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Globalization, Democracy, and Government Spending in Sub-Saharan Africa: Evidence from Panel Data

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1. Introduction

Globalization represents one of the most influential forces determining the future of countries. The increasing integration of the world economy has led to a growing interest in its effect on national economies. With extraordinary global interdependence, increased financial liberalization, investment flows and international trade, it is obvious that we live in a global village. Accordingly, it can be said that not only can globalization be described as one of the most dominant forces in the present day world economy, but also that no nation can exist in isolation in today's world (Zhuang & Koo, 2007).

Empirically, globalization translates into greater mobility of the factors of production (capital and labor) and greater world integration through increased trade and foreign direct investment. These indicators, however, measure only economic globalization and their effects are usually not the same across countries. Consequently, we also use a comprehensive measure of globalization, the index by Dreher (2006) to examine the effects of globalization. The Dreher (2006) index of globalization combines several variables from the economic, political, and social sectors.

The globalization agenda as seen in the drive toward trade liberalization and the growth in the influx of FDI has been remarkable in the past two decades. For example, the total world FDI stock which stood at about \$2 trillion in 1990 had grown to over \$18 trillion in 2009 compared to the total FDI inflows of \$208 billion in 1990 and \$1.1 trillion in 2009. The 2009 FDI inflows value, however, was 37% lower than the 2008 value due to global financial crisis (World Investment Report (WIR), 2010). The WIR (2010) shows that after almost a decade of growth, FDI flows to Africa declined from a peak of \$72 billion in 2008 to \$59 billion in 2009 due to the contraction of global demand and the fall in commodity prices. Interesting though is the fact that Africa's share of global FDI did not change appreciably (between 2-3%) over the past four decades but increased to 4.1% in 2008 and even higher in 2009 (5.3%).

Similarly, exports of goods and services which stood at \$4.4 trillion in 1990 increased to \$13 trillion in 2005, \$20 in 2008 but decreased to \$16 trillion in 2009 (World Investment Report {WIR}, 2010). Overall, world trade growth slowed in both 2007 and 2008 but in some developed countries like the US and Japan import volume growth turned negative. Global trade flows rebounded strongly in 2010 (\$15.2 trillion) following their collapse in 2009 (\$12.5 trillion) (World Trade Report, 2011). The report indicates that the rise in the volume of exports in 2010 was the largest on record, enabling world trade to return to its pre-crisis level but not to its long term trend. It is in the light of the dramatic changes associated with globalization that many studies have been conducted to examine its macroeconomic effects especially globalization's effect on economic growth on one hand, and the other, is its effect on government spending. This study focuses on the latter relationship.

This study examines the impact of global integration on government spending in the context of Sub Saharan African countries. This is important because as noted by Tanzi (2000), globalization has led to a growing interdependence of fiscal policies affecting the composition of government expenditures. Further, the greater volatility of commodity prices of primary products (main export of most African countries), suggest that greater trade volatility is more likely to heighten insecurity unless governments take the necessary measures to provide for social protection. However, it is also true that many developing countries because of the low tax revenues and weakness of the states are unable to implement welfare support systems (Avelino and Vargas, 2001), which indicates that identifying the relationship between globalization and government spending is an empirical matter.

Though some empirical studies have been conducted, many of these studies have focused on OECD (e.g. Meinhard and Potrafke, 2011; Busemeyer, 2009; Garrett and Mitchell, 2001), with a few others focusing on Latin America (Avelino and Vargas, 2001; Kaufman and Segura-Ubergio, 2001), but not much on Africa. Consequently, we contribute to the literature by examining the specific case of SSA countries. This is important because many of the studies do suggest that differences in the empirical results could be attributed to regional differences (Busemeyer, 2009; Hays, 2006; Balcells, 2006). Hays (2006) observes that the globalization government spending relationship is not only historically contingent but also geographical. Busemeyer (2009) reports that the discussion of the examination of globalization's effect should not lead to the assumption of convergence of policy outcomes. Balcells (2006) also claims that the effects of trade openness on redistribution demands are not homogeneous, and argue that they depend both on the type of factor endowment of the economy and the level of development.

The rest of the paper is organized as follows. The next section presents a review of the literature on the globalization-government spending relationship after which the methodology is described, results discussed, and ends with concluding remarks.

2. Literature review

The effect of globalization on government spending has generally been discussed under two main perspectives: the compensation and the efficiency hypotheses. The issue at the heart of the literature is about whether governments respond to the challenges of globalization with social policy choices that are oriented more toward cutting costs (efficiency) or protecting people's welfare (compensation) (Avelino and Vargas, 2001).

The efficiency hypothesis focuses on the supply side of the political market, highlights competitive pressures and threat of exit by mobile asset holders (Garret and Nickerson, 2001). The notion of efficiency is that government will reduce taxes and social welfare expenditures that diminish profits, discourage investment, economic growth and therefore overall international competitiveness. In essence, the competition between countries to promote trade and attract FDI, for example, leads to a reduction in taxation. The reduction in particular of corporate and capital taxes could lead to a reduction in the size of the public sector and consequently, a restructuring of government expenditures towards more productive private sector activities (Sanz and Velaquez, 2007; Klien et al., 2009). The view is not that government does not matter but rather that government spending - beyond minimal market friendly measures such as defence, securing property rights and other fundamental public goods - reduce the competitiveness of national producers in international goods and services markets (Garrett and Nickerson, 2001). Put simply, the efficiency approach posits that globalization places important constraints on welfare spending, leaving governments little choice but to restrict their social outlays (Avelino and Vargas, 2001).

