Finance and democracy in Africa

Simplice A, Asongu

20 December 2011

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Simplice A. Asongu

E-mail: asongusimplice@yahoo.com

Tel: 0032 473613172

HEC-Management School, University of Liège.

Rue Louvrex 14, Bldg. N1, B-4000 Liège, Belgium

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Abstract

The motivations of the Arab Spring and hitherto unanswered questions about some of its dynamics inspired this paper, which focuses on how democracy, polity and autocracy affect financial development dynamics of depth, efficiency, activity and size in Africa; contingent on religious-domination, income-levels and colonial-legacies. Findings could be summarized in the following. (1) Authoritarian regimes have a higher propensity to effect policies that favor the development of financial intermediary depth, activity and size. Democracy has important effects on the degree of competition for public offices but less significant effects in comparison with autocracy on policies towards financial development. (2) Christian-dominated countries have higher (lower) levels of financial intermediation efficiency (depth) than-Islam oriented countries. (3) Income-levels also matter in financial development as poor countries have a lower propensity to improve their financial dynamics than wealthy states. (4) On average English common-law countries have better democratic institutions that their French civil-law counterparts. (5) There is evidence of a U-shape relationship between national wealth and the level of democracy, with Low-income countries experiencing lower (higher) levels of democracy than Upper (Lower) middle income countries. As a policy implication, once democracy is initiated, it should be accelerated (to edge the appeals of authoritarian regimes) and reap the benefits of *level* and *time* hypotheses in financial development.

JEL Classification: E40; E50; O10; P16; P50

Keywords: Banking; Finance; Politics; Democracy; Development

1. Introduction

The relative importance of political regimes in economic growth, welfare, human liberties and financial development has marked the geo-political landscape of the African continent over the past couple of months. In three words, "the Arab Spring" has reignited the debate over the influence of political institutions on the destinies of those who depend on their policies for a livelihood. Tunisia, Egypt, Libya, Algeria, Morocco, Senegal, Ivory Coast, Uganda, Zambia, Mauritania, Sudan, Western Sahara, Bahrain, Syria, Yemen, Jordan, Oman, Lebanon, Saudi Arabia…etc are countries that have recently witnessed major or minor revolutions, through techniques of civil resistance in sustained campaigns involving strikes, demonstrations, marches and rallies, as well as the use of social-media to organize, communicate and raise awareness in the face of state attempts at repressions and internet censorship.

The motivations of these uprisings that have marked the history of humanity over the last few months have left political economists, researchers, governments and international policy makers pondering over the following concerns. How do national religious inclinations exert influence on financial dynamics? How do income levels matter in financial development? What bearing do legal origins have on financial development prospects? Do income-levels, dominant-religions and colonial-legacies matter in the quality of political regimes? How do democracy and autocracy affect financial development dynamics conditional on religious-domination, legal-traditions and income brackets? Such are the concerns this work seeks to address.

The remainder of the paper is organized in the following manner. Section 2 reviews existing literature. Data and methodology are presented and outlined respectively in Section 3. Section 4 presents and discusses the empirical analysis. We conclude with Section 5.

2. Literature Review

2.1 Existing strands

2.1.1 Democracy and growth

The relationship between political democracy and economic growth has been a center of debate over the past decades. A bulk of cross-country research has shown a theoretical divide on the impact of democratic versus authoritarian regimes on growth. Both theoretical and empirical literature are highly divided on the effects of democracy on economic growth. While from a theoretical perspective, Clague et al. (1996) and Haggard (1997) argue that democracy promotes economic growth better than autocratic regimes, Rao (1984) and Blanchard & Shleifer (2000) disagree.

Proponents of democracy postulate that the motivations of citizens to work and invest, the effective allocation of resources in the marketplace and profit-maximization private activity can all be maintained in a climate of liberty, free-flowing information and secured control of property (North, 1990; Doucouliagos & Ulubasoglu, 2008). Democracies can infringe state intervention in the economy, improve responsiveness to public's demand on areas such as education, justice and health, and most importantly encourage long-run and stable growth (Rodrik, 2000; Baum & Lake, 2001, 2003).

Conversely, opponents of democracy posit that democracies lend themselves to popular demands for immediate consumption at the expense of profitable investments and can neither be insulated from the interest of rent-seekers nor mobilize resources swiftly. In the same vein, democracies are said to be prone to conflicts due to social, ethnic and class struggles. Whereas some authors subscribe to authoritarian regimes in efforts to suppress conflicts, resist sectional interests and take coercive measures necessary for rapid growth, others emphasize the role of

markets and institutions irrespective of political regime-type (Bhagwati, 1995). Democracy presents a potential risk to growth because it is open to pressures from interest groups (Olson, 1982). Rao (1984) postulates that two-thirds of the world's population were living under nondemocratic forms of government because; democratic institutions fail to respond to the immediate demands of the population, impatient to raise its standard of living. In the assessment, authoritarian regimes orchestrate economic growth by sacrificing current consumption for investment, which makes them rather effective at mobilizing savings. Blanchard and Shleifer (2000) compare fiscal federalism in China and Russia to demonstrate that political centralization in China reduces both the risk of capture and the scope of competition for rents by local governments. Conversely, the emergence of a partly dysfunctional democracy in transitional Russia deters economic growth due to rampant local capture and competition for rents.

Shen (2002) cuts adrift the cross-country mainstream approach to empirical examination of the democracy-growth nexus and proposes a "before-and-after" analytical technique. The paper compares the economic performance of forty countries before and after they became democracies or semi-democracies over the last four decades and finds evidence that an improvement in growth performance typically follows the transformation to democracy. In the same vein growth appears to be more stable under authoritarian regimes. Interestingly, rich countries often experience declines in growth after a democratic transformation whereas poor nations typically experience accelerations in growth. Growth change appears to be negatively associated with initial savings ratio and positively linked to the export ratio to GDP.

Given the debate highlighted above, Doucouliagos & Ulubasoglu(2008) challenge the consensus of an inconclusive relationship with a meta-analytic review and a quantitative assessment of the democracy-growth literature. They apply meta-regressions to a population of

470 estimates derived from 81 papers on the democracy-growth association and conclude with the following. (1) Given overall available published works, there is on average no evidence of democracy being detrimental to growth since the former has no direct effect on the later. Evidence suggests only a robust and significant indirect effect on growth. (2) Results are consistent with democracies being associated with higher human capital accumulation, lower political instability, lower inflation and higher economic freedom. (3) Democracies are also found to be associated with larger governments and more restrictions to international trade. (4) The growth-effect of democratic regimes is higher in Latin America and lower in Asia but insignificant in Africa.

