	[-2.15]	[-1.76]
Diversification and international operation effect										
Merger year	0.0576	0.762	0.0314	0.0893	0.1893	0.2254	0.181	-0.0439	-1.4217	-0.0782
	[0.48]	[1.04]	[0.21]	[0.68]	[0.27]	[0.11]	[0.96]	[-0.16]	[-1.39]	[-0.31]
After 1 years	-0.1154	-0.8828	-0.2035	-0.2155	0.799	1.7259	-0.0652	0.1292	-1.1996	-0.297
	[-1.06]	[-1.28]	[-1.38]	[-1.51]	[1.20]	[0.65]	[-0.36]	[0.56]	[-1.28]	[-1.38]
After 2 years	-0.1849	-1.8169	-0.1049	-0.3736	-1.3895	2.7963	-0.3429	0.006	-1.6404	-0.3658
	[-1.46]	[-1.49]	[-0.60]	[-2.62]	[-2.26]	[1.25]	[-1.80]	[0.03]	[-1.15]	[-1.32]
After 3 years	-0.0156	-2.4648	0.1433	-0.0372	-0.8617	1.9965	-0.0426	0.309	-1.1677	0.1755
	[-0.13]	[-1.55]	[1.11]	[-0.25]	[-1.13]	[1.05]	[-0.23]	[1.44]	[-1.47]	[1.01]
Cross listing effect										
Merger year	0.2139	1.1156	0.0929	0.0785	1.7407	-0.0703	0.0579	0.3524	0.7586	0.0639
	[2.00]**	[1.04]	[0.61]	[0.44]	[1.83]*	[-0.04]	[0.22]	[1.11]	[0.63]	[0.37]
After 1 years	-0.0662	1.9024	0.1289	0.3439	0.9377	-2.8258	0.3402	0.123	1.2232	-0.0103
	[-0.58]	[2.04]**	[0.94]	[1.36]	[0.79]	[-1.46]	[1.57]	[0.62]	[1.37]	[-0.06]
After 2 years	0.1413	2.628	0.2075	0.4715	1.185	0.3006	0.6629	-0.1288	0.6662	-0.0512
	[1.22]	[2.55]**	[1.20]	[1.58]	[0.93]	[0.20]	[1.15]	[-0.66]	[0.65]	[-0.22]
After 3 years	-0.0257	2.387	-0.0317	0.3806	1.2339	2.71	0.3033	-0.1764	1.3353	-0.2661
	[-0.24]	[2.11]**	[-0.21]	[1.36]	[0.68]	[0.51]	[1.19]	[-1.04]	[1.61]	[-2.19]
Mode of payment effect										
Merger year	0.2041	2.3664	0.1055	-0.2586	3.0175	-1.3088	0.3776	0.934	0.0644	0.4447
	[1.21]	[2.04]**	[0.50]	[-1.77]*	[2.24]**	[-0.58]	[1.70]*	[1.90]*	[0.07]	[1.22]
After 1 years	-0.0785	1.8306	0.042	-0.2939	0.3965	4.0509	-0.2283	0.5482	-0.0699	0.0623
	[-0.69]	[1.67]*	[0.26]	[-1.72]*	[0.28]	[1.25]	[-1.06]	[1.72]*	[-0.08]	[0.24]
After 2 years	0.1006	-1.6645	0.1076	-0.0052	-1.219	2.8841	-0.2752	0.1606	0.5725	0.114
	[0.87]	[-1.86]*	[0.53]	[-0.04]	[-1.17]	[1.09]	[-1.13]	[0.94]	[0.64]	[0.37]
After 3 years	-0.0085	-1.3669	0.0745	-0.1109	0.154	1.6742	0.0857	-0.0009	-0.4635	-0.1754
	[-0.07]	[-1.30]	[0.51]	[-0.65]	[0.13]	[0.70]	[0.44]	[-0.00]	[0.62]	[-1.01]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.4153	0.6688	0.681	0.8497	0.2407	0.2458	0.1891	0.2692	0.1345	0.2341
Serial corr. (p-value)	0.6146	0.2929	0.4316	0.8471	0.3808	0.3168	0.8321	0.3413	0.2434	0.8414
Observations	596	596	596	308	308	308	308	287	287	287

Note: Estimation results of our total African sample (164) with the elements in row 2 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. For each independent variable, the t-statistics of the respective coefficient are captured in parenthesis [.] and *Serial corr* is the p-value of second-order serial correlation for each estimation. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Next, our task is to determine the extent to which corporate governance and deal-specific variables can dictate the level of EC. In general, we observe from the above analysis that almost all the variables that impact pay rise are only significant in the merger year. So we restrict subsequent analysis to firm's year of merger without estimating the effect of the control variables in the various years after merger. We, therefore, estimate equation (2), controlling for firm-specific (firm size-sales-, ROE and MTB) and CG factors. The CG factors included in the estimation are: board size (number of board members, *BoSize*), board gender diversity (the number of female on the board, *BoGen*), independent directors (number of outside board of directors, *OutD*), age, gender and race of the CEO. We performed individual specifications for all the variable classifications and the results were not different when all the variables are combined in a single estimation. So we present only the results of the combined estimation.

The total African sample results are presented in Tables 3.5A while those of South African and Other African firms are in Tables 3.5B and 3.5C respectively. We restrict the discussion to effects of the CG variables and the merger effect in the years after merger. The total African sample results show that board size, board gender diversity, age, gender and race of the CEO has little impact on all ECs. However, we find significant impact of board independent (percentage of outside boards of directors) on equity compensation changes. This result suggest that firms with large number of board of directors align managerial interest to that of shareholders using more equity pay than cash. Besides, the coefficient of OutD is found to be significantly (negative at 5% level) for total executive compensation. Thus, the results support the view that firms with larger outside board of directors' representation negatively determine executive total pay since these directors are less likely to be influenced by powerful CEOs. The persistent in compensation changes in highly influenced by board size and board independence. For board of directors, the major CG factor that impact board compensation is the size of the board. Large boards pay themselves less.

Table 3.5B shows the results for Other African firms. Similar to the results in Table 3.5A, Table 3.5B reveals that in general, the coefficients of managerial skills and effort and CEO personality as well as board characteristics are insignificant. This implies that post-merger executive pay determination of Other African firms are unaffected by CEO personality, managerial skills and effort for successful M&A deals. Nonetheless, there exist a weak evidence to support positive relationship between female CEO and total board compensation.

The findings for South African firms in Table 3.5C are similar to the results in Tables 3.5A. However, the experience of the CEO (age) leading the managerial team has a very high positive influence on the level of compensation. The South African market is one of the well-developed and highly regulated markets will require highly experienced managerial team to take investment decision that brings value to shareholders. It is therefore not surprising that the CEO's experience determines pay levels. Conflicting with other studies, our results show little evidence in support of the claim that board size in South African drives the level of executive pay as shown by positive but insignificant coefficient of Board size. South Africa has a very strong regulation and monitoring of executive remuneration, yet CEOs still influence their pay (in line with the managerial power hypothesis) by pushing boards to pay them excessively for carrying out a merger deal. Also, similar to results of total sample,

executives of acquirers in South Africa involved in merger deals are paid higher equity compensations compared to other form of deal financing. Could this result also suggest that firms who finance merger deal with equity might be struggling with working capital and will want to reserve more cash to manage the increased short-term expenses of the merged firm?

Finally, we run a single regression that controlled for all the firm, deal and corporate governance variables that appear to influence EC changes. The results from the tables (not reported but available upon request) are not different from our earlier observations.

Table 5A: Post-merger executive compensation of African acquirers

Variables	Cash		Equity		Total		Tbcom	
	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast
Lagged EC	-0.0757	[-1.59]	0.1290	[2.30]**	-0.1483	[-2.74]***	-0.4234	[-15.67]***
Sales	0.1163	[2.28]**	-0.2366	[-1.48]	0.0531	[2.55]**	-0.0320	[-0.92]
Return on equity	-0.0002	[-0.32]	-0.0017	[-0.68]	0.0004	[0.51]	0.0002	[0.19]
Market-to-book	0.0002	[3.03]***	0.0119	[16.57]***	0.0019	15.60]***	0.0011	[7.93]***
Age of CEO	0.4773	[1.03]	-0.0471	[-0.02]	0.2040	[0.97]	0.4689	[0.85]*
CEO gender	-8.1437	[-1.06]	3.5163	[0.12]	-3.2328	[-0.90]	-8.6879	[-1.01]
CEO's race	-16.2113	[-1.10]	6.8120	[0.14]	-3.8242	[-0.62]	-17.6911	[-1.45]
Board gender	-0.0023	[-0.37]	0.0435	[0.67]	0.0062	[0.59]	0.0120	[1.25]
Board size	-0.0427	[-1.02]	0.1258	[0.83]	-0.0202	[-0.77]	-0.1050	[-2.77]***
OutD	-0.1616	[-1.04]	1.1268	[1.97]**	-0.2218	[-2.26]**	0.1703	[1.19]
				Merger effect				
Merger year	0.1196	[2.27]**	0.9670	[2.62]**	0.2102	[2.05]**	0.1172	[2.21]*
Year 1	1.0847	[2.22]**	0.2135	[0.06]	-0.5118	[-1.22]	-0.9838	[-0.89]
Year 2	-1.5940	[-1.17]	-1.0343	[-0.22]	-0.9572	[-1.55]	-1.7959	[-1.09]
Year 3	-2.0848	[-1.15]	-0.5805	[-0.09]	-1.1199	[-1.36]	-2.0802	[-0.96]
Year dummies	Yes		Yes		Yes		Yes	
Sargan test (p-vale)	0.8984		0.7953		0.4951		0.5183	
Serial corr. (p-value)	0.9496		0.8426		0.7893		0.6361	
Observation	656		656		656		656	

Note: Estimation results of our total African sample (164) with the elements in row 1 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. Board gender is the board gender diversity, OutD is the fraction of independent board members, *Coef* is the coefficient of the independent variables while *t-stat* is the respective t-statistics and *Serial corr* is the p-value of second-order serial correlation for each estimation.. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 5B: Post-merger executive compensation of Other African acquirers

Variables	Cash		Equity		Total		Tbcom	
	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast
Lagged EC	0.1170	[2.11]**	0.1268	[4.13]***	0.2588	[3.80]***	-0.2588	[-3.80]***
Sales	0.1413	[1.93]*	-0.0378	[-0.26]	0.0407	[1.17]	0.0407	[1.17]
Return on equity	-0.0031	[-1.69]*	-0.0058	[-1.44]	0.0004	[0.19]	0.0004	[0.19]
Market-to-book	0.0001	[1.87*]	0.0118	47.35]***	0.0018	[17.76]***	0.0018	[17.76]***
Age of CEO	-0.0139	[-0.06]	0.3607	[0.66]	-0.0676	[-0.57]	-0.0676	[-0.57]
CEO gender	0.2669	[0.07]	-7.7886	[-0.82]	1.3331	[0.64]	1.3331	[1.68]*
CEO's race	-1.0589	[-0.16]	-2.8570	[-0.18]	1.2981	[0.34]	1.2981	[0.34]
Board gender	-0.0012	[-0.08]	0.1197	[0.76]	0.0120	[0.80]	0.0120	[0.80]
Board size	0.0127	[0.32]	-0.0168	[-0.20]	0.0018	[0.05]	0.0018	[0.05]
OutD	-0.0461	[-0.24]	0.0343	[0.09]	0.3434	[1.38]	0.3434	[1.38]
Merger effect								
Merger year	0.2824	[2.44]]**	-0.0457	[2.07]**	0.3965	[3.43]***	0.3965	[3.43]***
Year 1	-0.1239	[-0.31]	-1.1221	[-1.01]	0.1055	[0.46]	0.1055	[0.46]
Year 2	-0.2776	[-0.47]	-2.3120	[-1.36]	-0.2360	[-0.68]	-0.2360	[-0.68]
Year 3	-0.2145	[-0.28]	-2.8337	[-1.22]	-0.2042	[-0.45]	-0.2042	[-0.45]
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sargan test (p-vale)	0.3426		0.0723		0.2644		0.264401	
Serial corr. (p-value)	0.8054		0.6461		0.3248		0.3248	
Observation	348		348		348		348	

Note: Estimation results of our Other African sample (87) with the elements in row 1 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. Board gender is the board gender diversity, OutD is the fraction of independent board members, *Coef* is the coefficient of the independent variables while *t-stat* is the respective t-statistics and *Serial corr* is the p-value of second-order serial correlation for each estimation.. ***, ** and * are the significance levels at 1%, 5% and 10% respectively.

Table 5C: Post-merger executive compensation of South African acquirers

Variables	Cash		Equity		Total		Tbcom	
	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast	Coef.	t-stast
Lagged EC	0.0986	[1.83]*	0.4625	[2.77]***	0.0269	[2.30]**	0.2194	[3.99]***
Sales	0.1237	[0.54]	-0.2363	[-0.12]	0.0719	[1.51]	-0.0047	[-0.18]
Return on equity	-0.0002	[-0.05]	-0.0930	[-2.44]**	-0.0002	[-0.13]	0.0007	[0.97]
Market-to-book	0.0052	[0.51]	0.3112	[1.12]	0.0006	[0.09]	0.0020	[2.59]**
Age of CEO	0.2399	[2.30]**	0.9900	[2.29]**	0.0371	[1.86]*	-0.0833	[-1.26]
CEO gender	2.7419	[0.76]	124.4237	[1.61]	1.1487	[0.46]	-0.0265	[-0.16]
CEO's race	-4.3691	[-0.39]	-74.1611	[-0.93]	-1.0555	[-0.45]	-0.0789	[-0.48]
Board gender	-0.0231	[-0.32]	0.2313	[0.48]	-0.0094	[-0.47]	0.0021	[0.35]
Board size	0.0145	[0.08]	1.9086	[0.95]	-0.0266	[-0.54]	-0.0172	[-0.80]
OutD	0.2661	[0.55]	19.4317	[2.74]***	0.4166	[0.96]	0.0773	[0.71]
				Merger effect				
Merger year	1.7452	[2.30]**	2.9275	[2.07]***	0.4281	[2.37]**	0.2689	[2.33]**
Year 1	0.2802	[0.19]	2.1737	[2.33]**	0.3287	[3.37]***	0.0682	[0.49]
Year 2	0.5743	[0.26]	-4.1748	[-0.42]	-0.2814	[-2.26]**	0.0295	[0.15]
Year 3	0.7954	[0.27]	-6.4018	[-0.48]	-0.3070	[-1.79]*	0.2498	[0.96]
Year dummies	Yes		Yes		Yes		Yes	
Sargan test (p-vale)	0.3780		0.9841		0.2173		0.61223	
Serial corr. (p-value)	0.5940		0.6342		0.0433		0.469	
Observation	308		308		308		308	

Estimation results of our South African sample (77) with the elements in row 1 as dependent variables and those in column 1 as independent variables. Definition and description of all variables in these estimations remain the same as outlined in Appendix A. Board gender is the board gender diversity, OutD is the fraction of independent board members, *Coef* is the coefficient of the independent variables while *t-stat* is the respective t-statistics and *Serial corr* is the p-value of second-order serial correlation for each estimation.. ***, ** and * are the significance levels at 1%, 5% and 10% respectively

Our results within the African context

We discuss our results as they pertain to the African context. Once again, one of the motivation for this study is the lack of research on this subject in Africa. It is so important due to cultural, market and political differences between Africa and advanced markets where an arsenal of research exist. The discussion in literature on EC post-M&A is somehow inconsistent even though most studies report significant pay increase. Our analysis on this relation shows a very strong connection between EC and M&A activities across all samples. Although this observation is generally a global trend, the phenomena is exacerbated by different factors within the Africa context. First, supervision, regulation, rule enforcement and corporate governance practices are serious challenges. Businesses cannot survive and be sustainable if political leaders lack the interest to create the needed serene market environment, which is the case of Africa. In general, most of the African markets do not have comprehensive legal mechanisms that protect investor's interest and managerial behaviour. Even the few, like South Africa that has a detailed Kings Reports, are critised for weak implementation and monitoring (Ntim, Opong & Danbolt, 2012). In fact, countries in Africa have some form of rules implementation, market supervision and legal systems (Okeahalam, 2004), yet the supervision and the reinforcement of these systems is a big problem, which we attribute to unwarranted political interference and lack of governmental will.

Besides, we think compensation payments disclosed by Africa acquirers, as reported in our study, could be possibly higher in reality due to weak payment disclosure issues. According to Okeahalam's (2004) review on corporate governance issues in Africa, he reports that there is a widespread of undisclosed payment across the continent, motivated by political influences. Indeed, the porous market regulatory systems couple with weak or non-existent corporate governance systems give executives more power to pursue their self-interest resulting in higher agency cost.

Further, among our control variables, market-to-book value is significantly impacts changes in EC after merger across all compensation types. Market-to-book value control for the growth prospects after going through M&A. The Africa market is still green with numerous prospects in various industry sectors. Even though executives have that power to influence their pay, compensation committees consider the growth prospect after merger to award compensations. It is therefore not of much surprise to see MTB values being strongly significant, contrary to most advanced market studies (Coakley & Iliopoulou, 2006; Guest, 2009). To a larger extent, approving of EC by boards is not only a hand-twisting practice but also guided by result-driven determinants that are intended to align managers interest to shareholders. This is supported by the positive significance of performance measures such as changes in sales and ROE, most especially for the South African firms.

Furthermore, studies that control for the approval of the M&A deals by the market, captured by the abnormal returns (CAR) generated through the deal announcements; usually include CAR using a three-day window. The literature on market reaction to M&A deal announcements is mix but what is consistent is the presence of significant abnormal returns immediately around the announcement dates (Coakley & Iliopoulou, 2006; Guest, 2009). In our case, we used CAR(-25, 25) because the Africa market is relatively inefficient and illiquid (Magnusson & Wydick, 2002) and might not be sensitive to short-window CARs, in line with Amewu and Alagidede (in press) who report significant CAR for wider event windows for Africa markets. and also supported by an earlier studies by Sehgal, Banerjee and Deisting (2012) on some emerging markets. The average CAR (-25, 25) for our total sample, for instance, is positive (that is 9.82%) and far higher than what is reported for advanced markets (Beitel, Schiereck & Wahrenburg, 2004; Doukas, Holmen & Travlos, 2002; Fee & Thomas, 2004),implying a general endorsement of the M&A deals by the market. Truly, short-event window CARs have no influence on pay changes (statistics not reported but available upon request), meanwhile, we find evidence of wider windows, CAR(-25,25), to positively impact pay variations. Consistent with earlier studies on Africa market efficiency, we show that the African market takes longer time to respond positively to M&A announcement and remuneration committees in drafting executive pay consider the positive CARs.

Also, we find that board size, in general, is insignificant which contradicts other studies that post a positive relationship between board size and pay variations (Bodolica & Spraggon, 2009; Bugeja, da Silva Rosa, Duong & Izan, 2012; Dalton, Daily, Johnson & Ellstrand, 1999). For instance, while Bugeja et al. (2012) and others contend in favour of bigger board size regarding effectiveness in board monitoring, Bodolica and Spraggon (2009) disagrees and argue that smaller boards rather have greater ability to align EC to long-term performance. None of these claims applies in our case. In fact, the difference with these

results could be due to regulatory requirement and market size. In Australia, as reported by Bodolica and Spraggon (2009), board sizes are relatively smaller with very clear board role whereas US firms have larger board size (Maniam, Subramaniam & Johnson, 2006). African board size is between the two groups (averagely 10). The board of directors are mainly representatives of majority shareholders (institutional, family or block holders) or suggested by executives, who are there to serve diverse interest. Thus, the interest direction by these board compositions cancels out effects of divergent positions, depending on the managerial power. This results in weak board monitoring of executives, which calls for strong and tighter external control mechanisms to regulate effectively the behaviour of executives in Africa.

In addition, contrary to studies that post a very strong link between firm size and pay variations (Bodolica & Spraggon, 2009; Magnan, St-Onge & Thorne, 1995), we find that, generally firm size does not strongly determine pay changes but rather consistent with studies that associate deal size to pay rise after merger (Guest, 2009) . The Africa market is dominated by multinationals operating in all sectors. Moreover, firms that undergo M&A become bigger and complex which requires extra skills to manage. Hence, management will push for pay rise that match their multinational counterparts. We confirm that deal size is the most important acquisition feature that significantly impacts pay rise post-merger in Africa, without discounting the extra effect of market response to equity compensation.

More so, studies on these subject that tried to tract the yearly effect of M&A on pay rise report significant positive relationship within the first two years, most significant in the second year after merger, implying compensations are persistent few years after merger (Girma, Thompson & Wright, 2006; Guest, 2009). However, we find that pay persistence is only strongly significant at the end of merger year (especially for cash compensations) with drastic drop in subsequent years. This suggest that in Africa, managerial compensation emanating from M&A deals are predominantly cash-based with the greater portion of these payments received immediately at the end of merger year. Such an observation is consistent with our view that the inactiveness of Africa capital market and unstable macroeconomic indicators force executives to mount pressure on boards to approve and pay their benefits immediately, preferably in cash dominated.

Robustness of results

We conducted several tests, with different combination of control and other variables, to check for the robustness of our findings. For instance, different measures of firm profitability (ROA), firm size (using market capitalization) and deal restrictions (using cumulative average returns-CAR, to tell whether the deal is value enhancing or not), deal size (large or small deals) were employed in our analysis. There were no differences with the results when we used these alternative variables compared to the reported findings. The results for the extra analysis were not presented for the sake of brevity (available from authors upon request). More so, and throughout the various analysis, the tests for second-order serial correlation and Sagan's tests (for panel analysis using GMM) do not show any problem with our findings.

Conclusion

This paper contributes to the debate surrounding the effects of completed M&A deals on various EC components (cash, equity, stock options and total compensation) of top three managers. We also include analysis of total board pay in order to understand the management and board members dynamics in terms of compensation determination. Our total sample is made up of 164 completed deals between 2002 and 2016. Due to the uniqueness of the South African market, we further sub-divided our sample into South African (77) and Other African (87) firms to help explore any possible differences in the results. Specifically, this study investigates whether there is a significant change in compensation packages of acquirer's executives in Africa after successful M&A deal. The paper also concluded by exploring the possible determinants of these compensation packages after the merger deals.

First, concerning M&A effect on compensation, shareholders wealth maximization and managerial interest propositions are the two main motives why executives are engaged in M&A deals. While shareholders value maximization hypothesis result in share price and profitability measure increases, that of managerial interest concentrates on increase in firm size, irrespective of the effect it has on firm value reduction. In spite of managerial interest driven acquisitions, management still keep an open eye on the performance (profitability) of the firm in order to avoid being acquired by another acquirer, due to poor performance, and also winning the confidence of the shareholders to escape being fired. Our results show that executives of acquirers in Africa are rewarded heavily in the year of acquisition for completion of successful deals. The change in executive reward after merger is seen in all compensation components (cash, equity and total compensation. These findings, therefore, support managerial interest hypothesis, (through increase in firm size) as the main motive for deal acquisitions in Africa, even though firm profitability (ROE) impacts equity payment for the South Africa market. We also noticed drastic incline in the compensation packages years after acquisition, lasting even into the third year indicating a significant one-off payments in the year of acquisition. However, we find no evidence of higher stock options compensations for South African firms.

In line with the classical view of agency theory and results of Bugeja et al (2012), our findings suggest that executives are awarded higher compensations for exerting effort and skill to execute bigger M&A deals.

Particularly, our empirical analyses show a very strong relation between deal size and level of cash, equity and total pay movements. In the same way, Girma et al (2006) argue that the act of M&A deals provides information for compensation determination and as such, the way stock market perceive a deal may serve as a signal about M&A and pay variation nexus. We provide a detail analysis on this phenomenon. With the exception of Other African sub-group (possibly due to market inactiveness), we find that market perception of an M&A deal quality can explain level of executive pay rise in the year of acquisition.

Furthermore, one of the inconclusive contemplation in extant literature is whether executives are stirred to prefer domestic against cross-border and private against public target acquisitions. We find significant increase in executive pay after two years of acquisition for South African firms that target domestic deals compared to their counterparts who do cross-

border acquisitions. Similarly, we do find that private acquisitions impact pay rise in the first year of acquisition, even though the relationship is weak for Other African firms. We concluded our panel analysis by exploring the possible impact of some firm-specific variables on executive pay movement. We discover that industry categorization, diversification and international operations mode of payment and cross-listing effects, in general, do not drive executive pay determination upon deal completion, even though there is evidence of the influence of mode of payment (stock) effect for South African firms.

Now turning to the corporate governance factors effect, the results support the view that firms with larger outside board of directors' representation negatively determine executive total pay and there is no evidence that CEO's age and gender influence executive pay. However, the experience of the CEO leading the managerial team has a very high positive influence on the level of compensation for South Africa sub-sample. Consistent with other studies on managerial power proposition, we found that CEO duality plays positively significant role in determining cash and total executive pay. Also, similar to results of total sample and Other African firms, executives of acquirers in South Africa involved in merger deals are paid higher (equity and total compensations) compared to other form of deal financing.