In support of the efficiency view, Dreher et al. (2008), argue that globalization restrains government by inducing increased budgetary pressures. Empirically, Kaufman and Segura-Ubergio (2001), Avelino and Getulio (2001), and Busemeyer (2009) report a negative effect of globalization on government spending. Busemeyer (2009) used various measures for globalization and report statistically significant negative relationship between globalization and government spending. Avelino and Vargas (2001) show a negative significant effect of globalization on government spending for Latin American countries for the period 1980-1997. In a related study of Latin America for the period 1973-1997, Kaufman and Segura-Ubergio (2001) also reported similar findings.

On the other hand, the compensation perspective recognizes the constraints imposed by globalization on the social policy options of governments, yet accords greater weight to the countervailing demands imposed by citizens seeking protection from the state. It stresses the perception among top elected officials and bureaucrats that the social instability and political discontent engendered by internationalization could ultimately endanger globalization and its further development. The core contention of the compensation thesis is that government officials use the latitude they have to strengthen social insurance mechanisms to cushion citizens from the effects of globalization. Accordingly, Garrett and Nickerson (2001) claim that the efficiency perspective in focusing on the economic costs of government overlooks the possibility that there are political incentives to expand the public economy in response to globalization and that these may outweigh the constraints imposed by market integration. The pressures of the political market dictate that government must respond to the demands of the voting public by counteracting any negative effect associated with global integration. The assumption is that increased trade and financial liberalization, in particular, lead to erosion of incomes and it is the responsibility of government to provide social insurance to mitigate the exposure to greater levels of external risk (Gemmell et al., 2008; Sanz and Velaquez, 2007).

The view that governments expand the welfare state to insure citizens against the increased economic risk and unemployment caused by globalization is consistent with Rugie's (1982) idea of embedded liberalism, where policy makers develop a series of domestic and

international institutions which seek to combine a multilateral commitment to free trade, on the one hand, with domestic stability on the other. From this perspective, Wolfe and Mendelssohn (2004) argue that governments' response to globalization is not lower, but higher public spending. Thus, the demand side effects of globalization derive from the desire of government to direct the political process towards a redistribution of the induced losses or perceived risk (Dresher et al., 2008; Ruoff and Schaffer, 2009). In support of the compensation hypothesis, Meinhard and Potrafke (2011) in a study of 186 countries for the period 1970-2004 demonstrate that globalization had contributed to the increase in size of government spending. In a related study of 100 countries for the period 1970-2000, Shelton (2007) reports a significant positive relationship. Epifani and Gancia (2008) studied a cross section of countries over a period of 50 years (1950-2000) using fixed effects and GMM estimation techniques and report a significant positive effect of globalization on government spending. The authors, however, provide an alternative to the compensation hypothesis arguing that trading countries tend to have bigger governments because they benefit from terms of trade externality that shifts part of the cost of taxation abroad.

Notwithstanding the potential efficiency or compensation effect of globalization on government spending, there are good reasons to believe that these two forces may mitigate each other such that there would be no effect of globalization on government spending (Gemmell et al., 2008; Dreher et al., 2008). Gemmell et al. (2008) examined a sample of OECD countries from 1980-1987 using both the inward FDI stock and trade openness as measures of globalization and report no significant relationship. Likewise, Dreher et al. (2008) investigated the impact of globalization on government size for 108 countries for the period 1970-2001 and show that globalization did not have an impact on the composition of government expenditures.

Other authors argue that the inconsistencies in the relationship between globalization and government spending are due to the fact that it is mediated by many country specific factors that are usually not controlled for. For instance, Adsera and Boix (2002) argue that the compensation hypothesis is likely to hold in more democratic countries, whereas the efficiency hypothesis is more likely to hold in non democratic countries. Klien et al. (2009) have shown that the globalization-government spending nexus is mediated by the regime type. They find that efficiency effect dominated in Western Europe and the compensation effect was more pronounced in Eastern Europe. Garrett and Nickerson (2001) make a similar argument that democratization has significantly mediated the globalization - government spending relationship. They observe that in countries that became more democratic between the 1980s and 1990s, increasing market integration was associated with much faster growth in government spending - but the converse was true in countries that did not democratize. Additionally, Potrafke (2009) reports that left wing governments respond to globalization by implementing compensating policies, while right wing respond by implementing efficiency enhancing policies. Gemmell et al. (2008) suggest that having a more informed and politically active electorate strengthens incentives for governments to be responsive. This suggests that there is a role for democratic institutions in ensuring that the preferences of citizens are reflected in policy.

Per the discussion above, our contribution is twofold. Firstly, though some empirical studies have been conducted, many of these studies have focused on OECD countries (see Cameron, 1978; Busemeyer, 2009; Meinhard and Potrafke, 2011), with a few others focusing on Latin

America countries (see Avelino and Vargas, 2001; Kaufman and Segura-Ubergio, 2001, Avelino et al, 2005), but not much on Africa. We contribute to the globalization - democracy - government spending debate by examining the specific case of 42 SSA countries for the period 1970-2009 to be able to capture the differential effects, if any, between the pre and post - liberalization reform eras. Secondly, we consider whether the democratic reforms in the region over the past two decades have had any effect or play a mediating role in the relationship between globalization and government spending. Obviously, the recent democratic transformation experienced by many countries in the region offers a unique opportunity to explore questions about how different political regimes respond to the external economic shocks associated with globalization (Rodrik, 1998). The methodology for the empirical analysis is based on Prais - Winsten regressions with panel-corrected standard errors, which is discussed next.

