**Financial integration and economic growth in the COMESA AND SADC regions.[1]**

*Abstract*

*This study used panel data methods to examine the relationship between financial integration and economic growth in the COMESA and SADC regions. Using FDI and portfolio flows as a share of GDP, Chinn-Ito index of financial openness and debt flows as measures of financial integration, the study found that the relationship between financial integration and growth is largely insignificant in the combined sample of COMESA and SADC regions. However, the relationship changes when the two regions are separated. Whereas two of the indicators of financial integration are significant in the COMESA region, only one indicator of financial integration is significant in the SADC region implying that financial integration is more important in the COMESA region than in the SADC region. The results support the growth retarding theories of financial globalization and the convergence hypothesis in the COMESA region while the neoclassical trade theories find strong support in the SADC region. These results imply, first, that financial integration has different growth effects for different regional groupings and thus integration policies should not be universally applied. Second, these results imply that further enhancement of trade integration policies offer more promising outcomes for economic growth in the SADC region than financial integration policies while the converse is true for the COMESA region*

*If the benefits of international financial integration are large, they must occur through channels that are not in the textbook neoclassical growth model. Moreover,* international financial integration can equalize the marginal return of capital across countries without closing the large gaps in productivity and income per capita between poor and rich nations *(Pierre-Olivier and Olivier, 2006).*

## 1.0. **Introduction**

With the recent wave of regional groupings and full capital account liberalization across regions, research debate in this field has somewhat shifted from the role of financial development on growth to the role of financial integration on growth. This is in acknowledgement of the fact that financial integration and financial development are not entirely synonymous and their growth effects differ[2].

Economists differ sharply concerning the relationship between financial integration and growth. Theoretically, financial integration is expected to facilitate risk-sharing, enhance product specialization, foster efficient capital allocation, improve the development of the financial system, eases the flow of capital from capital abundant countries to capital scarce countries with positive output effects. Financial integration also leads to a better financial infrastructure, which mitigates information asymmetries and reduces moral hazard and adverse selection problems (Chen and Quang, 2012; Arjana et al., 2011; Moritz and Steger, 2010; Samuel, 2010; Edison et al., 2002). However, financial integration can also affect growth negatively by increasing the probability of financial crisis, particularly during periods of sudden reversals of international capital flows. In addition, financial integration through enhanced capital flows can appreciate domestic currencies and adversely affect the trade balance. Moreover large and sudden inflows can fuel rapid consumption growth leading to rising or sustained high inflation, and unsustainable current account deficits (Sarbapriya, 2012; Katarzyna, 2012; Siow, 2012; Osada and Saito, 2010; Schmukler, 2004). Proponents of this

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[2] Financial integration also referred to as financial globalization in some literature is defined as the traffic of financial transactions either domestically or across borders, through which a country's financial markets become closely integrated, (Marga and Sabri, 2012). Financial development on the other hand is defined as enhanced quality, quantity and efficiency of financial intermediary services, which can occur without financial integration.

contrasting view support their arguments based on historical experiences using examples such as China, which has grown rapidly in the absence of financial integration (Aizenman et al., 2013).

Empirical evidence is equally ambiguous with some studies revealing a role for financial integration on growth directly while others find no role of financial integration on growth (Sarbapriya, 2012; Mirdala, 2011). Others find a role through the indirect channel of financial development (Pierre-Olivier and Olivier, 2006; De Gregorio, 1999). Other studies further indicate positive effects of financial integration only under certain conditions such as developed domestic financial markets, better institutions, higher level of human capital, large trade openness, lower inflation and banking regulation (Katarzyna, 2012; Mougani, 2012 Osada and Saito, 2010).

Progress towards financial integration in most African countries was initiated through adoption of capital account liberalization as one of the development strategies since it was widely believed that capital inflows in the form of FDI, portfolio flows and debt flows would facilitate economic growth.[3] However, existing evidence does not support this assumption in all African countries. It is not apparent that countries that have received most FDI, portfolio flows or debt flows (indicators of financial integration) have high economic growth rates. For example, in the last one decade, Zambia, Malawi, Rwanda, Mozambique, Uganda and Lesotho, among others received high levels of FDI, portfolio flows and debt inflows yet their economic growth statistics are not the most impressive with averages of below 4 percent GDP per capita growth. While countries like Angola that received negative capital flows experienced the highest GDP per capita growth of over 7 percent annual average over similar period. This analysis suggests that financial integration based on the three indicators does not necessarily lead to high per capita GDP growth.

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[3] Integration between local financial systems and international financial markets and institutions require that governments liberalize the domestic financial sector and the capital account. Integration occurs when liberalized economies experience an increase in cross-border capital movement (Schmukler, 2004)

The surge in capital flows to enhance financial integration and by implication economic growth was also accompanied by encouragement of regional grouping efforts in African countries. Proponents of regional groupings contend that, it expands trade, provides opportunities for investment, removes barriers to free movement of factors of production and enhances economic growth. Most countries in Africa have thus identified themselves with at least one regional grouping. African countries therefore embraced a twin development strategy of supporting both financial integration and regional integration efforts with a common goal of enhancing growth. Regional groupings are thus required to observe both nominal convergence criteria and real convergence criteria and particularly financial integration[4]. Financial integration is one of the key elements of real economic convergence that most regional groupings aspire to attain with the objective of realizing the positive growth outcomes associated with financial integration. Economic growth levels in African countries including those belonging to regional groupings and those that emphasize financial integration, however still remain below potential. Moreover, lessons from the recent global financial crisis point to the need for caution in observing the financial integration criteria, as losses in one country would lead to contagion in others.

Furthermore, other studies have shown that the relationship between financial integration and growth changes over time yet such an analysis has not been explored in Africa even as many countries continue embracing financial integration and regional integration during the financial crisis period. Existing evidence also shows that financial integration is only beneficial under certain conditions such as strong institutions, developed financial systems and higher level of human capital which have not been developed in most African countries including countries in regional groupings. This implies that continued encouragement of financial integration in African countries if such conditions necessary for positive effects on growth have not been developed may not yield the desired growth outcomes.

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[4] Nominal convergence means convergence of nominal variables such as inflation while real convergence means durable structural adjustment of economies including convergence of GDP, financial markets and production structures, (Drastichova, 2012).

It is against this background that this study seeks to address the following research questions (i). Has financial integration contributed to economic growth in Africa? (ii). Has financial integration increased growth in the major regional groupings in Africa?

Specifically this study addresses the following objectives:
(i).     Empirically determines the impact of financial integration on economic growth in Africa
(ii).    Empirically determines the impact of financial integration on COMESA and SADC regional groupings.

In addressing these objectives, the study uses two stage least squares (2SLS), a methodology that is not only appropriate for this kind of study but also solves problems of endogeneity prevalent in the variables used in the model. The study focuses on foreign direct investment & portfolio flows, debt flows and a financial openness indicator as the main indicators of financial integration. Each of these variables is entered separately in various models in three sets of data, the whole sample, COMESA countries only and the SADC countries only. The results reveal that the relationship between financial integration and growth is largely negative in the combined sample of the COMESA and SADC region. However, notable differences are observed when the samples are separated with financial integration theories being more significant in the COMESA region while trade theories are more significant in the SADC region.

The rest of the paper is structured as follows: the next chapter provides the trends of financial integration indicators over time in the sample countries. Chapter three reviews the literature while chapter four provides the methodology. The results are discussed in chapter five and the last chapter provides the summary and conclusions.

## 2.0.    Trends of FDI and debt flows in Africa

In this section we present trends of some indicators of financial integration. In general, the analysis suggests weak relationships between individual country financial integration indicators and average economic growth.

In figure 1, we present net FDI inflows in the SADC region. All the countries in the SADC region received positive FDI flows during the last one decade except Angola, which received negative FDI flows in some years. Nevertheless, Average GDP per capita growths for Angola over the last sample period in the graph was above 7 percent while all the other countries in the sample recorded average per capita growth rates of below 4 percent. However, notable improvements in FDI flows in 2010 were recorded in the Democratic Republic of Congo, Mauritius, Namibia and Zambia.