2.1.2. Democracy and finance

The existing literature has stressed the role of political and legal institutions in promoting financial development, which is widely viewed as necessary for economic growth (King & Levine, 1993; Levine & Zervos, 1998). Institutions that abide by the rule of law, protect property rights as well as contract enforcements and put effective constraints on rulers are established to be associated with higher levels of financial development (La Porta et al., 1998; Rajan & Zingales, 2003; Haber et al., 2007; Asongu, 2011abcd).

From a fundamental perspective, powerful sets of institutions often result from democracy: a political system characterized by popular participation, political competition for public offices and institutional constraints on the rules (Siegle et al., 2004). For example democracy brings political checks and balances, responsiveness to citizens, self-correcting mechanisms, openness and other good institutions. La Porta et al. (2002) suggest that democratic regimes encourage financial development by discouraging government ownership of financial institutions. Borrowing from Haber et al.(2007), openness and competitiveness in a country's

political system has a tendency to reflect itself in the openness and competitiveness of its financial system. Thus democracies by promoting political participation and competition limit the power of the state to control and repress the financial system, diminish the chance for both predatory and opportunistic behavior and consequently generate a more competitive and efficient banking system. Countries with greater constraints on the government provide greater protection against expropriation and consequently have a better banking system and more advanced stock markets (Acemoglu & Johnson, 2005). In the same vein the presence of competitive elections, political checks and balances are of crucial importance in property rights protection and contract enforcement (North & Weingast, 1989).

2.2 Case of Africa

Several studies have investigated the effect of political variables on economic growth in Africa (Ghura, 1995; Ojo & Oshikoya, 1995; Easterly & Levine, 1997; Guillaumont et al., 1999). Other works have examined the effect of political instability on savings or investment (Gyimah-Brempong & Traynor, 1996; 1999). To the best of our knowledge the absence of any study that addresses the relationship between finance and democracy in the African continent represents an important missing link in the literature. Given the relative importance of politics in financial and human developments; the recent waves of revolutions that have marked the Arab-Spring; the established role institutions play in the rule of law, protection of private property rights and enforcement of contracts; the undeveloped state of financial and democratic institutions in Africa; this paper seeks to investigate what role political regimes play in the development of financial intermediary dynamics. In plainer terms, the work assesses how distinguishing features like income-levels, colonial-legacies and religious-domination influence political regimes in their effect on financial dynamics of depth, efficiency, activity and size.

Therefore the contribution of this paper to the literature could be summed-up in the concerns that have left political economists, researchers, governments and international policy makers pondering-over during the Arab Spring. How do national religious inclinations exert influence on financial dynamics? How do income levels matter in financial development? What bearing do legal origins have on financial development prospects? Do income-levels, dominant-religions and colonial-legacies matter in the quality of political institutions? How do democracy and autocracy affect financial development dynamics conditional on religious-domination, legal-traditions and income-brackets?

3. Data and Methodology

3.1 Data

We examine a panel of 34 African countries (see Appendix 4) with data (see Appendix 3) from African Development Indicators (ADI) and the Financial Development and Structure Database (FDSD) of the World Bank (WB). The resulting balanced panel is restricted from 1980 to 2010 owing to constraints in data availability. For clarity in presentation, we classify selected variables into the following categories.

3.1.1 Dependent variables

a) Financial depth

Borrowing from the FDSD we measure financial depth both from overall-economic and financial system perspectives with indicators of broad money supply (*M2/GDP*) and financial system deposits (*Fdgdp*) respectively. Whereas the former represents the monetary base plus demand, saving and time deposits, the later denotes liquid liabilities. Since we are dealing exclusively with developing countries, we distinguish liquid liabilities from money supply

because a great chunk of the monetary base does not transit through the banking sector (Asongu, 2011e). The two indicators are in ratios of GDP (see Appendix 3) and can robustly check each other as either account for over 97% of information in the other (see Appendix 2).

b) Financial intermediation efficiency

By financial efficiency here, we neither refer to the profitability-oriented concept nor to the production efficiency of decision making units in the financial sector (through Data Envelopment Analysis: DEA). What this paper seeks to elucidate is the ability of banks to effectively fulfill their fundamental role of transforming mobilized deposits into credit for economic operators. We employ indicators of banking-system-efficiency and financial-system-efficiency (respectively 'bank credit on bank deposits: *Bcbd'* and 'financial system credit on financial system deposits: *Fcfd'*). Like with financial depth, these two financial allocation efficiency proxies can check each other as they represent more than 89% of variability in one another (see Appendix 2).

c) Financial size

In accordance with the FDSD we appreciate financial intermediary size as the ratio of "deposit bank assets" to the "total assets" (deposit bank assets on central bank assets plus deposit bank assets: *Dbacba*).

d) Financial activity

By financial intermediary activity here, the paper highlights the ability of banks to grant credit to economic operators. We proxy for both bank-sector-activity and financial-sector-activity with "private domestic credit by deposit banks: *Pcrb*" and "private credit by domestic

banks and other financial institutions: *Pcrbof*" respectively. The later measure checks the former as it represents more than 92% of information in the former (see Appendix 2).

3.1.2 Independent variables

In accordance with the democracy-finance (growth) literature (Narayan et al., 2011; Yang, 2011) we measure political regimes with indicators of *"Polity"* and *"Democracy"* from the ADI of the WB. The *Polity* measure has been widely used in political science research and discloses the state's level of democracy (about 89%: see Appendix 2) based on an evaluation of competitiveness, openness and level of participation at elections. To these measures we add an indicator of *"Autocracy"* for robustness purposes.

3.1.3 First-stage control variables

In line with the literature (Asongu, 2011d; Yang, 2011) we control for population growth, openness (trade) and public investment in the finance (democracy)-instrument regressions. It is worth noting these control variables are important at the first-stage regressions to confirm the strength of the instruments. In the Instrumental Variables (IV) estimation procedure, the instruments must be exogenous to the endogenous components of the independent variables conditional on other covariates (control variables).