3. Empirical methodology

3.1 Data

We use annual dataset covering the period 1970-2009 for a total of 42SSA countries. However, since all the data used in the study is not available for all countries and time period considered the panel is unbalanced. The countries included are: Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo, Dem. Rep; Congo, Republic of; Cote d'Ivoire; Gabon; Gambia, The; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mozambique; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Sierra Leone; Somalia; South Africa; Sudan; Swaziland; Tanzania; Togo; Uganda; Zambia; Zimbabwe¹.

For the data on the size of government, we use the percentage share of government spending in real GDP (denoted *GEXP*) which is based on data obtained from the United Nations Statistical Database (2011). However, because both globalization and democracy have many dimensions we use various indicators to examine how they impact on government spending. For the globalization indicators we use the KOF globalization indices which provide a more comprehensive measure of globalization in general. KOF index of globalization combines three sub-indices of globalisation - economic, social and political - into an overall index of globalization. The economic globalization index combines information on actual trade flows, foreign direct investment, income payments to foreign nationals and restrictions on trade and capital. The social globalization index combines data on personal contact with people, information flows and international cultural integration. The political globalization index combines information on international political integration of countries involving embassies in country, membership in international organisations, participation in U.N. Security Council missions and international treaties². We denote the economic, social, political and overall indicators of globalization as *EGLOB*, *SGLOB*, *PGLOB* and *GLOB* respectively.

¹ The selection of countries is influenced by data availability for all included variables

² Readers are referred to KOF website (<http://globalization.kof.ethz.ch/>) for additional information on these indices

We use four indicators of democracy based on data obtained from Polity IV Project (Marshall and Jaggers, 2009) and the Heritage Foundation’s Indices (Freedom House, 2011). The first indicator of democracy is based on Polity2 (Marshall and Jaggers, 2009)³ while the second and third are respectively based on Political Rights and Civil Liberties (Freedom House, 2011). As for the fourth and last indicator of democracy, we have used principal component analysis (PCA) to extract a composite index to proxy for the components of the first three indicators. The first principal component which is a linear combination of the original variables with maximum variance provides a good proxy for all three indicators as it explains up to 86% of the variations in the original data. The introduction of our fourth indicator does not only provide us with a composite indicator of democracy or for robustness issues, but most importantly help eliminate any potential multicollinearity problems that may plague estimated regressions with the first three indicators of democracy. This may be expected in models with both the squared and interaction terms of these indicators. The four indicators of democracy are denoted *DM1*, *DM2*, *DM3* and *DM4* respectively.

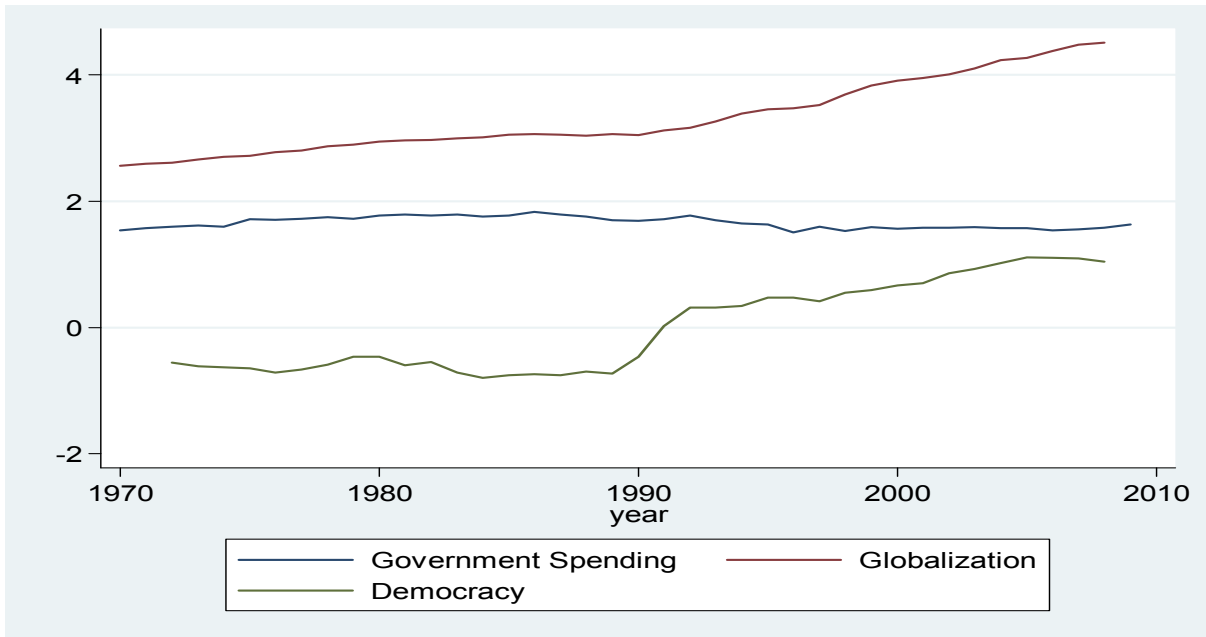


Fig. 1. Average development of government spending, globalization and democracy. Source: United Nations Statistical Database (2011), KOF Index of Globalization (2011), Freedom House (2011), Marshall and Jaggers (2009). Note: Government spending and globalization has been rescaled to fit the graph.

Figure 1 reports the averages over time of the percentage share of government spending in real GDP, KOF overall index of globalization (*GLOB*) and the PCA-based index of democracy (*DM4*)⁴. As can be seen, government spending increased from the 1970s through

³ Polity2 ranges from -10 (strongly autocratic) to +10 (strongly democratic) while from 1 (the highest rank) to 7 (the lowest rank). We have normalise all indicators of democracy, so all range between 0 (full autocracy) to 10 (full democracy).
⁴ The other globalization and democracy indicators show similar pattern and are thus not shown for presentation purposes

the 1980s and then began to decline beginning in the 1990s. KOF overall index of globalization increased throughout the sample period while democracy which was almost stable in the 1970s and 1980s began to increase in the 1990s. Table 1 report the correlations among government spending, and our globalization and democracy indicators⁵. With the exception of the economic globalization indicator which is positively correlated with Table 1. Correlation matrix of the share of government spending in real GDP, globalization and democracy indicators government spending, all other indicators of both globalization and democracy are negatively correlated with government spending. The correlation results provide some indication that both globalization and democracy may have been crucial in the decline in the average government spending beginning in the 1990s as evident in Figure 1.