Figure 1: FDI Inflows in the SADC region
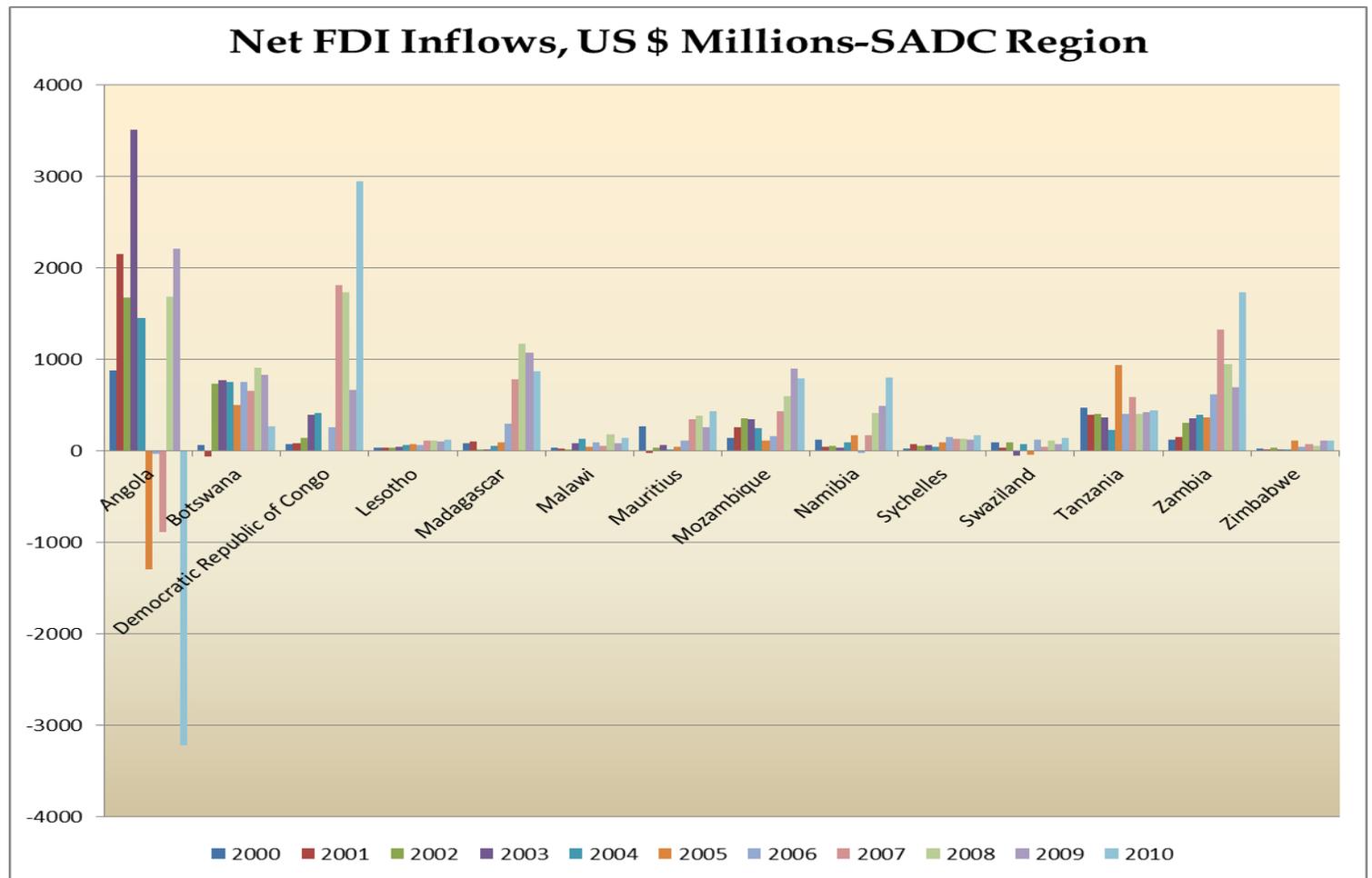
Unlike the SADC region where Angola experienced negative FDI flows, in the COMESA region presented in figure 2, all the countries received some flows during the period 2000-2010 with Egypt, Libya and Sudan recording the highest recipients. However, average GDP per capita growth rates of these highest recipients of FDI is below 4 percent. Democratic Republic of Congo, Ethiopia, Kenya, Libya, Mauritius, Sudan and Zambia received improved FDI flows in 2010. It is also important to note that in both the SADC and COMESA regions, the major recipients of FDI such as Angola, Libya, Sudan, Botswana and Democratic Republic of Congo are also natural resource exporting countries. The implication of this observation is that countries that are not resource rich should take deliberate efforts to enhance their incentive systems to attract more FDI.

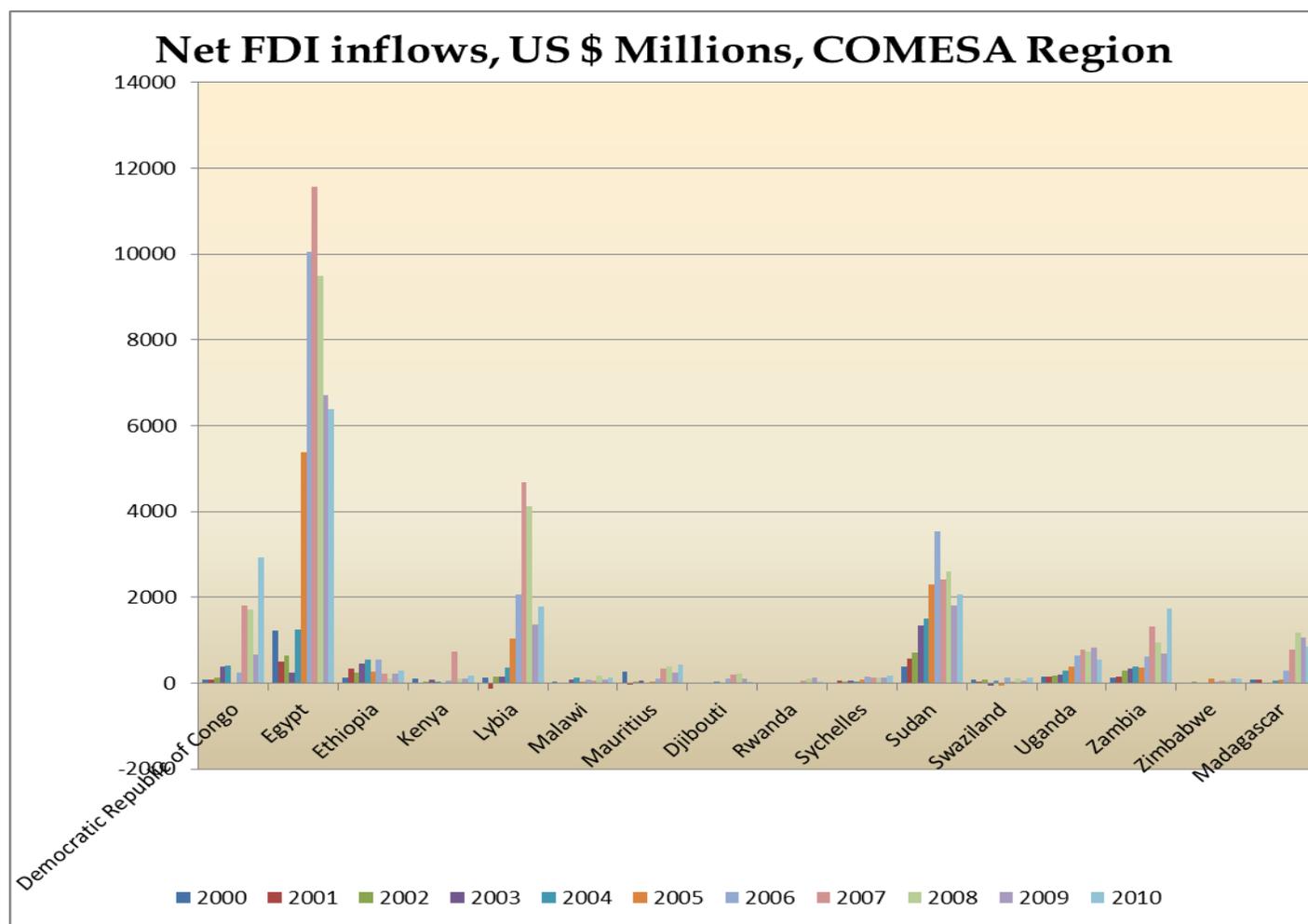Figure 2: FDI inflows in COMESA region

Figure 3 presents external debt flows in the SADC region. In the SADC region, the highest recipients of external debt are Angola, Madagascar, Mozambique, Tanzania and Zambia. However, apart from Angola and Mozambique, whose average per capita growth rates were above 5 percent, average growth rates for the other countries was below 4 percent and even negative in some countries such as Madagascar.