3.1.4 Second-stage control variables

The choice of control variables at the second-stage of the IV procedure is very important for goodness of fit in model specification as they should be valid both from theoretical and empirical perspectives. Borrowing from the literature (Asongu, 2011d) the paper adopts inflation as the second-stage control variable. The empirical validity of the choice of this indicator is

presented in Table 2 of Section 4.2. Owing to limited degrees of freedom (from overidentifying restrictions test constraints), we stop at one control variable for the second-stage regressions.

3.1.5 Instrumental variables

Previous research (La Porta et al., 1997; Stulz & Williamson, 2003; Beck et al., 2003; Asongu, 2011ab; Yang, 2011) has demonstrated the correlation between political (financial) institutions and moment conditions of legal-origins, income-levels and religious-domination.

3.2 Methodology

3.2.1 Endogeneity

While democracy might account for financial development, a reverse causality cannot be ruled-out especially as market pressures do influence the quality of political institutions. This potential correlation between independent variables and the error term in the equation of interest is taken into account by an Instrumental Variable (IV) estimation technique.

3.2.2 Estimation Technique

Siding with Beck et al. (2003) the paper adopts the Two-Stage-Least Squares (TSLS) with religious, income and legal-origin dynamics as instrumental variables. As highlighted earlier, the paper requires an estimation technique that takes account of endogeneity. The Instrumental Variable(IV) estimator can avoid the bias that Ordinary Least Squares(OLS) estimates are victim-of (absence of consistency) when independent variables are correlated with the error term in the equation of interest. Thus the IV model assesses how the moment conditions are instrumental in political-regime channels to financial development dynamics of depth,

efficiency, activity and size. Borrowing from Asongu (2011ab) the IV process of the paper shall adopt the following steps:

-justify the use of an IV over an OLS estimation technique via the Hausman-test for endogeneity;

-show that instrumental variables are exogenous to the endogenous components of explaining variables (political-regime channels), conditional on other covariates (control variables);

-verify if the instrumental dynamics are valid and not correlated with the error-term in the equation of interest through an Over-identifying restrictions (OIR) test.

Thus the above methodology will include the following models:

First-stage regression:

$$PoliticalChannel_{it} = \gamma_0 + \gamma_1(legalorigin)_{it} + \gamma_2(religion)_{it} + \gamma_3(incomelevel)_{it} + \alpha_i X_{it} + \upsilon \quad (1)$$

Second-stage regression:

$$Finance_{it} = \gamma_0 + \gamma_1(DemocraticChannel)_{it} + \gamma_2(AutocraticChannel)_{it} + \beta_i X_{it} + \mu \quad (2)$$

In the two equations, X is a set of independent control variables. For the first and second equations, v and u, respectively denote the disturbance terms. Instrumental variables are legal-origins, dominant-religions and income-levels.

3.2.2 Robustness checks

In order to assess the robustness of results, the paper: (1) uses alternative indicators of each financial dynamic; (2) employs different measures of democracy; (3) adopts two interchangeable sets of instruments; (4) assesses the validity of African results with sub-Saharan African regressions (excluding South Africa and North African countries).

4. Empirical Analysis

This section presents results from panel regressions to assess the importance of instrumental dynamics in explaining cross-country variances in financial development dynamics, the ability of instrumental variables to explain cross-country differences in political-regime institutions and the ability of the exogenous components of political-regime channels to account for cross-country differences financial development dynamics.

4.1 Finance and instruments

In Table 1, we regress the financial intermediary dynamics on the instruments. We classify the instrumental variables into two sets to avoid issues related to multicolinearity and overparametization. Thus we regress proxies for each indicator within each financial dynamic on a distinct set of instruments. Our use of alternative indicators with different sets of instruments at every phase of the analysis ensures the robustness of the findings. The results in the Table 1 indicate that distinguishing African countries by income-levels, religious-domination and legal-origins helps explain cross-country differences in financial development. These findings have been documented by an extensive literature (La Porta et al., 1997; Stulz & Williamson, 2003; Beck et al., 2003) and very recently confirmed in the law (democracy)-finance literature (Asongu, 2011ab; Yang, 2011). Even after controlling for trade, public investment and population growth, the instrumental dynamics enter jointly significantly in all regressions at a 1% significance level.

The dominance of English common-law (French civil-law) countries in prospects of financial depth, activity and size (efficiency) is in line with recent African law-finance literature (Asongu, 2011abcdf). Results also indicate Christian-dominated countries have higher (lower) levels of financial efficiency (depth) than their Islam-oriented counterparts. Income-levels also

matter in financial development as poorer countries have a lower propensity to improve their financial dynamics than wealthier countries. This postulation can be further certified in the role Upper Middle Income (UMI) countries play in Middle Income (MI) elasticities. While Lower Middle Income (LMI) effects are negative, their combined effect with UMI countries in the MI elasticity is positive.