Variables	<i>GEXP</i>	<i>EGLOB</i>	<i>SGLOB</i>	<i>PGLOB</i>	<i>GLOB</i>	<i>DM1</i>	<i>DM2</i>	<i>DM3</i>	<i>DM4</i>
<i>GEXP</i>	1								
<i>EGLOB</i>	0.202	1							
<i>SGLOB</i>	-0.128	0.541	1						
<i>PGLOB</i>	-0.239	0.094	0.134	1					
<i>GLOB</i>	-0.049	0.806	0.749	0.570	1				
<i>DM1</i>	-0.021	0.309	0.360	0.349	0.473	1			
<i>DM2</i>	-0.028	0.342	0.484	0.290	0.511	0.861	1		
<i>DM3</i>	-0.073	0.313	0.536	0.366	0.551	0.788	0.889	1	
<i>DM4</i>	-0.042	0.340	0.485	0.355	0.541	0.932	0.969	0.940	1

Source: United Nations Statistical Database (2011), KOF's Index of Globalization (2011), Freedom House (2011), Marshall and Jagers (2009).

Table 1.

Based on the literature on the determinants of government spending we also consider control variables. In this paper we consider the log of real GDP per capita (i.e. our proxy for level of development (*logINCOME*)), real GDP per capita growth (*GROWTH*), the percentage share of foreign aid in real GDP (*AID*), percentage of population age 65 and over (*DEPO*), percentage of population in urban areas (*URBAN*) and the log of total population (i.e. our proxy for country size (*logPOP*)). The data for foreign aid, percentage of population age 65 and over, percentage of population in urban areas are drawn from World Development Indicators (2011) database. The rest of the data are obtained from United Nations Statistical Database (2011).

3.2 Model specification

The basic panel data model we estimate has the following specification:

$$y_{it} = \alpha_i + \beta_1 x_{it} + \beta_2 z_{it} + \beta_3 w_{it} + \varepsilon_{it} \quad i=1, 2 \dots N; \quad t=2, 3 \dots T \tag{1}$$

where y_{it} is the observations for government spending of country i in period t , we define x_{it} as an indicator of globalization or as the vector of the observations of globalization

⁵ These correlations are based on transformed data discussed under econometric issues and estimation strategy in section 3.

indicators considered, z_{it} to include an indicator of democracy and the squared term of this indicator, and w_{it} as the vector of the observations of control variables considered relevant in explaining government spending in SSA, ε_{it} is the error term with the usual properties.

A priori, the coefficient on globalization indicators is unknown due to the potential impact of the compensation hypothesis, the efficiency hypothesis and/or the mitigating effect of the compensation and efficiency hypothesis on government spending. For this reason, globalisation could have negative, positive or no effect on government spending. Nonetheless, Hausken et al. (2004) note that a non-linear relationship exists between democracy and government spending such that an increase in democracy from autocracy to semi-democracy tends to reduce government spending, whilst further increase from semi-democracy to full democracy tends to increase government spending. The introduction of the squared term of democracy indicators (denoted *DM1SQ*, *DM2SQ*, *DM3SQ* and *DM4SQ* respectively) aim to capture this non-linear relationship between the level of democracy and government spending. If this non-linear relationship is supported in the SSA data then we should expect a robust and statistically significant negative (positive) coefficient on democracy (democracy squared). Following the literature on globalization, democracy and government spending (see Garret and Nickerson, 2005; Yoon, 2009), we go further to introduce interaction terms for these variables to determine if there are any mediating effects between globalization and democracy on government spending for SSA countries.

3.3 Econometric issues and estimation strategy

Series of relevant econometric issues arise when estimating equation (1). Firstly, we have yearly time span for our dataset. However, due to potential short term disturbances yearly time span may not be appropriate (see Islam, 1995). We therefore, use 5-year average for the 1970-2009 period for all variables⁶. This transformation reduces potential business cycle and non-stationarity effects that may be present in the yearly data. We split the data into 8-year periods ($T=8$) for each country in our sample (1970-1974, 1975-1979, 1980-1984, 1985-1989, 1990-1994, 1995-1999 and 2000-2004 and 2005-2009). Secondly, due to the presence of heteroskedasticity, autocorrelation, and cross section dependence in our models we are unable to rely on estimators such as pooled OLS which do not control for these effects⁷. However, as noted in (Islam, 1995), a common issue that arises when estimating (1) is the choice between fixed effect and random effect based estimators. In particular, while the unobservable individual random effects models depend on the existence of strictly exogenous explanatory variables, this is not usually the case with unobservable individual fixed effects models that are “highly likely to be correlated with the observed exogenous variables in the model” (Nickell, 1981). To resolve this issue we first determined which of fixed and random effect estimators is appropriate. For all models considered, both Hausman test and Breusch and Pagan Lagrangian multiplier test provides evidence in favour of

⁶ For variables with missing values we have computed the average based on the number of data points in each period. For example, for Political Right and Civil Liberty indices which begin from 1972 we use a 3-year average for the 1972-1974 for the first time period. Similar rule is applied for the KOF indices where the data ends in 2008

⁷ We have performed the modified Wald test for groupwise heteroskedasticity, Wooldridge test for autocorrelation in panel data and the Frees’ test (Frees, 1995) for cross section dependence that provides these evidence. These results are not reported but available from the authors upon request.

random effect estimators as the most appropriate⁸. However, we are unable to use the random effect estimator due the problem of cross section dependence. Therefore, following Beck and Katz (1995) and Avelino et al. (2005), we use the panel-corrected standard errors in the framework of Prais-Winsten regressions to address these econometric issues raised. Prais-Winsten regressions are particular appropriate for panel data models plagued by heteroskedasticity, autocorrelation and cross section dependence. In all regressions estimated we have allowed panel-specific heteroskedastic errors and panel-specific (AR1) autocorrelation structure.

