

EXPLAINING SHORT TERM FOREIGN DEBT IN SELECTED SUB-SAHARAN AFRICAN COUNTRIES

William Gabriel Brafu-Insaidoo

Department of Economics, University of Cape Coast, Cape Coast, Ghana

winsaidoo@ucc.edu.gh

Kwabena Nkansah Darfor

Department of Economics, University of Cape Coast, Cape Coast, Ghana

kdarfor@ucc.edu.gh

Mark K. Armah 

Department of Economics, University of Cape Coast, Cape Coast, Ghana

marmah@ucc.edu.gh

William Godfred Cantah

Department of Economics, University of Cape Coast, Cape Coast, Ghana

william.cantah@ucc.edu.gh

Abstract

The study examined the impact of external financial liberalisation and political institutions on short term foreign debt in 42 selected sub-Saharan African countries. It answered the question on whether external financial liberalisation and institutionalised democracy reduce short term foreign debt. Both theory and the empirical literature suggest that external financial liberalisation and institutionalised democracy lead to reduced stock of short term foreign debt. By using a dynamic panel data analysis, this study confirmed the hypotheses that external financial liberalisation within the framework of institutionalised democracy leads to reduced stock of short term foreign debt.

Keywords: External financial liberalisation, political institutions, long and short-term capital inflows, institutionalised democracy, short-term borrowing

INTRODUCTION

A commonly accepted view among policy-makers and academics in the ongoing discussions on international finance and development is the need to promote long-term capital and discourage short-term external debt. This is due to the fact that short-term debt is considered to be highly unstable and, as such, may expose countries to risks of sudden capital flow reversals, speculative currency attacks and banking crises. The exposure leaves the domestic economy with the high costs of re-adjustments to recession (Buch and Lusinyan, 2003). In contrast, long-term capital produce spill-over benefits in the form of advanced technology and human capital development, in addition to the reduced probability of a country's exposure to the risks of sudden capital flow reversals. A number of economists have maintained that the East Asian Financial Crises of the 1990s was largely due to the huge exposure of East Asian economies to short term debt which made them vulnerable to sudden changes in market sentiment and financial panic (see, Corsetti, Pesenti, & Roubini, 1998).

As a result, countries in sub-Saharan Africa are making efforts to encourage long-term investments. However, the World Bank's Global Development Finance 2010 shows that the share of short-term debt in total foreign debt to the sub-region has increased from 15.6 per cent in 1980 to 29.7 per cent in 1990 and then to 60 per cent in 2006. This raises an important policy challenge for the region. The challenge is how to reduce short-term foreign debt stock and attract long-term external finance. Despite the existence of rich policy debate on these issues, there is comparatively little theoretical and empirical evidence on the exact determinants of external short-term debt, especially in Sub-Saharan Africa.

Mama (2007), Dasgupta and Ratha (2000), Rajan (1992) and Diamond (1993) have developed theories that explain the maturity of external debt. These theories focus on the role of a number of factors, including information asymmetry, the volatility and term structure of interest rates and economic growth in influencing the maturity of external capital. Other theoretical works by Rodrik and Velasco (1999) and Buch and Lusinyan (2003) largely focused on the maturity of short-term debt. Their theories mainly focused on such factors as liquidity risk, institutional environment and solvency risk as the main determinants of maturity of short term debt. Empirical studies that investigated the determinants of short term foreign debt also did not provide any conclusive evidence on the issue. Studies that emphasise the role of institutions and external financial liberalisation in influencing short term foreign debt in sub-Saharan Africa are yet to be investigated.

This paper seeks to examine the impacts of institutions and external financial liberalisation on the maturity of short-term capital flow in selected sub-Saharan African countries. One of the contributions of this paper to research is to investigate foreign capital

inflows according to length of maturity, and an investigation of their determinants in some selected sub-Saharan African countries. More specifically, this study adds value to knowledge by examining the impacts of type of institutions and external financial liberalisation on the volume of short-term foreign capital inflows in sub-Saharan Africa.

The rest of the paper is organised as follows. The next section reviews related theories and literature on some of the potential key determinants of short-term foreign capital flows. Section three provides the sources of data, discussions on variables chosen for the study and the estimation model. The estimation results for the total sample of sub-Saharan African countries, as well as the separate samples of liberalised and non-liberalised economies are presented and discussed in section four. Finally, section five summarises the findings of the research and concludes the discussion by offering some directions for future extensions of the study.

LITERATURE REVIEW

There is a vast and growing body of literature that explains the volume of foreign capital flows. However, there are few theories and empirical studies that explain short term foreign debt. These include the works of Rajan (1992), Diamond (1993), Rodrik and Velasco (1999), Dasgupta and Ratha (2000), and studies by Ishii and Habermeier (2002) and Dasgupta and Ratha (2000). The key determinants of short term foreign debt that have been identified in the literature include financial liberalisation, political institutions, regional trade and investment agreements, openness to external commodities trade and economic growth. These are discussed in turn.