Our findings have many managerial implications for both practitioners and researcher alike. First, implementing rules that enforce payment disclosure is highly essential. Disclosing payments help to bring transparency and can expose secrete demand by dubious politicians and other state regulators. The victims of such unhealthy practice are the local enterprises who do not have the financial muscles, like the foreign multinational counterparts, to satisfy the back-door demand of these public officials, which will have untold consequences on economic development. Secondly, because of ineffectiveness of boards to monitor and discipline management, it is also essential to develop regulatory frameworks that will provide an alternative external monitoring and supervision of managers and possibly board operations in Africa. Thirdly, apart from building strong and effective judicial systems to deal with firms or individual who misbehave, there is the need to develop detailed and enforceable regulatory structures with special emphasis on sound corporate governance practices. Four, Africa as a market is too small to fragment into country-based markets with unnecessary barriers that hinder market integration. Apart from South Africa, the African markets are similar in their operations and characteristics. Developing, therefore, a single regulatory and corporate governance practices across all markets to enhance uniformity in cross-border operation is surmountable. Finally, from the review of the literature on managerial pay and M&A, there is an abysmal lack of studies, most especially, on corporate governance practices in Africa. There is, therefore, the need to build comprehensive corporate governance databases to set the pace for more research into this area in Africa.

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Appendices

A: Variable descriptions

	Variable Category	Unit	Definition
Compensation types	Cash (Salary and bonuses)	USD	The sum of annual salary, performance related bonuses and other short-term cash benefits paid to executives.
	Stock (Equity)	USD	Value of total common equity awarded to executives of the firm in a year.
	Stock Option (STOP)	USD	The value of stock options that were granted to executives during a firm's fiscal year.
	Total compensation (ToCom)	USD	The sum of all compensations awarded (short and long-term) to executives in a firm's fiscal year.
Firm and deal Specific Variables	Total Asset (TotAs)	USD	Value of current and non-current assets as stated in financial statements.
	Size	USD	Total sales of the firm
	Market to book value (MTB)	USD	The ratio of market to book value of a firm
	Deal size	USD	It is the total value of the deal[16]
	Sales Growth (SaGro)		The ratio of current sales to previous sales
	Return on Equity (ROE)	USD	The ratio of total net income to total shareholders equity
	Return on Asset (ROA)	USD	The ratio of gross profit to book value of total asset
	Mode of payment (MoP)		It is a dummy that takes 1 if the deal is paid with stock else 0.
	Cumulative abnormal returns, CAR(-25,25)	%	It is a 51-day (25 days before and 25 days after announcement of deal) cumulative abnormal returns computed using the market model
	Total Stock Return (TSR)	%	It is the total yield (capital and dividend yield) on an equity over the financial year.
	Diversification and international operations (D&I)[17]		It indicates whether the firm is a mix of different industries and operates outside the home market. It is a dummy that takes 1 if the firm is diversified or has international operation, else 0.
	Merger form (MerF)		A M&A characteristic that takes 1 if the deal is domestic, else 0.
	Same industry merger, (SameInd)		It is a dummy that takes 1 if the acquirer and target are in the same industry, else 0.
Corporate governance	CEO age,	years	The age of the CEO
	Gender of CEO, SexC		The gender of the CEO. It is a dummy that takes 1 if the CEO is female, else 0
	Outside Directors (OutD)[18]	%	It is the total number of outside board of directors express as a percentage of total board size
	CEO duality (BoCha)[19]		Takes 1 if the CEO is board chair, else 0
	Gender diversity (BoGen)[20]	%	The percentage of females on the firm's board.

[1616] The deal size, as used in the analysis, has been standardised by dividing the value of the deal by acquirer's sales. That is, value of the deal relative to the acquirer size.

[17] Executives of firms that are highly diversified and operate in other countries (outside the African market) have high incentive power and control thereby increasing the operational and business risk (Duru & Reeb, 2002; Wang & Boateng, 2007).

[18] It has been shown in literature that boards with large number of outside directors provide tighter monitoring on management activities (Dalton, Daily, Ellstrand, & Johnson, 1998; Deutsch, 2005; Hayward & Hambrick, 1997)

[19] The role of the CEO as the chair of the board of directors has also been identified as one of the factors that could influence management's position in taking risky decisions and unrealistic EC packages approval (Dahya & McConnell, 2007; Dahya, McConnell, & Travlos, 2002; Deutsch, Keil, & Laamanen, 2011)

[20] Board diversity plays an important role in terms of improving executive monitoring, evaluation and board independence (Johnston & Malina, 2008; Triana, Miller, & Trzebiatowski, 2013). Gender board diversity has been identified to have an influence on form performance and risk (Ntim, 2015; Ujunwa, Okoyeuzu, & Nwakoby, 2012).

Board Gender Diversity and Corporate Performance: A Study of Women on Board of Directors in Cameroon

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Abstract

The purpose of this study is to identify the relationship between board gender diversity and its impact on how companies perform in Cameroon. Company performance is defined both in financial (CFP) and non-financial terms (CSP). The theoretical framework that this study is based on is critical mass theory.The study made use of both quantitative and qualitative data. The study used data from 20 randomly selected companies with a minimum turnover of USD20M, between 2008 and 2012 and interviewed 15 female board members. The quantitative data was analyzed using ordinary least square (OLS), Financial performance is measured using financial ratios Return on Assets (ROA) and Return on Equity (ROE) while non-financial performance is measured in terms of Corporate Social Performance (CSP). The findings show that yes board gender diversity influences how companies perform in Cameroon. Both the qualitative and quantitative data show that companies with women on their boards have a higher ROA, ROE and CSP than those without. Board gender diversity starts having a positive effect when the threshold reaches 10% up to a maximum of 40%. From the results we can see that critical mass exists somewhere between the 10% and 40% range. It also shows us that even “one woman” can make a difference in the Cameroonian business environment.

The results add to the literature on corporate governance in three ways; (i) Yes, board gender diversity positively affects how companies perform. The study recommends a critical mass of board gender diversity of 20% but deviates slightly form the widely held view point of 30%. It also puts forward the idea that critical mass is not a fixed point, but varies in time, place and even industry. (ii) The study uses a sample which has not been used before in similar studies. Cameroon, is very representative of a developing or emerging economy both in terms of demography and governance. It is also a major economic player in the central African sub region, hence its influence goes beyond its borders. (iii) The inclusion of non-financial performance (CSP) in and assessment of company performance (CP). The results show that companies can combine CFP and CSP successfully, they just need to set up the correct strategy. Company performance is no longer only assessed in terms of financial performance but also in terms of non-financial or social performance.

The 'Fourth Industrial Revolution,' or the 'Death of Innovation'? A Critical Review of a Paradox in Innovation Theory

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Abstract

Certain scholars have argued that there are currently decreasing global returns on investments to research and development (R&D), a measure of innovation. Pharmaceutical innovation might be an example of this trend, whereby the number of new drugs approved per billion US dollars spent on R&D has halved roughly every 9 years since 1950, dropping about 80-fold in inflation-adjusted terms.

Similarly, some argue that recent technological advances have typically been limited to certain sectors, for example those related to Internet and Communication Technologies (ICTs). Others suggest that the scale of innovation associated with the century spanning the years 1870-1970 has not been matched since, and that the societal impact of the washing machine, for instance, rivals that of the Internet.

While certain of these arguments remain contested, the notion that innovation is declining has been termed the 'Death of Innovation' hypothesis. Such a notion however runs counter to those associated with discussions around the promises of the 'Fourth Industrial Revolution,' which suggest that the interactions of the contributions of novel technologies provide the potential for radical improvements in innovation processes across contexts.

These contradictory predictions might be considered a paradox of sorts. Given the tensions between these literatures, this paper reviews multidisciplinary work associated with these two literature streams, and by relating them seeks to critically develop a theoretical model of how and when changes in the real world context may result from the interplay of these conflicting trends.

The objective of the paper is therefore to provide a heuristic lens, or critical perspective, that raises questions about the nature of innovation itself and the potential for new socio-technical developments such as crowdsourcing and big data to reconfigure the innovation landscape. An argument is made that recent technological advances now make it possible to achieve large-scale economies of scope and scale in the research process itself, with important implications for societal problem solving.

Certain implications arise from this analysis. The first is that, given the multidisciplinary nature of innovation research, innovation theory development might benefit from the focus provided by a linkage to certain seminal knowledge problems. Such a focus may provide a more effective basis for the development of theoretical frameworks that can reconcile the tensions inherent in different schools of thought. A useful candidate for this role might be the knowledge aggregation problem, first introduced by Hayek. It is argued that the paradox considered in this paper can be better understood by relating it to this seminal knowledge problem.

Heterogeneous interconnections between precious metals: Evidence through asymmetric and frequency-domain spillover analysis

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Abstract

We examine the spillover characteristics of return and volatilities of precious metals (gold, silver, platinum, palladium) and their asymmetric effect by means of the spillover index of Diebold-Yilmaz (2009) and the frequency domain asymmetric spillover measure of Barunik and Krehlik (2015). We find evidence of homogenous and time varying asymmetric spillovers between the returns and volatilities of the precious metal commodities modelled suggesting similarities in their cyclical relationship with global and local fundamentals. The asymmetric spillovers are linked to positive and negative shocks and are more pronounced during crisis periods. Although, silver and gold display the largest transmission of net spillovers, silver leads the spillover transmission in the short and long runs and for market downturns and upturns. The strongest directional spillovers take place between silver-gold and palladium-platinum. Silver and gold are mainly transmitters of spillovers, while palladium and platinum are subject to fluctuations in return and volatilities of silver and gold. Implications of the results for portfolio risk managers and policy makers are discussed.

Mean-Diversification Efficient Frontiers

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Abstract

Resent research has seen increasing use of risk/diversification based approach to portfolio optimization. Under this approach mean is ignored and diversification or risk measures are optimized to construct portfolios that are believed to have better diversification or risk properties. Lee (2010) criticized these methods for lacking clearly defined objective like the trade-off between returns and variance (or returns) in the Mean-variance set up and question the use of mean adjusted return (Sharp ratio) in evaluating such portfolios.

In this paper, I note that optimizing diversification measure alone can be regarded as a single objective optimization approach. This is in contrast to the usual bi-objective optimization that yield the portfolio that optimizes the Sharp ratio. To consider sharp-like ratios for various diversification measures in a bi-objective optimization framework that trades-off diversification for returns I draw mean-diversification efficient frontiers using Genetic algorithm. The key question I attempt to answer is; are there other attractive options on the mean-diversification efficient frontier other than the portfolio that maximizes diversification alone?

My result suggests that for some diversification measures, even with a bi-objective optimization that trades off return with selected diversification measures, the optimal strategy is still to optimize diversification only. Leading back to the single objective optimization criticized by Lee (2010). While for some other measures there are other portfolios on the frontier that adds more value in terms of trading off diversification for returns.

A Multiple-Stock Mixed Gaussian Artificial Stock Market Model

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Abstract

We develop a multiple-stock mixed Gaussian agent-based Artificial Stock Market model by modelling a stock market containing multiple stocks driven by a multiple stock mixed Gaussian dividend stochastic process. Our dividend process can thus be thought of as having different "states" conditional on some pertinent financial economic variable such as geopolitical risk or the economic policy uncertainty variable of Baker, Bloom and Davis (2016). In the world where our mixed Gaussian distribution is bimodal, we can think of dividends as being drawn from either a positive state or a negative state, with respective probabilities. In a world where stock dividends are driven in such a manner, "smart traders" who know which state prevails can condition on this information when deriving their optimal holdings which are now state-dependent. Under these assumptions, our model is capable of generating a return distribution of the aggregated stock market that is mixed Gaussian, similar to the shape of the US S&P 500 stock return distribution since 2015.

We show that the simulated stock price series generated by the single-stock mixed Gaussian Artificial Stock Market model varies in a plausible manner with various underlying important parameters such as agent risk aversion, agent beliefs, the underlying stock dividend process, returns to risk-free assets and dividend state probabilities. We show, for example, that our model can produce risk-on and risk-off periods. We conduct simulations of 87 variants of the model and present evidence that the multiple-stock mixed Gaussian Artificial Stock Market model is plausible regarding the relationship between its model simulated stock prices and the parameters aforementioned. We provide evidence that stock mis-pricing is reduced if agents' beliefs regarding the true parameters of the stock market has lower variance.

The view of the stock market presented in our paper is one of a market that can be approximated by an agent-based model with many different types of agents, each of whom behaves according to a different decision making rule. This is similar to the agent-based model of LeBaron et al (1999) although we generalise their single stock model in two significant ways: firstly, we develop a model of multiple stocks and thus of the stock market, not just of a single stock, and secondly, we develop a model of a stock market driven by state-dependent mixed Gaussian dividends, not of Gaussian dividends. These assumptions allow us to produce a return distribution of the stock market that is mixed Gaussian similar to recent real-world markets.

Integration of African stock markets: Evidence from multi-scale wavelets correlation

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Abstract

The integration of stock market integration is a crucial subject in financial economics given the implications it holds for asset allocation decisions and portfolio diversification. In this study we employ the wavelets multiple correlation and wavelets cross-correlations technique developed by Fernandez (2012) to investigate the comovement and interdependence structure across seven major stock markets in Africa using daily and weekly data for the period January 2011 to October 2017. Our results from both daily and weekly data suggest that there are linkages among African stock markets and this integration grows stronger with lower frequencies. Also, the market that maximizes the multiple correlations against the linear combination of the other stock markets at the lower frequencies is Ghana, which indicates that the Ghanaian market has a potential to lead or lag other markets at lower frequencies where there is higher degree of integration. Thus, African stock markets offer little opportunities for diversification at lower frequencies than at higher frequencies.

Effective Financial Regulation and the Market Discipline Principle of Basel II in Emerging Market Banking Industry

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Abstract

This study examines the effects of market discipline on banks' performance and stability during 2000-2014 which encompasses pre- and post-Basel II periods. The investigation is conducted separately on developed and emerging market economies' banks to capture suspected differential effects of this Basel II's principal pillar. Applying PCA on theoretically identified proxies of market discipline, it was found that there are different dimensions of market discipline, which affect banks differentially across levels of economic development and attendant institutional underpinnings. Interestingly, these different dimensions of market discipline indeed have revealing impacts on emerging and developed countries' banks.

Based on this finding and related ones, it is wise to argue that, to establish and promote regulatory frameworks for efficient and effective banking and/or productive financial services conduct and, at the same time, maximize banks' performance and stability, financial regulatory bodies should consider the dissimilarities of disparate national financial markets such as exist between emerging and developed economies.

Unjustifiable leniency? Discrepancies between individual and company tax deductions and collections in South Africa.

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Abstract

It is true that individuals are usually unhappy with the results of the national budget. One area of dissatisfaction is the leniency extended to companies, as opposed to individuals, when it comes to tax deductions. Taxation is based on the basis that the wealthy should contribute a greater percentage than the poor towards supporting the government. Hence, the higher the income, the higher the tax percentage contribution. In South Africa, this cannot be confirmed as true. Indeed, while the highest tax percentage paid by individuals on tax is 41%, the tax rate for companies ranges between 26.67% - 33%, excluding small business corporations. Moreover, companies pay this tax net of their operational expenditure such as xyz. For individuals, however, tax is based on their gross income. This means that individuals are taxed before their basic needs are considered. These are the basic needs such as health care, food, water and social security. Interestingly, individuals are only spared their medical aid contributions before tax deductions. The reasons for this limitation are unclear, more so since medical aid is not a priority for the majority of poor black South Africans.

This reality raises questions on whether such a differentiation between individuals and companies is justifiable.

In addition to personal income tax, VAT has been recently increased by 1%. These measures will escalate the negative effects on poor and low-income households. The government increase social grants and again take that back in VAT. Other reputable organisations have pointed their concerns on VAT increase to the Standing Committee and Select Committee on Finance in parliament.

The paper will look at history of tax in SA, followed by issues and recommendations. What is the rationale behind the companies paying tax on net income? In opposition, the necessities of individuals are not deducted, for example housing costs, water and electricity bills. The paper concludes that the current system lacks public participation. The rationales for the differentiation (tax adjustments?) between x and y are unconvincing and indefensible. It thus recommends greater public participation in the determination of tax policies. This will give the taxation system much needed legitimacy in the eyes of the public. To add, what is done by the government to eliminate tax evasion, especially by corporates? Do the current policies give room to companies to evade tax? Are the companies given too wide a discretion in determining their operational costs?

From a social justice perspective, there is need for greater public participation in the formulation of tax policies. There should be pre-budget engagements that will ensure that tax collection methods are fair and will indeed improve the economy of the country.

The findings will be useful for future engagements by tax experts and those in power. It is imperative to consult with the stakeholders, especially consumers, to be able to assess the impact broadly. Moreover, the paper will look at a comparative edge to relevant tax policies and methods from select countries. It will also add to the current discourse on how the South African taxation system can be reformed.

Time-frequency analysis of behaviourally classified financial asset markets

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Abstract

The paper examines market co-movement between pairs of international assets in the time and frequency spectrum. Using the cumulative prospect theory (CPT), twenty-one cryptocurrencies are classified into high and low assets, with three assets from each class making it into the final sample. We included in our analysis four global equities. The empirical results indicate a highly connected market for the classified cryptocurrency pairs. Moreover, we found evidence of market differences to be much pronounced as global equities weakly co-move with the cryptocurrency markets. For the undiversified portfolio profitability analysis, the equities, particularly S&P500 unanimously outperformed the cryptocurrencies across all trading scales; whereas portfolio returns produced by PIVX emerged winner under the aggregate return series. Furthermore, the inclusion of CPT classified cryptocurrencies to diversified portfolios constituting international equities significantly affected the portfolio risk-return dynamics positively. Our findings provide intuitive and coherent investment strategies aimed at guiding investors with different market aspirations and risk-return appetite.

An assessment in public financing of education and their implications for management of education institutions in Kenya

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Abstract

Kenya has not been an exception in the increasing allocation of resources to education. This may be due to increased demand of skilled manpower in various occupational categories for economic development but also for increase access to education at all level. Gradually, the financial burden shouldered by the government is on the increase with the adoption of policies aimed at increasing access (populaly known as free primary and secondary) to education. However, policies aimed at reducing the cost of education and tackling the problem of wastage are high on the agenda of the government. This paper examines the trends in government financing of education and its implication to management of institutions in Kenya in the contemporary period. The study utilizes secondary data obtained from education statistics to measure proportion of recurrent and development budget allocated to education from independence to contemporary period. The results show that allocation to education from recurrent and development budget viewed from absolute amounts has increased on avarage 58 and 75 times respectively. This rather rosy outlook changes if we look at the growth of such allocation measured in constant prices. It is shown that allocation to education from the recurrent and development budget have increased 16 and 19 times respectively. Perhaps judging from the performance of the government in effort to finance education, a combination of alternative methods of financing education is deemed unavoidable including cost sharing and the generation of extra cost of education for proper management of institutional finances for the future.

Economic impact assessment of a university campus: Fee-free or online learning?

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Abstract

South African Universities are currently attracting a great deal of attention within South Africa, particularly relating to accessibility and affordability of tertiary education. In light of this, this article aims to estimate the economic significance of a South African university campus on the economy. The Potchefstroom campus of the North-West University (NWU) is used as an example to measure the impact of a campus on the economy. The aim of this study is two-fold. The first is to construct a social accounting matrix (SAM) to illustrate the economy-wide impact of campus expenditure within the provincial economy. The result of the assessment indicate that for every R1 million spend by the university a total of R 1.81 million production and 4 jobs are created throughout the economy. There is a significant direct economic impact from campus expenditure on its suppliers and is expected to benefit the local economy. Secondly, various scenarios are modelled related to first-year student spending, sourced from surveys, to determine the effect on the economy. Most universities have capacity constraints, which limit indefinite growth in student population. The result is that not all students who want to attend university could. This analysis considers three scenarios for the Potchefstroom campus over the next five years (up to 2022) with recent developments in the tertiary education sector influencing the growth trajectory of the campus. The first scenario examines a status quo of a continued increase in first-year students on the campus. Scenario two considers the effect of fee-free higher education and its impact on student spending in the host city of the university. The third scenario estimates the economic impact of a move away from full-time contact study on campus towards online learning. The various scenario modelling from student spending illustrated that an expanding full-time contact student population is beneficial for the economy and should be preferred for the NWU as many students come from outside the province to study at the Potchefstroom campus. Their spending is a major benefit to the provincial economy. In order to benefit the provincial economy the university would much rather increase its share of students that qualify for fee-free education than to promote online tertiary learning.

Beyond Sending Children to School: Nudging Parents to Invest on Child Education

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Abstract

This paper analyzes the effectiveness of cash transfer and cost sharing intervention schemes to raise parental investment on child education. Lump- sum cash grants have been the state-of-the-art demand side policy interventions to increase investment on child human capital by credit constrained households. Rigorous evaluations of conditional and unconditional cash transfers indicate that the role of these programs in fostering learning outcomes has not been encouraging. A strand of literature, on the other hand, has established the positive impact of investment on home-based resources on learning outcomes. The question that logically follows this puzzle is that why cash transfers fail to increase investment on child learning-enhancing home-based resources? Drawing on insights from behavioral economics, this study formulates theoretical framework to shed light on why cash grants fail to increase parental investment in child education, and what can be done to increases their effectiveness. The paper asserts that consumption vulnerability and information friction render lump-sum cash grants ineffective. Redesigning interventions as cost sharing schemes significantly increases the willingness of parents to buy educational materials for their children. As a byproduct, I also developed a unique model of parental demand for investment on child education. Furthermore, I have tested the theoretical framework using data obtained through artefactual field experiment conducted in Ethiopia. The empirical results are consistent with the implications of the theoretical model.

Institutional Analysis of Groundwater for Dry Season Irrigation in the North East Ghana

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Abstract

Groundwater irrigation is a major livelihood activity in Ghana. However, it is realised that irrigators organise the activity themselves on the basis of local knowledge as formal government institutions address few issues of groundwater irrigation in the entire country. Despite this, the Atankwidi catchment is already characterised by incidence of fallen groundwater tables with future climate scenarios showing reductions in groundwater recharge. The article therefore attempts to address two issues which are common with irrigation. What institutions regulate groundwater use for irrigation? What regulatory gaps in terms of groundwater quantity do the existing arrangements create regarding the future of groundwater resources? A descriptive survey was used to study the Atankwidi catchment of the White Volta Basin. The results show that local rules, norms, taboos and traditional leaders are the major institutions regulating groundwater for irrigation. These are however, weak thus granting irrigators unlimited freedom to exploit groundwater. Also, these institutions have not put in place mechanisms to boost storage. It concludes that formal government institutions together with traditional leaders should guide groundwater irrigators to define new set of rules that will promote better groundwater development and management.

The quandary of the post-apartheid South African government with the steel industry

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Abstract

The post-apartheid South African (SA) government embarked on financial and trade liberalisation, in line with the policy shift adopted by developed countries. Following a period of sanctions, this shift was also aimed at integrating the country into the global economy. It was anticipated that trade liberalisation would improve manufacturing competitiveness especially in markets dominated by few firms for example the steel industry. However, trade liberalisation was not successful in achieving competitiveness, instead its implementation has been characterised by job losses and an upsurge in imports. This was also felt in the steel industry. In this industry, this was compounded by a steel glut in China, which led to a decline in steel prices. Amid growing concerns that a collapse of the steel industry would have on the economy and the regions where it's located, government began to support the industry. This paper discusses the quandary of the SA government in terms of balancing trade liberalisation while supporting the steel industry. The paper argues that given the strategic nature of the steel industry, its linkages and proximity to other manufacturing firms and its significant contribution to exports, supporting it to be globally competitive might be the best option in the long-run.

Keywords: *Industrial Policy, Trade Liberalisation, Trade Policy*

Introduction

The post-apartheid South African (SA) government embarked on financial and trade liberalisation, in line with the policy shift adopted by developed countries. Following a period of externally imposed sanctions, this shift was also aimed at integrating the country into the global economy. Trade liberalisation in the form tariff liberalisation was expected to improve the competitiveness of domestic manufacturing firms especially in markets dominated few firms. This included the steel manufacturing industry. In this industry, one firm is estimated to control 80% of the market. This trade policy shift was in line with the global policy move from import-substituting industrialisation towards export-orientated industrialisation. However, broadly speaking, the SA trade liberalisation programme has been characterised by job losses and upsurge in imports in the manufacturing sector, including the steel industry. As a result, the SA government has changed its stance on the steel industry. This is despite the fact that previously the government decried the monopolistic nature and import-parity pricing in this industry and the negative impact this has on the competitiveness of the downstream metals industry that utilises steel as an input. This paper highlights that the post-apartheid South African government is facing a quandary with the steel manufacturing industry, in terms of balancing trade liberalisation while supporting the local steel industry. The paper argues that given the strategic nature of the steel industry, linkages and proximity to other manufacturing firms, significant contribution to exports and the high levels of unemployment

in the country, supporting it to be globally competitive might be the best option in the long run. This paper is structured as follows: Section 2 sets the scene, by providing background on financial and trade liberalisation in SA. This section also examines changes in employment and imports in the manufacturing industry under trade liberalisation. Section 3 provides a background on the SA steel industry and the changes in employment and imports under trade liberalisation. This section also highlights how the post-apartheid SA government is facing a quandary with the steel manufacturing industry. Section 4 makes recommendations and Section 5 concludes.