4. Empirical results

4.1 Control variables

We begin the empirical analysis with the control variables considered which yield the following results for all estimated models (see Tables 2 to 4). Table 2 reports the result with KOF sub-indices of globalization - economic (*EGLOB*), social (*SGLOB*) and political (*PGLOB*). In Table 3 we consider KOF overall index of globalization (*GLOB*) while Table 4 introduces the interaction terms between globalization indicators and the PCA-based indicator of democracy.

The coefficient on country size (proxied by log of population), although enters all regressions with the expected sign (i.e. negative), is not significant in most estimated models (especially where we use KOF's sub-indices of globalization) implying less robust association with government spending. This result implies that governments in large economies in SSA may not necessarily spend less, and hence little support for Alesina and Wacziarg (1998) hypothesis of a negative relationship between country size and government spending in SSA countries.

Other than country size, the rest of the control variables (the level of development, economic growth, foreign aid, percentage of population aged 65 and over, percentage of population in urban areas) show robust association with government spending in SSA countries. The level of development (proxied by log of per capita income) enters positive in all regressions and highly significant. This result lend support for Wagner's law and indicates that as these countries continue to develop their economies, government depends more on their per capita income to provide public goods and services for their citizens.

We also find statistical significant negative impact of economic growth on government spending consistent with Wildavsky hypothesis of a negative relationship between economic growth and government spending for low-growth countries (see Cameron, 1978). However, for SSA countries characterized by highly volatile economic growth patterns the explanation for this negative relationship may be more of government spending being constrained by the volatile economic growth patterns.

As expected, the coefficient on foreign aid enters positive and highly significant in all regressions. This result provides support for the overdependence on foreign aid by developing countries' government in pursuit of their developmental agenda. Thus foreign aid indeed increases the scope of the public sector in SSA countries.

⁸ These results are not reported, but are available from the authors upon request

	(1)	(2)	(3)	(4)
<i>EGLOB</i>	0.787 ^a [0.277]	0.706 ^b [0.282]	0.674 ^b [0.282]	0.734 ^a [0.277]
<i>SGLOB</i>	-2.217 ^a [0.600]	-1.973 ^a [0.597]	-1.982 ^a [0.639]	-2.159 ^a [0.610]
<i>PGLOB</i>	-0.369 ^b [0.151]	-0.439 ^b [0.179]	-0.405 ^b [0.159]	-0.331 ^b [0.166]
<i>DM1</i>	-0.369[0.468]			
<i>DM1SQ</i>	0.044[0.046]			
<i>DM2</i>		-0.214[0.276]		
<i>DM2SQ</i>		0.040[0.029]		
<i>DM3</i>			-0.837 ^b [0.355]	
<i>DM3SQ</i>			0.110 ^a [0.041]	
<i>DM4</i>				-0.248[0.196]
<i>DM4SQ</i>				0.251 ^b [0.097]
<i>logINCOME</i>	4.188 ^a [0.969]	4.291 ^a [0.955]	4.233 ^a [0.899]	4.146 ^a [0.857]
<i>GROWTH</i>	-0.166 ^a [0.053]	-0.178 ^a [0.050]	-0.179 ^a [0.048]	-0.165 ^a [0.052]
<i>AID</i>	0.182 ^a [0.048]	0.249 ^a [0.043]	0.257 ^a [0.041]	0.193 ^a [0.046]
<i>DEPO</i>	-1.620 ^a [0.268]	-1.271 ^a [0.172]	-1.297 ^a [0.180]	-1.710 ^a [0.286]
<i>URBAN</i>	-0.105 ^a [0.033]	-0.106 ^a [0.037]	-0.099 ^a [0.036]	-0.097 ^a [0.033]
<i>logPOP</i>	-0.096[0.266]	-0.409 ^c [0.230]	-0.281[0.209]	-0.136[0.272]
Observations	266	273	273	266

Note: Symbols ^a(^b)(^c) denote statistical significance at the 1%(5%)[10%] level. In parenthesis are Panel-Corrected Standard Errors. For presentation purposes the constant term is not reported.

Table 2. Prais-Winsten regressions: KOF globalization indicators (economic, social, political) and democracy indicators

As for the demographic factors previous studies on government spending in SSA countries found no association between demographic factors and government spending (see for example Sobhee, 2010)⁹. Nonetheless, we find that the coefficient on the percentage of population aged 65+ is negative and statistically significant in all regressions. This results is not surprising as in SSA countries (as in many other developing countries) the government does not generally care about the dependent population.

The most surprising result is the negative and statistically significant coefficient on the percentage of the population in urban areas. We would have expected urbanization that characterizes many SSA countries in recent years to have positive impact on government spending, not negative, as with the growing urbanization in these countries we would expect governments’ provision of public services in urban areas to increase. This result could mean that in SSA countries government is probably not responding adequately to the demands posed by urbanization. Overall the control variables we have considered have shown that government spending in SSA countries is characterized by several determinants.