Financial liberalisation

Literature, including studies by Rana (1998) suggest that the impact of external financial liberalisation on short term foreign debt depends on the nature of macroeconomic policies of the particular country. For instance, a combination of unrestricted capital mobility and a fixed exchange rate regime can produce very adverse consequences, including the encouragement of excessive short-term borrowing. Ishii and Habermeier (2002) argue that, under conditions of a liberalised domestic financial sector, and sound and sustainable macroeconomic policies, capital account liberalisation can reduce the build-up of short term foreign debt. They also suggest that the process of liberalising international capital inflows must begin with liberalising long-term flows, especially foreign direct investment inflows, ahead of short-term flows. Dasgupta and Ratha (2000) also contend that limited and selective capital controls, in

conjunction with limited monetary sterilisation, prudent fiscal management and some measure of flexible nominal exchange rate can lengthen the maturity of foreign debt.

Consequently, theory suggests that the impact of external financial liberalisation on short term foreign debt is ambiguous and depends on the nature of macroeconomic policies of the particular country, and type of liberalisation implemented.

A number of empirical studies (including those of Montiel and Reinhart, 1999; Dasgupta and Ratha. 2000; Rana, 1998; and Cardenas and Barreras, 1997) support the suggestion that the liberalisation of capital flows, in conjunction with prudent domestic macroeconomic policies, leads to the reduction of short-term foreign debt. In a study for Latin America, Rana (1998) identified that a liberal capital accounts regime coupled with a vast magnitude of sterilisation measures forced domestic interest rates to increase rapidly, leading to a rapid accumulation of short-term debt stock in Chile and Colombia in the early 1990s. However, the implementation of selective controls in the form of discriminatory and unremunerated reserve requirements on overseas borrowing coupled with a reversal of the sterilisation activities helped to lengthen the maturity of foreign debt in these two countries. Dasgupta and Ratha (2000) also show that swift domestic and external financial liberalisation in borrowing countries, without sufficient regulatory and supervisory frameworks, can lead to the rapid build-up of short-term foreign debt. Our contribution to research is that limited external financial liberalisation affects short term foreign debt in sub-Saharan Africa.

Political Institution

The role of institutions in influencing the level and composition of capital flows is also analysed in both theory and empirical studies such as the study by Alfaro et al. (2003). More specifically, these studies relied on an index for law and order and indicate that good institutions encourage foreign capital inflows. Delechat et al. (2009) also used financial market institutions and property rights indexes as measures of institutional quality and found that the development of financial market institutions promotes private capital inflows. The contribution of political institutions to overseas borrowing and to the accumulation of external debt has received substantially less attention. In addition, studies that focus on the contribution of political institutions to changes in the maturity mix of foreign debt inflows are yet to be identified. The exceptions are Oatley (2009), and Ndulu and O'Connell (1999) who contend that different political institutions or systems within which governments operate tend to generate different incentives to borrow and invest. Democratic institutions allow society to constrain the behaviour of governments, while autocratic institutions constrain public participation in politics and national decisions.

We infer from the works of Ndulu and O'Connell (1999) that democratic institutions compel governments to borrow less frequently to finance consumption, and more frequently to finance investments, compared with autocratic institutions. We also infer from Nelson (1990) that democratic institutions protect the economic system against abuse typical of most autocratic regimes, and have the capacity to nurture civil liberties and to secure property and contract rights, which in turn provide incentives for investment and the attraction of foreign finance.

In sum, the following conclusions can be drawn from identified literature: Countries with democratic systems of governance tend to borrow less of short-term funds than those with autocratic systems of governance. Also, since democratic institutions compel governments to borrow more frequently to finance investments, countries with more democratic systems of governance tend to borrow (or attract) more long-term funds compared with countries with autocratic regimes.

The underlying argument is that investment projects are normally financed with long-term capital whilst non-investment activities, such as short-term stabilisation programmes, correction of fiscal imbalances, balance of payments problems and consumption expenditures, are usually financed with short-term capital.

Trade Openness

On the relationship between trade openness and capital flow, the Heckscher-Ohlin-Mundell paradigm maintains that, capital tend to be scarce in less developed economies. The Heckscher-Ohlin-Mundell model predicts that a process of trade integration will reduce the incentives for capital to flow into capital scarce economies. Therefore, trade and capital mobility are substitutes from the point of view of capital scarce economies (Antras & Caballero, 2009). On the other hand Antras and Caballero (2009) maintains that in a world of varied levels of financial development, trade and capital mobility are complements in less developed economies. They argued that trade integration increases the return to capital and consequently the motivations for capital to flow to such economies. According to Antras and Caballero (2009) this kind of interaction implies that increasing trade integration in developing economies raises net capital inflows.