Figure 3: Flows of external debt in the SADC region
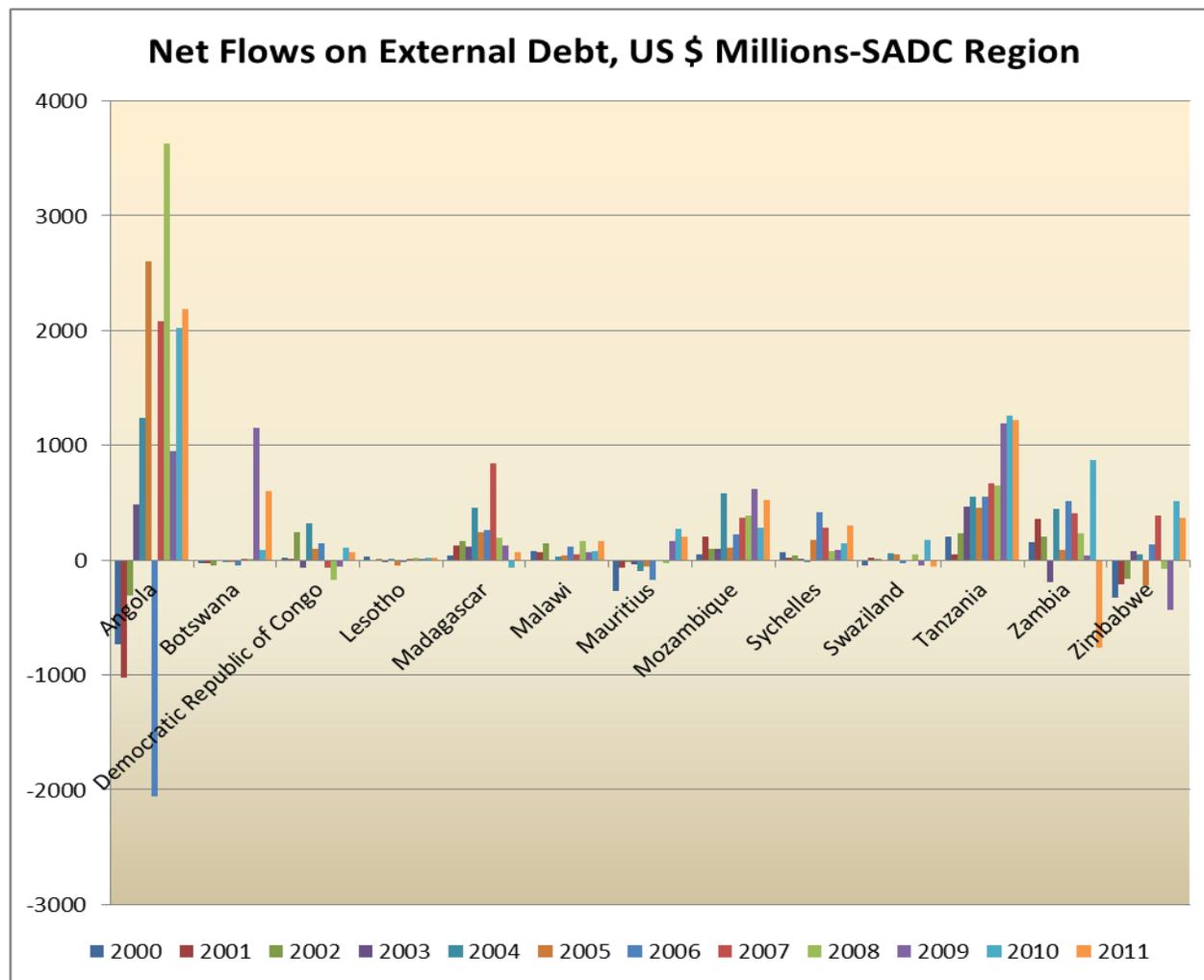


In the COMESA region as presented in figure 4, some countries such as Egypt, Kenya, Mauritius and Zimbabwe recorded negative external debt flows before 2009. Notable

improvements in external debt flows since 2009 are observable in Ethiopia, Kenya, Mauritius, Sudan, Uganda and Zimbabwe but as already noted, only Ethiopia recorded above five percent average per capita growth rates.

Figure 4: Flows of external debt in the COMESA region
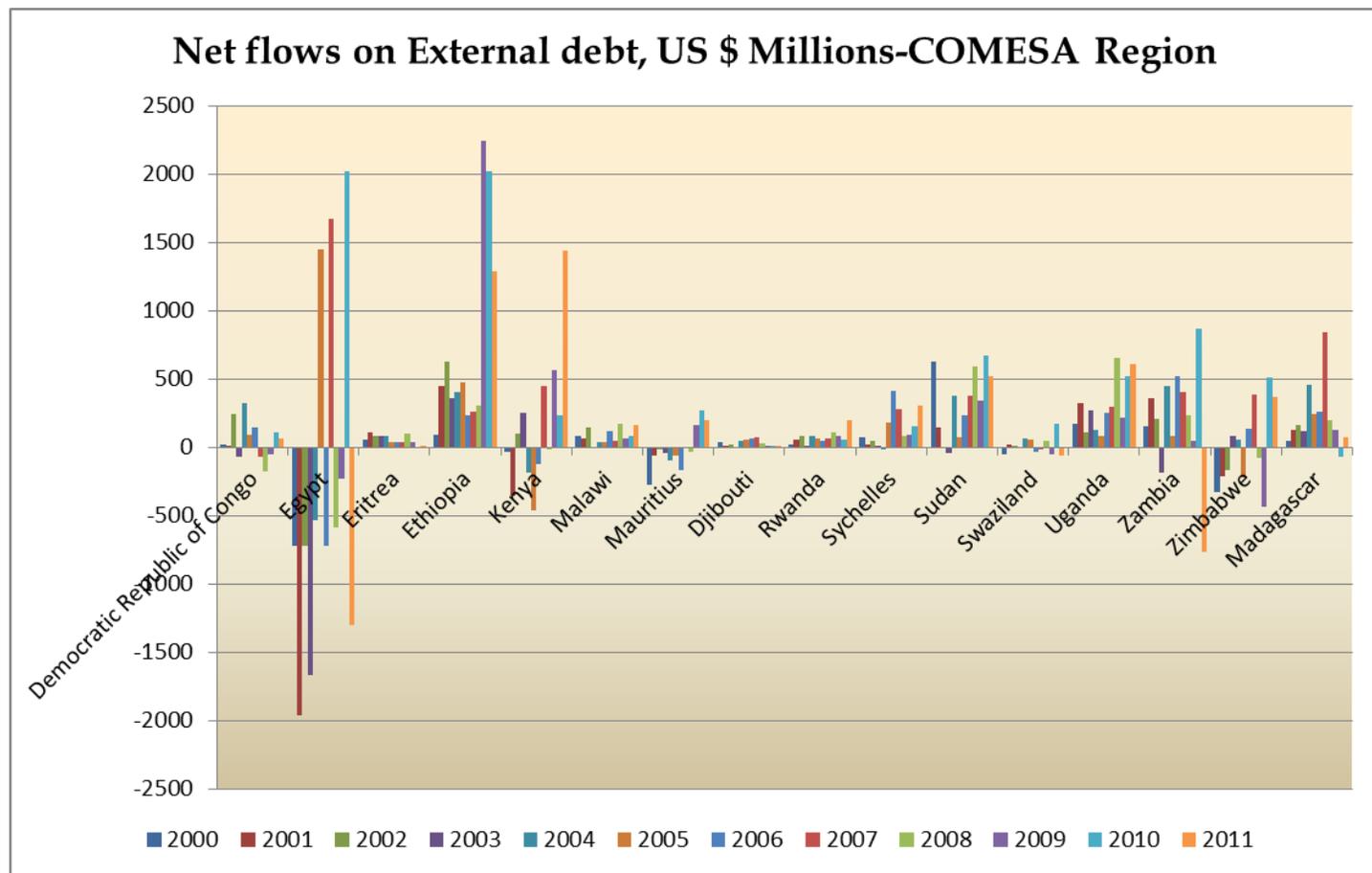


## 3.0. **Analytical Framework**

No unifying economic growth theory exists in the literature thus growth functions have been specified using many diverse theories ranging from the traditional neoclassical theories grounded on Solow's growth model, which considers technology as exogenous and emphasizes the role of investment, to the endogenous growth theory that focuses on human capital, knowledge and technological progress (Barro, 1990; Romer, 1990; Lucas, 1988; Solow, 1956).