Financial and trade liberalisation in South Africa

The post-apartheid SA government embarked on financial and trade liberalisation during the mid-1990s.

Brief overview of financial liberalisation

Discussion of the merits and demerits of financial liberalisation is beyond the scope of this paper, but it is briefly highlighted in order to provide context to the policy shift in post-apartheid South Africa. SA followed a gradual financial liberalisation approach in the form of liberalisation of exchange controls since its reintegration in the international economy from 1994 following a period of sanctions (SARB, 2002a). Financial liberalisation is a trend that has been adopted by developed countries and is usually associated with the rise of neo-liberalism since the late 1970s. The post-apartheid SA government believed that a phased approach allowed it more time to implement other policy changes in order to achieve the preconditions necessary for a successful abolition of exchange control (SARB, 2002a). Government decided that the logical sequencing for the liberalisation of Exchange Controls would be as follows:

i. *the abolition of exchange control on all current account transactions (i.e. import and export of goods and services);*
ii. *the abolition of exchange control on non-residents;*
iii. *gradually becoming more lenient in the approval of applications for direct foreign investment by South African corporates;*
iv. *allowing institutional investors to acquire foreign assets to diversify their total portfolio investment;*
v. *a progressive relaxation of all other controls on resident individuals; and*
vi. *finally, to release emigrants' blocked funds (Emigrants' blocked funds are those funds/assets of an emigrant to which restrictions have been applied in that the funds are not transferable from South Africa and are physically controlled by an Authorised Dealer[21]). (SARB, 2002a)*

The gradual relaxation of exchange controls proceeded unabated (Farrell and Todani, 2006) as per the government policy up to now.

[21] Exchange controls are the responsibility of the Minister of Finance in the National Treasury Department of the South African government. The South African Reserve Bank (SARB) administers the exchange controls on behalf of the National Treasury. Authorized Dealers in foreign exchange are certain banks dealing with exchange control matters on behalf of the SARB.

Trade liberalisation in South Africa and the manufacturing industry

In the early 1990s, South Africa reformed its protective trade policy to a policy of trade liberalisation. The relationship between trade policy and economic growth is a hotly contested area in economics, mainly because there is an accepted argument that suggest that trade liberalisation has a positive impact on economic growth. However, it is challenging to establish this link empirically even with advanced statistical methods (Baldwin, 2003). This argument has also been supported by multilateral institutions who contend that more open and outward-oriented economies outperform countries that have restrictive trade and investment policies (OECD, 1998: 36). The policy shift from import-substituting industrialisation towards export-orientated industrialisation began in the late 1960s, and was driven by prominent studies that recommended outward-orientated industrialisation (Krueger, 1978; Bhagwati, 1978).

Despite this contestation, the theory in support of trade liberalisation has been widely adopted by developed countries. Likewise, trade policy reform in South Africa was characterised by rapid trade liberalisation in the form of tariff liberalisation as agreed to under the General Agreement on Tariffs and Trade (GATT) in 1994 (Rangasamy et al, 2005). These post-apartheid reforms were implemented from 1995 onwards under the auspices of the World Trade Organisation (WTO) and for some products, SA liberalised even faster than its WTO commitments (Rangasamy, et al, 2005). Trade liberalisation was expected to improve the competitiveness of the manufacturing industry and that this would be accompanied by the associated benefits to consumers in terms of price and quality especially in industries with high levels of concentration. Trade liberalisation was also expected to ensure that consumers and downstream manufacturers who utilise inputs from highly concentrated industries are able to access these products in the global market at competitive prices. Based on their research on the impact of trade liberalisation on industrial competitiveness in South Africa, Rangasamy (et al.,2005) found that trade liberalisation in SA “has not been successful in securing improved competitiveness”. Rangasamy (et al. 2005) submit that these results highlight that improved competitiveness goes beyond trade policy reform and that government policies should also be directed at issues relating to efficiency in production, distortions in factor markets and institutional development. Though these results do not suggest that protection would yield better outcomes, they demonstrate that SA government should not only focus on trade liberalisation in order to promote industrial competitiveness, but also on creating a competitive environment. They also indicate, that in its pursuit of trade liberalisation, the SA government should have taken into account that the South African manufacturing industry was developed under import-substitution industrialisation policies which brought about uncompetitive industrial firms. It is important that trade reform strategies address important questions about sectoral dynamics, prevailing market conditions and firm capabilities. Lall (1990) also echoed this, arguing that competitiveness in manufacturing does not only depend on improved efficiency which tends to be achieved through increased competition, but also on improved capabilities. This suggests, trade liberalisation should have been implemented gradually and its impact assessed throughout, so that policy could be adjusted accordingly in order to achieve the intended outcomes.

The degree of trade liberalisation is usually measured using the ‘effective rate of protection’ (ERP). The ERP measures the rate of protection granted to the value added of an industry

and it was established by Corden (1966) and Balassa (1965). As a measure of protection accorded to an industry, the ERP is preferred to the 'normal rate of tariff' because the latter does not take into account the duty on imported inputs which are used by domestic import competing industries, whereas the former does. The ERP is derived by considering the tariff levied on the final output and inputs, therefore the degree of tariff liberalisation can be determined by considering the percentage change in the ERP measure between two time periods (Rangasamy et al, 2005).

Using the ERP to measure the degree of trade liberalisation in various manufacturing sectors in South Africa in the 1990s, Rangasamy (et al., 2005) classified sectors that were subjected to a reduction of greater than 10 percent in their ERP as liberalised. Sectors that had an increase of 10 percent or more were classified as 'protected' and all other sectors were classified as 'moderately protected'. Based on this classification, 67.86% of sectors were liberalised, 17.86% were 'moderately protected' and 14.29% were considered 'protected.

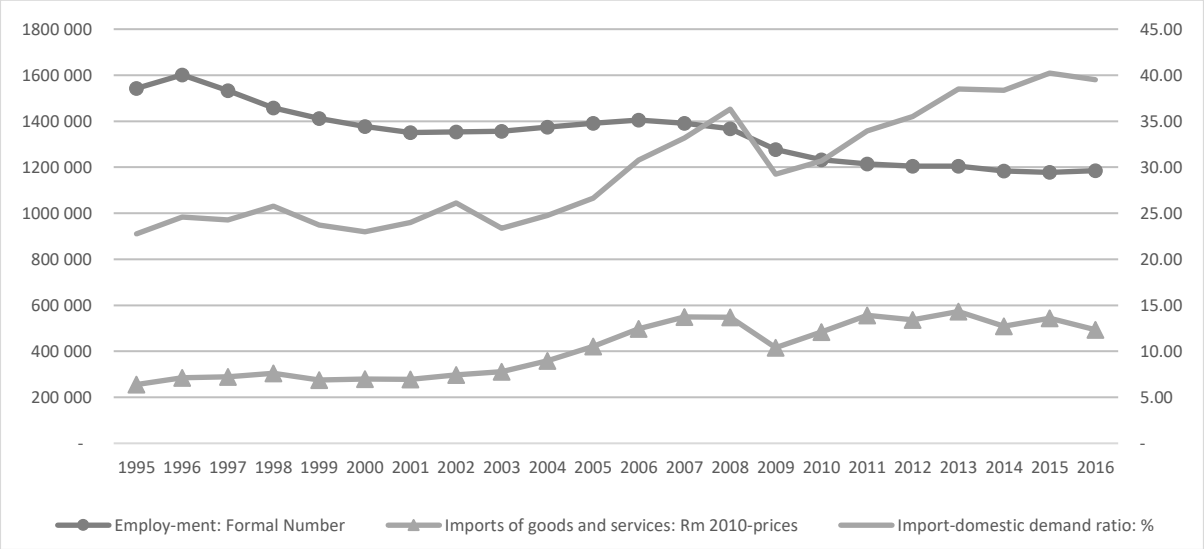
Table 1: Lists of sectors based on Rangasamy's (et al. 2005) ERP classification

LIBERALISED SECTORS	MODERATELY PROTECTED	PROTECTED
1. Paper and Paper products	1. Rubber	1. Beverages
2. Glass and Glass products	2. Non-metallic minerals	2. Food
3. TV radio and equipment	3. Metal products excluding Machinery	3. Textiles
4. Plastic products	4. Leather	4. Tobacco
5. Footwear	5. Printing; Publishing & Recording media	
6. Furniture		
7. Basic Iron and Steel		
8. Wearing apparel		
9. Basic Chemicals		
10. Basic non-ferrous metals		
11. Professional and Scientific equipment		
12. Electrical machinery		
13. Motor vehicles parts		
14. Other transport		
15. Chemicals & Man-made fibres		
16. Wood and Wood production;		
17. Coke and Refinery petrol		
18. Machinery & Equipment		
19. Other manufactures		

Source: Rangasamy (et al. 2005)

This data indicates that more than two-thirds of the manufacturing sectors in Table 1 have been liberalised, suggesting that trade liberalisation was an entrenched government policy. However, the policy has also had unintended negative consequences particularly in the manufacturing sector. This has been attributed to the growth of manufacturing firms under import-substitution policies, which led to uncompetitive manufacturers. To illustrate this point, Figure 1 below depicts employment and imports since the implementation of trade liberalisation in 1995.

Figure 1: Employment and imports in the manufacturing industry (1995-2016)



Data source: Quantec

It can be established from Figure 1 above that the period since the implementation of trade liberalisation is also characterised by declining employment, increasing import-domestic demand ratio and increasing imports in the manufacturing industry. Employment decreased from 1 768 058 employees in 1995 to 1 382 597 in 2016, a 21.8% decline. Meanwhile imports almost doubled, increasing by 93% and the related import-domestic demand ratio increased from 22.76% to 39.51%.

The impact of trade liberalisation was so severe in the case of the Clothing and Textile manufacturing industry, such that at the beginning of 2007, South Africa implemented quotas on selected clothing and textile lines from China to address the major decline in production and employment in the local clothing and textile industry (Tralac, 2008).
The government has since taken major steps to reindustrialise the economy through the launch of the National Industrial Policy Framework and the Industrial Policy Action Plan of 2007. The National Industrial Policy Framework (NIPF) is a high level policy document aimed at strengthening and growing the South African manufacturing industry as well as addressing high levels of firm concentration. To ensure the implementation of the framework, an implementation document entitled the 'Industrial Policy Action Plan' (IPAP, 2007) was developed.

The IPAP is focused on improving capabilities and enabling firms to compete by themselves without relying on the state. Interventions include sharing of costs between government and firms to acquire modern manufacturing technology in order to improve competitiveness. This is also done through directing government procurement expenditure to support local firms in highly competitive industries. For example, the Clothing, Textile, Footwear and Leather (CTFL) industry has financial incentives in the form of cost sharing grants between government and firms to acquire modern manufacturing technology. This sector is a 'designated sector' meaning that 100% of government procurement expenditure is directed to domestic manufacturers.

The SA steel manufacturing industry and the SA steel industry under trade liberalisation

The South African steel industry is highly concentrated and tends to be viewed as monopolistic. *ArcelorMittal* South Africa (AMSA) is by far the largest steel manufacturer currently controlling an estimated 80% of the South African steel market. *Evraz Highveld Steel and Vanadium*, currently in business rescue since 2015, is the second largest steel manufacturer. Other players are *Scaw Metals, CISCO, Cape Gate (Pty) Ltd, SA Metals, Unica, Agnisteel* and *Columbus Stainless (Pty) Ltd*.

AMSA was originally Iscor Limited, a South African government owned company founded in 1928 and first listed on the Johannesburg Stock Exchange in 1989. It is currently part of the world's largest steel producer, *ArcelorMittal*, a multinational steel manufacturing corporation headquartered in *Boulevard d'Avranches*, Luxembourg. In 2015, although the World Steel Association ranked South Africa as the 23rd world's largest steel producing country, the country produced approximately 45% of the total crude steel production on the African continent.

The South African steel industry was also affected by trade liberalisation that was implemented in 1995. The industry did not receive state support because the government's industrial policy stance was greatly in favour of trade liberalisation in highly concentrated industries in order to benefit consumers and firms who acquire their output. Government was also in favour of trade liberalisation in highly concentrated industries in order to curb abuse of dominance which they are prone to, for example: Import Parity Pricing (IPP). Trade liberalisation in the steel industry was intended to improve competitiveness. It was also aimed at ensuring that consumers, including downstream metals industry have access to the international steel market at competitive prices, due to concerns regarding abuse of dominance in the industry. In 2016, *ArcelorMittal* was found by the SA Competition Commission to be on the wrong side of the competition law. The SA Competition Commission imposed a ZAR1.5 billion (US$107 million) administrative penalty on the company for price-fixing in the steel sector and the latter agreed to pay the penalty in equal instalments over a five year period. Government pronouncements also tended to be hostile towards companies in highly concentrated or monopolistic industries. The state continuously decried IPP in the steel industry and the negative impact it has on the competitiveness of downstream metals sector. Government also argued that IPP contributes to employment losses and the decline in the number of manufacturers in the downstream metals sector where most of the jobs are. This hostile relationship with the state also played out in other highly concentrated industries, e.g. the polypropylene manufacturing industry, for the reason that polypropylene is an important input in the downstream plastic manufacturing industry.

The steel industry under trade liberalisation

In terms of the Standard Industrial Classification (SIC), the SA steel industry is captured under Basic Iron & steel sector and the Metal products (excluding machinery) sector. This is mainly because firms in this industry operate in both sectors.

The period since trade liberalisation was characterised by a decline in employment and an increase in imports in the steel industry.

Figure 2: Employment in the steel industry (1995-2016)

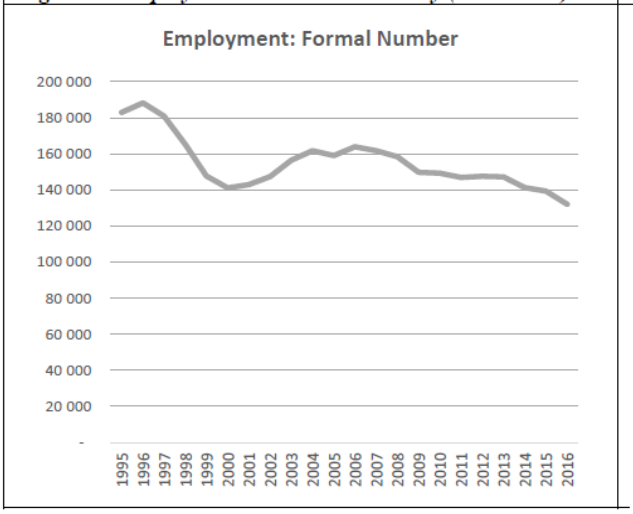
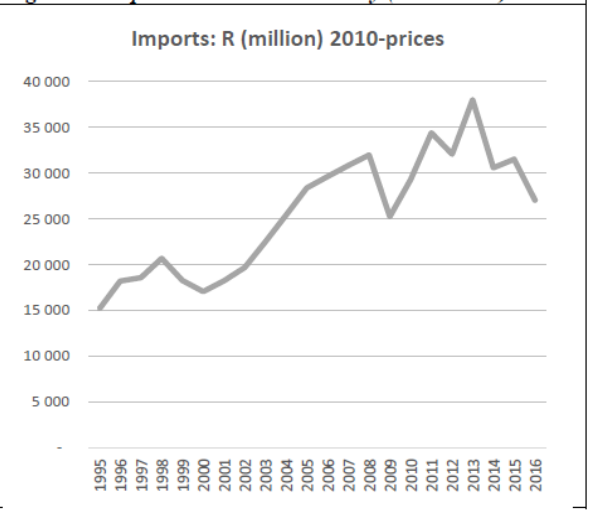


Figure 3: Imports in the steel industry (1995-2016)



Source: Quantec

It can be seen from Figure 2 and 3 above that the period under trade liberalisation is characterised by declining employment and increasing imports in the steel industry. From 1995 to 2016, employment decreased from 183 002 employees to 132 005 a 27.9% decline. Meanwhile, imports by 78.2%.

Liberalisation of trade has also seen the collapse of the country's second largest steel manufacturer, *Evraz Highveld Steel and Vanadium*. It is estimated that before the recent collapse of *Evzar, AMSA* controlled about 70% of steel market, which increased to about 80%.

The employment losses and rising imports in the steel industry have also been compounded by a steel glut in China attributed to a slowdown in its economy. China is accused worldwide of dumping excess steel (that it cannot sell domestically) in foreign markets below the cost of production. This has pushed the price of steel artificially low, exacerbating the pressure on the industry in other steel producing countries for example Mexico, Turkey, India, Europe and the USA. As a result thereof, many steel producing countries have and are taking steps to support their steel industries for example the US and other Western countries have imposed hefty tariffs. China has also been accused of heavily subsidising its steel manufacturing industry. Engagements are currently underway among steel producing countries to address the steel oversupply. Reduction of steel subsidies is part of these discussions and much of them point fingers to China. There are concerns among many European producers that China's overcapacity might be in place for more than a decade.
Currently, the SA steel industry is described as being in a crisis that threatens to wipe out the entire industry. There is a concern that the pressure on the industry could lead to a collapse of AMSA which has plants in three different provinces across the country. This will have dire consequences for regions where it is a significant economic contributor for example Vanderbijlpark, an industrial town in south of Gauteng province. The pre-tax profits of AMSA, fell from R9 billion (US $643 million) in 2008 to losses averaging R300 million (US $21 million) a year from 2009 to 2014. In 2015, it lost R8.6 billion (US $614 million).

Noting the negative impact that the collapse of the steel industry would have on the economy and the knock-on effect, the SA government has changed its stance on the industry. The challenges in the steel industry have also attracted an unexpected sympathiser - the labour union in the steel industry. The labour union has put a lot of pressure on SA government to support the steel industry as a matter of urgency. It's unusual situation for labour unions to fight for the employer. However, this is becoming common practice in manufacturing industries that are under pressure from Chinese imports in particular.

A shutdown of AMSA will also have a negative impact on its suppliers. The steel industry is considered a strategic industry for any country especially for militarised countries, thus the SA government is not prepared to lose this valuable trade asset.

In response the government increased tariffs by 10% in 2015 on some steel products, the maximum allowed for under the WTO rules. The government pronounced that:

> *We have to ensure that we maintain the primary steel manufacturing in SA. We have no choice actually, [if] we let it go then there will be a huge knock-on effect for the industry as a whole because we don't have the capacity to import anyway.*

However, SA government was clear that "the tariff would be imposed in a way that also accommodated the downstream metals industry, where the main jobs were".

In addition to this, in August 2017, SA government imposed safeguard duties of 12% on some steel product i.e. hot-rolled coil (HRC) and plate. The safeguard duties will be in place for three years and are proposed to fall from 12% in the first year to 10% in the second year and 8% in the third. This tariff proposal was based on a final determination by the International Trade Administration Commission of South Africa (ITAC) which announced that domestic production had suffered significant damage from an unforeseen surge in imports. These safeguard duties will be effective once they are approved by the National Treasury Department. SA Government did not give AMSA a blank check as there are conditions to the support and AMSA is expected to support downstream manufacturers who utilise steel. Conditions include:

i. *capping AMSA's product prices;*
ii. *disallowing retrenchments at the group;*
iii. *implementing a long-awaited Broad Based Black Economic Empowerment (BBBEE) deal;*
iv. *investing at least ZAR4.6 billion (US $326 million) in plant and equipment in particular modern production processes in order to improve competitiveness.*

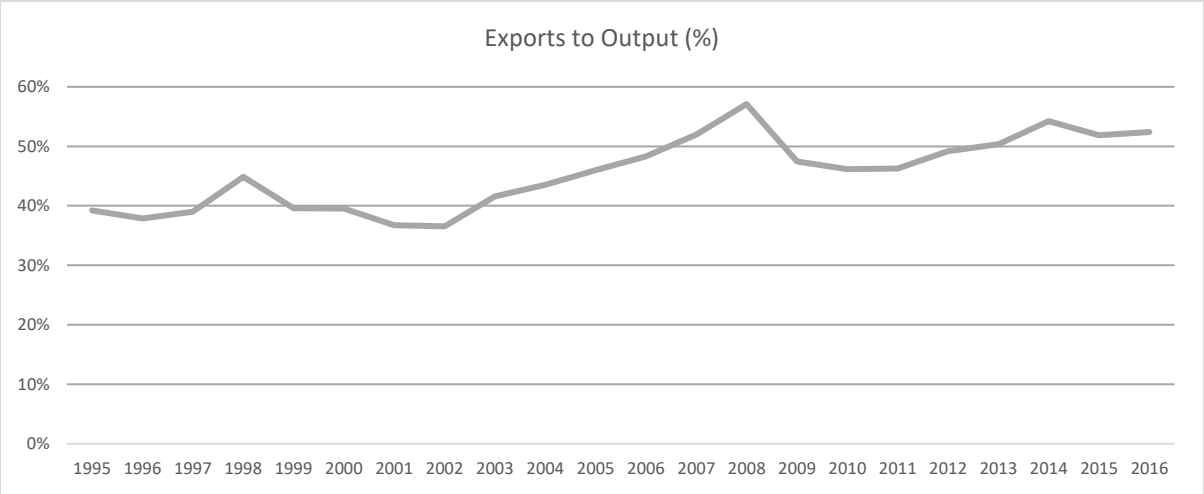
Recommendations

The current government is facing a quandary with the steel manufacturing industry. The state is faced with a dilemma between losing the industry and supporting it, whilst preventing abuse of dominance. Given the strategic nature of the steel industry supporting it to be globally competitive might be the best option in the long run for the following reasons:

a. Contribution to exports

The South African steel industry is an important contributor to exports, helping the country to earn foreign exchange.

Figure 4: Exports in the steel industry (1995-2016)



Source: Quantec

Figure 4 shows that the steel industry exported 52% of its output in 2016. In 2016, the steel industry accounted for 21.8% of the total ZAR519 billion (US $37 billion) (in 2010 prices) of manufacturing exports. There is no doubt that exports play an important role in the economic development in any country, especially countries with a small domestic market like South Africa, because these bring earnings from foreign markets.

b. Linkages and proximity to downstream metals and construction sector.

The steel industry has strong linkages and supplies inputs to the downstream metals and the construction sector. In a business environment where the speed of delivery is becoming more important day-by-day, proximity to the steel industry can only be beneficial to the downstream metals and construction sector.

c. The role of government in supporting the steel industry and its value chain to be competitive whilst deterring the abuse of dominance

The SA government's intention of discouraging monopolies in order to prevent abuse of dominance is commendable. However, it is also important to take into account the prevailing market conditions in a sector and sector specific challenges, when using trade liberalisation as a measure to curb abuse of dominance. In its pursuit of manufacturing competitiveness, the state's approach should be a holistic programme which includes promoting the firm's capabilities. Given the highly competitive global steel industry dominated by large firms, this implies that economies of scale are imperative. However, as indicated by Rangasamy (et al., 2005: 42), "the fundamental objective should be to ensure that where market dominance may be necessary (e.g. to ensure economies of scale in production) it should not result in abuse of economic power".

South African government should also be eulogised for not giving a blank check for its support, even though it does not want to lose the steel industry. As noted above there are conditions attached to its support to AMSA, this includes investments in modern production

processes (machinery) in order to improve competitiveness in the industry. Whilst government support is welcome, given high concentration levels in the steel industry, it is important for the state and competition authorities to put in place measures to deter abuse of dominance. The conditions of support should include continuous monitoring of output prices based on evidence. For example, by comparing the prices with those charged for the same steel products by foreign manufacturers in their domicile countries. It is creditable that SA government has vehemently challenged Import Parity Pricing in the industry and fought for fair pricing.

It is also recommended that the state should provide incentives to AMSA to upgrade its plant as these are currently provided to the other manufacturing sectors. These don't have to be financial incentives. This could be through ensuring that the planned ZAR840 billion (US $60.6 billion) government infrastructure expenditure over the next three years provides support for local steel firms.