Just as the theoretical literature, existing empirical works has been inconclusive on the relationship between foreign debt and trade openness. Whereas Rodrik and Velasco (1999) and Buch and Lusinyan (2003) found no correlation between short-term debt and trade openness, Koeniger, Bussiere, and Fratzscher, (2004) found a positive relationship between trade openness on one hand and the ratio of debt to GDP and the ratio of short-term debt to GDP on the other. Studies by Asiedu (2002) and Lane and Milesi-Ferretti (2003), indicate that the

relationship between openness to international commodities' trade and the maturity of foreign debt is ambiguous. On the one hand, increased trade is associated with an increase in the length of maturity of foreign debt because of the orientation of investors towards international markets. Ahmed et al. (2005) and Asiedu (2002) show that investors who focus on direct production, do not only target the local market, but are also often interested in the international market and hence engage in export-oriented activities. On the other hand, increased trade could be associated with an increase in short-term foreign debt, because increased international commodities trade tends to be accompanied by financial transactions such as trade credit, transportation costs and export insurance (Lane and Milesi-Ferretti, 2003).

Financial Depth

Buch and Lusinyan (2003) noted that a high level of M2 to GDP ratio (our measure of Financial Depth) is an indication of a higher level of financial sophistication which gives an indication that a country's banking system is well developed and has a greater tendency of reducing the cost of rolling over short-term debt.

Empirical evidence corroborates the theoretical exposition provided by Buch and Lusinyan (2003). Rodrik and Velasco (1999), Buch and Lusinyan (2003) and Koeniger, Bussiere, and Fratzscher (2004) all found a positive relationship between financial depth and short-term debt.

Foreign Direct Investment (FDI)

Gordon and Bovenberg (1996) contend that Greenfield FDI is attractive due to the fact that it is less prone to asymmetric information problems that is more associated with external debt and other forms of investments in which a foreign agent must depend on domestic owners for information.

Milesi-Ferretti and Lane (2000) noted that the literature on international capital flows emphasise two kinds of information asymmetries: between domestic and foreign investors and between the governing owner of the firm and outsiders, be they domestic or foreign. Milesi-Ferretti and Lane (2000) argue that, in such an environment FDI may provide a means of reducing or eliminating the information asymmetry which give room for the under-pricing of equity, as long as purchasing a controlling interest in a firm allows the foreign investor to eliminate informational problems. Hence under conditions of information asymmetry, FDI become the preferred choice of investment for investors.

Hull and Tesar (2000) presented a general equilibrium model to examine the implications of trade in equity and FDI. They noted that FDI improves productive efficiency by

permitting countries to better exploit sectoral comparative advantage. Also, in the absence of portfolio equity markets (which is the case in most developing countries), FDI offers some mechanism to diversify against country risk. However Milesi-Ferretti and Lane (2000) points out that the relationship between portfolio equity flows and FDI is ambiguous. On the one hand, portfolio equity flows substitute for FDI by allowing for more efficiency. On the other hand, diversification through equity markets increases the risk-adjusted return to FDI and implies that equity and FDI flows are complements.

Koeniger, Bussiere, and Fratzscher (2004) however, found a negative relationship between short-term debt and FDI inflows as well as a negative relationship between FDI and Long-term debt. The authors therefore concluded that FDI and debt are substitutes rather than complements.

Economic growth

Mama (2007) suggests that a slower economic growth rate in an individual country tends to be associated with higher short-term borrowing from overseas by the given country in the presence of market uncertainty. A country with lower growth rate is faced with comparatively lower levels of uncertainty because of the commitment of more resources for the future. Consequently, the willingness of such a country to choose short-term debt is higher for the same given level of market uncertainty or volatility. The reason why developing countries in this category depend on short-term debt is to benefit from better borrowing conditions in the future.

Mama (2007) also suggests that higher levels of interest rate volatility lead to reduced short-term borrowing and that it exacerbates the negative effect of economic growth on short-term debt inflows. In other words, higher interest rate volatility makes a country more uncertain over future resources and hence less willing to choose short-term borrowing. Buch and Lusinyan (2003) however argued that an increase in GDP per capita would lead to lower costs of rolling over short-term debt and contribute to raise expectations of positive productivity shocks. As a result, an increase in the GDP per capita contributes to an increase in short-term debt.

In a panel study of 31 emerging economies covering the period 1985 to 1998, Mama (2007) identified a negative relationship between the ratio of short-term debt to total external debt (as well as its interaction with interest rate volatility) and economic growth. Buch and Lusinyan (2003), in a study for 57 countries (Developing and Developed) economies, found a significant positive relationship between Short-term debt and growth of GDP per Capita indicating that an increase in GDP- per Capita leads to a rise in short term debt.

METHODOLOGY

The Study & Data Sources

Annual data for 42 selected sub-Saharan African countries covering a period of 40 years (from 1972 to 2012) were collected for the study using a dynamic panel regression analysis. Data constraints informed the choice of sample for the regression analysis.