Other more recent theories have focused on the role of location of economic activity, agglomeration and specializations in the new economic geography theories while others have emphasized the role of institutions in advancing economic growth (Schmutzler, 1999; North, 1989).

In the last three decades, following the advent of financial liberalization , several studies have developed theories and specifications of growth equations incorporating financial openness and financial integration variables dominantly following the standard Barro (1991; 1990; 1989) growth models. The Barro growth models mainly focused on the convergence hypothesis of neoclassical growth models, human capital, physical investment, government expenditure and institutional variables

In this study we also use the Barro growth theories and augment them with financial integration theories in line with Bonfiglioli, (2011); Kose et al., (2009) and King and Levine, (1993). Substantial economic literature dating back to Schumpeter (1911), Bahegot, (1973) and Mc Kinnon, (1973) and Shaw (1973) placed a lot of emphasis on the positive contributions of financial systems and financial integration to investment and economic growth. According to the traditional line of thought, financial integration promotes financial development and hence economic growth. Free capital mobility across borders avails more funds and allows capital to find the highest rate of return. Moreover, liberalization of capital flows, a catalyst for financial integration, enhances market liquidity, which in turn boosts productivity while an increased presence of foreign firms including foreign banks enhances productivity via an increased efficiency of the domestic resource allocation with positive growth implications (Olaf et al., 2008; Fowowe, 2008; Bekaert et al., 2005; Rusek, 2004; Henry, 2003; Ross and Sava, 1996; Bekaert, 1995). In the capital market, international asset pricing models predict that liberalization leads to a drop in the cost of equity and debt capital through integration of segmented markets, which in turn facilitates investment and growth In addition, better corporate governance and investor protection arising from capital market liberalization promotes financial development and hence growth (Bekaert et al., 2005)

Contrasting views on the relationship between financial integration and growth have also been developed in the light of the many financial crises episodes witnessed in countries that liberalized their financial systems. According to this school of thought, one of the risks of financial integration is contagion, in which case negative shocks for one country can transmit to other countries via (other) financial markets. In this case, a crisis in one country that affects the financial sector immediately affects the countries to which that country has a substantial degree of financial exposure. The role of foreign banks may also be used to support this view since a problem in the home country of a foreign bank may spill over to the domestic economy (Rousseau and Wachtel, 2011). Three theoretical arguments linking financial liberalization to fragility and growth have been extensively expounded on by Loayza and Ranciere (2006) who summarize the works of Giovanni and Marquez (2006); and Rajan (1994). According to these authors, first, in emerging market economies, the opportunity cost of full insurance, given by the marginal rate of return to investment is too high, thus it is less optimal for banks in such economies to fully insure against the risk of bank runs. Thus in the short-run after financial liberalization, there is a chance that emerging market economies will face financial crises, switch from non-crisis to crisis equilibria and thus experience volatility of credit and low output growth. Second, when financial markets are liberalized, banks have less incentive to screen their pool of applicants which include new and untested funding requests. This creates a risk of adverse selection and possible decline of bank's portfolio, a situation that breeds financial instability and output losses. However, lessons from the recent financial crisis may have created need for more caution. Third, bank managers have a tendency of practicing a pro-cyclical credit lending in a liberalized credit environment which leads to financing of bad projects in good times and squeezing credit away worthy firms in distress periods ( See also Misati and Nyamongo, 2012).

Similar views contend that in most countries, after liberalization a great need for credit expansion occurs in the face of poor development of supervisory capacity. In such a context, cycles of booms and busts in credit and output growth are likely to arise. An illustration of the

linkages between deregulation, financial innovations, asset prices and banking distress in the light of the recent crisis is extensively discussed in Duca et al. (2010), Altunbas et al. (2010) and Von Peter (2009). Moreover, capital account liberalization increases the risk of speculative attacks, causes volatility of the exchange rate and increases a country's exposure to international shocks and capital flight with negative growth implications (Arestis, 2005; Barbara, 2004).

On the basis of these theoretical arguments and in line with previous empirical work on the financial integration-growth nexus, our specification therefore takes the following form:

$$Y_{it} = \alpha_0 + \alpha_1 FinINT_{it} + \beta_1 X_{it} + u_{it} \qquad\qquad (1)$$

Where $Y_{it}$ is the growth rate of real per capita GDP, $FinINT_{it}$ represents measures of financial integration while $X_{it}$ is a set of explanatory variables and $u_{it}$ is the error term. The subscripts i= 1,…, N and t=1,…,T refer to the cross-section and time series dimensions of the data, respectively.

## 4.0.    Model and estimation method

The basic equation is similar to equation (1) above. The dependent variable is growth rate of per capita GDP. $FinINT_{it}$ is represented by four measures of financial integration. The financial integration indicators used in this paper include foreign direct investment & portfolio flows as a share of GDP, debt inflows as a share of GDP and a financial openness indicator. The portfolio flows represent the net portfolio equity while debt flows represent net flows of external debt. The financial openeness indicator is proxied for by the Chinn_Ito Index (Chinn and Ito, 2002; 2006; 2007). Each of the financial integration indicator is entered separately into the regression models which imply that four models are estimated with the same control variables but different financial integration indicators for the entire sample of countries and each separate regional grouping. The financial integration indicators used are the standard

measures used in previous studies (Mougani, 2012; Quinn et al., 2011; Moritz and Steger, 2010; Galindo et al., 2010; Lane and Milesi-Ferretti, 2003). The $X_{i,t}$ is a set of control variables used which include: government expenditure as a ratio of GDP; gross fixed capital formation as a share of GPD; inflation; trade openness; primary school enrolment rate, institutional factor and credit to the private sector. The initial level of GDP per capita and primary school enrolment rate are included to capture the effect of level of development and human capital formation on economic growth, respectively. The apriori sign for initial income is ambiguous. On the one hand, it is argued in the literature that the initial level of income can have a positive effect on economic growth through its influence on capital formation. The initial level of income can also lead to a negative effect on economic growth reflecting the convergence property of the neoclassical theory. According to the neoclassical model, the growth rate tends to be high if the starting per capita GDP is low in relation to its long–run or steady state position; that is, if an economy begins far below its own target position ( Barro and Xavier, 1997). The main element behind the convergence result in neoclassical growth models is diminishing returns to reproducible capital where it is argued that poor countries with low ratios of capital to labour, have high marginal products of capital and therefore tend to grow at higher rates (Barro, 1991).

Total government expenditures as a share of GDP is expected to correlate ambiguously with growth depending on the type of government expenditure and whether it crowds in or crowds out private investment. Government expenditure engaged in the provision of nonrivalrous and nonexcludable public services to the economy is complemetary to private investment and thus is expected to positively impact economic growth. It is also possible that high resource consumption by the public sector would undermine the efficiency of resource allocation or crowd out resource availability to the more efficient sectors of the economy. In this case a negative coefficient is expected.