It should be lauded that the government's support to the industry through tariff increases took into account the impact on the value chain in particular the downstream metals sector.
The East Asian experience has shown that efficacious industrial policy hinges on the exploitation of economies of scale, linkages between sectors and apposite governance of the value chain to promote industrial competitiveness (Rangasamy, 2005). Government needs to continuously ensure that its interventions, factor markets, competition policy and other relevant institutions all work together to promote competitiveness (UNIDO, 2003).

d. Capacity and scarce skills retention

Supporting the steel industry will contribute towards the retention of this industry's skills. There is already concern that the pressure on the manufacturing sector is leading to a loss of scarce skills. The importance of local capabilities can be seen in the contribution by AMSA, in rescuing part of the second largest steel producer which is currently in business rescue.

e. High unemployment in SA

It is recommended that the state supports the industry to be competitive given the unacceptable high unemployment estimated at 28% and in order to avert the knock-on effect its collapse would have.

f. Chinese steel glut

The Chinese steel surplus, does not only threaten the SA steel industry, it is a challenge faced by developed and other developing steel producing countries, it is therefore estimable that the government changed its stance on the industry. The government also needs to incentivise the industry to expeditiously invest and keep up-to-date with modern technology. This will assist in building capabilities and to improve competitiveness when the steel oversupply moderates, given that efforts are underway to address the surfeit.

g. Backing from the government induces commitment from shareholders and potential investors

When government is known to be behind any industry, this tends to induce commitment from shareholders and potential investors. The same goes for the steel industry which is currently under strain as a result of the Chinese steel glut. When a government is behind an industry, the industry tends to receive a number of government incentives, these include: tax incentives, government preferential procurement, preferential energy costs and investment in infrastructure that is supportive to the targeted industry. If there is clear and known government support for the steel industry, this is likely to provide comfort for shareholders and potential investors and they are more likely to take a long-term view on their investments.

The survival of the Scotland (UK) and Italian steel industry is attributed to government support. When the Scottish steel was in distress, the government setup a Scottish steel taskforce in 2015 whose goal was to avert closure of the steel plants. The taskforce included representatives from the UK and Scottish government. The effort saw government making significant progress in supporting the industry in five key areas, viz.: business rates, energy costs, environmental issues, skills and procurement. As a result of government efforts, the steel plants were handed over to new investors in April 2016. To facilitate the deal the Scottish government bought the plants from current shareholders and sold them for the same consideration to new investors. It is understood this was done in order to avoid the lengthy due diligence process required for a transaction between two companies.

Correspondingly when *Ilva*, the Italian owner of Europe's largest steel plant was in dire strain, the Italian government took control in January 2015. The Italian government has reached a deal to sell the loss making plant to *ArcelorMittal,* pending approval by EU antitrust regulators. Government commitment to an industry tends to be followed by government incentives which tend to be viewed favourably by shareholders and potential investors.

In Wales (UK), Tata Steel was under pressure to sell its loss making operations. This was followed by calls by trade unions, think tanks and opposition parties for the UK government to save the industry given its significant contribution to jobs. To safeguard their future, Tata Steel European operations and Germany's *Thyssenkrupp* have agreed on a preliminary merger of their European operations in a 50:50 joint venture that would create Europe's second largest steel company after *ArcelorMittal.* The new company will be headquartered in Netherlands and is expected to protect jobs in Wales. There is no doubt that the challenges in the steel industry will lead to the emergence of steel monopolies globally because their survival strategy is characterised by acquisition of producers in distress by other producers or mergers between producers. This calls for a fresh approach from government and antitrust authorities worldwide in their efforts to prevent abuse of dominance in the industry that takes into account the dynamics within this industry.

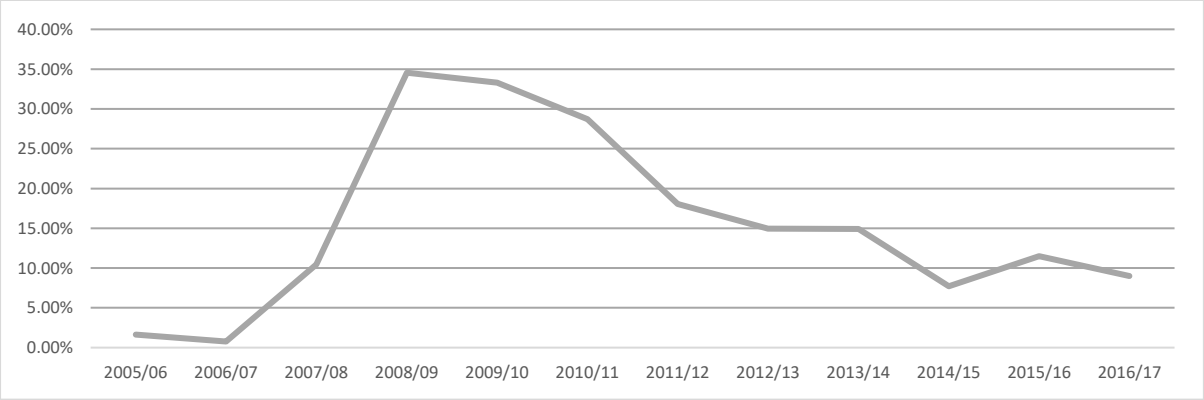
The case of the Scottish steel industry shows that support provided to the steel industry can't be limited to a single intervention, it needs to be holistic. This suggests that SA government support for the steel industry, should go beyond tariff increases, as this alone reflect some hesitancy on part of the state to fully support the industry. Support should be about the creation of an environment that is conducive to the success of the industry coupled with measures to curb abuse of market dominance. This includes skills development, R&D

incentives, secure energy supply and preferential utility costs. The section below will provide a brief highlight of the importance of favourably electricity costs for the industry.

- Secure energy supply and favourable energy costs

South Africa experienced electricity shortages between 2007 and 2015 that led to widespread rolling blackouts. These rolling blackouts were particularly severe late 2007 and early 2008 and again late 2014. This had a negative impact on electricity intensive industries such as the steel industry.

Figure 5: Electricity tariff increases for the Industrial sector (excluding Negotiated Pricing Agreement customers) by Eskom



Source: Eskom website (www.eskom.co.za)

Following these electricity shortages, there were steep electricity tariff increases by the electricity public utility known as Eskom since its 2007/08 financial year (FY). Eskom generates approximately 95% of electricity used in the country. The tariffs increases were far above the country's targeted inflation rate of between 3 and 6 percent. As portrayed in Figure 5 above, electricity tariffs for the industrial sector increased by more than 10% since 2007/08 FY. They increased by more than 33% for the 2008/09 FY and 2009/10 FY and by more than 28% for 2010/11 FY. Eskom argued that these steep tariffs increases are necessary to fund the expansion of power-generating infrastructure. The challenge with these steep and fluctuating tariffs increases is that they create uncertainty for electricity intensive industries such as, the steel industry. Uncertainties do not bode well for highly competitive industries in distress. The SA electricity pricing policy allows placing projects that require price certainty for a number of years under the Negotiated Pricing Agreements (NPAs). NPAs include Developmental Electricity Pricing Programme (DEPP) agreements and fixed price agreements. It is recommended that the SA government consider placing the steel industry under the NPA because of the current steel oversupply.

Conclusion

The challenges faced by the steel industry are not confined to South Africa. The period since trade liberalisation SA is characterise by loss of employment and rising imports in this industry. These challenges have been exacerbated by the steel oversupply in China, which forced down steel prices, threatening the viability of steel manufacturers in other countries. As a result, other steel-producing countries are taking measures to protect their local steel industries. Government interventions by other countries include increases in tariffs and the provision of incentives to their manufacturers. These incentives tend to entice shareholders

and new investors. There are also discussions amongst steel producing countries to address the steel surfeit.

Manufacturers have also taken steps to ensure their survival. These measures include mergers and acquisitions. They include putting pressure on government to protect the industry and this has been supported by trade unions. These mergers and acquisitions are likely to produce monopolies in the steel industry and hence a fresh approach to prevent abuse of dominance on the part of government and antitrust authorities is needed.

It is recommended that support provided to the steel industry by the SA government should go beyond tariff increases, as this alone reflects that there is some hesitancy on part of the state to fully support the industry. It needs to be holistic and should be about the creation of an environment conducive to the success of the industry, coupled with measures to curb abuse of market dominance. Given the strategic nature of the steel industry, government support aimed at promoting global competitiveness might be the best option for the country in the long run. Government support to the steel industry should also include the creation of a competitive environment in totality. This includes focusing on issues relating to efficiency in production, firm capabilities, distortions in factor markets and institutional development.

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Analysing the supply response of milk producers to economic and non-economic factors in Swaziland

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Abstract

Supply response indicates the output change due to the change in price and non-price factors. The main aim of this study was to analyse the supply response of milk producers to various economic and non-economic factors. The specific objectives were to determine the responsiveness of milk supply in Swaziland to price and its substitute price (milk powder) and to examine the responsiveness of milk producers to non-economic factors such as rainfall, technology and dairy cattle inventory. In carrying out the analysis, the study employed several techniques relevant for analysing time series data which include testing for stationarity of the data, checking if the independent variables are able to explain the dependent variable (cointegration), running the long-run regression, then dropping some of the residuals which are not significant, after that then run the Vector Error-Correction Model and finally carry out the diagnostic tests. Such analysis used the formal test for stationarity. The Johansen cointegration test was used which provided evidence of cointegration between Milk Output and its determinants. The long-run regression results reveal that Milk Powder Output and Milk Powder Price are significant in determining milk response in the long-run in Swaziland with the elasticities of -0.48 and -0.92 respectively, while the short-run coefficients were -0.21 and -0.70 respectively. Both variables were significant at 1% in the short-run and only the Milk Output was significant at 5% ($P<0.05$) in the short-run. The Vector Error Correction Model (VECM) came out with the correct -0.129 implying that only 12.9% of the shocks will be adjusted back to the long-run path within a month. The study therefore, recommended that government should promote local market share and that policy makers should pursue policies to decrease the country's reliance on imported dairy products which negatively affects economic development.

Effect of HIV/AIDS on Economic Growth in Sub-Saharan Africa: Recent Evidence

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Abstract

This paper examined the impact of HIV/AIDS on economic growth in sub-Saharan Africa (SSA). Using data from 46 SSA countries spanning the period 2000-2015, and employing the Generalized Method of Moments (GMM) estimation technique, we found that a 1% increase in HIV/AIDS prevalence rate in SSA decreases the growth in per capita income by 0.47%. The paper further indicates that the devastating impact of HIV/AIDS on economic growth is felt most in Eastern Africa followed by West Africa, although the prevalence rate is highest in Southern Africa. In particular, a 1% increase in the prevalence rate of HIV/AIDS in Eastern Africa and West Africa retard growth in per capita income by 0.64% and 0.47% respectively. The paper suggests that for SSA to minimize the effect of HIV/AIDS prevalence on growth, governments should learn from the southern African countries by making anti-retroviral drugs more accessible to all persons living with the disease. Moreover, there is need to intensify and sustain education on anti-HIV/AIDS campaigns in the region in order to lessen its impact on economic growth.

Financial Development and Health Outcomes in Sub Saharan African Countries

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Abstract

This paper aims to determine the effect of financial development on child health outcomes and life expectancy for selected Sub Saharan Africa (SSA) countries. The study seeks to contribute to the literature on financial development and health outcomes which is still in its infancy and has limited focus on SSA region. The study used random and fixed effects as well instrumental variable (2SLS) estimation methods. The regression analysis was carried out using data from 1995 to 2014 for 46 SSA countries. The results showed that financial development leads to a reduction in neonatal, infant and under five years' mortality rate as well as increasing life expectancy. Other variables which are statistically significant include real GDP per capita, level of education, access to basic infrastructure and health financing mechanism. These findings imply that policy makers must craft and implement policies that promote financial development in order improve national health outcomes.

Financial Liberalization and Health Outcome in Nigeria: A Case of Infant Mortality

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Abstract

This study empirically examined the effect of financial liberalization on health outcome in Nigeria; a case of infant mortality. Putting the endogenous nexus between the two (financial liberalization and health outcome) into consideration. The time series data from 1980 – 2016 subjected to econometric estimation shows that all variables were integrated at order two 1(2) as indicated by Augmented dickey Fuller (ADF) and Philip-Perron (P-P) unit root test. The trace and maximum Eigen statistics of Johansen co-integration test, show two and one co-integrating equations respectively. The Granger causality test shows that infant mortality rate granger causes financial liberalization, exchange rate and trade openness in a unidirectional manner. Causality relationship was not detected between interest rate, literacy level and infant mortality rate. The VECM satisfied the A- priori anticipations and was statistically significant at 1% level. It was found among other things that exchange rate and literacy level had non-significant positive effect on the current year infant mortality, except for IMR-1and interest rate that were significant at 1% level. Financial liberalization and trade openness also had non-significant negative effect on infant mortality rate. Recommendation from the foregoing was that policy effort should be intensified on monetary policy instrument as they indicate bearings on infant health in the economy.

The causal effect of affect on altruism

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Abstract

Individuals' regard to others has been found to be rationally consistent and that individuals are not overly selfish. They cooperate in prisoner dilemma games, contribute resources in public goods game as well as perfectly accept overstated bargains. However, there is scant evidence of the influence of emotions on altruism. Specifically, we intend to analyze the effect of positive affect on preferences for altruism. We firstly sought to determine the success of the affect treatment induced through a behavior modification programme. Secondly, we used two robust approaches to estimate the causal effect of affect on altruism. In the first approach, we randomize subjects into the behavior modification programme and then employ an instrumental variable approach in the estimation. In the second approach, we relax the assumption that affect does not necessarily impact altruism directly. We therefore use data from a modified dictator game experiment and an exogenous affect variation exercise to directly estimate the causal effect of affect on altruism. Our results from the IV strategy imply that positive affect leads to more generous decisions made by our subjects. This result is robust in all specifications we assume.

The development of a conceptual meta-leader development model

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Abstract

Organisations strive to satisfy their need for effective leaders. Their efforts are focused on improved leader performance, aligned with what the organisation wants to achieve and their sustainability depends on the selection and development of their leaders. Large amounts of money is spend on leader development, however, most leader development programs fail to deliver and the reasons are that the focus of leader development is wrong because the focus is on the enhancement and introduction of skills, competencies and techniques. This paper, reports on the findings of a larger study. Two competency models and Bersin's Leadership Maturity Developmental Model are used as parent theories to derive to a new conceptual Meta-Leadership Development Model relevant and applicable to a specific organisational context. Four core constructs emerged, character; caring; competence; and commitment. These constructs were operationalised and are presented in a holistic Meta-Leader Development Model. It formed the first phase of a larger study and it is argued, that it has the potential to create greater leader commitment with increased performance results that are measurable for the leader, the team and the organisation.

Key words: *leader development; organisational context; performance; commitment; caring; character; competence.*

Introduction

In current changing business environments, leaders continue to face complex issues and are surrounded by several leadership challenges. Leaders in organisations are continuously facing challenges and organisations are moving away from control and more towards leadership, at an accelerated pace. Typical leadership challenges listed are generational leadership (managing an older workforce); digital generation sustainability (protecting today's environment and addressing consumers' needs); virtual leadership (leading an internet-based environment); the developing world (responding timeously to a changing economy); diversity (leading a workforce comprising ethnic minorities and mature workers) and; globalisation through managing an extended workforce (Damon 2007).

Organisations have an unwritten rule according to which change needs to be pursued and embraced. Peak (1996) states that 84% of companies in America are in the process of applying at least one change initiative, while 46% indicated that they are busy executing three or more change initiatives. This tendency is not only typical of American companies but

rather a world-wide phenomenon (Achua & Lussier, 2010). Survival and growth are core elements for organisations therefor their rate of learning (Garrat, 2003) has to be equal or greater than the rate of expected change in their environment.

The authors of this paper consent with Shokane, Slabbert and Stanz (2004) that leadership is an activity of influencing individuals and team members to strive willingly to achieve organisation goals. It is a process of giving meaning to the activities people perform, support them; provide guidance and direction; and a process of articulating a vision that entails the right values and attitudes. Organisations striving to be world-class depend on the availability of effective leadership practices (Shokane, Stanz & Slabbert, 2004). Therefore, leadership in the context of this paper is defined as the motivation, influencing, supporting and facilitating of employees to strive for organisational goals through support of each other as one entity. The objective of this study was to explore the characteristics of professional leadership and to develop an encompassing conceptual Meta-Leader Development Model (MLDM) that will be relevant and applicable to the specific organisational context.

The importance of competencies

A widely accepted definition of a competency model (Boyatzis, 2007 & McLagan, 1996) is that it comprises of a set of desired competencies such as skills, knowledge, attitudes, underlying characteristics or behaviour that differentiates effective performers from ineffective ones. What makes this relevant is the understanding that there is a strong link between competencies and performance. In a study done by Mollo, Stanz and Groenewalt (2005) the importance of acquiring key leadership competencies was expressed. These proposed desired key leadership competencies are depicted in Table 1.

Table 1
Desired Key Leadership Competencies

Competency	Description
Communication	Leadership should clearly define expectations for employees.
Focus	Leadership should be comfortable with issues of power and conflict and be at ease in assuming accountability
Production	Leadership should be clear about what they expect in terms of levels of performance.
People	Concern for production and performance should be balanced with empathy and authentic concern for employee growth and development.
Control	Leadership should have systems in place that allow them periodic and consistent review and monitoring of employee performance.
Feedback	Leadership should provide regular, ongoing, and spontaneous feedback concerning positive and negative aspects of employee performance.

Source: Mollo, Stanz and Groenwalt (2005)

In the context of a large mining group in South Africa, the concept of learning and developing of leader's competencies was embraced. Kouzes and Posner (2007) describe this type of leadership behaviour as exemplary leadership. The mining group on which this study was based identified competencies that they wanted to see in their leaders. These competencies were expressed as enhanced company competencies to effectively meet immediate and future challenges faced by the mining group and warrant an investment in leadership development and people for greater organisational success. These desired competencies

were added to Mollo et al. (2005) listed competencies and were then ranked by the mining group in order of importance as per Table 2 below.

Table 2
Ranked Desired Key Leadership Competencies

Competency	Description
Emotional intelligence	Ability to deal with daily environmental demands and pressures; includes intrapersonal and interpersonal relationships, stress management and adaptability
Leadership	To influence and direct the behaviour of others in a certain direction in order to motivate and help (coach/mentor) others
Analytical	Dissecting and understanding complex, multifaceted problems, identifying relevant information and getting to the source of the issue
Communication	Keeping subordinates and superiors informed about decisions, events and developments that affect them
Facilitate teamwork	Promote teamwork, cooperation and identification with the work group
Strategic planning	Establish a long-range direction for the organisation or unit
Motivate others	Show enthusiasm and provide encouragement, recognition and constructive criticism and coach subordinates
Training and development	Develop and foster the learning and development of others. Provide training opportunities, encourage development and assign duties that challenge people's abilities
Positive attitude	A state of mind revealed by behaviour. It is giving that something extra willingly, although not required, that influences the way followers think and feel
Vision	A sense of personal purpose and company direction, as well as providing subordinates with a compelling vision in which they can believe
Manage performance	Ensure individual and team effort, support the organisational objectives and realise key stakeholder expectations and wealth creation in all the identified value drivers of the organisation

In establishing the parameters of the MLDM the Chief Executive Officer (CEO) of the mentioned mining company disclosed that leadership effectiveness should further be measured against the following criteria:

Safety - Not only does the loss of life have a severe impact on the mind-set of each miner, but it also has a huge financial implication in terms of direct costs in terms of closing the shaft, miners' mourning period and the fact that no mining takes place until the formal investigation is finalised and the report submitted. In this context, it would be very important to instil a greater caring aspect between the workers in order that they would take ownership not only of the mining of gold, but more specifically of each other's safety. This called for a leadership slant that would embrace a greater interpersonal responsibility and caring. If this could be attained, it could have an impact on relationships as well as the bottom line, which is very critical.

Production - The common used concepts are, “grams per ton” and “grams per man” which in the first instance means the number of grams of gold that is mined for each ton of ore; and in the second instance, the number of grams of gold that is mined by each man. As soon as these figures would drop, leadership effectiveness would be questioned. This would have a great impact on moral and discipline in the mining context. Leadership would become much more result-driven and the caring element would immediately lag behind.

Costing - The mining world is known for high costing; in the context of the mining group in the study, it is even more relevant. The quality of ore that is mined is not of the highest grade, that is, at dispense of immediate completion. The implication is that to mine a gram of gold in the studied group is much more expensive than in some of the other mining houses. The way in which to keep the mine profitable is by managing costing to the extreme. If this area is not managed, the profitability comes under scrutiny and leadership is again the immediate target.

With this criterion in mind, the stakes for the leadership has just risen. In this context, the Executive Leadership Team made a decision to pursue the option of investing into the development of their leadership community. A process was identified and they embarked on the journey of leadership development.

Problem statement and need for the study

In the organisational landscape, the challenge is the constantly changing environment in which the leader performs the leadership function. With the changing environment comes the changing of parameters of success. Vakola and Nicolaou (2005) refers to the challenge of uncertainty placed on leadership with recurring change in achieving the necessary success. Collins (2001) suggests that organisations must ensure they attract the right people and with them figure out a path to prominence. The identification of the correct leaders is quite a daunting task but, even more so, is the development of those leaders from the point of good to the point of great.

A need therefore does exist for the conceptualisation and verification of an integrated, comprehensive and thoroughly researched MLDM that is valid in the context of an ever-changing environment and an ever-growing need for leadership, and that can make a difference. This MLDM needs to be theoretically well grounded with the purpose to create a unique, conceptual MLDM by way of the synthesis of existing literature and it formed an important foundation for this study.

The priority was also to establish new insights into the phenomenon of leadership development and the potential it has to inspire further research (Pedro, 2010; Walker & Avant, 2005).

Underlying assumptions of this study

- every human being is born with the potential to be a leader
- an individual is a holistic being and should be developed in accordance
- people have become disconnected and hence live from an ego perspective that is mostly the driving force of current leadership

- an individual has the inherent ability to learn, change and adapt to current reality.

Research method

This study was based on a qualitative approach. It was explorative, descriptive and contextual with the aim to generate theory relevant to the body of knowledge of leadership development. All science and research aim to generate theory (Chinn & Kramer, 2011). The researchers used a contextual and theory-generating research design to attain the mentioned objectives. The model development was based on phases.

Phase ONE of this study explored current theory with a focus on the identification, development and interpretation of concepts. These concepts were used to construct the conceptual MLDM as a product of the research process (Mouton, 2011). This conceptual MLDM (Phase ONE) was evaluated by a panel of peers (the focus of this paper) before it was submitted for final approval to the executive team of the mining house (Phase TWO) and was finally assessed (Phase THREE) over a period of three years by means of 12 modules per three months to different cohorts on executive, senior and middle leaders respectively.

Borrowing and deriving theory on an interdisciplinary basis are a practice in generative theory. In the context of the current study, it was important that the development of the theory served the purpose of leadership development as a field of study. Theory generation served as the basis of the MLDM.

Theoretical theory generation

The steps included in this phase were: i) Identification of the central concepts in the model and ii) Analysis, defining and classification of concepts; iii) The presentation of the MLDM and the implementation thereof in a specific mining context. These steps will be discussed next.

Step one: Identification of the Central Concepts in the MLDM

Analogy or metaphor was employed in the derivation when transposing and redefining concepts, statements or theory from one context to another (Walker & Avant, 2005). Derivation strategy required that certain steps be adhered to. This may or may not have occur on a sequential basis (Walker & Avant, 2005). In the context of this study theory generation served the purpose of the process by means of which central concepts were derived from parent theories. These theories are trend-setting in leadership development and formed the basis from which Phase ONE was deployed. Borrowing and deriving theory on an interdisciplinary basis is a practice frequently used in the generation of theory (Walker & Avant, 2005).

Step ii: Analysis, Defining, Classification and Relationships of Concepts

The analysis of concepts can best be described as the defining and classification of the initial concepts. Chinn and Kramer (1995) describe concept analysis as creating conceptual meaning by way of identifying, defining and classifying central concepts. During the process of defining the concepts, the researcher used sources of evidence for generating and

refining criteria that included indicators for concepts. Sources of evidence included dictionary definitions and subject definitions of the central concepts. From the above sources of evidence, the criteria for the central concepts were formulated, and the essential concepts and related concepts that form part of the central concepts were identified.

To give further meaning to and aid the understanding of the central concepts, the researcher constructed a model case of a leader experiencing the central concepts. All the essential and related concepts that formed part of the definition of the central concepts were reflected in the model case. The classification of the concepts were the last part in the analysis of the concepts. The researchers used the Dickoff, James and Wiedenbach's (1968) survey list that identifies the concepts below.

- **Context**: Leadership in the mining context with a specific focus on middle management leaders
- **Agent**: Facilitators
- **Intervention:** The facilitated process in developing professional middle management leaders. Demonstrated by character, caring, competence and commitment within the mining context
- **Dynamics**: Need for professional Leadership Development
- **Receiver**: Middle Management Leaders
- **Outcome**: Professional Competent Middle Management Leaders in mining context.

These concepts stood central to the development of the MLDM and the logical flow within it.

A relationship has been designed to introduce new concepts to the MLDM and although the MLDM was designed to propose and create empiric relationships, it also contains concepts and relationships that integrate ethical aesthetic and personal knowledge (Chinn & Kramer, 2011). In this study the researchers focused on the description of the interrelations among and between selected concepts. The relationship statements, as a whole, provided substance to the form of the MLDM (Chinn & Kramer, 2011) as it described, explained and/or predicted the nature of interactions among and between the concepts of the MLDM.