Data on short term foreign debt, GDP, ratio of external trade to total GDP, percentage growth in real GDP per capita, financial Depth (M2 to GDP ratio) and net FDI inflow were obtained from the World Bank's World Development Indicators 2013. Data on index for institutionalised democracy was sourced from Polity IV Project (Political Regime Characteristics and Transitions 1800-2013). The study employed the financial liberalisation index developed by Chinn and Ito (2008)

Variables of choice

The following set of potential determinants of short term foreign debt (ratio of GDP) are derived from a survey of existing theory and empirical literature and used in our study: external financial liberalisation, type of political institution, interaction between financial liberalisation and political institution, external trade openness, economic growth, net FDI inflows, financial depth and interest rates. Their definitions and measurements are discussed in turns.

External financial liberalisation

External financial liberalisation refers to the easing of restrictions on cross-border capital movements and to the easing of restrictions on entry into domestic equity markets or purchase of domestic portfolio equity and bonds by foreign residents. The financial liberalisation index developed by Chinn and Ito (2008) was adopted for the study. The values of their index ranges from -1.86 to 2.44 with higher values indicating a more open and liberalised external financial sector. Based on the works of Ishii and Habermeier (2002) and Rana (1998), we hypothesise that external financial liberalisation, in the face of good quality political institutions and good macroeconomic policies, will reduce short term foreign debt.

Institutions

Empirical studies by Haggard and Kaufman (1992) and Nelson (1990) indicate that political institutions within which governments function, influence their borrowing decisions. In sub-Saharan Africa, public sector borrowing remains a very significant component of total external borrowing, accounting for over 70 percent of total external debt flows to the region.

Political institution is measured by use of the index values for institutionalised democracy constructed and published by the Polity IV Project. The value ranges from '0' to '10' with '0' indicating a highly autocratic regime and '10' denoting a highly democratic system of governance. Based on the analysis of Nelson (1990), Haggard and Kaufman (1992), Olson (2000), and Ndulu and O'Connell (1999), we hypothesise that democratic regimes tend to borrow less of funds with shorter term maturity than autocratic regimes.

Interaction of Institutions and Financial Liberalisation

The study also included an interaction between financial liberalisation and institutions in order to identify the possible effect of a combination of a well liberalised financial sector and high institutional quality on debt maturity. The OECD (2011) noted that countries with more open financial markets together with better institutional quality appear to be more capable of attracting longer term finance. It is argued that greater level of external financial liberalisation, conditioned upon higher institutional quality, leads to reductions in short term foreign debt (OECD, 2011).

External trade openness and economic growth

The most commonly used measure of external trade openness found in the literature is the ratio of imports and exports to GDP. Based on the literature, including the analysis of Ahmed et al. (2005), we suggest that the impact of increased trade openness on short term foreign debt cannot be determined apriori.

Macroeconomic performance is represented by the value for GDP per capita growth. For a given level of market uncertainty, a rapidly growing economy has preference for long-term borrowing because of increased uncertainty about future resources (Mama, 2007; Dasgupta and Ratha, 2000).

Financial Depth and Net FDI Inflows

In this study we employ M2 to GDP ratio as a measure of financial depth. A higher M2 to GDP ratio is an indication of a well-developed financial sector that has the capability of providing financial services at relatively cheaper cost. This tends to have a reducing effect on the cost of rolling over short-term debt (Buch & Lusinyan, 2003), and hence it increases the incentive to go in for a short-term debt. Thus we would expect a positive relationship between financial depth and short-term debt.

FDI tend to provide some form of alternative financing for developing economies in place of debt (Milesi-Ferretti & Lane, 2000; Hull & Tesar, 2000). In addition, FDI is usually associated with long term financing but rarely financed with short term borrowing. Consequently, FDI

inflows tend to be negatively associated with short term foreign debt but positively correlated with long term foreign debt (Milesi-Ferretti & Lane, 2000).

Long Term Interest Payments

The works of Buch and Lusinyan (2003) focused on the factors that entice or induce lenders to diversify the maturity of their foreign claims under conditions of uncertainty regarding future project returns. They noted that early liquidation of projects which are deemed unprofitable are likely to be very costly for long-term lenders due to the externality that would be imposed by the presence of short term debt. Thus long-term lenders only receive the remainder of liquidation after short-term debt has been serviced. They therefore argued that liquidating long-term loans for bad projects entails some level of cost to lenders. They therefore concluded that the equilibrium share of short-term debt is a negative function of the interest on long-term debt.