Inflation is included to capture the effect of macro economic stability. High inflation can lead to uncertainty about the future profitability of investment projects. This is especially true if the high inflation is also associated with increased price variability. The effect is more conservative

investment strategies than would otherwise be the case, ultimately leading to lower levels of investment and economic growth. Inflation may also reduce a country's international competitiveness, by making its exports relatively more expensive, thus impacting on the balance of payments. In this case the relationship between inflation and growth is negative. The relationship between the two variables can also be positive based on the Keynesian theory of Aggregate Demand (AD) and Aggregate Supply (AS) curves which postulates that the AS curve is upward sloping in the short-run and changes in AD affect both prices and output. The dynamic adjustment of the short-run AD and AS curves yields an adjustment path which exhibits an initial positive relationship between inflation and growth. This initial positive relationship between output and inflation induces producers to feel that only the prices of their products have increased while the other producers are operating at the same price level. However in reality, overall prices have risen. Thus, the producer continues to produce more and output continues to rise. Other arguments have been advanced indicating that the positive relationship can be due to agreements by some firms to supply goods at a later date at an agreed price. Therefore, even if the prices of goods in the economy have increased, output would not decline, as the producer has to fulfil the demand of the consumer with whom the agreement was made (See Vikesh and Subrina 2004 for a summary of inflation-growth theories).

The study includes credit to the private sector to capture the relationship between financial depth and growth. Arguments and evidence of positive relationships between financial development, investment and growth abound in the literature (Misati and Nyamongo, 2011; Ndikumana, 2000; Ross, 1997; Ross and Sava, 1996; 1998). Better functioning of financial systems ease external financing constraints that impede firm and industrial growth. Financial markets and institutions reduce the effects of information costs, ameliorate transactions costs, facilitate risk diversification and boosts corporate governance through public offerings thus enhancing resource allocation efficiency which positively impacts on savings, investment and economic growth. The apriori expected sign between credit to the private sector and economic growth is therefore positive.

Trade openness, measured by the sum of exports and imports as a ratio of GDP is also included in this study. Many theories as summarized in Dowrick and Golley (2004) have been developed that predict positive relationships between trade openness and growth. According to the neoclassical analysis of welfare gains through exploitation of comparative advantage, a reduction in trade barriers increases trade and the level of productivity. GDP therefore increases through reallocation of resources and capital accumulation. Trade openness can also increase the rate of technological progress through expansion of market for outputs and inputs besides giving domestic producers access to a wider variety of capital goods, effectively enlarging the base of productive knowledge. The apriori expected sign between trade openness and economic growth is therefore positive.

Human capital formation is widely acknowledged in the literature as critical to the growth process with countries registering higher human capital formation expected to post higher growth rates. In the literature there is no clear proxy for human capital formation. Some studies proxy it by population characteristics such as growth, structure and density (Darrat and Al-Yousif,1999). However, the expected effect of these characteristics is not clear. For example, higher population growth may have negative or positive effects on growth. High population growth rate could have a negative relationship since it may exert influence on the dependency ratio, investment and saving behaviour and quality of human capital. A large working population is deemed to be conducive to growth, whereas a population with many young and elderly dependants is seen as an impediment to growth. In other studies the human capital formation is captured by the school enrolment rate, either secondary school enrolment rate or primary school enrolment rate, (see. Ajala and Kerebih, 2008). Under this approach, it is argued that higher levels of enrolment rate will in the medium to long-term lead to a pool of highly trained labour-force that is capable of propelling the economy to higher growth performance.

Institutional factors are also identified as prominent in the growth performance particularly among African countries. In this study, we include a composite index of six quality of

institutions variables (Rule of law, voice and accountability, regulatory quality, political instability, control of corruption and government effectiveness) computed based on Principal Component Analysis. Theoretical and empirical studies argue that weak institutions adversely affect investment and economic growth (Myrdal, 1989; Shleifer and Vishny, 1993; Knack and Keefer, 1995; Mauro, 1995; Li, et al., 2000). Other studies such as Lui (1985) and Misati (2010) find that some level of institutional weakness, particularly, corruption is sometimes beneficial to investment and economic growth. This therefore suggests that there is controversy in the theoretical as well as empirical literature regarding the relationship between corruption and economic performance.

All growth models seem to agree on the positive role of capital accumulation in growth. In this study therefore, we use gross fixed capital formation to capture the role of capital accumulation. The apriori sign is positive. The paper also includes a natural resources interaction term with foreign direct investment to capture the effect of existence of natural resources on foreign direct inflows. The natural resources dummy was defined by 1 in case a country has natural resources and zero otherwise.

The study used two stage least squares (2SLS), a methodology that is not only appropriate for this kind of study but also solves problems of endogeneity prevalent in the variables used in the model.

5.0.    **Discussion of results**

Estimation is based on two stage least squares and the results are reported in tables 1-3. The dependent variable is the growth rate of real per capita GDP in all the models. In table 1, we report results where both the COMESA and SADC region countries are considered while in table 2, only COMESA countries are included in the sample. In table 3, we remove the COMESA countries from the sample and only consider the SADC region. In all the tables, we

report three separate models where we separately consider each of the financial integration indicators.

Table 1: Combined sample of COMESA and SADC countries: the dependent variable is GDP per capita growth

| Independent variables×× | Model without financial integration measures | Model with FDI and natural resource dummy | Model with FDI and Portfolio inflows | Model with financial openness indicator | Model with debt inflows |
|---|---|---|---|---|---|
| GDPG(-1) | -0.436(-2.24)** | -0.582(-2.85)*** | -0.548(2.62)*** | -0.283(-1.75)* | -0.355(-1.84)* |
| PRI | 0.184(1.94)* | 0.269(2.40)** | 0.181(1.93)* | 0.164(2.36)** | 0.136(1.75)* |
| Investment | 0.327(3.72)*** | 0.152(1.08) | 0.342(3.89)*** | 0.272(2.89)*** | 0.232(1.87)* |
| GovtExp | -0.347(-1.55) | -0.136(-0.544) | -0.393(1.76)* | 0.294(3.35)*** | 0.264(2.54)** |
| CreditP | 0.088(1.00) | 0.229(1.93)* | 0.097(1.10) | 0.125(1.41) | 0.199(1.89)* |
| Inflation | -0.104(-1.97)* | 0.134(1.78)* | -0.079(-1.43) | -0.071(-1.51) | -0.118(-2.35)** |
| Trade | -0.010(-0.372) | -0.002(-0.14) | -0.029(-0.94) | 0.026(0.88) | 0.072(1.76)* |
| Institutions | 2.735(2.11)** | -3.49(-1.61) | 3.220(2.42)** | 2.116(1.80)* | 2.112(1.48) |
| FDINRD | | 0.180(0.42) | | | |
| FDI and PI | | - | 0.186(1.39) | | - |
| Chinn-Ito index | | | | 3.419(2.33)** | - |
| Debt flows | | | | | -1.79E-10(-0.42) |
| $R^2$ | 0.84 | 0.81 | 0.84 | 0.89 | 0.87 |
| Observations | 52 | 48 | 52 | 48 | 45 |

For all the coefficients the t-statistics are in parenthesis; *, **, *** denote 10%, 5% and 1% significance levels, respectively.
××GDPG=GDP per capita growth; PRI=primary school enrolment; Investment=gross fixed capital formation as a share of GDP; GovtExp=Government expenditure; CreditP=Credit to the private sector; Inflation=inflation; Trade=trade openness; Institutions=index computed from the six World Governance Indicators; FDINRD=foreign direct investment interacted with the natural resources dummy; FDI and PI=foreign direct investment and portfolio flows; Chinn-Ito index=financial openness indicator and Debt flows=debt flows.

Table 1 reports results for all the countries in the sample. In Table 1, column 2 excludes all the financial integration indicators and considers the variables that are widely accepted

determinants of growth in developing countries. In column 3, we interacted FDI and natural resources dummy. In column 4 to 6, we separately add FDI and portfolio inflows, a financial openness indicator (Chinn_Ito index) and debt flows as indicators of financial integration (Chinn and Ito, 2002; 2006; 2007).