Table 1: Finance and instruments

		Financial Depth		**Financial Efficiency**		**Financial Activity**		**Financial Size**	
		M2	Fdgdp	BcBd	FcFd	Pcrb	Pcrbof	Dbacba	Dbacba
		1st Set	2nd Set	1st Set	2nd Set	1st Set	2nd Set	1st Set	2nd Set
	Constant	**0.400*** **	**0.203*** **	**0.637*** **	**0.907*** **	**0.276*** **	**0.208*** **	**0.533*** **	**0.527*** **
		(15.05)	**(9.818)**	**(11.84)**	**(14.10)**	**(12.71)**	**(7.906)**	**(21.55)**	**(34.26)**
	English	---	**0.055*** **	---	**-0.352*** **	---	**0.034** **		**-0.103*** **
			(4.840)		**(-9.956)**		**(2.412)**		**(-7.535)**
	French	**-0.029** **	---	**0.383*** **	---	0.001		**0.103*** **	
		(-2.315)		**(12.60)**		(0.139)		**(7.535)**	
	Christianity	---	**-0.041*** **	---	**0.161*** **	---	0.004		-0.002
			(-3.526)		**(4.444)**		(0.289)		(-0.177)
Instruments	Islam	**0.067*** **	---	**-0.056***	---	0.017		0.002	
		(5.178)		**(-1.748)**		(1.609)		(0.177)	
	L.Income	**-0.141*** **	---	**-0.099*** **	---	**-0.131*** **		**-0.112*** **	
		(-9.358)		**(-2.840)**		**(-10.68)**		**(-6.992)**	
	M. Income	---	**0.187*** **	---	**0.260*** **	---	**0.276** **		**0.201*** **
			(12.27)		**(5.486)**		**(14.30)**		**(10.15)**
	LMIncome	---	**-0.047*** **	---	**-0.136*** **	---	**-0.123*** **		**-0.089*** **
			(-2.966)		**(-2.769)**		**(-6.139)**		**(-4.290)**
	UMIncome	**0.037** **	---	-0.011	---	**0.062*** **		**0.089*** **	
		(2.118)		(-0.262)		**(4.331)**		**(4.290)**	
	Trade	**-0.0003** **	**-0.0003** **	---	**-0.001*** **	**-0.0004*** **	**-0.001*** **	**0.002*** **	**0.002*** **
		(-2.061)	**(-2.013)**		**(-3.320)**	**(-3.001)**	**(-5.580)**	**(10.19)**	**(10.19)**
Control Variables	Public Ivt.	**0.007*** **	**0.007*** **	**-0.007** **	-0.005	**0.002***	0.0007	---	---
		(5.101)	**(5.337)**	**(-2.209)**	(-1.381)	**(1.688)**	(0.461)		
	Pop. growth	**-0.027*** **	**-0.029*** **	**0.049*** **	**0.044*** **	**-0.012*** **	**-0.017*** **	---	---
		(-5.071)	**(-5.951)**	**(3.742)**	**(2.915)**	**(-2.749)**	**(-2.761)**		
	Adjusted R^2	0.258	0.304	0.176	0.169	0.260	0.234	0.295	0.295
	Fisher-test	**42.234*** **	**53.055*** **	**31.878*** **	**25.221*** **	**42.672*** **	**37.542*** **	**80.070*** **	**80.070*** **
	Observations	830	834	868	834	829	836	945	945

M2: Money Supply. Fdgdp: Liquid liabilities. BcBd: Bank credit on Bank deposit (Banking Intermediary System Efficiency). FcFd: Financial credit on Financial deposits (Financial Intermediary System Efficiency). Pcrb: Private domestic credit (Banking Intermediary Activity). Pcrbof: Private credit from domestic banks and other financial institutions (Financial Intermediary Activity). Dbacba: Deposit bank assets on deposits banks plus central bank assets (Financial size). L: Low. LM: Lower Middle. UM: Upper Middle. Ivt: Investment. Pop: population. *;**;***: significance levels of 10%, 5% and 1% respectively.

4.2 Political regimes and instruments

Table 2 investigates the role of instrumental dynamics in the quality of political institutions and the validity of the inflation indicator as a control variable at the second-stage of

the IV approach. This first-stage regression is the initial condition for the IV process where-in the endogenous components of the political-regime channels must be explained by the instruments conditional on other covariates (control variables). Clearly it could be seen that distinguishing African countries by the instrumental dynamics helps elucidate cross-country differences in political institutions. Also the validity of inflation as a control-variable is in line with recent empirical literature (Asongu, 2011f) where-in, the low level of inflation expressed by Francophone African civil-law countries is associated with their fixed-exchange rate regimes.

On average English common-law (Islam-oriented) countries have better democratic institutions that their French civil-law (Christian) counterparts. This finding is antagonistic to the democracy deficiency conclusions in the Arab world of El Badawi, & Makdisi(2007). Two important circumstances surrounding the difference in results are worth pointing-out. (1) While El Badawi, & Makdisi(2007) used all countries in the Arab World and compared them with Latin America, sub-Saharan Africa and OECD countries, the framework of this paper's comparative analysis is exclusively Africa. (2) In their study oil is negatively associated with democracy; which is evident given the proportion of Arab countries' production of oil on a global comparative scale. However, in Africa oil is produced by both Moslem and Christian nations. There is evidence of a U-shape relationship between national wealth and the level of democracy with Low-income countries experiencing lower (higher) levels of democracy than Upper (Lower) middle income countries.

Table 2: Endogenous independent variables and instruments (First-Stage regressions)

		Endogenous Explaining Variables (EEV)						Control EEV	
		Democracy		Polity(Revised)		Autocracy		Inflation	
		1st Set	2nd Set	1st Set	2nd Set	1st Set	2nd Set	1st Set	2nd Set
	Constant	**1.475*** **	**1.061** **	-1.158	-0.106	**2.805*** **	**1.109** **	**23.827*** **	**6.700** **
		(2.765)	**(2.364)**	(-1.407)	(-0.154)	**(4.853)**	**(2.281)**	**(7.966)**	**(2.502)**
	English	---	**2.138*** **	---	**2.651*** **		-0.418		**15.069*** **
			(8.396)		**(6.747)**		(-1.518)		**(10.40)**
	French	**-2.138*** **		**-2.651*** **		0.418		**-15.06*** **	
		(-8.396)		**(-6.747)**		(1.518)		**(-10.40)**	
	Christianity	---	**-0.485***	---	-0.373		-0.065		0.212
			(-1.838)		(-0.918)		(-0.230)		(0.138)
Instruments	Islam	**0.485***		0.373		0.065		-0.212	
		(1.838)		(0.918)		(0.230)		(-0.138)	
	L.Income	**1.239*** **		**3.329*** **		**-2.180*** **		-1.845	
		(4.094)		**(7.127)**		**(-6.650)**		(-1.079)	
	M. Income	---	**2.207*** **	---	**2.382*** **		-0.111		-1.723
			(6.459)		**(4.520)**		(-0.300)		(-0.909)
	LMIncome	---	**-3.446*** **	---	**-5.711*** **		**2.291*** **		**3.569***
			(-9.651)		**(-10.37)**		**(5.926)**		**(1.816)**
	UMIncome	**3.446*** **		**5.711****		**-2.291*** **		**-3.569***	
		(9.651)		**(10.37)**		**(-5.926)**		**(-1.816)**	
	Trade	**0.008** **	**0.008** **	**0.011** **	**0.011** **	-0.003	-0.003	**-0.099*** **	**-0.099*** **
		(2.227)	**(2.227)**	**(1.987)**	**(1.987)**	(-0.940)	(-0.940)	**(-4.811)**	**(-4.811)**
Control Variables	Public Ivt.	**0.052***	**0.052***	-0.054	-0.054	**0.110*** **	**0.110*** **	-0.067	-0.067
		(1.784)	**(1.784)**	(-1.213)	(-1.213)	**(3.501)**	**(3.501)**	(-0.407)	(-0.407)
	Pop. growth	**-0.313*** **	**-0.313*** **	**-0.891*** **	**-0.891*** **	**0.570*** **	**0.570*** **	**2.111*** **	**2.111*** **
		(-2.929)	**(-2.929)**	**(-5.402)**	**(-5.402)**	**(4.922)**	**(4.922)**	**(3.429)**	**(3.429)**
Adjusted R^2		0.206	0.206	0.207	0.207	0.093	0.093	0.134	0.134
Fisher-test		**34.439*** **	**34.439*** **	**34.555*** **	**34.555*** **	**14.249*** **	**14.249*** **	**19.998*** **	**19.998*** **
Observations		899	899	899	899	899	899	855	855

L: Low. LM: Lower Middle. UM:Upper Middle. Ivt: Investment. Pop: population. *;**;***: significance levels of 10%, 5% and 1% respectively.