Proposed Empirical Model

This section presents the empirical model used for the study. From existing theory and empirical literature, the following are the general working hypotheses: (1) *External financial liberalisation reduces short term foreign debt stock given that democratic institutions are strong*. This is because foreign debt with shorter term maturity is replaced with greater inflows of foreign capital with longer term maturity in countries that have liberalised their capital accounts transactions (external financial sectors) and have institutionalised democracy. Liberalisation further reduces costs of transactions in countries with institutional democracy due to improved quality of economic management and accountability, reduced risks and increased attractiveness of doing business associated with domestic economies with strong and good quality institutions. (2) *Institutionalised democracy leads to reduced short term foreign debt stock*. This means that countries with institutionalised democracy tend to reduce their short term foreign debt stock because they manage their economies better and are more capable of attracting longer term development finance from the international community.

The empirical model for analysing the maturity of short-term foreign debt follows the works of Nelson (1990), Ndulu and O'Connell (1999), Buch and Lusinyan (2003), and Chumacero et al (1992) and is presented as follows:

$$fki_{i,t} = \alpha_i fki_{i,t-1} + \beta_1 efl_{i,t} + \beta_2 dem_{i,t} + \beta_3 (efl \times dem)_{i,t} + \beta_4 toq_{i,t} + \beta_5 qpcg_{i,t} + \beta_6 lti_{i,t} + \beta_7 fdi_{i,t} + \beta_8 fd_{i,t} + u_{i,t} \quad (1)$$

where:

fki = Short term debt stock as percentage of GDP (short-term debt)

efl= an index for external financial regulation or liberalisation based on the construction of Chinn and Ito (2008)

dem= political institution, represented by an index for institutionalised democracy obtained from Polity IV Project dataset

$efl \times dem$ = interaction between financial liberalisation and institutionalised democracy

toq= share of external trade in total GDP obtained from the World Bank's World Development Indicators database

qpcg= log of GDP per capita obtained from the World Bank's World Development Indicators database.

lti = log of interest payment on long-term loans obtained from the World Bank's World Development Indicators

fdi = the share net Foreign Direct Investment in total GDP obtained from the World Bank's World Development Indicators database, and

fd = measure of financial depth as measured by the share of M2 in total GDP obtained from the World Bank's World Development Indicators database.

The subscript '*i*' = 1,2,N sections, and periods $t=1,2, \dots, T$, with 'N' number of countries and $T = 40$ years, spanning the sample period 1972 to 2012. The intercept α_i is a country-fixed effect that controls for country-specific factors that do not vary overtime. Subscript: 't-1' denotes one period lag term of the variables of interest.

Estimation of the dynamic panel model involved the use of the system-generalised method of moments estimator. The weakness with the application of this kind of estimation approach to dynamic panel data with a large time series and a comparatively small cross-section of countries is the possible existence of a high time series bias in the data construct. To deal with this problem, a panel unit root test was conducted to determine the stationarity of the series. This corrects for potential endogeneity biases that may arise from the inclusion of the lagged dependent variable in the equation. The application of the ordinary least squares (OLS) estimator, the generalized least squares (GLS) estimator and the least squares dummy variables (LSDV) estimator leads to biased and inconsistent estimates when a lagged dependent variable is included in the estimation. To account for this shortfall, the Arellano-Bond linear estimator is normally used to estimate the dynamic panel data model. The procedure involves the use of lagged levels of the dependent variable as instruments for the lagged differenced dependent variable. Secondly, we use the lag of some explanatory variables as instruments for those variables, to account for the potential endogeneity of such variables. Arellano and Bond (1991) confirm that using the lagged difference as an instrument results in a much more superior estimator. This estimation procedure proposed by Arellano and Bond

(1991) is known as the first difference Generalized Method of Moments (GMM) estimator or the Generalized Method of Moments-Instrumental Variables (GMM-IV) estimator. It has the advantage of producing unbiased and consistent estimates. The number of potential instruments is huge. There is a wide range of possible instrumental variables for endogenous, predetermined and strictly exogenous explanatory variables. These can be used for single instrumental variable estimations.

In a situation where the disturbance term is heteroscedastic across countries and over time, Arellano and Bond suggest the use of the two-step estimator. The two-step GMM estimator is regarded as more efficient in such a situation. A major setback of the Arellano and Bond estimator, however, is its failure to take advantage of all available moment conditions under standard assumptions. This could produce consistent but inefficient estimates. As such, Bond and Bover (1995) concurrently estimate the model in both levels and first-differencing as a way of improving on the first differenced GMM estimator. The Bond-Bover estimator uses the first differenced variables as instruments in the level regression and employs the lagged values of the variables in levels as instruments in the first-differenced regression. Blundell and Bond (1998) show that the system-GMM estimator is more accurate and efficient than the first-differenced GMM estimator. As a result, we employ the system-GMM estimator in our estimation of the dynamic panel data model. Lastly, an attempt is made to evaluate the soundness of the model specification by using the test for over-identifying constraints and the test of second order autocorrelation of the new residuals.