The results of the coefficients of the financial integration variables are all insignificant except the financial openness index which is positive and significant. In column 3, we interacted FDI and natural resources dummy (FDINRD). However, the coefficient of this result is positive but insignificant, implying that the existence of natural resources does not enhance FDI flows and growth. In column 4, the coefficient of FDI and portfolio inflows as a share of GDP is positive and insignificant. In column 5, the coefficient of Chinn-Ito index, a proxy for financial openness is however positive and significant. This result supports the theories that contend that financial integration promotes financial development and hence economic growth. In column 6, the coefficient of debt flows is negative and insignificant and its magnitude is very small.

 In row 2, the coefficient of the initial level of income is negative and significant as expected in all the specifications. The result is consistent with the neoclassical model which contends that the economy tends to approach its long run position if the starting per capita income is low. The result therefore supports the conditional convergence hypothesis in which case poor countries grow faster than rich countries. Similar results were obtained in Barro (1997); Sachs and Warner (1997) and Easterly and Levine (1997).

Other consistently significant coefficients in nearly all specifications include primary school enrollment and investment. The coefficient of primary school enrollment is positive as expected implying that higher levels of human capital are critical for growth in the COMESA and SADC regions. The coefficient of investment also positive and significant confirming the critical role of capital accumulation in growth. However, the signs of the coefficients of inflation and government expenditure are not consistent and we therefore refrain from making any general conclusions on their relationship to growth.

The coefficients of trade openness and credit to the private sector as an indicator of financial depth, though bearing the expected signs are not significant in nearly all the specifications. However, the coefficient of institutions, that is a composite index of six quality of institutions variables computed based on Principal Component Analysis, is positive and significant in three out of the five models presented in table 1.This would suggest that a high quality of institutions is critical in economic growth in the SADC and COMESA regions.

Table 2: COMESA countries only: The dependent variable is GDP per capita growth

| Independent variables | Model without financial integration measures | Model with FDI and natural resource dummy | Model with FDI and Portfolio inflows | Model with financial openness indicator | Model with debt inflows |
|---|---|---|---|---|---|
| GDPG(-1) | -0.736(-2.79)*** | -0.485(3.03)*** | -0.493(-2.26)** | -0.152(-2.16)** | -0.405(-1.73)* |
| PRI | 0.096(1.70)* | 0.007(0.32) | 0.091(1.67)* | 0.065(1.06) | 0.067(1.20) |
| Investment | 0.345(1.81)* | 0.0246(2.20)** | 0.162(1.08) | 0.132(0.76) | 0.131(0.82) |
| GovtExp | -0.279(-1.95)** | -0.156(-1.92)* | -0.373(-2.61)*** | -0.306(-1.93)** | -0.299(-2.03)** |
| CreditP | 0.202(1.94)** | 0.229(1.93)* | 0.162(1.73)* | 0.198(1.92)** | 0.182(1.93)** |
| Inflation | 0.284(2.31)** | -0.065(-1.72)* | -0.361(-0.25) | -0.058(-0.37) | -0.043(-0.28) |
| Trade | 0.082(1.42) | 0.013(0.85) | 0.075(1.41) | 0.120(2.10)** | 0.105(2.02)** |
| Institutions | 1.69(0.88) | -0.490(-0.82) | 1.067(0.60) | 1.753(0.90) | 1.873(1.05) |
| FDINRD | | 0.122(0.652) | | | |
| FDI and PI | | | 0.574(2.09)** | | |
| Chinn-Ito index | | | | -4.844(-2.00)** | |
| Debt flows | | | | | 3.08E-09(1.38) |
| $R^2$ | 0.55 | 0.66 | 0.65 | 0.57 | 0.69 |
| Number of observations | 90 | 33 | 90 | 90 | 89 |

For all the coefficients the t-statistics are in parenthesis; *, **, *** denote 10%, 5% and 1%

In table 2, we excluded all the SADC countries from the sample and considered the COMESA countries alone. Countries that are in multiple blocks are not treated uniquely in this study. The behavior of the financial integration variables changes significantly from what was

observed when the entire sample was considered. Two of the coefficients of financial integration variables are significant and some of them bear different signs from what was observed in table 1. The coefficient of FDI and portfolio inflows is positive and significant, indicative of possible growth benefits in form of capital flows for long term investment. The financial liberalization indicator is however negative and significant. This result suggest that financial openness is detrimental to growth in the COMESA region. Similar results were obtained by Misati and Nyamongo, (2012) and Ranciere et al., (2006) for SSA and a sample of 60 countries from Europe, America and Africa, respectively. The coefficient of debt flows is positive but insignificant.

Similar results are observed in both tables 1 and 2 for initial level of income supporting the theory of convergence of income across COMESA countries. The coefficients of trade openness, primary school enrolment, investment and inflation are largely insignificant in most of the specifications. However, we observe some differences in the other variables. In this case, the coefficient of government expenditure is negative and significant in all the models. These results seem to suggest that government expenditure rather than being complementary to private investment to enhance growth, it deters growth. It is possible that larger government expenditures are tilted towards unproductive ventures that do not facilitate private investment with inefficient outcomes for growth in the COMESA region. Credit to the private sector is positive and significant in all the models. This result points out the potential importance of domestic financial depth to economic growth as opposed to international financial depth, whose coefficient is negative and significant in this specification. The coefficient of the quality of institutions and the interaction term of the natural resource dummy and foreign direct investment are insignificant.

In table 3, we considered the SADC region only and excluded the COMESA countries. In this case we observe considerable differences. The coefficients of the financial integration variables, natural resource dummy, initial income, trade and inflation differ significantly from both tables 1 and 2. Whereas the coefficient of financial openness represented by the Chinn-Ito index is

positive and insignificant, the coefficient for debt flows is negative and significant. Coupled with the negative and significant coefficient of government expenditure, this result imply that government expenditure would be more concentrated on consumption rather than productive activities and thus is unable to generate enough proceeds to repay its debts. The coefficient of foreign direct investment and portfolio flows is however not significant. The coefficient of natural resources interacted with foreign direct investment is positive and significant indicative of the positive role natural resources play in attracting foreign direct investment. This is not surprising considering that most of the countries in the sample are endowed with various natural resources.

Unlike in tables 1&2, the coefficient of trade openness is positive and significant in table 3. This result is consistent with the neoclassical analysis of welfare gains through exploitation of comparative advantage to increase trade and productivity in the absence of trade barriers. In this case, growth increases through reallocation of resources and capital. Trade also increases the rate of technological progress hence productivity growth either through expansion of markets for output or expansion of markets for inputs. This result corroborates the work of Markus and Lederman, (2012).

The coefficient of inflation is negative and significant in nearly all the specifications. The results imply that higher levels of inflation create uncertainty which is detrimental to long term investment decisions with negative implications on growth. The coefficients of the rest of the variables are insignificant in nearly all the specifications.

Table 3: SADC countries only: The dependent variable is GDP per capita growth

| Independent variables | Model without financial integration measures | Model with FDI and natural resource dummy | Model with FDI and Portfolio inflows | Model with financial openness indicator | Model with debt inflows |
|---|---|---|---|---|---|
| GDPG(-1) | 0.726(2.75)*** | 0.644(2.56)*** | 0.621(2.38)*** | 0.743(2.73)*** | 0.708(2.53)*** |
| PRI | 0.036(0.95) | 0.077(2.09)** | 0.038(1.14) | 0.040(0.97) | 0.020(0.56) |
| Investment | 0.137(1.12) | 0.278(2.10)** | 0.175(1.47) | 0.134(1.06) | 0.237(1.99)** |
| GovtExp | -0.116(-1.83)* | -0.293(-3.27)*** | -0.168(-2.66)*** | -0.119(-1.71)* | -0.105(-1.82)* |
| CreditP | 0.002(0.17) | 0.009(0.75) | 0.002(0.17) | 0.001(0.10) | 0.018(1.28) |
| Inflation | -0.179(-2.17)** | -0.293(-2.89)*** | -0.216(-2.62)*** | -0.204(-2.30)** | -0.110(-1.34) |
| Trade | 0.041(3.52)*** | 0.054(3.56)*** | 0.050(3.89)*** | 0.044(3.29)*** | 0.036(3.36)*** |
| Institutions | 0.094(0.31) | -0.31(-1.16) | 0.127(0.459) | 0.106(0.27) | -0.213(-0.66) |
| FDINRD | | 0.427(2.33)** | | | |
| FDI and PI | | | 0.138(1.04) | | |
| Chinn-Ito index | | | | 0.166(0.41) | |
| Debt flows | | | | | -1.19E-09(-2.40)** |
| $R^2$ | 0.55 | 0.59 | 0.59 | 0.53 | 0.61 |
| Number of observations | 35 | 33 | 33 | 35 | 31 |