4.3 Finance and democracy

Table 3 investigates two main concerns: (1) the issue of if the exogenous components of political-regime channels explain finance conditional on the instruments and; (2) if the instruments help explain financial dynamics beyond political-regime channels. To make these investigations we use the IV regressions. This entails a simultaneous examination of equations (1) and (2). While the first issue is addressed by the significance of the estimated coefficients, the second is assessed by the overidentifying restrictions (OIR) test whose null hypothesis is the position that, instruments do not explain finance beyond political-regime channels. Robustness checks are carried-out at three stages: (1) the use of alternative indicators of political-regimes and financial dynamics; (2) the political channels are instrumented with two different sets of

moment conditions; (3) an independent regression for SSA countries(excluding South Africa) is performed for the consistency of continental results.

Table 3: Second-Stage regressions

	Financial Depth		**Financial Efficiency**		**Financial Activity**		**Financial Size**	
	M2	Fdgdp	BcBd	FcFd	Pcrb	Pcrbof	Dbacba	Dbacba
Constant	**-0.319***	**-0.347****	**1.060*****	**1.294*****	**-0.294****	**-0.290***	0.211	**0.233***
	(-1.827)	**(-2.376)**	**(6.776)**	**(7.491)**	**(-2.127)**	**(-1.960)**	(1.439)	**(1.673)**
Democracy	**0.092*****	---	-0.014	---	**0.074*****	---	**0.093*****	---
	(4.038)		(-0.708)		**(4.366)**		**(4.446)**	
Polity 2(Revised)	---	**0.086*****	---	-0.008	---	**0.094*****	---	**0.090*****
		(4.710)		(-0.399)		**(4.937)**		**(4.580)**
Autocracy	**0.144*****	**0.216*****	0.019	-0.030	**0.115*****	**0.208*****	**0.124*****	**0.210*****
	(3.767)	**(4.512)**	(0.580)	(-0.540)	**(3.770)**	**(4.260)**	**(3.810)**	**(4.446)**
Inflation	**-0.007****	**-0.005****	**-0.020*****	**-0.022*****	**-0.007*****	**-0.009*****	**-0.012*****	**-0.012*****
	(-2.420)	**(-2.177)**	**(-7.426)**	**(-7.434)**	**(-3.345)**	**(-3.534)**	**(-4.023)**	**(-4.155)**
Hausman-test	**194.26*****	**226.96*****	**96.046*****	**79.366*****	**241.51*****	**162.424*****	**168.681*****	**168.97*****
OIR-Sargan test	**0.326**	**0.000**	**0.233**	**2.647**	**0.048**	**0.946**	**0.245**	**0.121**
P-value	**[0.567]**	**[0.978]**	**[0.629]**	**[0.103]**	**[0.825]**	**[0.330]**	**[0.620]**	**[0.727]**
Cragg-Donald	4.183	4.902	4.751	4.902	4.349	4.679	5.000	5.281
Adjusted R^2	0.012	0.021	0.067	0.047	0.033	0.027	0.058	0.063
Fisher Statistics	**6.004*****	**7.587*****	**32.306*****	**24.703*****	**7.778*****	**9.074*****	**8.583*****	**9.092*****
Observations	909	913	945	913	908	915	914	914

Initial Instruments	Constant; English ; Christianity; Middle Income; Lower Middle Income
Robust Instruments	Constant; French; Islam; Lower Income; Upper Middle Income

*,**,***: significance levels of 10%, 5% and 1% respectively. M2: Money Supply. Fdgdp: Liquid liabilities. BcBd: Bank credit on Bank deposit (Banking Intermediary System Efficiency). FcFd: Financial credit on Financial deposits (Financial Intermediary System Efficiency). Pcrb: Private domestic credit (Banking Intermediary Activity). Pcrbof: Private credit from domestic banks and other financial institutions (Financial Intermediary Activity). Dbacba: Deposit bank assets on deposits banks plus central bank assets (Financial size). L: Low. LM: Lower Middle. OIR: Overidentifying Restrictions.

We first justify the choice of the IV estimation technique with the Hausman test for endogeneity. The null hypothesis of this test is the position that estimators by OLS are efficient and consistent. Thus a rejection of this null hypothesis attests to the presence of endogeneity; in which case the independent variables are correlated with the error term in the equation of interest. Results fully validate the presence of endogeneity in all eight models. As concerns the first-issue, which is resolved by the significance of the estimates, it could be concluded that autocratic-regimes are more instrumental in financial dynamics of depth, activity and size. These findings are broadly consistent with the literature (Olson, 1982; Bhagwati, 1995; Blachard & Shleifer, 2000).

Owing to the relatively undeveloped state of African economies, democracies lend themselves to popular demands for immediate consumption at the expense of profitable investments for financial development. By the same token democracies could be prone to conflicts resulting from social, ethnic and class struggles that retard financial intermediary activities due to instability. In summary, democracy in the African continent presents a potential risk to financial development because it may be open to pressures from interest groups (Olson, 1982). On the contrary authoritarian regimes in Africa suppress conflicts, resist sectional interests and take coercive measures for rapid financial intermediary development. Our results on financial depth and activity confirm the findings of Rao (1984) who postulated that authoritarian regimes orchestrate economic growth by sacrificing current consumption for investment, which makes them rather effective at mobilizing savings. Mobilized savings is a direct source of liquid liabilities and growth in money supply. Most African democracies are dysfunctional and thus rampant local capture and competition for rents seriously undermines the development of the financial sector. Conversely, authoritarian regimes with political centralization reduce both the risk of capture and the scope of competition for rents by local governments. In financial development policies in the continent, authoritarian regimes could better orchestrate mechanisms for effective mobilization of savings for investment.