ANALYSIS & RESULTS

A unit root test for stationarity of the panel series indicated that all the series used for the regression analysis in the total sample are stationary in levels. With the exception of log of per capita GDP, all the panel series in the sample were found to be stationary in levels. The log of GDP per capita is found to be stationary after first differencing. The diagnostic tests for the specifications also indicate that the model is well specified. The new residuals for the specification are, at times, auto-correlated of order 1, but not auto-correlated of order 2. The Sargan test results also confirm the validity of the over-identifying restrictions and use of the instruments. The estimation results for the total sample are presented in Table 1 below.

The results indicate that , external financial liberalisation, type of political institution, growth of GDP, external trade openness, long term interest payments, foreign direct investment and financial depth are important determinants of short-term foreign debt in the selected sub-Saharan African countries. The lagged value of the dependent variable for short-term debt was also significant and positively correlated with the current period value. This suggests that an

increase in the level of short term foreign debt heightens debt-related risks in the selected countries which further accounts for the build-up of their short term debt stock.

The coefficient of external financial liberalisation indicates that financial liberalisation has a significant effect on short-term foreign debt. Since our model of short term foreign debt contains an interaction term involving external financial liberalisation and institutionalised democracy, we first differentiated equation 1 with respect to $efl_{i,t}$ to identify the actual effect of external financial liberalisation on short-term foreign debt. Following Wooldridge (2012) and for the purpose of interpretation, we substitute the mean value of index of institutionalised democracy (found in the appendix) into equation 2.

$$\frac{dfki_{i,t}}{defl_{i,t}} = 0.005 - 0.006dem_{i,t} \quad (2)$$

$$\frac{dfki_{i,t}}{defl_{i,t}} = 0.005 - 0.006(2.223) = -0.008$$

The results indicate that there exists a negative relationship between external financial liberalisation and short-term foreign debt. Specifically, an increase in external financial liberalisation would result in a reduction in short term foreign debt by 0.008 standard deviation away from its mean value.

Table 1: Short term foreign debt stock (expressed as ratio of GDP)

	Short-term foreign debt (% of GDP)	
1ST order lag dependent variable	0.862(0.002)***	
Index for external financial liberalisation	0.005(0.002)**	
Index for institutionalised democracy	-0.01(0.000)***	
Financial liberalisation and Institutionalised democracy	-0.006(0.001)***	
Growth of GDP	0.076(0.007)***	
External trade (% of GDP)	-0.018(0.004)***	
Long term interest payments	-0.031(0.001)***	
FDI (% of GDP)	-0.003(0.000)***	
Financial Depth (M2/GDP)	-0.022(0.004)***	
Constant	-0.622(0.101)***	
Serial correlation test (1 st order) [Prob> z]	-1.822	[0.0685]
Serial correlation test (2 nd order) [Prob> z]	-0.90574	[0.3651]
Sargan test $\chi^2(780)$ [Prob > χ^2]	33.166	[1.0000]
Wald test: $\chi^2(9)$ [Prob > χ^2]	1.78e+07	[0.000]
Number of observation	1089	
Number of cross sections	40	

Note: The standard errors are in parentheses. ***, **, and * indicate significance at 1, 5 and 10% respectively.

Though it is clear that external financial liberalisation has relatively high increasing effect on short term foreign debt, the increasing effect of external financial liberalisation declines with stronger institutionalised democracy. Results obtained in this study corroborates the arguments of Dasgupta and Ratha (2000) and Habermeier (2002) who argue that a higher level of financial liberalisation changes the composition of foreign capital in favour of long-term. The implication of the result is that increasing levels of financial liberalisation and institutionalised democracy reduces the stock of short-term foreign debt. The results of the study also indicate a negative relationship between institutionalised democracy and short-term foreign debt. Following the same procedure as in the case of analysing the effect of external financial liberalisation, the study found that, increasing levels of institutionalised democracy in Sub-Saharan African countries is associated with reduction in the stock of short-term foreign debt. More specifically, an increase in institutionalised democracy causes short term foreign debt to fall by 0.006 standard deviations away from the mean value of short term external debt. This suggests that increasing levels of democracy in Sub-Saharan African countries in recent years is compelling governments to borrow less frequently to finance consumption (which may require short-term borrowing), and more frequently to finance investments (which may require long term borrowing).

The results of the study imply that countries with highly liberalised external financial system and strong democratic credentials are more likely to attract longer term debt. The results corroborate the arguments of Diamond and Rajan (2000), who emphasized that countries with a poorly developed institutional environment have a high demand for short-term borrowing. Clearly countries with well-developed democratic institutions and highly liberalised financial sector are more likely to attract less of short-term debt and more long term capital.

For the control variables, the results indicate that growth of GDP, had a positive impact on short-term capital inflow. Thus a percentage increase in the GDP will result in a 0.076 percentage increase in the inflow of short-term capital. The results imply that high growth of GDP induces lower costs of rolling over short-term debt and helps in increasing the share of short-term debt. The results obtained in this study are in line with results obtained by Buch and Lusinyan (2003) and Rodrik and Velasco (1999).