Describing the MLDM in Relation to Structures and Process

The descriptive components of the model were evaluated as suggested by Chinn and Kramer (2011). Eight peers were invited to attend a session. The prosed MLDM were presented to them along with six question. Their comments were noted and documented and were taken into consideration to derive to the final MLDM. Each question related to a specific component. Presenting the questions to peers assisted the researcher to be clear about the understanding and requirement of each component.

- ✓ *The purpose of the proposed model should be clear.*
  What do you perceive the purpose of the model to be?
- ✓ *Identify concepts that should form part of the structure of the model in expressed language.*
  What do you identify as core concepts making up the structure of the MLDM?
- ✓ *Definitions of identified concepts should be present in proposed model.*

To what extent do you think the concepts are clearly defined and present in the MLDM?

- ✓ *Concepts should be structured into a systematic form that link each concept with each other to serve as evidence of the relationship amongst/between concepts in the MLDM.*

  How would you describe the nature of the relationships amongst the concepts within the MLDM?
- ✓ *The MLDM must be constructed in such a way that reasoning can be followed and the relationships amongst/between the concepts will form a whole whereby the ideas of the model are interconnect.*

  What is the structure of the MLDM displayed by the interconnectedness of the concepts?
- ✓ *Assumptions should be present as part of the proposed model to represent the accepted underlying truths that determine all the above and are fundamental to theoretic reasoning.*

  What are the assumptions that represents the underlying truths of the MLDM?

Step iii: Towards the Conceptual Development of the MLDM

Kotter (n.d.) postulate that leadership development pertains to the empowering of a leader in the process of continuing change. The greater the change, the greater the necessity for competent leadership. In the context of developing the conceptual MLDM it was thus a high priority to select relevant parent theories in order to serve the objectives of the study.

Three models were used as parent theories. The specific reason for using these three models laid in the context in which they are currently applied in and on the merit that it offered new insights into the process of explaining and predicting knowledge about the phenomenon. Only parts relevant in the mind of the researcher were used (Walker & Avant, 2005).

Zenger and Folkman's (2002) competency model is forthcoming from currently the biggest empirical study on leadership competencies. The straw model (Muratbekova-Touron & Beyserre Des Horts, 2007) is a generic model used worldwide in the facilitation of leadership competencies. The leadership development model of Bersin operates with great success in the facilitation of leadership competencies in professional practice as analysed by Lamoureux (2009). It is currently one of the most practical and applicable models at all levels of professional leadership. The above models were studied and the central concepts in the models were contextualised. Gaps were identified and addressed to present the final conceptual MLDM. Each of these theories will be discussed in more detail.

Zenger and Folkman Leadership Development Model

The Zenger and Folkman (2002) leadership development model is based on research done by Zenger and Folkman (2009) in the context of professional leadership, with more than 200 000 individuals participating. The process became known as the '360 degree feedback' because of its comprehensive look at a leader's behaviour (Zenger and Folkman, 2002:10).

The conceptual model, of Zenger and Folkman that was developed as a result of their research findings, involves five elements that can be compared to the poles of a tent. Tent pole 1, "be more concerned with your character than your reputation, because your

character is what you really are, while your reputation is merely what others think you are" (John Wooden, n.d.). It can be viewed as the centre to being an individual. Some authors would even argue that leadership is all about the character and integrity of a person. This opinion might be argued against, in that personal character can be seen as the core of leadership effectiveness is valid according to Zenger and Folkman (2017).

In the context of a strength-based leadership development programme, character is seen as the essential element that needs to be nurtured and developed. Without the fullness of character development, the hollowness of a person is obvious (Zenger & Folkman, 2009a) contextualises character in the Greek word *Ethos* and describes it as personal credibility and the amount of trust installed or confidence others have in your integrity and competence. When leadership behaviour is seated in character, by living and leading at a higher level of consciousness, it displays a high level of spiritual intelligence (SQ) by means of *Ethos* (Minnaar, 2007).

Tent pole 2, personal capability, portrays the intellectual, emotional and skill make-up of the leader. Some of these individual capabilities are technical knowledge, product knowledge, professional skills, problem-analysis and problem-solving skills, innovation, initiatives and the effective use of information technology (Zenger & Folkman, 2002). These individual capabilities are an open-ended list from which the leader needs a strong collection to fulfil the leadership task. This will empower the leader to negotiate a clear vision and sense of purpose for the organisation.

The fact remains that each individual does not journey to leadership without experiencing challenges. It can be construed that the absence of challenges constitutes peace and happiness in the leader, but in fact it is rather the internal character potential and display of it that makes the difference (Minnaar, 2007).

Tent pole 3, represents focussing on results. In the broader sense of the competency model it means accomplishing things. The element of great importance in this regard is producing balanced and sustained results. Zenger and Folkman (2009b) also conducted research on a thousand managers of a large corporation focussing on behaviour that separated the top 10% of the leaders from the rest. Some of the behaviours included bringing ideas into action; pushing to take the next step forward; bringing energy, enthusiasm and urgency to the work; and these individuals looking for ways to improve their jobs and overall functions.

Tent pole 4, interpersonal skills, along with the centre pole of character, supports the bigger area of the canvas. Zenger and Folkman (1999) noted that results-based leadership is about getting results but keeping in mind that interpersonal skills are of the essence in attaining those results.

The body of evidence in research suggests that leadership is expressed by means of the communication process and the impact that leaders carries in their contact with the people. This impact and influence are a direct expression of the character of the individuals. It often represents the window by means of which the people will understand the character of their leader (Zenger & Folkman, 2002).

The fifth and last pole of the tent poles is leading organisational change. One of the highest, and at times the most torturous expressions of leadership, involves change. In the context of managers, things can be kept on a steady path, but leaders stand centre in the process of change. Organisations demand leaders if they are to pursue new routes or rise to a significant level of performance. All the previous areas presented by the four tent poles are of importance, but it is not until an individual leads a strategic change that the fifth and final pole is required (Zenger & Folkman, 2002).

Strengths of the Zenger and Folkman Model

Zenger and Folkman (2012) specify, on the grounds of research done into the internal dimensions, that direct impact on productivity and output is experienced in a work context. The Zenger and Folkman model is fitting to an organisation managing outcome and performance targets. The individual experiences development towards specific competencies, as researched in a variation of organisations and companies.

Gap in knowledge

Although the Zenger and Folkman model reflects results in an organisational context Zenger & Folkman (2009c), the focus is purely on the development beneficial to the organisation. Character as competency is limited, and again organisationally centred. The model implies a 360 degree evaluation, which is positive to a degree in terms of monitoring behaviour and creating a greater awareness, but it can lead to inauthentic answers. The model is very much outcome-based and can be applied as a prerequisite for salary increases and promotions.

The competencies identified are not organisational-specific, but researched over a wide spectrum of organisations. Leadership development is thus competency-based in accordance with a set agenda. The landscapes that encompass the leadership of the tent poles in Zenger and Folkman's model will only be functional with commitment to process and outcomes (2012).

Drotter, (2011) gives a more extensive description of this commitment in the need for achievement; in seeking and displaying responsibility and working to one's full potential to succeed. Commitment in the need for achieving involves displaying self-confidence, taking the initiative in being a self-starter and getting tasks done with minimal supervision.

In the Zenger and Folkman model, sixteen behavioural types are identified in the four main themes of character, personal capability, focus on results, interpersonal skills and leading organisational change (Zenger & Folkman, 2009b). Although it reflects behaviour, no specific reference is made to existential and phenomenological realities in personal as well as organisational contexts (Smith, 2009:2).

The Straw Competency Model

The Straw Competency Model was applied to a study done by Muratbekova-Touron and Beyserre Des Horts (2007a) for the "Lemma" Group. The construction of a "straw man" entailed the identification of key leadership competencies based on the values shared by "Lemma" employees (Muratbekova-Touron & Beyserre Des Horts 2007a)

The process was enriched by the analysis of the organisation's internal documents, by means of which further information was added to the model. The next step was the identification of a set of seven competencies with their definitions and of explaining the meaning. Interviews with key leaders followed the identification process. This was done to validate the draft model. The objectives were to test, validate and improve the straw man *(*Muratbekova-Touron & Beyserre Des Horts 2007a; Liu 2011).

The Straw model can be very useful, as long as people realise that what they see before them is indeed a straw man. Within the context of the Straw model two axe of importance, are i) Job complexity; and ii) Importance of the competencies. As the complexity of the job increases so does the application of higher-level competencies.

When a project is initiated or looks into leadership competencies, the information is quite often incomplete and difficult to work with (Nikitina 2015). The premise behind building a straw man is creating a first draft for criticism and testing, and then using the feedback received to develop a rock solid outcome in the development of leadership (Hiller 2015).

The foundation of the Straw model is, firstly, to define "leadership" in the context of the organisation. After the common language of leadership definition has been determined, the straw man is "built", consisting of the key leadership competencies based on shared leadership values in the specific organisation. Each competency is followed by a general definition explaining its meaning. This stage is followed by interviews with the key leaders in the organisation in order to validate the drafting of the Straw model (Muratbekova Touron and Beseyre Des Horts, 2007b).

The competencies and definitions are directly linked to the performance objectives and the business plan of the organisation. Therefore the competencies should reflect required behavioural characteristics. The role of the competencies is, as such, to predict a level of performance. Table 3 displays how competencies relate to unique skills and characteristics. It guides the level of work and differentiating competencies. Over the arch of performance, the competencies should be measurable, observable and have the potential to be further developed (Stolovitch, Keeps & Rodrigue, 1999). Three core areas are highlighted, that give context to leadership behaviour, namely shaping the business, driving for results and inspiring others.

These focus areas can be seen as the functional domains in the development of the model and is primarily used for leadership development. It can also be used as an orientation tool at the lower management level, as in the case of the Lemma group (Muratbekova-Touron & Beyserre Des Horts, 2007b) as well as in the McKinsey group (Mckinsey.com 2013).

Table 3
Prototypes of Competency Standards

Shaping Business	Breakthrough Thinking Stakeholder Insight Leveraging Relationships
Driving for Results	Disciplined Execution Accountability for Excellence Organisational Collaboration
Inspiring Others	Visionary leadership Leveraging Differences Building People Impact and Influence

Strengths of the Straw Competency Model

The Straw model is perceived as one of the most practical models in facilitating leadership competencies in an organisation. The practical aspects of using a straw man, as has done by Mouretbekova-Touron (Muratbekova-Touron & Beyserre Des Horts, 2007b), display the diversity of its application. The most complimented strength of the Straw Model is the fact that this it is adaptable to any organisational setting for leadership development (Rothwell & Lindholm, 1999). Direct contact with the leaders in defining competencies can be a strength, but it can also be seen as a possible gap.

Gap in knowledge

The Straw model is strongly based on behavioural theory. Although behaviourism is validated by research, the contextual application in the model limits its use. In the dynamics of leadership development, behaviourism limits the possibilities and potentialities (Cherry 2016). In the paradigm of shaping business, driving results and inspiring others, the potential that each individual contributes by way of showing character in their way of life, applying it to the lives of others and generating a higher level of commitment, is lost.

In the Straw competency model, it is of the essence that the competency standards reflect behavioural character (Muratbekova-Touron & Beyserre Des Horts, 2007b). The use of competencies in leadership development has been popular since the late 1990s. Its effectiveness has furthermore been validated by research that expands over numerous years and the entire landscape of organisations (Rothwell & Lindholm, 1999).

The aim of the competencies displayed in the Straw competency model is to describe specified outcomes in behaviour that will lead to greater organisation effectiveness. The outcomes may be defined in different ways and manners such as descriptions, analogies, examples and explanations (McLagan, 1996) but the central aim remains to position competencies in functional domains that are contextual to the organisation's preference.

Bersin's Leadership Maturity Development Model

The Bersin Leadership Maturity Development Model (BLMDM) has the purpose in the identification of the leadership maturity within a company and the development thereof (Bersin 2011). In this regard, research (Lamoureux, 2009) determined that organisational maturity in leadership development comprises of four levels as depicted in Figure 1.

The BLMDM gives an indication of leadership development within organisations. The development is initiated on Level 1 and progress up to Level 4 and envisages the maturation process in the leader through the development of on all four levels. Each of the levels addresses specific areas of developmental outcome. The specific level of development is aligned with specific leadership positions and levels of work.

Each of the mentioned levels in the maturity development model is based on the six key components or best practices of leadership development, which includes to maintain strong executive engagement, define tailored leadership competencies, target all levels of leadership, align with business strategy, integrate with talent management and apply a comprehensive programme design (Lamoureux, 2006).

Zenger and Folkman (2012) competency model carries a strong behavioural character. It, however, primarily showed the development in a specific organisational context. The BLMDM (2013) implies a process of growing from one point to the next. The growth in the Maturity model can be linked to the twin Piaget (McLeod, 2015) concepts of assimilation and accommodation.

Assimilation is the taking in of information for which the learner has existing structures in place. Information can be recognised and placed in existing structures. Accommodation is where individuals undergo an internal change in the structure of fundamental beliefs, ideas and attitudes (Glover, Friedman & Jones, 2002). This implies a growth towards a stronger holistic perspective on the development in the leader.

Table 4: **The Bersin's Leadership Maturity Development Model**

LEVEL 4: STRATEGIC LEADERSHIP DEVELOPMENT Championed by Executives, Talent management integration
LEVEL 3: FOCUSED LEADERSHIP DEVELEPMENT Culture setting, Future Focused, developing Organisation
LEVEL 2: STRUCTURED LEADERSHIP DEVELEPMENT
LEVEL 1: INITIAL LEADERSHIP DEVELOPMENT Content Available, Introductory Process, benefit to Employees

(Source: Adopted from: Lamoureux, 2009)

An active research process furthermore established that the above-mentioned six key components are influential in featured areas in organisations. It is functional in driving improved and more effective business results. The quality of the leadership pipeline has been proven to be improved. The interpersonal capacities are lifted in the context of teamwork, mutual engagement and the retention of leaders. Overall, the organisation experiences higher employee retention (Lamoureux, 2009).

The BLMDM is a tool through which companies can plan their leadership maturity development and the progress through the creation of leadership programmes and the implementation thereof. This process of assimilation and accommodation may have a lengthy time span to evolve from Level 1 to Level 4.

Strengths of Bersin's Maturity Leadership Development Model

The BLMDM has a very strong process-driven inclination. As this is the case, there is a strong functioning against goals attained and information delivered. The strong engagement principles will be a strict guideline and will keep the participant on track in the developmental process.

Gap in knowledge

Although Piaget is still viewed as one of the pioneers in educational principles, the perception of structured accommodation and assimilation can be seen as mechanistic with a great deal of oversimplification. The immediate challenge faced will be to incorporate new context in this mindset. Bersin shows a very specific process of development but lack core themes in context, as those crystallised in the previous models. The BLMDM process of growth, linked to the principles of assimilation and accommodation needs the connection to mental structures, with the aim of a deeper sense of leadership meaning and experience. By way of maturing, the leadership context will then experience change. Development and growth will now be possible in the created context.

With an elevated awareness and insight into the phenomenon of leadership development from the three parent theories selected, which, as a whole (or in portions), offered a way in which the authors could explain and predict the phenomenon of leadership development (Walker & Avant, 2005). Theory derivation procedures were useful to relate the concepts structurally in order to present a conceptual relationship amongst them. Finally, the researchers selected, modified and redefined the relevant concepts and structures from the parent theories to become meaningful in the context of the theorist's area of leadership development.

Specific gaps in knowledge arose and the researchers experienced that definite aspects conducive to the development of leadership were not fully realised in the selected parent theories. Zenger and Folkman's (2009a) discussion of the leadership tent poles provided a firm foundation from which further research took place. It provided the context of competencies and the importance in the process of leadership development.

The core themes - character, personal capability, focus on results, leading organisational change and interpersonal skills (Zenger & Folkman, 2009b) provided a basis from which the

competency structure was researched. Character formed the centre point through which the principle-centred, character-based personal leadership can have effect from inside out. It implies character development by means of aligning self-management and higher self-awareness (Lennick & Kiel, 2005). In this context, stakeholder confidence will be enhanced by means of character living and leading by example (Nair, 1994).

In the discussion of the Straw model it became apparent that leadership encompasses engagement with people. This engagement occurs by means of authentic behaviour and integrity (Cashman, 1998). It is Gardner (2003) that supports the importance of being authentic and leading with integrity that establishes a breeding ground for greater caring forthcoming from character.

This would imply an element of building people up by caring and respecting a cultural diversity in team community and team spirit. Influence is now attained through the display of character and caring forthcoming (Spears, 1998). In positive relationships where caring is prevalent, organisational success can be attained and resilience and happiness will be forthcoming in the workplace (Holden 2005).

Zenger and Folkman (2009b) make specific mention of the importance of interpersonal skills. It is, however, by means of the principles displayed in the BLMDM that interpersonal skills develop through the caring displayed in leadership. In context of the BLMDM it is where not only individual leaders are developed, but also to a great extent where the culture of the organisation is further enhanced (Santana, Daneva, Maya & Van Eck, 2007).

In the application of the Straw model, Liu (2011) confirms that the priority is to establish levels of competence in the organisational context. Levels 3 and 4 of the Straw Model and the BLMDM confirm this. At this stage, not only is the culture of the organisation addressed, but leadership also faces a greater challenge to live and lead by way of a higher level of competence. Clemmer (2014) further states that a structured framework is now provide in the defining and developing of the leader.
Kim and Kim (2013) confirms that this expected competence is not always defined and developed in the organisational context. Zenger and Folkman (2009b) further states in the core themes of focusing on results, thus leading organisational change, in that higher levels of competence are needed to attain more sustainable results and change within. Character, caring and competence form the undertone in all three models of leadership development.

However, fact remains that commitment links inner purpose to outer action and when commitment is aligned with purpose it will lead to greater things (Cashman, 2000). It is of great importance to realise that if there is a lack of sufficient commitment to the vision of leadership, development will not take place and organisational change will be left behind (Lapointe & Vandenberghe, n.d). Leadership development that will bring about sustainable change needs leadership to commit to the presence and influence of the change paradigms and the expressed need for further growth (Van Tonder, 2009).

As the research developed, it was important to track the process of derivation's progress. Character defines the identity and purpose of a leader based not only on external circumstances, but also on the traits that define the individual. Strum, Vera and Crossan (2016) enriches character by referring to a moral character which is concerned with the

quality of judgment and decision making, and therefore is not only limited to the domain of ethical decision making.

By displaying character, the individual will be empowered to see and hear what needs to be heard and not that which is prescribed; it involves thinking what they think and not what they are supposed to think, feel what they should feel in the leadership context and not what is portrayed to be felt. It is important to realise that character will initiate transformational leadership, through which new reality will be created and a transcendental leadership perspective will be lived (Cashman, 1998).

Caring provides a wider, richer and meaning-giving work context. It is in this context that transcendental leadership is more prevalent by way of experiencing, living and leading in a richer meaning-giving environment (Zohar & Marshal, 2000). Due to this caring and meaningful relationships, leaders display leadership in personal clarity and vitality that empower them to lead with greater purpose and direction. The Society of Human Resource Management (2012) supports that the ability to caringly manage interactions and to support, builds engaging relationships with all organisational stakeholders through trust, teamwork, and direct communication. This involves realising that caring and relationship are the basic building blocks in a successful organisational context. From this, the need arises to embrace uniqueness and to discern the co-existence of a collective caring intelligence in the pattern of unbroken wholeness (Holden, 2005).

In the context of leadership development, competence is viewed as developing knowledge skills and behaviour in order to enhance the performance of the organisation (Van Tonder, 2009). In the context of leadership development, the task at hand will be to identify and define the competencies of leaders and to develop to the level of potential realisation and organisational performance enhancement at the requisite level of work (Zenger & Folkman, 2009a).

The operational success of the MLDM lies in the developmental process of the individual in analysing and comprehending the current leadership process and the commitment towards it. The individual's commitment lies in fully understanding the developmental process with further analysis to identify strategic perspectives for attaining success. It is particularly important to comprehend the relationships and priorities that will emerge during the leadership development (Goran-Olve, Roy & Wetter 1999). By applying the method of derivation to the three parent theories, it was established that professional leadership development entails the concepts of character, caring, competence and commitment. These concepts need to be validated and conceptualised in the creation of the MLDM.

Based on the above described derivation of four essential attributes of professional leadership, *professional leadership is therefore defined by the authors as:*
The display of character in Leadership behaviour with the intent to lead in a caring capacity, living leadership competence to generate greater commitment as one unity (Collines & Hansen, 2011).

Conceptually, the parent models represent views and culture in the context of leadership development. Additionally, the models posit that a relationship exists between the concepts of character, caring, competence and commitment. Adaptation that stemmed from these

parent theories proposed an expansion of existing theory and the realisation of a professional leadership development model (Hoggart, 1990).

If a company culture is defined as a way of life among a group of people with shared values, behaviours and meanings that stem from learned and accumulated experiences, it can be viewed as the culture in which the development of leaders will take place (Strum et al. 2016

Theoretical Assumptions of the MLDM

In the context of the MLDM the competencies in Table 2 were grouped and domains were established and labelled as per Table 4 below. These domains formed the basis of the theoretical assumptions that addressed the current leadership reality in the researched mining group.

Table 4:
Competency Domains

Competency Domain 1	Personal mastery and well-being
Competency Domain 2	Fulfilling my functional Role effectively
Competency Domain 3	Achieving with People
Competency Domain 4	Actualising a sustainable, desirable future
Competency Domain 5	Navigating the organisational landscape successfully

These competencies formed the basis of the MLDM which in turn served as a basis for the facilitation of professional leadership development in the mining company. Based on the assumption that they need their leaders to function at a specific leadership level (level of work) and that the leaders will unveil the professional leadership characteristics required that will enhance the overall level of leadership in the company.

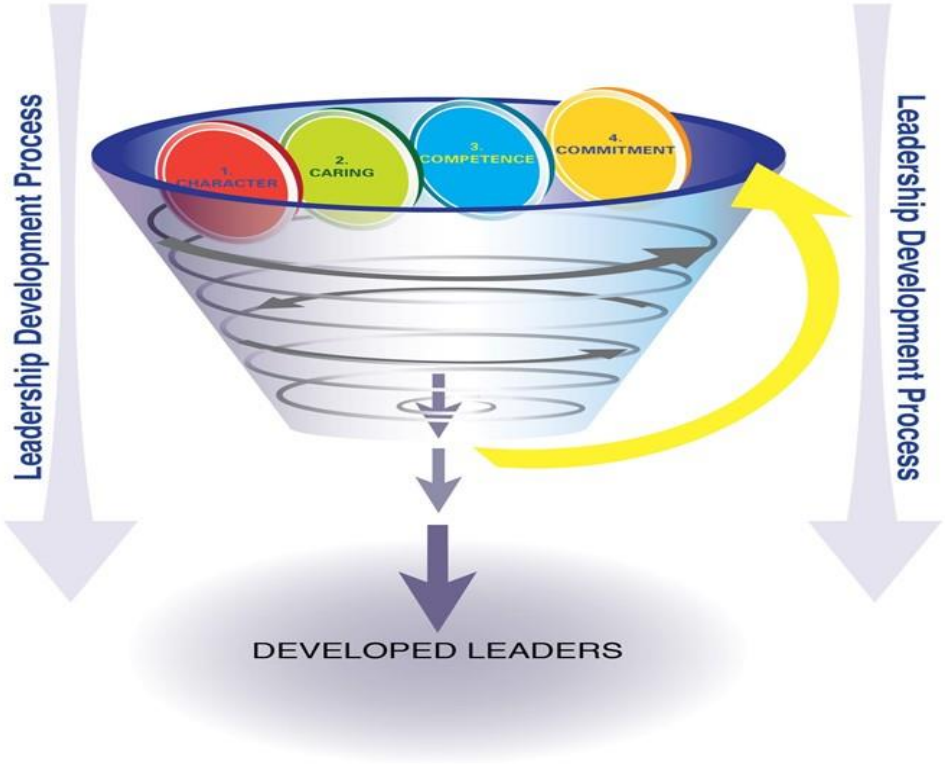
The MLDM

The MLDM itself is based on four dimensions of professional leadership competence and commitment as depicted in Figure 1. The MLDM should not only be implemented and used in the development of individuals' leadership character, but more specifically in the development of a culture in which caring is paramount and becomes the breeding ground for specific competencies to develop. This process creates the possibility of greater commitment with increased results that are measurable.

As the concepts are mastered, the skills of the leader will be further developed. These concepts are mastered through a process of development. As the process grows, so does the person grows as leader and reaches a higher level of commitment. Drucker (2007) uses the analogy of a conductor and an orchestra to demonstrate commitment. The music is the common factor to which both parties give themselves. The synergy that is forthcoming from this relationship is harmonious music. That relationship can be described as a commitment.

Therefore, unless there is total commitment in the leadership landscape, it will remain promises and hopes without any specific plans and results (Wallace, De Chernotony & Buil 2011). In the current leadership paradigm, there is a tendency towards moving and developing competency without considering the importance of character, caring or commitment.

Figure 2: **The Meta-Leadership Development Model**



The potential leader is now empowered by way of a leadership development process that not only focuses on the results attained in the context of production, but also on the display of *character* through:

- live and adding value with a set of values
- competency-based principle
- living transparently
- moral integrity
- authenticity.