As concerns the second issue, it could be said that the instruments do not explain finance beyond political-regime channels; implying they (instruments) are valid and do not suffer from the inconvenience of endogeneity as the endogenous independent variables. The control variable (inflation) is significant with the right sign; as inflation seriously hampers financial intermediary development.

Table 4 shows results of SSA countries excluding South Africa. Thus we also rule-out Algeria, Egypt, Morocco and Tunisia from the initial data set. But for financial intermediary aspects of depth and efficiency, results are specifically consistent with those in Table 3. Findings for financial depth and efficiency are also broadly consistent with those reported in Table 3. The only difference in interpretation with respect the depth and efficiency channels is that the instruments do not explain finance only through political-regime mechanisms. This partial invalidity of the instruments does not however change the general interpretation of the results. In both tables 3 and 4, for robustness purposes we replicate the regressions with the second set of instrumental variables and find no change in the results.

Drawing on recent democracy–finance literature, the findings in the paper complement those of Yang (2011) who has found a positive relationship between democracy and bank sector development. However it is worth pointing out Yang's work is of global appeal and used only one indicator of bank sector development (bank credit). The positive link is only present in cross-country regressions and disappears in regressions controlling for country-specific factors. While this paper does not investigate the stock market dimension owning to relatively scares data, Yang (2011) found no significant relationship between democracy and stock market development. So again we complement Yang (2011) with a measure of authoritarian regimes for which comparative estimates indicate: while democracy is instrumental in financial intermediary development, authoritarian regimes would be more instrumental in an African context. Overall, our results are consistent with Mulligan et al. (2004) who found that democracies have important effects on the degree of competition for public offices but less significant effects in comparison with autocracy on policies towards financial development.

Table 4: Second-Stage regressions without South Africa and Northern Africa

	Financial Depth		Financial Efficiency		Financial Activity		Financial Size	
	M2	Fdgdp	BcBd	FcFd	Pcrb	Pcrbof	Dbacba	Dbacba
Constant	-0.055	-0.192	**1.131*** **	**1.346*** **	-0.155	-0.088	0.214	0.231
	(-0.504)	(-1.587)	**(5.199)**	**(6.035)**	(-1.332)	(-0.936)	(1.226)	(1.368)
Democracy	**0.047*** **	---	-0.014	---	**0.044*** **	---	**0.073** **	---
	(3.428)		(-0.508)		**(3.002)**		**(3.013)**	
Polity 2(Revised)	---	**0.057*** **	---	-0.047	---	**0.036*** **	---	**0.073*** **
		(3.663)		(-1.629)		**(2.951)**		**(3.040)**
Autocracy	**0.061** **	**0.134*** **	0.027	-0.052	**0.076*** **	**0.098*** **	**0.130*** **	**0.200*** **
	(2.241)	**(3.027)**	(0.514)	(-0.641)	**(2.638)**	**(2.834)**	**(2.915)**	**(3.156)**
Inflation	-0.0008	-0.0007	**-0.026*** **	**-0.025*** **	**-0.004*** **	**-0.003*** **	**-0.011*** **	**-0.011*** **
	(-0.517)	(-0.420)	**(-7.382)**	**(-7.344)**	**(-2.742)**	**(-2.683)**	**(-3.354)**	**(-3.403)**
Hausman-test	**76.072*** **	**147.181*** **	**179.669*** **	**220.813*** **	**99.964*** **	**58.158*** **	**81.674*** **	**81.609*** **
OIR-Sargan	4.578**	4.635**	9.625***	3.699*	**0.364**	**1.498**	**0.251**	**0.271**
P-value	[0.032]	[0.031]	[0.001]	[0.054]	**[0.546]**	**[0.220]**	**[0.616]**	**[0.602]**
Cragg-Donald	1.810	2.065	2.491	2.065	2.006	2.065	2.548	2.603
Adjusted R^2	0.002	0.009	0.075	0.095	0.022	0.019	0.047	0.049
Fisher Statistics	**6.253*** **	**6.800*** **	**33.309*** **	**41.201*** **	**3.427** **	**3.286** **	**4.351*** **	**4.433*** **
Observations	767	773	804	773	773	773	769	769

Initial Instruments	Constant; English ; Christianity; Middle Income; Lower Middle Income
Robust Instruments	Constant; French; Islam; Lower Income; Upper Middle Income

*;**;***: significance levels of 10%, 5% and 1% respectively. M2: Money Supply. Fdgdp: Liquid liabilities. BcBd: Bank credit on Bank deposit(Banking Intermediary System Efficiency). FcFd: Financial credit on Financial deposits(Financial Intermediary System Efficiency). Pcrb: Private domestic credit(Banking Intermediary Activity). Pcrbof: Private credit from domestic banks and other financial institutions(Financial Intermediary Activity). Dbacba: Deposit bank assets on deposits banks plus central bank assets(Financial size). L:Low. LM: Lower Middle. OIR: Overidentifying Restrictions.

4.4 Further discussion, caveats and policy recommendations

The edge of authoritarian regimes as implied by our findings could also be elucidated from cross-country differences in good governance policies. Thus, political regimes provide the regulatory environment for financial development. This implies the absence of adequate mechanisms that uphold the control of corruption, government effectiveness, political stability or no violence, voice and accountability, rule of law and regulatory quality, could seriously infringe on the proper development of the financial intermediary sector.

There is an elaborate bulk of qualitative literature that provides exhaustive case studies depicting how corruption (good governance) increases (decreases) with the advent of democracy. This is the case with many developing countries in Africa (Lemarchand, 1972), Southeast Asia (Scott, 1972), India (Wade, 1985) and Turkey (Sayari, 1977). It is also the case of post-

communist Russia (Varsee, 1997) and many Latin American countries after waves of democratization (Weyland, 1998). This contradictory relationship between democracy and corruption has been confirmed by quantitative studies (Harris-White & White, 1996; Sung, 2004).