Contrary to results obtained by Buch and Lusinyan (2003) and Koeniger, Bussiere, and Fratzscher, (2004), this study found a negative relationship between trade openness and the stock of short term foreign debt. Thus, a percentage increase in the level of trade openness results in a 0.018 reduction in the inflow short-term foreign debt. The results provide evidence in support of the Heckscher-Ohlin-Mundell model which predicted that a process of trade integration (trade openness) will reduce incentives for attracting short term foreign capital

(including short term foreign debt) into capital scarce economies. As argued by Ahmed *et al.* (2005) and Asiedu (2002), long term foreign investments are largely export oriented, hence increasing levels of trade openness gives an indication of higher levels of long term investments which requires long-term capital flows rather than short term capital flow.

Interestingly, the study found a negative relationship between long term interest payments and the stock of short-term foreign debt. However, this corroborates the argument of Mama (2007), who suggests that higher levels of interest rate volatility leads to reduced short-term borrowing. Thus, higher interest rate volatility makes a country more uncertain over future resources and hence less willing to choose short-term borrowing. As expected, the coefficient of FDI was significant and negatively signed. Thus higher levels of FDI results in a reduction in short term debt. FDI inflows can thus be seen as substitutes to the inflow of short term capital. Similarly financial depth as captured by M2 to GDP ratio was found to be negatively related with short-term foreign debt.

CONCLUSIONS AND RECOMMENDATIONS

The excessive build-up of short-term foreign debt is regarded as one of the main causes of financial crises which manifests in various forms including sudden capital flow reversals, speculative currency attacks and banking crises. One of the development policy challenges in developing economies is how to reduce the stock of short term foreign debt. This study fills an important research gap by empirically examining the impact of external financial liberalisation and political institution on short term foreign debt stock in 42 selected sub-Saharan African countries. A summary of findings from the study is presented in this section.

First, findings from the study confirms the hypothesis that external financial liberalisation reduces the level of short term foreign debt. More specifically, the study indicates that external financial liberalisation given the level of democratisation has a reducing effect on short-term foreign debt in the 42 selected sub-Saharan African countries. The findings of the study implies that greater level of democratisation, which increases the level of accountability of governments, in addition to a higher level of external financial liberalisation reduces the stock of short-term foreign debt. This result is in line with the arguments of Diamond and Rajan (2000) and Ndulu and O'Connell (1999). Second, the study confirms the hypothesis that institutionalised democracy helps to reduce the stock of short-term foreign debt due to the fact that countries with stronger democratic institutions tend to better manage their economies and create incentives for longer term investments. Third, findings from the study indicate that increased external trade openness reduces short-term foreign debt stock because increased international trade makes shorter term foreign borrowing less attractive. Fourth, the study finds evidence to

support the assertion by Mama (2007) that, for the same level of market uncertainty, higher economic growth rates are linked to shorter term borrowing. The study also finds that the flow of FDI served as substitute to short-term capital. Also the study also concludes that a well-developed financial sector is negatively related to the inflow of short-term capital. Thus a well-developed financial sector reduces the dependency of countries on short-term external capital as the domestic economy is able to provide the short-term capital needs of the economy.

The research findings offer useful information to guide public policy. The study suggests that external financial liberalisation, within the framework of strong democracy, can help to reduce the stock of short term foreign debt by attracting longer term foreign finance. The liberalisation of the external financial sector or capital accounts transactions must be done in line with improvement in democratic institutions to improve accountability and macroeconomic management, and hence encourage longer term investments.

LIMITATIONS AND FURTHER RESEARCH

The main limitation of the present study has to do with the level of aggregation. The study involved a mixture of both low income and middle income countries. This makes it difficult to single out the effect of external financial liberalisation and institutional quality on short-term debt in relation to low income countries and middle income countries in the sub-region separately. Thus the study is unable to indicate the effect of financial liberalisation in relation to country specific characteristics. The study therefore recommend that future studies should consider undertaking country specific studies.

The study offers useful implications for future research. Future studies could be conducted to examine how the macroeconomic policy environment and institutional development interacts with free capital movement to influence the volume and composition of capital flows in sub-Saharan Africa. This recommendation is based on the proposition by Rana (1998) that prudent management of the domestic economy can interact with free capital mobility to stem excessive foreign borrowing in the short-term and to help countries succeed in lengthening the maturity of capital inflows.

REFERENCES

- Ahmed, F., Arezki, R. & Funke, N. (2005). The Composition Of Capital Flows: Is South Africa Different? *Imf Working Paper 05/40*. African Department, International Monetary Fund.
- Alfaro, L., Kalemli-Ozcan, S. And Volosvych, V. (2003). Why Doesn't Capital Flow From Rich To Poor Countries: An Empirical Investigation. *Working Paper, 040* (Boston, Massachusetts: Harvard Business School).