⁹ For the case of dependency ratio, Sobhee used only the total dependency ratio [i.e. percentage of (population aged 0 – 14 plus those aged 65+)]. We considered this total dependency ratio variable as well as percentage of population aged 0 – 14 in all our regressions and found no association for these variables with government spending. We thus excluded these variables from our basic specification.

4.2 Results on globalization and democracy indicators

We now turn to discuss the coefficients on our variables of interest (i.e. indicators of globalization and democracy). The result of the impact of democracy on government spending in SSA countries (see Table 2 and 3) depends on how democracy is measured (i.e. on the alternative indicators of democracy - *DM1*, *DM2*, *DM3* and *DM4* - and their respective squared terms - *DM1SQ*, *DM2SQ*, *DM3SQ* and *DM4SQ*). Although, in almost all regression results we obtain the expected signs on the coefficients of democracy indicators (i.e. negative) and their respective squared terms (i.e. positive), we only find robust support for

	(1)	(2)	(3)	(4)
<i>GLOB</i>	-0.510[0.401]	-0.429[0.413]	-0.378[0.380]	-0.457[0.425]
<i>DM1</i>	-0.013[0.422]			
<i>DM1SQ</i>	0.004[0.043]			
<i>DM2</i>		-0.308[0.311]		
<i>DM2SQ</i>		0.046[0.039]		
<i>DM3</i>			-1.024 ^a [0.351]	
<i>DM3SQ</i>			0.123 ^a [0.044]	
<i>DM4</i>				-0.249[0.180]
<i>DM4SQ</i>				0.175 ^c [0.099]
<i>logINCOME</i>	3.541 ^a [0.719]	3.466 ^a [0.812]	3.413 ^a [0.754]	3.761 ^a [0.637]
<i>GROWTH</i>	-0.097 ^b [0.041]	-0.113 ^b [0.054]	-0.111 ^b [0.054]	-0.099 ^b [0.040]
<i>AID</i>	0.162 ^a [0.033]	0.177 ^a [0.045]	0.185 ^a [0.044]	0.171 ^a [0.033]
<i>DEPO</i>	-1.464 ^a [0.273]	-0.899 ^a [0.250]	-0.908 ^a [0.248]	-1.523 ^a [0.270]
<i>URBAN</i>	-0.150 ^a [0.025]	-0.119 ^a [0.034]	-0.121 ^a [0.034]	-0.147 ^a [0.024]
<i>logPOP</i>	-0.505 ^c [0.304]	-1.420 ^a [0.042]	-1.290[0.377]	-0.416[0.310]
Observations	304	318	318	304

Note: Symbols ^a(^b)(^c) denote statistical significance at the 1%(5%)[10%] level. In parenthesis are Panel-Corrected Standard Errors. For presentation purposes the constant term is not reported.

Table 3. Prais-Winsten regressions: KOF globalization (overall index) and democracy indicators

Hausken et al. (2004) hypothesis of a non-linear relationship between democracy and government spending when we consider civil liberty as an indicator of democracy. Democracy measured by both polity2 and political rights provides not enough evidence for this hypothesis while for the PCA democracy-based indicator only the squared term is statistically significant. These results are robust regardless of how globalisation is measured.

As already mentioned Table 2 reports the estimated result with KOF sub-indices of globalization. The estimated coefficients on these indicators show statistically significant positive (negative) impact of economic globalization (social and political globalization). While the result on economic globalization lends support to Rodrik’s hypothesis of a positive relationship between economic globalisation and government spending¹⁰, social and political globalization tends to decrease the growth of government spending in SSA

¹⁰ In place of economic globalization indicator we also estimated all models with trade openness and obtained similar conclusions. The result using trade openness indicator is available from the authors upon request.

countries. On the other hand, we do not find any significant relationship between globalization (as measured by the overall KOF's index) and government spending in SSA countries (see Table 3). This result is consistent regardless of the indicator of democracy used and it may be explained by the potential mitigating effect of the sub-indices. This result implies that how globalization is measured is crucial in the globalization-government spending relationship.

Notwithstanding this, it is imperative that we also consider any potential interaction effect of globalization indicators and democracy (measured by the PCA-based indicator) that might have affected government spending in SSA countries. Table 4 summarizes the result with these interaction terms. As evident, the presence of the interaction terms does not affect our initial conclusions on the coefficients on KOF's sub-indices of globalization. Nonetheless, KOF's overall index of globalization is now significant (at the 10% level) with the introduction of the interaction term. On the other hand, although all democracy indicators have negative impact on government spending (with the exception of the case where we consider the interaction between political globalisation and democracy), little evidence exist for a positive effect on the squared terms (with the exception of the model interaction between political globalisation and democracy which is positive and significant at the 10% level). This result lends little support for the Hausken et al. (2004) hypothesis. Thus, although the level of democracy decreases government spending in SSA countries, increasing democracy may not necessarily increase government spending.