Our findings could further be elucidated through two hypotheses highlighting the non-linear relationship between political regimes and management effectiveness in the financial system. The *time* and *level* hypotheses have been tested independently to validate the existence of a non-linear relationship between democracy and financial institutional quality. Concerning the *level* of democracy hypothesis, it has been found using continuous measures of political regimes that institutional quality is highest in strongly democratic states, medium in strongly authoritarian regimes and least in states that are partially democratized. With respect to these varying empirical specifications, the *level* oriented non-linearity has been defined as either U-shaped (Montinola & Jackman, 2002), S-shaped (Sung, 2004), or J-shaped (Back & Hadenius, 2008). According to the *time of exposure* hypothesis, Keefer (2007) has shown that younger democracies produce worse institutions than older ones. In summary, the general idea in this explanation is that partial or young democracies perform worse (worst) than authoritarian (full or older democratic) regimes. It follows that most African countries are young democracies which establish institutions that govern the financial intermediary sector less efficiently than in authoritarian regimes.

As a policy implication, once democracy is initiated, it should be accelerated (to edge the appeals of authoritarian regimes) and reap the benefits of *level* and *time* hypotheses in financial development.

5. Conclusion

This aim of this paper has been to explore the impact of political-regime channels on financial intermediary dynamics of depth, efficiency, activity and size, conditional on income-level, legal-origin and religious instrumental variables. Findings could be summarized in the following. (1) Authoritarian regimes have a higher propensity to effect policies that favor the development of financial intermediary depth, activity and size. (2) Christian-dominated countries have higher (lower) levels of financial efficiency (depth) than their Islam-oriented counterparts. (3) Income-levels also matter in financial development as poorer countries have a much lower propensity to improve their financial dynamics than wealthier countries. (4) On average English common-law countries have better democratic institutions than their French civil-law counterparts. (5) There is evidence of a U-shape relationship between national wealth and the level of democracy with Low-income countries experiencing lower (higher) levels of democracy than Upper (Lower) middle income countries.

In a nutshell democracies have important effects on the degree of competition for public offices but otherwise have less significant effects in comparison with authoritarian regimes on policies towards financial intermediary development. As a policy implication, once democracy is initiated, it should be accelerated (to edge the appeals of authoritarian regimes) and reap the benefits of *level* and *time* hypotheses in financial development.

Appendices

Appendix 1: Summary Statistics

		Variables	Mean	S.D	Min.	Max.	Obser.
Financial Development	Financial Depth	Money Supply	0.299	0.190	0.001	1.141	938
		Liquid Liabilities	0.228	0.174	0.001	0.948	942
	Financial Efficiency	Banking System Efficiency	0.856	0.517	0.070	5.411	1003
		Financial System Efficiency	0.897	0.505	0.139	3.979	942
	Financial Activity	Banking System Activity	0.176	0.155	0.001	0.869	937
		Financial System Activity	0.200	0.211	0.001	1.739	944
	Fin. Size	Financial System Size	0.686	0.235	0.017	1.609	971
Democracy/ Autocracy	Democracy	Democracy Index	1.904	3.799	-8.000	10.000	1054
		Polity Index(Revised)	-1.701	5.978	-10.000	10.000	1054
	Autocracy	Autocracy Index	3.614	3.901	-8.000	10.000	1054
Control Variables	First-Stage Variables	Population growth	2.563	1.117	-8.271	10.043	1054
		Public Investment	7.649	4.211	0.000	31.047	899
		Trade	68.175	37.041	6.320	275.23	1012
	2^{nd} Stage	Inflation	12.264	21.244	-100.00	200.03	989
Instrumental Variables	Legal Origin	English Common-Law	0.441	0.496	0.000	1.000	1054
		French Civil-Law	0.558	0.496	0.000	1.000	1054
	Religion	Christianity	0.617	0.486	0.000	1.000	1054
		Islam	0.382	0.486	0.000	1.000	1054
	Income Levels	Low Income	0.529	0.499	0.000	1.000	1054
		Middle Income	0.470	0.499	0.000	1.000	1054
		Lower Middle Income	0.294	0.455	0.000	1.000	1054
		Upper Middle Income	0.176	0.381	0.000	1.000	1054

S.D: Standard Deviation . Min : Minimum. Max : Maximum. Obser : Observations.

Appendix 2: Correlation Analysis

Financial Development Dependent Variables							Endogenous				Control Variables				Instrumental Variables								
F. Depth		F. Efficiency		F. Activity		F.Size	Independent Variables				First-Stage (F.S)			S.S	Law		Religion		Income Levels				
M2	Fdgdp	BcBd	FcFd	Pcrb	Pcrbof	Dbacba	**Dem**	**Auto**	**Pol1**	**Pol2**	Popg	PubI	Trade	Infl.	Eng.	Frch	Chris	Islam	LI	MI	LMI	UMI	
1.000	0.972	-0.11	-0.07	0.74	0.627	0.403	0.14	0.019	0.090	0.081	-0.28	0.160	0.148	-0.12	-0.02	0.028	-0.175	0.175	-0.41	0.412	0.249	0.238	M2
	1.000	-0.12	-0.05	0.78	0.705	0.459	0.21	0.001	0.149	0.135	-0.32	0.159	0.206	-0.12	0.068	-0.06	-0.101	0.101	-0.44	0.448	0.238	0.299	Fdgdp
		1.00	0.89	0.35	0.298	0.242	-0.11	0.090	-0.146	-0.13	0.078	-0.05	-0.048	-0.23	-0.38	0.388	-0.099	0.099	-0.07	0.072	0.057	0.026	BcBd
			1.00	0.44	0.507	0.269	-0.02	0.089	-0.075	-0.07	0.085	-0.06	-0.098	-0.24	-0.33	0.339	0.039	-0.039	-0.10	0.104	0.008	0.126	FcFd
				1.00	0.926	0.542	0.19	0.022	0.124	0.113	-0.24	0.044	0.145	-0.19	-0.07	0.075	-0.092	0.092	-0.46	0.466	0.230	0.333	Pcrb
					1.000	0.479	0.21	-0.03	0.164	0.167	-0.22	-0.02	0.058	-0.15	0.008	-0.00	-0.009	0.009	-0.39	0.394	0.127	0.361	Pcrbof
						1.000	0.17	-0.02	0.136	0.131	-0.14	0.11	0.390	-0.41	-0.15	0.150	-0.009	0.009	-0.40	0.408	202	0.306	Dbacba
							1.00	-0.19	0.89	0.757	-0.12	0.076	0.190	-0.01	0.298	-0.29	0.084	-0.084	-0.05	0.057	-0.17	0.283	Demo
								1.000	-0.596	-0.78	0.144	0.107	-0.003	0.048	-0.10	0.104	-0.051	0.051	-0.09	0.096	0.193	-0.10	Auto
									1.000	0.958	-0.16	0.014	0.140	-0.03	0.269	-0.26	0.076	-0.076	0.016	-0.01	-0.23	0.261	Polity1
										1.000	-0.17	-0.01	0.125	-0.04	0.263	-0.26	0.090	-0.090	0.022	-0.02	-0.23	0.25	Polity 2
											1.000	-0.03	-0.124	0.124	-0.04	0.048	0.064	-0.064	0.211	-0.21	-0.14	-0.10	Popg
												1.000	0.269	-0.07	-0.04	0.043	-0.022	0.022	-0.04	0.046	0.016	0.039	PubI
													1.000	-0.12	0.238	-0.23	0.185	-0.185	-0.39	0.397	0.196	0.283	Trade
														1.000	0.329	-0.32	0.061	-0.061	0.090	-0.09	-0.01	-0.09	Inflation
															1.000	-1.00	0.211	-0.211	0.007	-0.00	-0.05	0.054	English
																1.000	-0.211	0.211	-0.00	0.007	0.05	-0.05	French
																	1.000	-1.000	0.107	-0.10	-0.28	0.205	Christian
																		1.000	-0.10	0.107	0.289	-0.20	Islam
																			1.000	-1.00	-0.68	-0.49	Lower I
																				1.000	0.684	0.491	Middle I
																					1.000	-0.29	L Middle I
																						1.000	U Middle I