Living leadership in the context of a *caring* leadership style will now be lived by:

- organisation in mind
- not losing sight of organisational vision
- receptive for feedback
- help people to achieve their goal
- peoples interests at heart.

This process of deeper *engagement* and a higher level of leadership competence now empowers the individual and are recognised by:

- abilities
- sum of knowledge and skills
- performance
- adapting
- self-awareness.

Since greater character is lived in a caring manner, in addition to professional competence, there will be a higher level of commitment at a personal, professional and interpersonal leadership level. The *commitment* can be identified by the following:

- lead by example
- trust
- reflected in behaviour
- responsible for own destiny
- enthusiasm and devotion.

The structure of the MLDM as depicted in Figure 1 is underpinned by a funnel that is coloured in grey and purple. The colour grey is one of uncertainty and vagueness. It represents the uncertainty that conquers the minds of individuals when they think about leadership and the processes linked to it. Like black, the colour grey is used for mourning as well as to portray formality. In addition to formality, blue and grey suits are part of the uniform of the corporate world and the world of perceived leadership. Grey carries with it some of the strength and mystery of black. It is a sophisticated colour without much of the negative attributes of black (Bear 2017).

The colour purple relates to the imagination and spirituality. In the context of the MLDM it refers to the imagination of the leader and the higher-level ideals. It is the colour that points to introspectiveness in leaders; it allows individuals to get in touch with the deeper level of thoughts and inspiration relevant to leadership (Unknown 2017). The journey of development, as represented by the colour purple, then suggests one of meaning and purpose with outcomes aligned to the four concepts, namely character, caring, competence and commitment.

In the shadings of grey and purple, the fact of uncertainty and enlightenment is portrayed, and it represents the fact that leadership is not an exact science but rather linked to the relativity of being human (Maclure, n.d.). In the context of the current study, the leadership development process will not imply a religious experience, but rather one of deeper meaning and purpose, creating a paradigm of empowering the individual for the daunting but challenging task of leadership .

Considering the explanation given in the context of the MLDM the meaning of colours, purple represents the future. Although leadership is an activity that manifests in the here and now, a larger aspect thereof is also connected to the future. Imagination and vision affects our contextualisation of the future, while spiritually influences the calming of the mind and emotions. It inspires and enhances the ability to predict as well as spiritual enlightenment, while, at the same time, keeping the individual grounded (Elliot 2015).

Leadership and the process connected to it may be one of perceived vagueness, as represented by the colour grey. It, however, remains that if the leadership process is plotted from inside out, the guiding and enlightening by means of the process of character, caring, competence and commitment will work towards the continuous experience represented by the yellow arrow.

The importance is not only typified with the colour but also the shape. The funnel represents the catchment area that is big and sustaining the four central concepts. Although the catchment area might be large, it can only contain very specific content (Ciotti 2014). This content is filtered down in order of model priority. This priority is further extended to the process of professional leadership development. The greatest challenge in the funnel process would be the full dedication of the participant to engage in the process without the option of not completing the leadership development process.

The leadership process is further illustrated by the three dimensional arrows showing the downward spiral. The spiral suggests the process of refining not only content, but also knowledge attained. The spiral is coloured with shadings of purple and grey. The significance of these colours is that it represents passion, romance, sensitivity and spirituality (Ciotti, 2016). The fact is that if the leadership development process is not followed in this context, the outcomes and results will not be attained.

Vertical arrows downward also in grey, suggest the zenith where the content and wisdom of the core concepts, character, caring, competence and commitment, converge in developed professional leaders. The arrows suggest that the leader is ambitiously focussed on the setting and positive attaining of the goals (Bass 1985).

This empowerment is one of the greatest challenges facing the modern leader in order to experience sustained development in the leadership context (Fry & Solocum, 2008). The process is further explained by four circles representing the four central concepts in the model, each with their own colour assigned to it namely Character, Caring, Competence and Commitment. The challenge in the MLDM is to empower leaders to create an environment in which questions are addressed and the answers are successfully displayed. The fully integrated model shows the developed core concepts of character, caring, competence and commitment, with the developed themes accompanying it.

Discussion and conclusion

The researchers derived, modified and redefined the relevant concepts and structures from three parent theories to become meaningful in the context of the researcher's area of interest, namely leadership development. Focus was specific on the central concepts and showing the relationships between the concepts. These statements described, explained and predicted the nature of interactions between the concepts of the MLDM. Four new concepts were introduced namely character, caring, competence and commitment to the model and, although a model is designed to propose and create empiric relationships, it also contains concepts and relationships that integrate ethical aesthetic and personal knowing (Chinn and Kramer, 1995).

The concepts of character, caring, competence and commitment were discussed in the context of the model structure and a full layout done to describe the logical flow within the MLDM. The direct links between the concepts was shown and the relevance, one to the other, was given as the immediate outcome. The MLDM focussed on the development of a model and its operationalisation, in order to facilitate a process of development in a specific context.

The descriptive components of the model, as suggested by Chinn and Kramer (1995) were used in this research project. Six questions relating to each component were used in forming a complete description of the model. Answers to these questions guided the researcher in being clearer about the requirements for each descriptive component of the model.

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The constitutional negotiations of South Africa's voluntary relinquishment of its nuclear arsenal and accession to the treaty on the non-proliferation of nuclear weapons

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Abstract

This paper examines the constitutional negotiations and implications of South Africa's voluntary relinquishment of its nuclear arsenal and subsequent accession to the nuclear non-proliferation treaty (NPT). The paper argues that the link between the relinquishment of the nuclear arsenal and the accession to the NPT was purposefully kept secret. This was because it was reasoned that the matter of South Africa's design of a nuclear arsenal, its possession of these weapons, its dismantlement of these weapons, and its accession to the NPT formed such a potentially contentious matter, both nationally and internationally, that it could easily have thrust the entire constitutional transition into jeopardy. The research discovered that the reason the decision was reached to relinquish the nuclear arsenal and accede to the NPT was to ensure that South Africa was recognised as a constitutional democracy and a respected member of the international community of nations. The mission was conducted in order to achieve state succession in a stable framework of constitutional continuity.

The research also discovered that a number of the countries that have relinquished their nuclear weapons and acceded to the Treaty on the Non-Proliferation of Nuclear Weapons did so because of the imperative to create a positive state recognition status amongst the international community. Had South Africa retained the nuclear arsenal during the constitutional negotiations, and afterwards, it would have tainted and jeopardised the state succession and the constitutional continuity of the country. It would have endowed the government-in-waiting with a poisoned chalice and undermined Mr Mandela's stature as a leader. The decision was made by Mr de Klerk and conducted in good faith insofar as all stakeholders were concerned.

Influence of Consumer Socialisation and Personal Attitudes and the Consumption of Alcohol in South Africa

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Abstract

There is a growing concern on the increase in alcohol consumption among the youth and this has been linked to social ills such as crime, violence, and sexual abuse and health complications. Alcohol consumption has been linked to increase in non-communicable diseases like diabetes and liver diseases. Studies have shown conflicting results as to factors that influence alcohol consumption. Alcohol advertising has been posed to have minimal effect on alcohol consumption patterns (Smart & Cutler, 1976; Nelson & Young, 2001; Nelson, 2003; Nelson, 2010). On the other hand, economic studies have found a positive relationship between alcohol advertising and alcohol consumption (Saffer, 1991; Woodside, 1999). The consumer socialisation theory provides a useful framework to conceptualise the collective processes by which young people acquire consumption styles, skills, knowledge and orientations which are relevant for their performance as consumers in the marketplace (Moschis & Churchill, 1978). The research investigated the influence of socialisation agents including advertising, parents and peers and personal attitudes on alcohol consumption among South Africa youth. The research employed a quantitative approach with non-random quota sampling and 300 youths filled in self-administered questionnaires. The young people were at different life stages of their lives and included students, blue and white collar workers. The results revealed that personal attitude, peer influence, and advertising exposure have positive and significant influences on youth alcohol consumption unlike parental influence. The implication of the results is that government, alcohol manufacturers and the community at large need to consider, and possibly prioritise other alcohol intervention policies than rely on parental influences. Personal attitudes by the youth need to be exploited to enhance the reduction in alcohol consumption.

Liberalization experiments in emerging market economies: Evidence from Zimbabwe

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Abstract

Liberalisation has been implemented in a number of countries in the past 4 decades amidst a variety of outcomes. Theory argues that a liberalised economic and financial system tend to promote growth with ramification for poverty reduction and welfare. What is not clear in the literature is the specific impact of liberalisation in conditions where the usual theoretical assumptions do not hold. Moreover, the traditional economic theory fails to account for all the fact. This paper therefore examines the pros and cons of liberation in Zimbabwe. The paper analyses openness to trade, removal of restrictions on financial asset prices and the sequencing of liberalisation.

Education inefficiency, politics and insecurity in Kenya

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Abstract

Educational planning is the application of rational and systematic analysis to the process of educational development with a view to making education more effective and efficient in response to the aspirations and needs of the society. It is a tool for meeting specific educational needs and is goal oriented. For planning to work, it requires the development of specific concepts and methodologies; the training of people to apply them; and the adoption of organizational and administrative management. Planning does four functions: decision-making, formation, implementation and control of plans. It is these functions that are primarily controlled by the political elite as the motivation of politicians lies in the social demand for education. This has influenced the need to expand education to as many Kenyans as possible. Unfortunately, this has not been in tandem with the process of educational planning in respect to the availability of adequate funds, qualified personnel, physical facilities, time, population data and existing policies. This has resulted in low quality education, inequitable distribution of education between gender and regions and education that is not relevant to the needs of the job market. These factors result in education inefficiency and contribute to poverty and unemployment among the educated which gradually leads to increased crime in the country. This paper, therefore, proposes to examine the relationship between education inefficiency, politics and insecurity. The paper discusses the role of political elite in influencing the four functions of educational planning, process and delays in implementing educational plans and how these have affected access, equity, quality and relevance of education in Kenya since independence in 1963. It examines the extent to which the national goals of education have been achieved in Kenya and how politics have interfered with the achievement of the national goals of education in the country. Finally, the paper addresses the strategies necessary to reduce the negative impact of political interference on the process of educational planning and thereby reduce insecurity in the country.

Are South East Asian stock markets integrated or segregated? Evidence from wavelets multiple correlations

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Abstract

The application of wavelets transform to explore the comovement across stock markets has received considerable attention from academics and practitioners alike in recent times. This paper contributes to the existing literature on dynamic correlations and market interdependence of financial markets. The data covers daily stock prices from five markets in the South East Asian region: Indonesia, Malaysia, Philippines, Singapore, and Thailand. We employ the wavelet multiple correlation and multiple cross-correlation methodology proposed by Fernandez (2012) using data covering the period January 2000 to March 2018. This novel technique advances the conventional pairwise wavelet correlation and cross-correlation used in detecting evolving correlation structures both along time and across frequencies in recent studies. Wavelet multiple contemporaneous correlations obtained for all the stock returns suggest that markets linkages or integration increases over investment horizons. That is, the correlation is weak at higher frequencies (short-run) but increases to strong correlations at lower frequencies (long-run). Also, we find evidence of an integrated market system, especially at lower frequencies or timescales. Whereas the Indonesian market has greater potential to be a market leader or follower at intermediate horizons, Thailand serves as a leader or follower in the long run horizon. The findings are useful for portfolio selection and risk management. For international investors, the region offers little potential for gain from portfolio diversification, especially for monthly, quarterly, and biannual time horizon investors; whereas there is relatively higher potential gains at intraweek, weekly, and fortnightly horizons.

Modeling the nexus between oil price shocks and equity return volatility in Africa

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Abstract

This paper examines the dynamic relationship between oil price shocks and stock markets of several countries in Africa using data covering the period the 2007:01-2016:05. We employ two methodologies, namely, ARDL-bounds tests and bivariate BEKK-GARCH-in-mean to test our hypotheses. We document strong evidence of long-run relationships, and moderate short-run relationships, largely running from oil price shocks to stock index returns. We also find strong evidence of volatility transmission largely from oil price shocks to equity returns and volatility persistence in equity returns. The definitions of oil price shocks matters in accurately identifying the nature of these relationships.

Analysis of the day-of-the-week effect on the returns of the listed financial and manufacturing firms on the Ghana Stock Exchange

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Abstract

The purpose of the study is to examine the presence of the day of the week effect on the returns of the manufacturing and financial sector on the Ghana Stock Exchange (GSE) by using daily stock price data spanning 2005 to 2015 sourced from the GSE website and also employed some accounting data (shareholders value/ net tangible asset) sourced from the audited financial statements of the listed firms. The study used the Fama and French 3-factor model and employed the Dynamic Ordinary Least Square Regression (DOLS),

The study revealed that, in the finance sector, returns on Mondays and Tuesdays were lower than the other days (negative Monday and Tuesday returns) however, the manufacturing sector did not provide any evidence of the day-of-the-week effect. This is the first study in Ghana that employs the Fama and French model to investigate the day of the week effect.

Government Expenditure in Developing Countries: Insights from a Macro Approach

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Abstract

The paper examines government expenditure in 78 developing countries for 1970-2000. We investigate the determinants of government expenditure using disaggregated measures of government expenditure. The fixed effect estimator, the seemingly unrelated regression (SUR) estimator, and the one-step system GMM methods are used. The effects of the independent variables differ according to the government expenditure type being considered. Specifically, in the full model, total government expenditure reduces with increasing real per capita income and the revenue/expenditure ratio. However, there is a positive correlation between total government expenditure and foreign aid, the share of old population, as well as overall globalization. Government consumption expenditure is also determined to be positively correlated with total population and the share of young population, but negatively correlated with urbanization and trade openness. In addition, democratic developing countries are seen to be associated with relatively lower levels of government consumption expenditure. There is also a positive correlation between government education expenditure and foreign aid and total debt service, but a negative correlation between government education expenditure and trade openness. Autocratic developing countries are also determined to be associated with relatively lower levels of government education expenditure. There is a positive correlation between current levels of government health expenditure and foreign aid, share of old population, and the revenue/expenditure ratio. For defence expenditure, an increase in the revenue expenditure ratio leads to an increase in government defence expenditure in developing countries. Also, no component of government expenditure in developing countries increases at the expense of another. We also provide two forms of causality tests: a granger-causality test within a GMM framework, and an instrumental variable (IV) causality test. The granger-causality test results show a predictive effect of globalization on government expenditure subject to the government expenditure type being considered. The IV results show trade openness has a positive causal effect on total government consumption expenditure but a negative causal effect on total government education expenditure. The paper adds to the literature that finds no evidence of Wagner's law when government expenditure is measured as a share of national income.

Economic Development in Africa: the role of Gross Fixed Capital Formation.

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Abstract

In this study, we proxy economic development as human development and investigate the role of gross fixed capital formation on human development in sample African countries. Whiles some papers have investigated the role of investment in development through the lens of economic growth others do so through human development index, we however employed a better measure: the inequality –adjusted human development index, IHDI to test for Granger causality in a panel data from 1990 to 2015 and 21 African countries fitted to SGMM model. We establish that gross fixed capital formation does not Granger cause Human development and further show that a one per cent increase in gross fixed capital formation leads to seventy five per cent of human development.

Fiscal Policies and Economic Growth: The Experience of Ghana

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Abstract

Promoting economic growth through fiscal policy interventions is not an ordinary and easy activity that governments of countries undertake. This research examined the effects of fiscal policies on the growth of Ghana's economy for the period between 1989 and 2017. The study was underpinned by the Peacock-Shaw Model, Solow Neoclassical Growth Model and Afonso-Alegre Growth Model. Using a secondary data obtained from African Development Indicators Data Base and Ministry of Finance and Economic Planning-Fiscal Data covering the period from 1989 to 2017. The Auto Regressive Distributive Lag (ARDL) Model estimation technique was employed in analysing the data after checking for unit root, co-integration and stationarity. The analysis produced results that indicated in the short run, government consumption spending saw a negative effect on economic growth though not significant. However, Government transfer payment impacted positively on economic growth. In the long run, government consumption significantly had a negative effect on economic growth of Ghana. Government transfer payments however revealed a positive and significant growth on real Gross Domestic Product (GDP). The Ghanaian Government investment spending over the years had a positive and a significant impact on economic growth. The study also found out a significant negative relationship between taxes and economic growth. On policy recommendation, policy makers should examine the composition of government spending and ensuring it reduction. Government investment as well private investment should be increased. Government should be encouraged to transfer payments and the funds should be directed towards areas that drive economic growth of Ghana. Again, the study recommended that tax base should broaden rather than taxes being increased to improve government revenue to promote Ghana's economic growth and development.

Identifying Factors that Influence the Propensity of the Poor to Save with Formal Financial Institutions in Ghana

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Abstract

At the macro level, savings mobilisation plays an important role in economic growth and development whilst at the micro household level it plays a critical role in production, consumption and investment decisions. However, savings mobilization in many developing countries remains low. It has therefore become necessary to understand the savings behaviour of the poor and ways to encourage rural savings. This study investigated the factors influencing the decision of the rural poor involved in two models of microfinance programmes in Ghana to save with formal financial institutions and the resulting amounts saved. Using a cross-sectional design and a logit model, the study indicated that the propensity to save with formal banks was related to the respondent's gender, age, amount of current savings, possession of health insurance and the type of microfinance model engaged in. Results from an Ordinary Least Squares (OLS) regression further indicated that absolute amounts saved were influenced by respondent's gender, education, age, marital status, microfinance program type and the type of financial institution respondents save with. In general, the amounts saved by respondents, in absolute terms, was very low. Even though 62% of the respondents had personal savings with formal financial institutions, the informal institutions attracted higher amounts of savings. The study offers useful insights into factors underpinning savings behaviour of low income populations and ways to encourage rural savings in Ghana and other developing countries.

Agenda 2030 in Motion: challenging the assumptions of what constitutes good evaluative progress on the Sustainable Development Goals (SDGs)

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Abstract

National Evaluation Systems (NESs) articulate the way that national governments measure progress on inequality. Meeting SDG 10 is central to a country's socioeconomic development. This study will explore the way SDG 10 is measured by varying countries, to help better understand the mechanisms governments have in place to tackle inequality. The Sustainable Development Goals (SDGs) aspire to have the composite ability to frame discourse and practice around developmental outcomes in countries that have committed to tackle the root causes of global grand challenges but this requires governments to implement programs effectively. Current economic programming around inequality is one-dimensional with a bias on orthodox economics, and requires renewal, based on the most recent, integrated understanding of inequality. This study therefore considers current economic thinking around inequality, while drawing on intersectional development scholarship that informs existing knowledge on inequality. This requires assessing what NESs are doing, how they measure inequality and what the epistemological thinking around NESs – specifically on SDG 10 – is. In so doing, this paper develops a conceptual framework that accounts for the socioeconomic dimensions of inequality, and how this framework may inform existing practice of NESs in view of SDG Agenda 2030. This study in turn performs a mixed-methods approach to analyze the existing state of national evaluation capacities in the respective sub-Saharan African countries and SDG-focused evaluation processes. It uses a variety of mechanisms, ranging from informal key informant interviews (KII), secondary data and quantitative analysis. It is important to recognize the value that sustainable development indicators present in order to address the strengths and weaknesses of different parallel indicator systems in sub-Saharan Africa. The purpose of this study is hence to capitulate the role national development plans (NDPs) and national voluntary reviews (NVRs) have on government's composite ability to ascertain the reduction of inequality *within and between countries*. Findings suggest that not all countries have been able to surmise the extent to which their NDPs align with the SDGs.

Introduction

The genesis of the post-2015 Sustainable Development Goals (SDGs) (Agenda 2030), was premised on reducing inequalities – emphasizing a shift away from the polemical on under-development, and more a revived vision towards inequalities. While the Millennium Development Goals (MDGs) of 2000-2015 had a short lifespan, the Sustainable Development Goals (SDGs) of 2015-2030 have proven to be more instrumental in their axiology in the sense that they are able to mandate country-led evaluations and systems. The MDGs, however, paid little attention to what should be measured, with too little investment in strengthening statistical capacity of evaluator institutions (Bourguignon 2010; Doyle and Stiglitz 2014; Kanbur 2007; Stiglitz, Sen & Fitoussi 2010). Although this was the case, the MDGs cemented the importance of evidence-based data and localization of the Goals across all countries. Goal 10 of the SDGs and related indicators, serve as a normative goalpost to reducing inequalities between and within countries, including a targeted focus on advancing gender equality and reducing inequalities (McCarthy 2013).

The Stiglitz-Sen-Fitoussi Commission Report was one of the key drivers in interrogating Gross Domestic Product (GDP), as a fundamental measure of economic and social well-being and overall progress (Stiglitz, Sen and Fitoussi 2010). The SDGs are a key component when it comes to thinking about and measuring progress not only within developing countries but also in "developed" countries. In many ways, the SDGs have signified a critical movement towards a more holistic understanding of socio-economic development as we know it today. The SDGs have also been relatively instrumental in minimizing the space for operationalization, for the indicators that inform the goals themselves – there are a small number of indicators that exist at the top level of the dashboard that feed into the discourse and policy-making processes at national and sub-national levels (Bauer 1966; Hagerty et al. 2001; Heinz-Herbert 2011).

The importance of this study is founded in the turn that the SDGs have taken in advancing reduced inequalities and shared prosperity. There is surprisingly little evidence on the enabling mechanisms of reducing inequalities and increasing shared prosperity. Moreover, this study presents itself as a crucial lodestar in investigating a somewhat "deviant turn", away from the MDGs toward the SDGs. In that sense, while the MDGs evidenced the extent to which the various targets have been achieved, the SDGs assess the extent to which the outputs and outcomes are sustainable over time. The broader significance of this study is premised on the epistemological importance of the developmental goals as seen in the broadening of the SDG franchise.

The intention here is to show the inability of SDGs to achieve what they intend to achieve without concerted efforts from states and enabling partnerships. In a similar corollary, authors lament how the MDGs were merely an exercise in top-down elitism (Esser 2017). It is posited that the SDGs have also proven to be highly complementary: the achievement of one individual goal denotes the relative achievement of all goals. The SDGs embrace all the contradictions inherent in normative developmental frameworks. For instance, there is the tendency to confine SDGs as merely a large number of goals spread across the input-output-outcome results chain. A major problematic assumption with this is that progress on one level is supposed to lead progress on another level that is to say there is an apparent logical frame of outcomes, outputs and inputs. There is also a lot of confusion around the SDGs and individuals not understanding the manner in which they ought to be channeled in

national evaluation systems. In this sense, central to achieving the SDGs are National Evaluation Systems (NES).

There is a dearth of literature that defines systems as functional and organized parts and sub-parts of a larger whole that are premised on a particular common goal. Understanding the linkages of a system is critical in learning about wider systems of evaluation. In the context of NESs and Monitoring & Evaluation (M&E), it is critical to understand the variety of linkages that relate to each other. These linkages refer to functions, structures, and the capacities that are instrumental in ensuring the harmony between the parts in the system (Kusek and Rist 2004). Systems of M&E are usually organized, functional, collective entities that disseminate information to national and sub-national systems concerning programming, policy, planning and implementation. In essence, any M&E system is a feedback system that manages results and directs outputs and outcomes. At the national level, M&E is a tool of good governance for evidence-based results. Defining M&E is central to understanding the way that it might fit into evidence-based results and axiological and epistemological learning in NESs. Importantly, it is important to map out the key issues that surround national evaluation systems – such as the associated challenges and pathways toward best practice in emerging, evolving and mature evaluation systems.

The aim of a NES is to practically support the SDGs - as normative goalposts - by providing equality lodestars for both central and sub-national level infrastructure. However, growing research suggests that there are two emergent futures – one of equality and one of inequality. The manner in which NESs articulate the way national governments measure progress on inequality is central to this. Intrinsically, NESs play a crucial role in ensuring that no one is “left behind” as they are critical monitoring entities that ensure that SDG 10 and all other goals are implemented in an equitable manner. Indicators, as metrics of measurement pegged against the SDGs, move beyond aggregate outcomes and focus attention on data lines that sufficiently map out emergent and recurring patterns of inequality. It is worth mentioning briefly the distinctions between vertical and horizontal inequality. Vertical inequalities relate to inequalities at a micro-level: between individuals/households aggregated by the measurement of the Gini coefficient. Horizontal inequalities relate to inequalities at a meso-level: between groups (Kabeer 2014). Further still, these inequalities can be disaggregated across a tripartite level of reference points: ‘inequality of what, whom, and where’ (Deaton 2013; Kuznets 1955). Inequality within countries is the most acute, highlighting the need to assess the state as a primary unit of analysis and its institutions as a primary instrumental variable, and a key stakeholder in the adoption and implementation of effective policy measures (Galbraith 2016; Milanovic 2016; Rawls 1971; Sen 1973).