	(1)	(2)	(3)	(4)
<i>EGLOB</i>	0.594 ^b [0.274]	0.656 ^b [0.263]	0.701 ^b [0.281]	
<i>SGLOB</i>	-2.166 ^a [0.617]	-2.849 ^a [0.673]	-2.139 ^a [0.623]	
<i>PGLOB</i>	-0.305 ^c [0.173]	-0.202[0.178]	-0.400 ^b [0.201]	
<i>GLOB</i>				-0.751 ^c [0.427]
<i>DM4</i>	-0.959 ^b [0.424]	-1.222 ^a [0.372]	-0.732[0.456]	-1.685 ^a [0.361]
<i>DM4SQ</i>	0.155[0.108]	-0.007[0.147]	0.193 ^c [0.103]	-0.018[0.113]
<i>EGLOB*DM4</i>	0.223 ^c [0.127]			
<i>SGLOB*DM4</i>		0.513 ^a [0.167]		
<i>PGLOB*DM4</i>			0.114[0.091]	
<i>GLOB*DM4</i>				0.471 ^a [0.128]
<i>logINCOME</i>	3.969 ^a [0.848]	4.334 ^a [0.873]	4.150 ^a [0.853]	3.638 ^a [0.575]
<i>GROWTH</i>	-0.166 ^a [0.051]	-0.170 ^a [0.053]	-0.164 ^a [0.052]	-0.095 ^b [0.041]
<i>AID</i>	0.199 ^a [0.045]	0.190 ^a [0.046]	0.193 ^a [0.045]	0.168 ^a [0.034]
<i>DEPO</i>	-1.777 ^a [0.282]	-1.789 ^a [0.255]	-1.756 ^a [0.292]	-1.703 ^a [0.261]
<i>URBAN</i>	-0.087 ^a [0.032]	-0.093 ^a [0.031]	-0.092 ^b [0.036]	-0.133 ^a [0.025]
<i>logPOP</i>	-0.385[0.295]	-0.472 ^c [0.259]	-0.205[0.254]	-0.506 ^c [0.128]
Observations	266	266	266	304

Note: Symbols ^a(^b)[^c] denote statistical significance at the 1%(5%)[10%] level. In parenthesis are Panel-Corrected Standard Errors. For presentation purposes the constant term is not reported.

Table 4. Prais-Winsten regressions: KOF globalization indicators and their interactions with democracy

Nonetheless, all the interaction terms enter positive and statistically significant (with the exception of the interaction between political globalisation and democracy) implying that

globalization (economic, social and overall) and democracy (proxied by the PCA-based indicator) could potentially increase the scope of the public sector in SSA countries. Taken cognisance of all globalization and democracy related variables in Table 4, the result implies that (1) economic globalisation and democracy has increased government spending while (2) globalization (social, political and overall) and democracy have led to a reduction in government spending in SSA countries. Therefore, both globalization and democracy are important determinants of government spending in SSA countries.

5. Concluding remarks

The paper has investigated the relationships among globalization, democracy, and government spending in SSA countries. The findings of the study show that economic globalization did have a significant positive effect on government spending - supporting the compensation hypothesis-, while social and political globalization were negative and significantly related to government spending - supporting the efficiency hypothesis. Democracy did not show robust association with government spending. The other control variables, level of development and foreign aid are positive and significantly related to government spending, while economic growth, the percentage of the population aged 65+ and the percentage of the population in urban areas are negatively related to economic growth.

The results indicate that the increasing global integration and democratic reforms underway in SSA countries, on the whole, have not been harmful so far as government spending growth is concerned. However, economic globalization's positive effect on government size should not be necessarily viewed as negative, as many studies have shown that increase in government spending in many developing countries could help to make them competitive in the long term especially if the spending promotes productivity. Yanikkaya (2003), for example, has shown that some form of government intervention to restrict trade could be important in enhancing the competitiveness of infant industries. Grossman and Helpman (1992) have also argued that government spending in the economy to restrict trade could facilitate long run growth especially if the spending is geared toward investment and research intensive sectors. The problem then is not the increase in government spending per se but what the money is spent on. Further research could look at the dynamics of global integration, government spending and growth in the context of Africa to provide policy direction to maximize the gains from globalization introduction.

In moving forward, many more country specific studies would have to be conducted to fully appreciate how globalization is impacting on individual countries. Data constraints did not allow us to do this. As data becomes available, it will also be of significance to policy makers to examine not just the level effects but also changes in the variables concerned and more importantly how globalization is impacting on the composition of government expenditure.

In concluding, we want to state that the problem for African countries is not globalization per se but how to manage it to ensure prosperity for its people. This could only be possible when the desire for global integration is combined with appropriate elements of policy direction. In this sense, the focus should shift from whether the size of government expenditure is small or big to identifying the right expenditures needed to promote long run economic and social welfare.

6. References

- Adsera, A., and C. Boix (2002), "Trade, Democracy, and the Size of the Public Sector: The Political Underpinnings of Openness". *International Organization* 95: 229-262
- Alesina, A., and R. Wacziarg (1998), "Openness, Country Size and Government", *Journal of Public Economics*, 69: 305-321
- Avelino, G., and F. G. Vargas (2001), "Globalization, Democracy, and Social Spending in Latin America, 1980-1997". Unpublished manuscript
- Avelino, G., Brown, D. S., and W. Hunter (2005), "The Effects of Capital Mobility, Trade Openness, and Democracy on Social Spending in Latin America, 1980-1999", *American Journal of Political Science*, 49: 625-641
- Balcells, V. (2006) "Trade Openness and Preferences for Redistribution: A Cross National Assessment of the Compensation Hypothesis," *Business and Politics*: Vol. 8: Iss. 2, Article 1.
- Beck, N., and J. N. Katz (1995), "What To Do (and Not To Do) with Time-Series-Cross-Section Data in Comparative Politics", *American Political Science Review*, 89: 634-647
- Bussemeyer, M. (2009), "From Myth to Reality: Globalization and Public Spending in OECD Countries Revisited", *European Journal of Political Research*, 48: 455-482
- Cameron, D. (1978), "The Expansion of the Public Economy: A Comparative Analysis", *American Political Science Review* 72: 1243-1261
- Dreher A., Sturm J., and H. W. Ursprung (2008), "The Impact of Globalization on the Composition of Government Expenditures: Evidence from Panel Data", *Public Choice*, 134: 263-292
- Dreher, A. (2006). Does Globalization affect Growth: Evidence from a New Index of Globalization. *World Development*, 29(1): 1925-1936
- Epifani, P., and G. Gancia (2008), "Openness, Government Size and the Terms of Trade," IEW - *Working Papers* No.359, Institute for Empirical Research in Economics - University of Zurich
- Freedom House (2011), *Freedom in the World Country Ratings, 1972-2010*
- Frees, E. W. (1995), "Assessing Cross-sectional Correlations in Panel Data", *Journal of Econometrics*, 69: 393-414
- Garrett, G. (2001), "Globalization and Government Spending Around the World" *Studies in Comparative International Development*, 35: 3-29
- Garrett, G. and D. Nickerson (2005), "Globalisation, Democratization and Government Spending in Middle-Income Countries" in *Globalization and the Future of the Welfare State*, ed. Miguel Glatzer and Dietrich Rueschemeyer, Pittsburgh, PA: University of Pittsburgh Press.
- Garrett, G., and D. Mitchell (2001), "Globalization, Government Spending and Taxation in the OECD", *European Journal of Political Research*, 39: 145-177
- Gemmel N., Kneller R., and I. Sanz (2008), "Foreign Investment, International Trade and the Size and Structure of Public Expenditures", *European Journal of Political Economy*, 24: 151-171
- Hausken, K., Martin, C. W., and T. Plumper (2004), "Government Spending and Taxation in Democracies and Autocracies", *Constitutional Political Economy*, 15: 239-259
- Hays, J. (2006), "Government Spending and Public Support for Trade in the OECD", Unpublished manuscript