For all the coefficients the t-statistics are in parenthesis; *, **, *** denote 10%, 5% and 1%

## 6.0. Conclusions and policy observations

The experience of the global financial crisis reignited intense debate on the role of financial globalization on growth. For a long time before the crisis, there was a somewhat tilted view that the net effect of financial globalization is increased economic growth and thus policies towards enhanced financial integration are optimal. However, some of the lessons drawn from the global financial crisis underpin the need for caution in the integration process, given its potential to result in ugly growth outcomes. This precautionary note is particularly important for regional groupings in Africa that continue to emphasize financial integration as one of the key elements of real convergence of their economies even when countries that are relatively financially integrated continue to register suboptimal growth rates. This study therefore sought to quantitatively understand the linkages between financial integration and economic growth in selected regional groupings in Africa.

The study considered the relationship between financial integration and growth separately in the COMESA and SADC regions and a combined sample of the two regions. FDI and portfolio inflows as a share of GDP, financial openness indicator and external debt flows were used as indicators of financial integration. Substantial differences are observed in the regressions of the two regions. Whereas in the COMESA region sample, FDI and portfolio flows as a share of GDP is positive and significant, the financial openness indicator is negative and significant. In the SADC region on the other hand, the coefficient of debt flows is negative and significant. Based on these results, a general conclusion on the role of financial integration in the combined sample of countries in the COMESA and SADC regions is not plausible.

The significant positive effect of credit to the private sector and negative effect of financial openness in the COMESA region supports the potential importance of domestic financial depth as opposed to international financial integration. In contrast to the COMESA region, the results for the SADC region also reveal that trade openness is positively important to growth in line with the neoclassical analysis of welfare gains through exploitation of comparative advantage to increase trade and productivity in the absence of trade barriers. This result implies that in

the SADC region, trade integration is more important than financial integration while the converse seems to hold in the COMESA region. The results also support the convergence theory but only in the COMESA region. Natural resources seem to be important in attracting foreign direct investment in the SADC region. However since the coefficient of FDI and portfolio flows is not significant, it implies that apart from relying on natural resources to attract FDI, these countries should take deliberate efforts to attract capital flows.

These results imply that, first, financial integration has different growth effects for different regional groupings and thus integration polices should not be universally applied.  Second, further enhancement of trade integration policies, particularly for the SADC region, offer more promising outcomes for economic growth rather than financial integration policies. Third, as financial integration is propelled in regional groupings in Africa, caution should be exercised including dynamic measures to manage capital flows so as to mitigate against the adverse effects of integration. Specific to the COMESA region, policy focus should be tilted towards domestic financial development as opposed to international financial integration.

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# References

Ahmed, A. (2011), "International financial integration, investment and economic performance in Sub-Saharan African countries", *Global Economic Journal*, Vol.11, No.4, pp. 1-26.

Aizenman, J. Jinjarak, Y. and Park, D. (2013), "Capital flows and economic growth in the era of financial integration and crisis, 1990-2010", Open Economies *Review*, Vol. 24, No.3, pp. 371-396

Ajala, O.and Kerebih, A. (2008), "Accessibility in equality to basic education in Amhara, Ethiopia", Ethiopian Journal of Education and Science, Vol.3, No.2, pp.11–26.

Altunbas, Y., Gambacorta, L. and Marques-Ibanez, D. (2010), "Bank risk and monetary policy", *Journal of Financial Stability*, Vol. 6, No.3, pp. 121–129.

Arestis, P. (2005), "Financial liberalization and the relationship between finance and growth", CEPP Working Paper, No. 05/05, University of Cambridge, Cambridge.

Arjana, B., Fabrizio, C. and Igor, M. (2011), "Financial integration and financial development in transition economies: What happens during financial crises?", *Economic and Business Review*, Vol. 13, No. 1-2, pp. 119-137

Bagehot, W. (1873). Lombard street: A description of the money market. London: H.S. King.

Barbara, S. (2004), "Financial liberalization, crisis and rescue: lessons for China from Latin America and East Asia?" *LAEBA Working Paper*, No.32, Available from: http://www.iadb.org/laeba/wp-32-2004.

Barro, R. and Xavier, S. (1997), "Technological diffusion, convergence, and growth", *Journal of Economic Growth* Vol. 2 No. 1, pp. 1–26.

Barro, R. (1997), Determinants of economic growth: A cross country empirical study., MIT Press, Cambridge.

-,(1991),"Economic growth in a cross section of countries", *The Quarterly Journal of Economics*, Vol. 106, No.2, pp.407-443.

-,(1990),"Government spending and a simple model of endogenous growth", *Journal of Political Economy*, Vol. 98, No. S5, pp. 103-125.

-,(1989), A cross-country study of growth, savings and government, University of Chicago Press.

Bekaert, G, Harvey, C., Lundblad, C. (2005), "Does financial liberalization spur growth?", *Journal of Financial Economics,* Vol. 77, No.1, pp. 3–55.

Bekaert, G., (1995), "Market integration and investment barriers in emerging equity markets", *World Bank Economic Review*, Vol. 9, No.1, pp. 75–107.

Bonfiglioli, A. (2011), "Financial integration, productivity and capital accumulation", *Journal of International Economics*, Vol. 76, No.2, pp. 337-355.

Chen, J. and Quang, T. (2012), "International financial integration and economic growth: New evidence on threshold effects", *Economix, Working Paper*, 2012-06.

Chinn, M., Ito, H., (2007), A new Measure of Financial Openness. Mimeo.

Chinn, M., Ito, H., (2006), What matters for financial development? Capital controls, institutions and interactions. *Journal of Development Economics* 81 (1), 163–192.

Chinn, M., Ito H., 2002. Capital account liberalization and financial development: cross country evidence, *NBER Working Paper* No 8967, Cambridge.

Darrat, A. and Al-Yousif, A. (1999), "On the long run relationship between population and economic growth. *Eastern Economic Journal*, Vol.25, No.3, pp. 301–313.

De Gregorio, J. (1999), "Financial integration, financial development and economic growth", *Estudios de Economia*, Vol.26, No.2, pp. 137-161.

Dowrick, S. and Golley, J. (2004), "Trade openness and growth: Who benefits?", *Oxford Review of Economic Policy*, Vol., 20, No.1, pp. 38-56.

Duca, J., Muellbauer, J., and Murphy, A.(2010), "Housing markets and the financial crisis of 2007–2009: lessons for the future", *Journal of Financial Stability*, Vol. 6 No.4, pp.203–217.

Easterly, W. and Levine, R. (1997), "Africa's growth tragedy: Policies and ethnic divisions", *Quarterly Journal of Economics*, Vol. 112, No.4, pp. 1203-1250.

Edison, H., Levine, R., Ricci, L., and Torsten, S. (2002), "International financial integration and economic growth", *Journal of International Money and Finance*, Vol. 2, No.6, pp. 749-776

Fowowe, B., (2008), "Financial liberalization policies and economic growth: panel data evidence from Sub-Saharan Africa", *African Development Bank*, Vol. 20, No.3, pp. 549–574.

Galindo, A., Alejandro, I., and Liliana, R. (2010), "Financial integration and foreign banks in Latin America: How do they impact the transmission of external financial shocks", *IDB Working Paper Series*, No., IDB-WP-116.

Giovanni, D. and Marquez, R. (2006), "Lending booms and lending standards", *Journal of Finance* Vol. 61 No.5, pp.2511–2546.

Gochoco_Bautista, M. and Mapa, D. (2010), "Linkages between trade and financial integration and output growth in East Asia", *Asian Economic Journal*, Vol. 24, No.1, pp. 1-22.

Henry,P. (2003)"Capital account liberalization, the cost of capital and economic growth", *American Economic Review* Vol.93 No.2 pp. 91–96.