Although there are knowledge and evidence gaps, in the documenting of inequality there are statistically significant upward trends in vertical inequality. The 2008 financial crisis/global recession played a significant role in highlighting the role those inequalities played prior and post- the recession (Hardoon 2017). The exogenously induced explanations of change in financial systems post-2008 highlighted the growing fact that the Bretton Woods Institutions are instrumental in setting twin goals and outlining recommendations, that policy needs to simultaneously tackle poverty and inequalities in rich and poor countries (Deaton 2013; Picketty 2013).

In this sense, this study concerns itself with whether NESs are indeed instrumental in reducing inequalities between and within countries or not, as epitomized in SDG 10. At an

aggregate level, it argues that while NESs are ubiquitous tools *for* development, this does not mean that they automatically bring about development. Whether NESs will do so, is largely contingent on their composite ability to measure indicators more effectively. This study presents the case that whether national evaluation systems can attain SDG 10, is contingent on the epistemological extension of the evaluation paradigm – evaluators alike need to challenge and assess existing systems in order to enhance their evaluation readiness. Such a stance opens the floor for a more equity-driven political economy analysis of evaluations.

The thematic demarcations of this study are as follows. As a point of departure, this study elaborates briefly on traditional economic endogenous growth theory. Secondly, this study pays special attention to NESs as it investigates why National Development Plans (NDPs) as capitulated by various governments might not effectively capitulate SDG 10 – as a product of their relative valuations, and assessments of indicators. Accordingly, the argument becomes more complex if we accept the possibility that parallel indicator systems in sub-Saharan Africa do not adequately address uneven development (UNDP 2010). In that case, attempts to enhance socioeconomic development are conceptualized as progressive attempts to redistribute qualitative outcomes and redress inequality.

It is further hypothesized that the universal attainment of SDG 10 cannot be fully appraised without a thorough understanding of the intersectional nature of inequality – in both its vertical and horizontal forms (Kabeer 2014; Kabeer 2015). Adding to this, some basic concepts are examined, the spatial organization and nature of inequalities assessed, and their importance noted. Ultimately, the objective is to explore the impact and inter-relationship of socioeconomic factors on evaluation capacity and their related national and sub-national systems. The significance of the study is that it contributes to foundational knowledge gaps by adding to the broad canon of existing and emergent inequality literature. It also adds a fresh dimension to the study of NESs– a caveat that has been scantly carried out.

Examining the Conceptual Base: Inequality

Inequality and poverty are two stark, yet interrelated concepts, it is therefore difficult to study the two concepts as stand-alone variables (Seekings 2007; Vandemoortele 2011). On the one hand, poverty refers to the insufficient resources vested in a certain individual or family thus limiting their ability to function adequately in society inequality is starkly different (Sen 1999). In this sense, inequality refers to gravely varied distributions of a good across and within society. While there is tangible and intangible inequality, the prime focus of this study is the tangible inequality – better yet known as economic inequality. Economic inequality is based on measurements of income distributions – whether an individual has relative or absolute poverty.

Current economic thinking around inequality will need to draw on emerging economic thinking and related measurement processes. Inequality is a contentious subject. There are numerous understandings of what it is and what it should be. It is important to first obtain a thorough understanding of what economic growth is in relation to inequality. As a point of departure, endogenous growth theories: Malthusian modern growth theory presents to us transitions in economic growth. While Galor and Weiss (2000) argue that, three transitions within the Malthusian modern theory of growth exist. The first is that initially, the model exhibits features of a classic Malthusian growth trajectory. Second, as the population grows,

technological advancements take place in a way that increases the function of the size of the population *a la* endogenous growth theory (in this regard: human capital). Third, as time progresses, population size reaches a particular threshold that allows a seismic shift away from the extant Malthusian regime.

Galor and Weiss (2000), *inter alia*, unanimously remark that technological change stimulates fertility reduction, hence correlating with population size. These technological and population shifts have a stark bearing on the investment of parents on child quality and not child quantity. It is in this sense that we see the link between human capital returns to the economy and technological progress. While these issues related to endogenous growth theory can be formulated more precisely by recognizing the limitations and possibilities, it holds some merit of positively reframing the discussion.

As it, stands there are two dimensions to our understandings of inequality. On the one hand, there is inequality of distribution: that is to say that there is inequality of variables where the unequal distribution of these variables is the issue at hand. Such distributions are typically endogenous to income, consumption, wealth and access to opportunity. On the other hand, there is inequality of distribution in extraneous factors in society.

While the economic arguments for inequality are important, they tend to obscure a broader understanding of the inequality debate. There are varieties of moral arguments against inequality. Most of the arguments herein apply themselves to value judgements about inequality. A common thread in these moral arguments is that society should be a 'good' and 'just' society. The two fundamental pillars of this "moral" approach include ensuring that, there are no discriminatory processes that relegate groups to the margins, by widening equality of opportunity for all. It is consequently important to address the political factors that drive inequality, and the destabilizers that sustain it.

Understanding the Measurement Issues: Metric Feasibility

The question of the quality of data for development remains a central issue. Since at least the 1980s, the World Bank Institutions have given primacy to Gross Domestic Product/per capita (GDP/capita) as an indicator of development. Further sections in this study detail its genesis why and how this measure (and others) is flawed. As a corollary, a recurring question within key literature is how is poverty measured and counted (Whitehead 2003; Kabeer 2014; Seekings 2011; Veron *et al.* 2006)? Traditionally, poverty has been measured and counted through GDP/capita which indicates which countries are poor but fails due to inadequacy on two fronts: i.) it was based on income; ii.) It aggregated poverty at a country-level but ignored the distribution of poverty within countries – a redress that the SDG 10 provides. In order to go beyond GDP/capita, the Head Count Index (HCI) is the traditional measure of poverty, which uses survey data on income (but mostly consumption) to calculate the percentage of the population that falls beyond the poverty line. In this case, the poverty line itself could be a relative or absolute measure, such as the World Bank's $1/day metric.The HCI, however, can be critiqued based on its infeasibility in that it does not say much about the distribution of the poor below the poverty line. Are the poor clustered just below the poverty line or are they all close to zero income? In order to address this, there are more complex poverty analytics that make use of the poverty gap index, or the poverty gap squared index (UNECEC, OECD, Eurostat 2014).

Since at least 1990, more holistic analyses of development that take into consideration Human Development Index (HDI). The HDI proved itself highly instrumental in placing attention towards inter-sectoral elements of: income, education, health, and placing competition on countries in terms of their levels of meeting each criteria. The HDI however, has gone through several modifications and embraced multidimensionality, as a function of the criticisms that it has received. This 'multidimensionality turn' was core in the evaluation space with a series of inter-sectoral UN conferences taking place in the 1980s – 1990s.

However, all the above mentioned metrics are still products of income poverty. As the HDI turn in the 1990s elucidates: poverty is multidimensional and people experience deprivation on multiple levels. In addition to the HDI, there is also the Multi-Dimensional Poverty Index (MPI). There is substantial evidence to suggest that the distribution of poverty based on income-based versus multidimensional measures is quite different, and implies a shifted focus towards anti-poverty policies in different parts of the world. Notwithstanding, there has been critique surrounding the notion that these metrics and related policies are top-down and leave the "poor" without a voice regarding their definitions of poverty and deprivation (Chambers 1989). The aforementioned is a very important critique and aspiration, however, there is a complex challenge in that the deeper and more multidimensional definitions of poverty are very data demanding – which is often very difficult to obtain in developing countries, and it implies focusing in on anti-poverty policy in the developing world.

Given the context, what is then needed is a more disaggregated approximation of trends, taking into account non-deterministic economic metrics. These caveats are further hampered by inadequate impact evaluations and programmatic coordination (data, analysis and M&E processes. These measures will ultimately have a bearing on whether the global goals (2030) can be adequately attained. On the other hand, South Africa (SA) has been instrumental in its leveraging in the reduction of poverty and inequality since the advent of democracy (1994) in order to redress the effects of apartheid and enhance socioeconomic, intergenerational mobility. Several programs were geared towards this cause. Reducing poverty and leveraging inequality was an inevitable goal of the Reconstruction and Development Program (RDP, 1994). The RDP has served as the lodestar for the NDP and SAs nation-wide Vision 2030. In many ways, these policy projections have long-standing implications for socio-fiscal policies – at all levels of government – that are redistributive in their functionality. The exponential growth that South Africa experienced following the demise of apartheid induced structural impediments to growth. This was further stymied by the global financial crisis of 2008.

Largely, SA experienced significant economic burdens in view of economic stagnation. In addition to the RDP, SA has also implemented the Expanded Public Works Programme (EPWP) since 2003 targeted creation of one million jobs for unemployed – this was achieved in 2008. The overarching goal was to create four million jobs by 2014, however a core criticism was that focus has been on temporary/cyclical unemployment rather than structural unemployment. The Black Economic Empowerment (BEE) dates back to attempts by President Botha to create a new black middle class ("black diamonds") as a buffer between National Party and the African National Congress. As a function of this, the proportion of blacks in top 20% of income earners has increased from 39% in 1995 to 48% in 2009 – a statistically significant increase (Acemoglu et al. 2007).

Research has shown that levels of inequality and poverty are endogenously correlated (Solow 2003; Card and Dinardo 2002). This correlation is stronger for inequality measures that summarize the degree of inequality in bottom distributions 'and stronger when poverty is measured by poverty rates than poverty gaps' (Alkire 2015). In view of the "inequality turn"[22], there has been a dominance of poverty in the literature, hence inducing a 'poverty fatigue'; inequality thus becomes an afterthought. Poverty has attained increasing significance in development evaluation circles. Adopting a causal analysis of inequality means moving away from the fatigue dominant in traditional development debates and economic programming around inequalities is largely one-dimensional. Accordingly, the tools at our disposal have become ubiquitous. Many measures of inequality differ in their means of aggregation (ONS 2016). Therefore, inequality is about entire distribution, whereas poverty is about individuals below a threshold. While there are statistically significant correlations between poverty and inequality – it should not be the only measure used to typify inequality. For instance, there is evidence to suggest that inequality and poverty have 'moved in different directions' (Kuznets 1955; Milanovic 2016).

By contrasting these views there is a strong case to be made for guaranteeing that inequality is addressed more systematically in the context of international development. A central concern with the NESs is in responding to demand, they increase predictability hence reducing uncertainty and they stabilize expectations through establishing effective lines of data production and dissemination. This is further catalyzed by drawing on theory of changes to catalyze impact in evaluations. The main purpose of any NES is to deduce the direction, implementation of policy, implementation, and not only measures, outcomes and outputs. An M&E system is typically designed to meet specific needs, yet they vary accordingly to the nature and goals of the respective programmatic output.

Just as M&E, programmes are typically monitored and evaluated, in a similar vein M&E systems can also be monitored and evaluated to derive whether they are not only credible but also useful (Gosling 2003; Cloete, Rabie and de Coning 2014). As Kusek and Rist (2004), Gebremedhin, Getachew and Amha (2010) convey in their work, the sustainability and the relevance of any M&E system is contingent on whether the system is 'fit for purpose' and value-added. The distribution of varying resources are dependent on different demands (Kuznets 1955; Banerjee and Duflo 2003). Although this study acknowledges that vast and variable kinds of inequality; it is important to highlight that it is primarily concerned with the concentration of economic (wealth and income) inequality and the normative value that an intersectional analysis may take. These distinctions are important in guiding the reader into the subject, and encouraging greater reflection on the topic at hand.

The caveat of assessing NESs through the lens of inequality is embedded in the relational epistemological foundations of inequality as a concept. On the one hand, the instrumental notion of inequality focusses in on the material dimensions of inequality – as a tangible fact based on material or income wealth. Because in applied poverty analyses these structural issues are not addressed (Hagerty et al. 2001). The ethical position views inequality as a categorical imperative. It is at once unjust and unsustainable in the virtue of sustainable development. These juxtapositions essentially emphasize the need for a thorough political economy analysis of inequality, and the politics of distribution (Picketty 2013). There has

[22] The move away from a hyper-focus on development as solely poverty reduction

been a polemical pull towards the use of broader indicators that measure socio-economic progress – moving away from traditional economic measures. The use of these more egalitarian indicators is meant to facilitate national discourse and policy-making measures in order to attain statistically significant progress on the 17 SDG goals and 169 targets. The relative valuations that accelerate this movement are contingent on national statistical offices being afforded the governance independence and the financial resources to lead and produce the groundwork behind the SDGs (Booysen 2002).

Associated problems in measurements of economic growth stem from measures that are not always correlated with positive, upward trends in pro-poor development policies. Measures of growth associated with GDP do not account for omitted variables as plausible instrumental variables for measuring income inequality and related inequalities. For instance, estimates of GDP omit the instrumentality that variables such as environmental pollution or resource stocks play. These variables provide drastic evidence as to the exogenous transaction costs that are a prevalent feature of any market economy (Galbraith 2009; Solow 2003; Kuznets 1955; Banerjee and Duflo 2003).

Documenting Measurement Issues: The Importance of Measurable Indicators

Indicators, as tools by which outcomes can be pegged against, are vital for accountability as they are able to track progress on the SDGs, in turn, serving as a tool to assess the contextual viability of national policies (Bauer 1966; Booysen 2002; UNECE, OECD, Eurostat 2014). Understanding the mechanisms behind measuring progress on the SDGs, we have to probe whether NESs measure the right things. This section outlines some of the wider issues emanating from technical concerns found in indicators. Indicators, as communicative devices are a subsequent type of categorization; they hold the composite ability to place incentive on a narrowed set of policy action, relative to others. The problem with these indicators however, is that it uses narrow methodologies as measures of inequality. A subsequent problem with the SDG indicators – specifically SDG 10 - is that they are proposed to monitor the reduction of inequalities between countries, which proves inadequate in marking out specific responsibilities for countries at different nodes of the global inequality spectrum (UNDP 2010). The SDG indicators are henceforth too broad and unable to measure inequality in a holistic sense – the actions of specific actors, are not clearly marked against indicators (Eurostat 2014).

Do poverty indicators measure the right things? Because poverty and inequality are starkly correlated it is worthwhile reviewing the way in which Poverty indices such as the Oxford Multidimensional Poverty Index (here forth, OMPI) feeds into socioeconomic components that account for different kinds of poverty (Atkinson 1975; Banerjee and Duflo 2003). The OMPI accounts for change across time, and takes into consideration 78% of the world's population into its measures. In many ways the OMPI, forms part of the Human Development Index (HDI). Key findings from the OMPI suggest/illustrate that countries that have reduced multidimensional poverty across time have also managed to reduce inequality (no deviance but rather a positive correlation) among the poor (Alkire 2015). The Index is improved in the sense that it is not simply a reductive measurement tool, and matches the actual lives of the poor. The OMPI is able to measure the intensity of poverty. This thus allows for the poverty-reduction measures and its related components to be incentivized. In addition, the OMPI has the composite ability to compare income deprivations directly. In so doing, it details granular level accounts of poverty, i.e.: it is able to offer a disaggregation of

poverty by way of ethnic groups – a factor that is often missed in other analyses. In many ways, the OMPI yields plausible indicators that are able to 'lift their own weight'.

While the OMPI does not reflect for rural versus urban poverty disaggregation accurately, there is a movement towards the systematization of national and city-specific measures of multidimensional poverty. The OMPI is invariably indicative of a progressive move toward the institutionalization of more accurate measures of poverty (and by effect inequality) it should include indicators that disaggregate along measures of gender, freedom and state engagement, because in the developing world, poverty is more geared towards vertical inequalities.[23] There are counter-arguments to this method that relay the problematic nature of the OMPI in that it relegates the more humanistic face of socioeconomic development to the periphery. How else might inequality be measured?

The Lorenz Curve

The Lorenz curve is a plot of the percentage of the population against the percentage of the total income in the distribution that is being earned by that percentage of the population. If everyone has the same income, then the Lorenz curve is the 45 degree line. The slope of the Lorenz curve indicates the contribution of the individual at that point to the cumulative share of national income. In that sense, the "distance" between the 45 degree line and the Lorenz curve indicates the amount of inequality in the society. The greater the curvature of the Lorenz Curve, the greater the relative degree of inequality/relative degree of unequal distribution in the society in question.

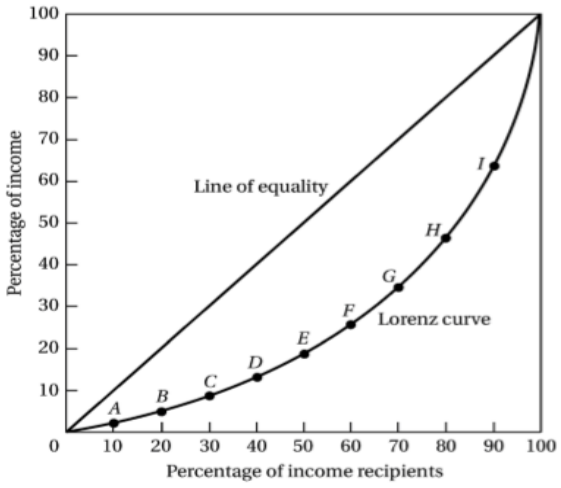

Figure 1. Lorenz Curve (Reinhart 2009)

At C, 30% of the population earn only 10% of the total income in the income distribution. However at point I – 90% of the population earn only 60% of the total income in the income distribution – which implies that the top 10% of the earners (the richest 10%) earn the rest – i.e. almost 40% of the total income. This valuation is the basis of the Palma Ratio, which compares the incomes of the top 10% and bottom 40% of the population.

[23] Denotes ethnic and social inequalities for instance.

Gini Coefficient

Another common measurement instrument is the Gini Coefficient that is the measure of inequality of a distribution. A Gini coefficient of 0 means that everyone has the same amount of wealth. A Gini coefficient of 1 means that one person owns the entire wealth in a society. There have been arguments that assert that the Gini Coefficient is too simple a measure of inequality as it does not significantly account for critical movements within the income distribution measurement strand. The figure below illustrates this problem, showing four possible Lorenz Curves across four countries. The country displayed in Curve A has a low Gini, and the country displayed in Curve D has a high Gini; however, countries B and C have the same Gini. One can have different income distributions correspond to the same extent of inequality (i.e. equal Ginis).

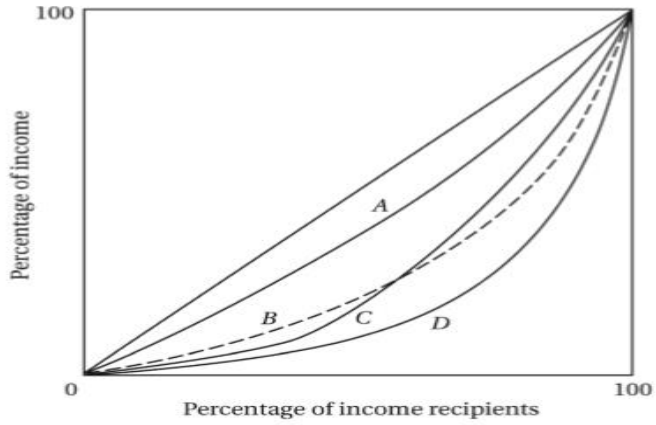

Figure 2: Lorenz Curve (Reinhart 2009)

Kuznets Curve

Another common metric that is used is the Kuznets Curve. The Kuznets Curve suggests that the relationship between inequality and income per capita is non-monotonic, i.e.: it is shaped like an inverted-U. This relationship is driven by industrialization and initial increases in rural-urban inequality and interurban inequality. These urban gaps are hypothesized to reduce as societies become rich enough when wealth trickles down and redistribution reaches the poor. In practice, however the Kuznets Curve has failed to effectively demonstrate the causes and effects of inequality. Notwithstanding, economists drawing from 18th century mercantilist philosophy, formerly argued for a positive effect: inequality generates incentives for (poorer) people to invest in education, physical capital, work hard and take risks. These assertions generally stem from the idea that both the poor and the rich got to where they were through their own efforts; and giving the poor more money would encourage them to spend it on perverse incentives/goods.

In parallel to the Kuznets Curve, Kaldor (1954) and Lewis (1954) echo that at the initial stages of development physical capital is scarce and thus society needs the rich to save more to invest in machines, factories, etc. the poor cannot afford to invest in such large

projects – thus inequality is necessary for economic growth. On the adverse, libertarians are indifferent to inequality but argue that attempts to reduce inequality are likely to harm people's liberties and lead to lower growth. A by-product of this is that people become uncertain about redistributive policies and incentives for investment are lower due to higher taxation. Contrary to Kaldor (1954) and Lewis (1954), today there is no scarcity in physical capital but rather in human capital (educated labourers). Good public services are difficult to maintain in situations of high inequality. In this sense, Kaldor and Lewis's analyses are not very robust. Martin Ravallion for instance, argues that inequality reduces a country's share of growth going to the poor, and the share of economic contraction going to the poor. Ravallion notes an additional concern that the "rich" will not spend money on developing their own country but will instead spend on imported goods. As a byproduct, inequality has powerful effect on politics, because it pushes democratic governments to raise taxes, which leads rich to prefer consumption over investment. Secondly, it fuels political instability thus undermines social cohesion. In a less than ideal case, the rich keep wealth through corruption while the poor seek wealth through violence or elections.

Ravallion (2001) posits that the higher the levels of inequality, the higher the growth rate necessary to achieve substantial poverty reduction, thus southern African countries will need to have higher growth rates than other parts of the continent to achieve the same levels of poverty reduction. Potential policies for reduction in inequality include policies geared towards land reform to act as a disincentive for land grabs. Furthermore there need be increased investment in labour-intensive production (i.e., not capital intensive production like natural resources). This is coupled by a focus on education and health as well as agricultural and rural development; and investment in transport, telecommunications and road infrastructure

Respectively, two key approaches in tackling inequality exist. The first of the binary being situated within inequality of outcomes (*ex-poste*) and the second being the inequality of opportunity (*ex-ante*). Inequality of outcomes refers to varying living standards among individuals and households. Standardized poverty reduction measures have focused mainly on income inequality. This has been to the detriment of a multidimensional articulation of poverty. This narrow policy thinking has its antecedents in the Kuznets Curve (Kuznets 1955; Solow 2003). The Kuznets Curve articulates that growth is an unavoidable feature of all economies that contribute progressively to industry. However, in the 1990s the focus shifted to poverty reduction, as the thesis that good growth was an inevitable feature of all economies could not be reconciled. At the programmatic level, this shift induced a barrage of pro-poor growth policies that focused on economic growth, inequality and poverty. This turn culminated into the Millennium Declaration at the 2000 Millennium Summit., which ultimately culminated into the MDGs.

To further explicate, the MDGs set out 8 goals and several targets from 2000-2015. These 8 goals were focused on the eradication of poverty and extreme hunger; the reduction of child mortality; the improvement of maternal health and the related reduction of child mortality; the increase of universal access/suffrage to primary education; combatting the HIV/AIDs epidemic and other diseases; ensuring environmental sustainability; a global partnership for development. However, these goals were focused on the remit of "developing" countries and lack effective indicators. These pro-poor policies aimed at income increases for the poor or at the very least economic growth that was pro-poor (Banerjee and Duflo 2003). In the early

2000s – at the helm of the MDGs pro-poor growth then shifted toward inclusive growth in order to inspire broad-based economic growth (Bader and Bieri 2017).

Amartya Sen

The following section is textually and theoretically relevant to Amartya Sen's *Development as Freedom* (2001). It presents reflections on development as freedom whilst earmarking the emergent anomalies and prospects. The author believes this work not to only be essential to the development of a national-level understanding of inequality but also essential to an understanding of how these national ideations fit into the wider debate. The Senian perspective launches a significant shift away from the dominant top-down perspective of development that exists in dominant neoliberal sub-paradigms, such as the MDGs/SDGs. Sen takes as his starting point the contention that the notion of development can be expanded to accommodate notions of capabilities and freedoms. It is important to ask: to what effect this might be the case when thinking of countries in significantly different cultural contexts.

In the opening chapter of *Development as Freedom*, Sen juxtaposes development and freedom and brings our attention to how there is an inherent causality between the two notions. What this implies is that one is contingent on the other – they are thus mutually inclusive. Within the same vein, the absence of freedom proves statistically significant for the rise in poverty levels. In totality, Sen's conceptualization of freedom serves to decenter traditional development narratives of old, and bring from its slumber a truly emancipatory realization of development, which he marries with Kantian cosmopolitan ideals of freedom on a wider scale (Rawls 1971). Drawing heavily from the capabilities theory, which is deep-seated in Jeremy Bentham's understanding of utilities, Sen is of the opinion that increases in capabilities (be they normative or empirical), prove statistically significant for the advancement of development (Sen 2001).

If Sen's aim is to disturb common narratives that have augmented the development landscape since at least the times of the "Great Discovery" of now former colonial lands, then he succeeds. In teetering on the surface of a post-developmental agenda, Sen signals a divergence away from the neoliberal traditions inherent in the workings of the Bretton Woods Institutions and marries it with a wider cosmopolitan ideal teetering on the ethical/categorical positions of inequality. However, we are prompted to question: to what extent is Sen's notion of freedom and democracy truly emancipatory in neo-Marxian terms (Cox 1981).