- Arellano, M. And Bond, S. (1991). Some Tests of Specification For Panel Data: Monte Carlo Evidence And An Application To Employment Equations. *Review of Economic Studies*, 58: 277-297.
- Antras, P., & Caballero, R. J. (2009). Trade and Capital Flows: A Financial Frictions Perspective. *Journal Political Economy* , 701-744.
- Asiedu, E. (2002). On The Determinants Of Foreign Direct Investment To Developing Countries: Is Africa Different? *World Development*, 30:107-19.
- Blundell, R., And Bond, S. (1998). Gmm Estimation With Persistent Panel Data: An Application To Production Functions. The Institute for Fiscal Studies Working Paper Series Number W99/4.
- Bond, S. And Bover, O. (1995). Another Look at the Instrumental Variable Estimation of the Error-Components Models. *Journal of Econometrics*, 68(1): 29-51.
- Buch , C. M., & Lusinyan, L. (2003). Determinants of short-term debt: a note. *Journal of International Financial Markets, Institutions and Money*, 13(2), 157--170.
- Cardenas, M. & Barreras, F. (1997). On The Effectiveness of Capital Controls: The Experience of Colombia During The 1990s. *Journal of Development Economics*, 54: 27-57.
- Chinn, M. D., & Ito, H. (2008). A new measure of financial openness. *Journal of comparative policy analysis*, 309--322.
- Chumacero, R. A., Raul, L. M. & Felipe, L. B. (1992). What Determines Capital Inflows?: An Empirical Analysis For Chile. Catholic University of Chile.
- Corsetti, G., Pesenti, P., & Roubini, N. (1998). What Caused the Asian Currency and Financial Crises? Part I: The Macroeconomic Overview. *NBER Working, Paper 6833*, 6833.
- Dasgupta, D. & Ratha, D. (2000). 'What Factors Appear to Drive Private Capital Flows to Developing Countries? And how does official lending respond? *World Bank Working Paper 2392*
- Diamond, Douglas W. & Rajan, Raghuram G. (2000). Banks, Short Term Debt and Financial Crises: Theory, Policy Implications and Applications, *NBER Working Papers 7764*, National Bureau of Economic Research, Inc.
- Gordon , R. H., & Bovenberg, L. A. (1996). Why is Capital So Immobile Internationally? Possible Explanations and Implications for Capital Income Taxation. *American Economic Review*, 86, 1057-1075.
- Haggard, S. & Kaufman, P. R. (1992). Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State. Princeton: Princeton University Press.
- Hull, L., & Tesar, L. (2000). Risk, specialization and the composition of international capital flows. *University of Michigan, Working Paper*.
- Ishii, S. & Habermeier, K. (2002). Capital Account Liberalization Financial Sector Stability. *IMF Occasional Paper 211*, 2002.
- Koeniger, W., Bussiere, M., & Fratzscher, M. (2004). Currency Mismatch, Uncertainty and Debt Structure. *Econometric Society 2004 North American Summer Meetings*. Econometric Society.
- Mama, A. T. (2007). On The Maturity Structure of Foreign Debt Contracts in Emerging Countries. University Of Montreal - Department Of Economics.
- Milesi-Ferretti , G., & Lane, P. R. (2000). *External Capital Structure-Theory and Evidence*. International Monetary Fund.
- Ndulu, B. J. & O'connell, S. A. (1999). Governance and Growth in Sub-Saharan Africa. *The Journal of Economic Perspectives* 13: 41-66
- Nelson, J. M., (Eds.) (1990). Economic Crisis and Policy Choice: The Politics of Adjustment In Developing Countries. Princeton: Princeton University Press.
- Oatley, T. (2009). Political Institutions and Foreign Debt in the Developing World. Department Of Political Science, UNC AT Chapel Hill *Mimeo*

OECD. (2011). *International capital flows: Structural reforms and experience with the OECD Code of Liberalisation of Capital Movements*. OECD.

Olson, M. (2000). *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*. New York: Basic Books.

Rana, P. B. (1998). *Controls on Short-Term Capital Inflows: The Latin American Experience and Lessons for DMCS*. EDRC Briefing Notes 2, September 1998 (Asian Development Bank Economics and Development Resource Centre).

Rodrik, D. & Velasco, A. (1999). *Short-Term Capital Flows*. NBER Working Paper 7364, Cambridge, Ma: National Bureau of Economic Research (NBER).

United Nations Conference on Trade and Development (2009). *Economic Development In Africa Report 2009: Strengthening Regional Economic Integration For Africa's Development*. Geneva:United Nations Publications

World Bank, *Global Development Finance*, 2010

World Bank, *World Development Indicator*, 2013.

Wooldridge, J. (2012). *Introductory econometrics: A modern approach*. Cengage Learning.