Inklaar, R. De Guevara, J. and Maudos, J (2012), "The impact of the financial crisis on financial integration growth and investment", *National Institute Economic Review*, No. 220, pp. 2-35.

Katarzyna, S. (2012), "The integration of the financial markets and growth evidence from a global cross-country analysis", *Bank I Kredyt*, Vol. 43, No.3, pp. 47-70.

King, R. and Levine, R. (1993), "Finance and growth: Schumpeter might be right", *Quarterly Journal of Economics*, Vol.108, No.3, pp. 717-737.

Knack, S, and Keefer, P. (1995), "Institutions and economic performance: cross-country tests using alternative institutional measures", *Economics and Politics*, Vol.7, No.3, pp.207–227.

Kose et al., (2009), "Financial globalization: A reappraisal", *IMF Staff Papers*, Vol. 56, No.1, pp.

8-62.

Lane, P. and Milesi-Ferrretti, G. (2003), "International financial integration", *IMF Staff Papers*, Vol. 50, pp. 82-113

Levine, R. (2001), "International financial liberalization and economic growth", *Review of International Economics*, Vol.9, No.4, pp. 688-702.

Li, H., Xu, C. and Zou, H. (2000), "Corruption, income distribution and growth", *Economics and Politics* Vol. 12, No. 2, pp. 155–182.

Loayza, N. and Ranciere, R. (2006), "Financial development, financial fragility, and growth", *Journal of Money, Credit and Banking* Vol.38 No. 4, pp. 1051–1076.

Lucas, R. (1988), "On the mechanics of economic development", *Journal of Monetary Economics*, Vol. 22, No.1, pp. 3-42

Lui, F. (1985), "An equilibrium queuing model of bribery", *Journal of Political Economy* Vol. 93, No.4, pp.760–781.

McKinnon, R. (1973), "Money and Capital in Economic Development", The Brooking's Institution, Washington

Marga, P. and Sabri, N. (2012), "International financial integration of Mediterranean economies: A bird's-eye view", *MPRA, Paper*, No. 38082

Markus, B. and Lederman, D. (2012), "Trade causes growth in Sub-Saharan Africa", *World Bank Policy Research Working Paper*, No. 6007.

Mauro, P. (1995), "Corruption and growth", *Quarterly Journal of Economics*, Vol. 110, No.3, pp. 681–712

Mirdala, R. (2011), "Financial integration and economic growth in the European transition economies", *Journal of Advanced Studies in Finance*, Vol. 2, No.2, pp. 116-137.

Misati, R. and Nyamongo, E. (2012), "Financial liberalization, financial fragility and economic growth in Sub-Saharan Africa", *Journal of Financial Stability*, Vol. 8, No.3, pp. 150-160.

Misati, R. and Nyamongo, E. (2011), "Financial development and private investment in Sub-Saharan Africa", *Journal of Economics and Business*, Vol. 63, No. 2, pp.139–151.

Misati, R. (2010), "The role of the informal sector in investment in Sub-Saharan Africa", *International Entrepreneurship and Management Journal*, Vol. 6, No.2, pp. 221–230.

Moritz, S. and Steger, T. (2010), "Financial integration, investment, and economic growth: Evidence from two eras of financial globalization", *The Review of Economics and Statistics*, Vol., 92, No. 4., pp. 756-768.

Mougani, G. (2012), "An analysis of the impact of financial integration on economic activity and macroeconomic volatility in Africa within the financial globalization context", *African Development Bank Group*, Working Paper Series, No. 144

Myrdal, G.(1989), Corruption: Its Causes and Effects: Political Corruption: A Handbook. Transaction Books, New Brunswick NJ, pp. 953–961.

Ndikumana, L. (2000), "Financial determinants of domestic investment in Sub-Saharan Africa:

evidence from panel Data", *World Development* Vol.28, No.2, pp.381–400.

Nevine, E. (2007), "Financial integration in Egypt: 'A laugh to keep from crying', " Paper presented at the 27th MEEA meeting, Chicago.

North, D. (1989), "Institutions and growth: an historical introduction", *World Development*, Vol. 17, No.9, pp. 1319-1332

Olaf, H., Menkhoff, L., Suwanaporn, C. (2008), "Financial liberalization in emerging markets: how does bank lending change?" *World Economy*, Vol.31, No.3, pp. 393–415.

Osada, M. and Saito M. (2010), "Financial integration and economic growth: An empirical analysis using international panel data from 1974-2007", Bank of Japan, *Working Paper Series*, No. 10-E-5.

Pierre-Olivier, G. and Olivier, J. (2006), "The elusive gains of international financial integration", *The Review of Economic Studies*, Vol. 73, No.3, pp.715-741

Quinn, D., Schindler, M. and Toyoda, M. (2011), "Assessing measures of financial openness and integration", *IMF Economic Review*, Vol. 59, No.3, pp. 488-522

Rajan, R. (1994), "Why bank credit policies fluctuate: a theory and some evidence", *Quarterly Journal of Economics* Vol. 109, No. 2, pp.399–442.

Ranciere, R., Tornell. A. and Westermann, F. (2006), "Decomposing the effects of financial liberalization: Crisis vs. growth", *Journal of Banking and Finance*, Vol. 30, No.12, pp. 3331-3348.

Romer, P. (1990), Endogenous technological change, *Journal of Political Economy*, Vol.98, No.5, pp. S71-S102.

Ross, L. (1997), "Financial development and economic growth: views and agenda", *Journal of Economic Literature* Vol. 35, No.2, pp.688–726.

Ross, L. and Sava, Z.(1998), "Stock markets, banks and economic growth", *The American Economic Review*, Vol. 88, No3, pp.537–558.

Ross, L. and Sava, Z. (1996), "Stock market development and long-run growth", *The World Bank Economic Review* Vol.10, No.2, pp.323–339.

Rousseau, P. and Wachtel, P. (2011), "What is happening to the impact of financial deepening on economic growth", *Economic Enquiry*, Vol. 49, No.1, pp. 276-288.

Rusek, A. (2004), "Financial integration and growth in the global economy", *International Advances in Economic Research*, Vol. 10, No. 4, pp. 278-288.

Sachs, J. and Warner, A. (1997), "Sources of slow growth in African economies", *Journal of African Economies*, Vol. 6, No.3, pp. 335-376.

Samuel, A. (2010), Globalization and economic growth in Sub Saharan Africa. In: Kent G. Deng, (ed.) *Globalization-Today, Tomorrow:* Sciyo, pp.125-138

Sarbapriya, R. (2012), "Causal linkage between international financial integration and economic growth: Evidence from post globalized Indian scenario", *Advances in Asian Social Science*, Vol.3, No.4, pp. 739-750.

Schmukler, S. (2004), "Financial globalization: Gain and pain for developing countries", *Federal Reserve Bank of Atlanta*, Economic Review, vol. 89, No.2, pp. 39-66.

Schmutzler, A. (1999), "The new economic geography", *Journal of Economic Surveys*, Vol. 13, No. 4, pp. 355-379

Schumpeter, J. (1911). The theory of economic development. Harvard University Press.

Shaw, E. S. (1973), Financial Deepening in Economic Development, Oxford University Press, London.

Shleifer, A. and Vishny, R. (1993), "Corruption", Quarterly *Journal of Economics*, Vol.108, No.3, pp. 599–617.

Siow, G. (2012), "Financial integration in emerging Asian economies", *IPEDR*, Vol. 38, pp. 155-159.

Solow, R. (1956), "A contribution to the theory of economic growth", *The Quarterly Journal of Economics*, Vol. 70, No. 1, pp.65-94

Vikesh, G. and Subrina, H. (2004), "Relationship between inflation and economic growth", *Working Paper*, 2004/04, Economics Department, Reserve Bank of Fiji, Fiji

Von Peter, G. (2009), "Asset prices and banking distress: a macroeconomic approach", *Journal of Financial Stability*, Vol.5, No.3, pp.298–319.

Zyuulu, I. (2010), "Convergence in the SADC and African economic integration process: prospects and statistical issues", *IFC Bulletin* , No.32, pp. 96-105.