- Islam, N. (1995), "Growth Empirics: A Panel Data Approach", *The Quarterly Journal of Economics*, 110: 1127-1170
- Kaufman, R. R., and A. Segura-Ubiergo (2001), "Globalization, Domestic Politics, and Social Spending in Latin America: A Time-Series Cross-Section Analysis, 1973-97", *World Politics*, 53: 553-587
- Klien, M., Leibrecht, M., and O. Onaran (2009), "Globalization and the Structure of Public Spending in the Western and Eastern EU Member States"
- KOF Index of Globalisation (2011), <http://globalization.kof.ethz.ch/>
- Marshall, M. G., Jaggers, K. (2009), Polity IV Project: Political Regime Characteristics and Transitions, 1800-2009, Center for Systemic Peace and Colorado State University. <http://www.systemicpeace.org/polity/polity4.htm>
- Meinhardt, S., and N. Potrafke (2011), "The Globalization of the Welfare State Nexus Reconsidered", University of Konstanz Department of Economics *Working paper* No. 2011-27
- Nickell, S. (1981), "Biases in Dynamic Models with Fixed Effects", *Econometrica*, 49: 1417-1426
- Potrafke, N. (2009), "Did Globalization Restrict Partisan Politics? An Empirical Evaluation of Social Expenditures in a Panel of OECD countries", *Public Choice*, 140: 105-124
- Report (2009). Responding to the Global Crisis. United Nations, New York.
- Rodrik, D. (1998), "Why do more Open Economies have bigger Governments?", *Journal of Political Economy*, 106: 997-1032
- Rugie, G. J. (1982), "International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic System", *International Organization*, 36: 379-415.
- Ruoff, G., and L. Schaffer (2009), "Adding Another Level: Individual Responses to Globalization and Government Welfare Policies".
- Sanz, I., and F. J. Velazquez (2007). "The Role of Ageing in the Growth of Government and Social Welfare Spending in the OECD", *European Journal of Political Economy*, 23: 917-931
- Shelton, C. (2007), "The Size and Composition of Government Expenditure", *Journal of Public Economics*, 91:2230-2260
- Sobhee, S. K. (2010), "Would Better Institutional Quality Contribute towards Reducing the Size of Government in Sub-Saharan Africa?", *The Journal of Applied Economic Research*, 4: 265-278
- Tanzi, V. (2000), "Globalization and the Future of Social Protection". *IMF Working Paper* No. 12.
- UNCTAD, WIR (2010). Investing In a Low Carbon Economy. United Nations, New York
- United Nations Conference on Trade and Development (UNCTAD) Trade and Development
- United Nations Statistical Division Dataset (2011), United Nations, New York
- Wolfe, R., and M. Mendelsohn (2004), "Embedded Liberalism in the Global Era. *International Journal*, Spring 2004, pp 261-280
- WTO Publication, Geneva
- WTO World Trade Report (2009) Trade Policy Commitments and Contingency Measures.
- WTO, World Trade Report (2011). The WTO and Preferential Trade Agreements: From Co-existence to Coherence. WTO

- Yanikkaya, H. (2003). Trade Openness and Economic Growth: A Cross-Country Empirical Investigation. *Journal of Development Economics*, 72(1): 57-89.
- Yoon, J. (2009), "Globalization and the Welfare State in Developing Countries", *Business and Politics*, 11: 1-31
- Zhuang, R., and W. Koo (2007), "Economic Growth Under Globalization. Evidence for Panel data Analysis", Paper Presented for Presentation at the American Agricultural Economics Association Annual Conference, Portland, Oregon.



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The book "Globalization and Responsibility" consists of 8 chapters. The chapters in the book offer a decentered and dynamic terminology. They show that globalization consists of not only an objective process, but also of a lot of statements that define, describe and analyze the different experiences of the process. The chapters are written by authors and researchers from different academic disciplines, cultures and social contexts, therefore different experiences and scientific analyses on the consequences of globalization have been unified, starting from the multicultural and social epistemology to ethics of responsibility. Each chapter can be read separately, but in a complex, interconnected global universe of intertextuality of our world.

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