What is recurrent in Sen's understanding of freedom is one that draws heavily from libertarian philosophers and Maslow's needs theory, and whom Sen's sister-theory of capabilities, as espoused by Nussbaum finds much expression. Sen's understanding of democracy finds a nexus between democracy and economic growth. However, empirics have proven that this is not statistically significant, as seen in the miraculous growth in select East Asian countries in the 1970s.

This is not to say that non-Western countries do not aspire to freedom. They do. We should rather recognize that a freedom leaning more toward one of self-actualization is devoid of a broad-based development, and purpose-driven evaluations. Freedom is thus not a universal

value in the sense that Sen embraces. Rather, it is an understanding that is localized in a particular modality/way of being and knowing that is not broad-based. Human development thus needs to consider other ways to conceptualize freedom that are fitting for the non-Western world, lest we fall into the paradox of transgression and monochronisation of universalizing and universalistic theories of change. Moreover, we may indeed argue that freedom as one rooted in Maslow's needs theory reflects the freedom of a particular class and commits 'epistemic violence' against the isolated and excluded in most Least Developed Countries (LDCs). How can we conceptualize a freedom that is devoid of class and more broad-based to include diverse cultures and contexts? Yet, a cursory look at the data informs us that the expansion of capabilities is endogenous to the decrease in poverty and is statistically significant for rises in GDP per capita.

One might argue that in order for development to be reached in broad-based manner development thinkers, academics, policy-makers alike need to resolve an equitable way to re-envision development that is not only context-sensitive, but also fitting for a sustainable post-development political bargain. This journey may begin with a single step into re-imagining ways of being in both text, 'policyscapes' and discourses, alike.

NESs and SDG 10: an assessment

Traditional endogenous economic growth theories help to explain many processes, but not others, and need to be extended. This extension needs to start by recognizing the problematic nature of all claims that assume inequality is solely instrumental to poverty reduction, and then evaluate political processes in relation to whether they actually produce that outcome. Conversely, if we accept that inequality is more than redistribution, but more about the redistribution of intersectional qualitative arrangements, we can develop a far more realistic interpretation of NESs.

The conclusions inherent in traditional theories of poverty/inequality and growth are now being qualified. While the theories cannot offer us synthetic diagnoses for contemporary growth challenges, they are important, in that they have led the way for methodological innovation. The instrumental position of inequality (hinders pro-poor development) vs. the ethical position of inequality. This highlights exogenous variation in our understanding of economic development (Solow 2003). The current inequality literature tends to present "omitted variable bias"; this implies that a third variable provides explanation for a lack of economic growth as a function of low labor rates in the economy, coupled with acute wage differences = a plausible instrumental variable, bearing on the cumulative impacts of unemployment and social mobility. It is however, not a first-order explanation. We need to move beyond what the literature is telling us to what the literature is not telling us. Economic growth is an endogenous function of policy (Hardoon 2017; Kuznets 1955)**.** Generally, countries have made significant strides in reducing poverty – with a narrow focus on income inequality. Actors who undermine democratic infrastructure and policy-making institutions serve to perpetuate increasing patterns of inequality. The Commitment to Reducing Inequality Index (2017) denotes how countries need to prioritise inequality in the realm of social spending, agricultural spending, gender inequality, youth mobility in relation to economic inequality and economic inequality in relation to political participation and elite capture. Inequality is therefore seen as a relative concept in the sphere of development.

The evaluation equation

One way to understand the functionality of NESs in measuring indicators and hence attaining SDG 10 means understanding M&E as focused on the ability and effectiveness of development interventions to produce development that runs both upstream and downstream, until socioeconomic disparities are contextually and gradually reduced. Evaluation results contribute to policy and programmatic modifications (Milanovic 2016; Picketty 2013; Sen 1973). A central concern here leans on understanding that NESs do not in and of themselves bring about development. Instead, NESs enable policy-makers at all levels to make informed decisions through a combination of cumulative development approximations. In essence, evaluations create enabling environments and help to address equity and equality issues.

Exploring Potential Policy Responses: deliberate, purposive paradigm shifts for NESs

Two specific cases highlight the existing state of evaluation capacities and SDG-focused evaluation processes. What is the functional assessment of the NDP? In order to understand the theoretical assessment of the NDP, this section will assess the NDPs of several countries against the backdrop of their outputs of inequality. How relevant are countries' NDPs and VNRs for measuring indicators and addressing inequality and vulnerability? Because the NDP is a traditionally macro-level document, it tends to be narrow in its conceptualization. Marrying ourselves to a new paradigm of inequality has fundamental bearings on national evaluation capacities and the creation of an effective M&E infrastructure.

On the demand-and-supply side, we might begin by asking: what creates an enabling environment for the NESs to capitulate the SDGs? The main aim involves strengthening the enabling environment in order to create efficient linkages between enabling environments, institutional and individual capacities. An emergent sub-question becomes: how do NESs structurally and institutionally aim to reduce and eliminate poverty and inequality? Focusing in on the NDP. Do indicators lead to favorable assessments of inequality? Are they conducive to the various standards of poverty? What are the implications for evaluations? Firstly, it leads to faulty analyses as per the determinants of effective programmes AND leads to effective policy measures. It allows us to integrate a wide range of concepts related to causation and approaches to causal inference. There is thus an acute need to widen policy instruments and deepen programming options. This includes evaluating the impact of policy. It redirects inquiry into structural features of the economy with a view to determine how much they matter in explaining inequality of outcomes.

National Voluntary Reviews (NVRs) are a series of documents that enable volunteering countries to monitor their progress in view of attaining Agenda 2030. The United Nations (UN) has championed NVRs to allow its member states to localize the SDGs into their existing development systems and indicators has championed the NVR process. Drawing on data produced by UN community of practice – EvalSDGs – the researchers have found that evaluation plays a key role in countries' NDPs.

The following table details select countries National Voluntary Reviews (NVRs) to account for similarities on sentiments shared surrounding inequalities and evaluation:

NVR Country	NVR, NDP and related policies	Epistemological Shortfall
• Botswana	• Based on Botswana's NDP 11 (2017), with the theme of: Inclusive Growth for the Realisation of Sustainable Employment Creation and Poverty Eradication • Aims to achieve the NDP 11 theme by way of 6 national priorities: developing diversified sources of economic growth; human capital development; social development; sustainable use of national resources; consolidation of good governance and strengthening of national security; and, **the implementation of an effective monitoring and evaluation system** • Emphasis placed on economic diversification in order to create an increase in domestic economic growth • Inequality is not addressed in national reports	• Evaluation used loosely • M&E is not well established and lacks a National Evaluation Policy to enable M&E • Focus is on the reduction of poverty and economic growth • Does not assess what contributes to national poverty by measuring inequality •

NVR Country	NVR, NDP and related policies	Epistemological Shortfall
• Viet Nam	• Throughout institutional reform, Viet Nam has always recognized the right to equality of opportunity for all as codified in the Constitution. • Article 16 of the Constitution 2013 states that "Everyone is equal before the law. No one shall be discriminated against based on his or her political, civic, economic, cultural or social life" • Civil Code, Law on Access to Information, Budget Law and Public Investment Law, Law on Legal Aid, and Law on Religion and Folk Beliefs. Decision 225/ QD-TTg on administration reforms during 2016-2020 • Viet Nam ratified the United Nations Convention on Persons with Disabilities (CRPD) in February 2015 and promulgated the Plan for the Implementation of the Convention and the Disability Support Program for the period 2012-2030 • In terms of social protection efforts, Viet Nam has provided monthly social subsidies and issued health insurance cards to 2,783,474 people, including 30,292 orphans or abandoned children; 1,524,192 elderly people; 1,126,126 people with disabilities entitled to social subsidies; 5,006 people living with HIV/AIDS in poor households; 97,858 single parents raising their children in poor households (Vietnam VNR, 2017)	• Great strides placed on reducing inequalities • Especially 'intangible' inequalities of class, religion and so forth • Evaluation is by and large rarely used
• South Africa	• South Africa's NDP includes only one objective to address income inequality, remaining silent on issues related to social, political and economic	• Neglects multidimensional inequality • Does not factor in the role of M&E in localising the SDGs

NVR Country	NVR, NDP and related policies	Epistemological Shortfall
	inclusion, equality of outcomes, and issues related to migrants (SDG 10.2 to 10.7) • Overall, South Africa has made progress towards reducing extreme and multidimensional poverty, however, more targeted policies and investments are still needed to address entrenched issues of inequality and rampant unemployment (South Africa NDP 2017)	
• Kenya	• Inequality persists and an estimated 45.96% of the population lives below poverty line with regional disparities • The Kenya Vision 2030 is achieved at the national and sub-national levels through meso-level policies such as the Medium Term Plan and County Integrated Development Plans respectively in order to expand the net of social protection in a bid to reduce inequality in Kenya • Kenya has implemented an SDGs Roadmap and included a wide array of stakeholders to ensure the localisation of its SDGs • Lays an heavy emphasis on inequalities, particularly inequality as a function of migration • Kenya has thus produced a Migration Profile and a draft Migration Policy • Under the Intergovernmental Authority for Development, Regional Migration Policy Framework has established	• Kenya emphasises the strides made towards migration and the language of inequality is well articulated and addressed • Evaluation is by and large rarely used AND not well-defined

NVR Country	NVR, NDP and related policies	Epistemological Shortfall
	and operationalized the National Coordination Mechanism on Migration (NCMM) to address migration-related challenges • Equalization Fund to enhance the socioeconomic development of marginalized groups	

Way Forward

This study has shown how National Evaluation Systems (NESs) articulate the way that national governments measure progress on inequality. Data has proven that meeting SDG 10 is not central to countries' policies, in the VNRs analysed, inequality is scant addressed and evaluation is undermined, even though SDG 10 is at the crux of a country's socioeconomic development. Countries' VNRs highlighted that significant progress has been made in the realm of social well-being by way of amending existing policies, implementing new ones related to social spending and migration for instance. However, these governmental mechanisms in the respective countries are too few and far between. Evidently, the Sustainable Development Goals (SDGs) aspire to have the composite ability to frame discourse and practice around developmental outcomes in countries that have committed to tackle the root causes of global grand challenges but this requires governments to implement programs effectively. Current economic programming around inequality is one-dimensional with a bias on orthodox economics, and requires renewal, based on the most recent, integrated understanding of inequality; this is why there is a disproportional bias on income inequality and poverty reduction to the detriment of socio inequality. NESs need to do more at the national and sub-national levels in order to be policy relevant. The following recommendations present themselves:

- Emphasis should be placed on the usefulness of M&E, as well as the need to design NEPs around Agenda 2030. This need be supplemented by an assessment of the role that countries' M&E systems play in Agenda 2030, if any;
- Governments should relay concerted efforts towards construct indicators and the measurements used to define the bounds of these indicators. Overall, this entails a harmonised socioeconomic methodology for statistical indicators;
- VNRs should move away from traditional metrics of progress such as the gini coefficient, as it does not allow for a proper redress of inequality and related measures to reduce inequalities;
- The role of evaluation should be made more explicit in VNRs, as well as the use of indicators when evaluating the success of policies;
- Intersectional evaluation measures should be incorporated into NDPs and VNRs in order to account for social inequalities related to gender, race and class. This allows for attention to be properly placed on marginalized groups and vulnerable populations and environments;
- Countries should learn to manage complexity through synergistic partnerships for development at the national and sub-national levels.

Despite the rigor undertaken in the analysis, several caveats remain. First, the paper is silent on the measures that countries in the region have taken in reducing inequality mainly because there are knowledge gaps in existing literature. VNRs are voluntary and thus existing VNRs and EvalSDGs knowledge products do not provide any information on development efforts for a wide sample of countries. The second caveat relates to the problem of reverse causality. While countries may institute pro-poor policies in terms of social safety nets for instance, this may serve to create further inequalities in terms of gender in certain households where women are not economically empowered. Finally, given the innate trade-off between quantitative and qualitative techniques, the analysis does not fully capture all the dynamics, underlying processes and mechanisms that account for all variations of inequality. These aforementioned concerns are fully acknowledged and left for future research. The empirical findings offer vital insights on the macro level dynamics of national evaluation systems in reducing inequality.

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Social capital, technology and financial inclusion: The tripod of household resilience

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Abstract

Although attempts have been made to reduce poverty, the chances of households falling back into poverty or being stuck in poverty are still high. A household may be non-poor but vulnerable and a poor household today may face the probability of remaining poor or falling into deeper poverty tomorrow. Vulnerability is therefore a challenge (Chaudhuri et al 2002, Dercon 2005). There is increasing evidence although mixed that financial inclusion offers households a route to improving welfare and escaping vulnerability. We have also become increasingly aware of the role that digital and technology and social capital outcomes play in enhancing household welfare. A stark gap in the literature is the absence of an understanding of how these three factors financial inclusion, social capital, and technology may play a complementary role in household welfare and resilience. In this study, I show how these three factors are linked to household vulnerability and provide some preliminary country case evidence using a unique household data from Ghana.

Conceptualisation and Structural Process in the Meta Leader Development Model

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Abstract

It is said that organisations are like cars, they do not run by themselves except downhill. Within this analogy, it is true that leaders are core to making the organization function effectively. Their efforts are focused on improved leader performance, aligned with what the organisation wants to achieve and their sustainability depends on the selection and development of their leaders. These leaders are able to motivate the workers towards full commitment and additional effort. The effectiveness of the organisations employees determines how successful the organisations internal machine will perform. Working towards this goal organisations tend to invest large sums of money in seeking the development of leaders. There is however a tendency that these leadership development models are not fully conceptualised and argued within perceived structures towards the implementation of the model. This paper reports on the findings of a larger study in which a Meta Theoretical Leadership Development model was conceptualised, designed, implemented and evaluated within the context of a large Gold Mining company in South Africa. The paper will more specifically focus on the conceptualisation and structural process within the Meta Theoretical Leadership Development model. Within the research the conceptual model represents a system that is composed of core concepts, in which a greater understanding is created to assist people towards a greater conceptual knowledge of leadership; in the knowing, understanding and simulation of a possible situation the model represents.

Reducing the cost of education in developing countries challenges and prospects

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Abstract

Education is important for any nation's economic growth. It is thus both a public as well as a private investment though in developing countries it is largely financed by the public sector due to the manpower requirements and rate of return arguments. The high demand for education, high population growth rates, and high cost of living led to high expenditure on education in these countries thereby taking the biggest portion of government recurrent expenditure Educational costs include costs on materials, personal time, transportation, opportunity cost, expenditures on capital equipment and facilities, staff development for teaching and field workers, negative changes in social climate, expenditures of tangible resources and energy commitments. Most educational innovations employed to reduce the cost of education have failed before they achieve their stated purpose primarily because of high costs involved and when they fail the scarce resources will have been wasted. Innovations in developing countries involve major system transformations and few appear to make a major impact at the national level. These include innovations introducing technology, *i*nnovations within non-formal education, innovations involving the school's internal efficiency, and innovations in the study of educational costs. Ways of reducing education expenditure that have been put in place include reducing the expenditure on higher education and concentrating on primary and secondary education; introducing an education levy to all persons including organizations benefiting from education; reducing the number of teachers by looking at the student/teacher ratio in order to have the optimum number that is necessary; decentralizing the Ministry of Education for efficiency; reviewing the curriculum with a view to reducing the number of subjects taught, hence the number of teachers; amalgamating schools especially those that are not viable; controlling the population rate of growth to reduce the number of pupils that require education; retiring teachers early and at the same time have few teachers who work long hours; freezing teachers' salary; reducing corruption in all sectors of the economy; encouraging private schools to thrive and allow market forces to dictate; intensifying auditing of funds right across the whole economy; avoiding high teacher turn over in schools; school committees to look for alternative sources of finance instead of reliance on fees alone; the government to scrap all grants to schools; and leave primary education in the hands of the local authorities as part of the decentralization process. However, it has not been possible to implement these as people always resist change because reforms clash with certain entrenched attitudes and values which make innovations alien. This paper, therefore, discusses the challenges facing the possibilities of reducing education cost and the prospects thereof in view of maintaining high quality of education.

The Revolutionary Potential of Economies of Scope and Scale in the Research Process: does Crowdsourced R&D offer an answer to Innovation Failure?

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Abstract

The contributions of crowdsourcing to the scientific research process, as crowdsourced R&D, are by now well documented. Crowdsourced R&D has demonstrated proof of concept across contexts, even those associated with complexity, such as in biomedical research. Its primary advantage as a research method is in the way it enables *large-scale economics of scale and scope*. It makes high-volume data collection possible.

More importantly, it can be used as a method to obtain high volumes of inputs into problem solving. In so doing, crowdsourced R&D can leverage the collective intelligence of the 'crowd' under certain conditions to solve problems more cheaply and quicker than conventional systems of R&D.

Some have suggested that these economies of scale herald an era of revolutionary improvements in the cost and speed of scientific problem solving, and innovation itself. Indeed, firms such as InnoCentive demonstrate the effectiveness and efficiency of crowdsourced innovation. In light of the growing literature on crowdsourcing within the innovation literature, this paper poses the following questions. *To what extent does crowdsourced R&D have the potential to disrupt conventional systems of innovation, and can it realistically be considered the answer to current problems of innovation failure? Does crowdsourced R&D realistically hold the promise of real time scientific research productivity?* In seeking to answer these questions, this paper provides a critical conceptual review of the innovation literature, and offers a theoretical ordering of what are argued to be the most relevant theoretical frameworks that can explain the ultimate potential of radically enhanced economies of scale in the research process. Included for consideration in the theoretical synthesis undertaken here are theoretical frameworks such as those related to knowledge aggregation theory, networked science, swarm intelligence, and generations of innovation theory, amongst others.

Over-indebtedness of Microfinance Borrowers in South Africa

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Abstract

Access to financial services has grown rapidly in South Africa, especially in the low-income population segment. At the same time, however, the level of over-indebtedness has increased, making those whose lives are already characterized by unduly high sacrifices to meet repayment obligations even more vulnerable. According to Schick's definition of over-indebtedness, 13.05% of micro borrowers are over-indebted. Employing a binary choice logistic regression model for a unique set of cross-sectional data from 2015 FinScope survey, this study examined the determinants of over indebted among low-income earners. In direct contrast with the lifecycle-permanent income hypothesis, the findings indicate that older citizens are more likely to be over indebted. Moreover, indebtedness has much deeper effects in rural settlements, which may likely perpetuate financial exclusion in these communities. However, attaining a higher educational qualification translates into less likelihood of being over indebted. The study reiterates the importance of saving for retirement and education. It is imperative that society learns about the consequences of over-indebtedness and consequently avoid its eventuality. Social welfare efforts to ease the burden for older citizens should also be encouraged.

Left behind, but included: The case of migrant remittances and financial inclusion

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Abstract

Migration is often viewed negatively because of the homelessness, city congestion, and other ills it has often been tagged with. But, 'Every coin has a flipside'. Using data from the Ghana Living Standard Survey (Round 6), this study explores how remittances sent by migrants promote access to and usage of a broad range of financial services. We employ a novel econometric methodology, the endogenous switching probit regression which effectively handles selection on observables and unobservables as well as endogeneity. Treatment effect predictions show that remittances increase the probability of receiving households owning an account, saving, accessing credit and holding insurance policy by 14 percentage point, 8 percentage point, 4 percentage point and 11 percentage point respectively compared to analogous non-receiving households. Remittances confer similar financial inclusion benefits on a randomly selected household and on the counterfactual –the financial inclusion level of those households that did not receive remittances had they received remittances. This implies that remittances foster financial inclusion of the left behinds. This unambiguous impact of remittances on financial inclusion calls for a more balanced view by policy makers and other stakeholders regarding both internal and external migration.

Money lost in transit: Social and economic repercussions of high remittance costs

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Abstract

Focusing on the South Africa- Zimbabwe remittance corridor, this paper discusses the main challenges faced by African governments and individual migrants in relation to harnessing the socio-economic development of financial remittances. We observe that, when compared with other regions, money transfers in Africa are amongst the most challenging, due to high rates of informalised transfer systems and the regulatory environment that favours cartels. This creates a double bind for remitting migrants who contend with the precarity of the informal market yet for various reasons are unable to access the formal channels which are governed by strict regulatory frameworks. As such the attractiveness of formal and informal channels varies yet both, still do not meet the pertinent needs and economic interests of the migrants and their families in their home country.

We argue that there is need for better policy cooperation between the destination and the country of origin and the creation of a policy environment that encourages the sending of remittances through official rather than unofficial mechanisms. Also, a stable policy environment in the country of origin is necessary and could play a role in increasing the level of remittances by encouraging migrants to hold their savings in financial assets in the home country rather than holding them abroad.

In this work we use secondary data on different remittance corridors on the African continent, by going through the data that is available on different remittance corridors in Africa, with specific reference to the South Africa corridor. It will show that although remittances have grown in figures, current perceptions among most policy formulating bodies are that remittances are better recorded by international and national statistics agencies. For instance according to the World Bank, remittances to sub-Saharan Africa grew to $37.8 billion in 2017, and are forecast to hit around $39.2 billion this year and $39.6 billion in 2019, however if we look at data over the last ten to twenty years, it seems as if remittances have grown when in fact the growth is due to better data recording methods. The truth lies between what we see in the data and reality.

What does Paris mean for Africa?

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Abstract

Climate change is one of the biggest environmental and societal concerns with high expected impacts to economies and societies. The African continent is expected to be impacted the most with severe estimated future damages from climate change. Successful responses to climate change in terms of policies for Africa, require future projections of potential impacts and adaptation possibilities. This paper presents a new Integrated Assessment Model -AD-AFRICA- which allows for a focussed analysis of African regions. With this model the impacts and short-coming of the Paris climate agreement are investigated. We estimate the effects of different global mitigation policies in terms of damages and adaptation costs for African region. Four mitigation policies are included; RCP 8.5 (4 ^{0}C) corresponding to business as usual scenario, RCP2.6 (2 ^{0}C) corresponding to article 2(a) of the Paris agreement, mitigation pathways corresponding to aggregate effect of INDCs (2.7-3 ^{0}C) and current policy reference. These scenarios are applied to investigate the impact of the Paris Agreement on the costs of climate change felt in Africa. We find that the Paris Agreement goal would reduce climate costs in Africa by almost 2.5% of GDP in 2100, however the INDCs result in a lesser decrease of 1%. The withdrawal of the US from the Paris agreement further decreases its potential to decrease impacts. Our results show that different regions in Africa will face very different climate change impacts and challenges with their own characteristics and timing.

The linkages between population growth and carbon dioxide emission: An investigation of the African perspective

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Abstract

This study examines the relationship between population growth and carbon dioxide (CO_2) emissions in the context of African perspective. Population growth and carbon dioxide emissions helped identify the key driving forces of environmental impacts by including other predictors in all the different income levels of all sampled countries in Africa. To explore the role of population growth in the emissions of carbon dioxide, this research employed a panel data set of 51 Africa countries from 1960 to 2012 using fixed effects, random effects, GLS/FGLS and PCSEs estimators to estimate the modified STIRPAT model. The results found that the average effect of population growth over CO_2 emissions, when the population growth change across time and between countries in LICA, LMICA, UICA and HICA increases by 1%, CO_2 emissions increase by about 0.33%, 1.08%, 0.57% and 2.3% respectively, on the average, controlling for all other anthropogenic driving forces. There is a significant relationship between population growth and carbon dioxide emissions in all cross national income levels in Africa.

Financial Development, Sectoral Effects and International Trade in Africa: An Application of Pooled Mean Group (PMG) Estimation Approach

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Abstract

The study investigates empirically the effects of financial development on trade flows and the mediating role of finance in influencing sectoral growth for improved international trade flows in Africa. The paper invoked the Pooled Mean Group (PMG) estimation approach on a panel data comprising 46 countries in Africa spanning 1980–2016. This approach addresses the issue of capturing the effect of both short and long run effects of finance on trade flows in Africa. Results based on the Pooled Mean Group (PMG) estimations suggest that, for both the long and short run, the impact of sectoral value additions is contingent on the proxy of trade, financial sector development does not have a significant effect on international trade. This holds irrespective of the measure of finance and international trade. However, after controlling for the transmission channels, a co–existence of a negative long run substitutionarity between finance and trade is found and this is invariant of the indicator of finance and trade. On the mediation role, we find that higher sectoral value additions dampen the deleterious effect of finance on trade with huge impact emanating from the service sector.

From our findings, improving on domestic financial services as well as cross-border supervision and regulation are exceedingly important to ensuring the healthy and sufficient liquidity of finance that is consistent with international trade. Given the increasing internationalization of financial intermediation, the emerging regulatory framework should be agile to respond to financial fragility. There is still room for better regulation of domestic financial sector to help improve financial institutions' risk-taking behavior. To ensure improved international trade in Africa, building complementarity in a way that strengthens input–output and demand linkages among the industrial, agricultural, manufacturing, services and financial sectors is crucial.

This study is one of the pioneering works that examines the financial development–international trade nexus in Africa given that previous studies fail to re-engaging the debate where trade flows, sectoral value additions and domestic financial development are lower and investigating the mediating role of finance in influencing sectoral growth for improved international trade flows.