M2: Money Supply. Fdgdp: Liquid liabilities. BcBd: Bank credit on Bank deposit (Banking Intermediary System Efficiency). FcFd: Financial credit on Financial deposits (Financial Intermediary System Efficiency). Pcrb: Private domestic credit (Banking Intermediary Activity). Pcrbof: Private credit from domestic banks and other financial institutions (Financial Intermediary Activity). Dbacba: Deposit bank assets on deposits banks plus central bank assets (Financial size). Demo: Democracy. Poli: Polity. Auto: Autocracy. Popg: population growth. PubI: Public Investment. Infl: Inflation.. S.S: Second-Stage control variable. Eng: English Common-Law. Frch. French Civil-Law. Chris: Christianity. LI: Low Income Countries. MI: Middle Income Countries. LMI: Lower Middle Income Countries. UMI: Upper Middle Income Countries. Free: Freedom of the Press. PFree: Partial Freedom of the Press. NFree: No Freedom of the Press

Appendix 3: Variable Definitions

Variables	Sign	Variable Definitions	Sources
Democracy	Demo	Institutionalized Democracy(-10 to +10)	World Bank(WDI)
Polity	Pol	Revised Combined Polity Score (-10 to +10)	World Bank(WDI)
Autocracy	Auto	Institutionalized Autocracy (-10 to +10)	World Bank(WDI)
Inflation	Infl.	Consumer Prices (Annual %)	World Bank(WDI)
Openness	Trade	Imports(of goods and services) plus Exports(of goods and services) on GDP	World Bank(WDI)
Public Investment	PubI	Gross Public Investment(% of GDP)	World Bank(WDI)
Population growth	Popg	Average annual population growth rate	World Bank(WDI)
Growth of GDP	GDPg	Average annual GDP growth rate	World Bank(WDI)
Economic financial depth(Money Supply)	M2	Monetary Base plus demand, saving and time deposits(% of GDP)	World Bank(FDSD)
Financial system depth(Liquid liabilities)	Fdgdp	Financial system deposits(% of GDP)	World Bank(FDSD)
Banking system allocation efficiency	BcBd	Bank credit on Bank deposits	World Bank(FDSD)
Financial system allocation efficiency	FcFd	Financial system credit on Financial system deposits	World Bank(FDSD)
Banking system activity	Pcrb	Private credit by deposit banks (% of GDP)	World Bank(FDSD)
Financial system activity	Pcrbof	Private credit by deposit banks and other financial institutions(% of GDP)	World Bank(FDSD)
Financial size	Dbacba	Deposit bank assets on Central banks assets plus deposit bank assets	World Bank(FDSD)

Trade: Openness. G.E: Government Final Expenditure. Popg: Population growth rate. GDPg: GDP growth rate. M2: Money Supply. Fdgdp: Liquid liabilities. BcBd: Bank credit on Bank deposits. FcFd: Financial system credit on Financial system deposits. Pcrb: Private domestic credit by deposit banks. Pcrbof: Private domestic credit by deposit banks and other financial institutions. Dbacba: Deposit bank assets on Central bank assets plus deposit bank assets. WDI: World Development Indicators. FDSD: Financial Development and Structure Database.

Appendix 4: Presentation of Countries

Instruments	Instrument Category	Countries	Num
Law	English Common-Law	Botswana, The Gambia, Ghana, Kenya, Lesotho, Malawi, Mauritius, Nigeria, Sierra Leone, South Africa, Sudan, Swaziland, Uganda, Zambia, Tanzania,	15
	French Civil-Law	Algeria, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Ivory Coast, Egypt, Equatorial Guinea, Ethiopia, Gabon, Madagascar, Mali, Morocco, Niger, Rwanda, Senegal, Togo, Tunisia,	19
Religion	Christianity	Botswana, Burundi, Cameroon, Central African Republic, Ivory Coast, Equatorial Guinea, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Rwanda, South Africa, Swaziland, Togo, Uganda, Zambia, Tanzania,	21
	Islam	Algeria, Burkina Faso, Chad, Egypt, The Gambia, Mali, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Tunisia,	13
Income Levels	Low Income	Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, The Gambia, Ghana, Kenya, Madagascar, Malawi, Mali, Niger, Rwanda, Sierra Leone, Togo, Uganda, Zambia, Tanzania,	18
	Middle Income	Algeria ,Botswana, Cameroon, Ivory Coast, Egypt, Equatorial Guinea, Gabon, Lesotho, Mauritius, Morocco, Nigeria, Senegal, South Africa, Sudan, Swaziland, Tunisia,	16
	Lower Middle Income	Cameroon, Ivory Coast, Egypt, Lesotho, Morocco, Nigeria, Senegal, Sudan, Swaziland, Tunisia,	10
	Upper Middle Income	Algeria, Botswana, Equatorial Guinea, Gabon, Mauritius, South Africa,	6

Num: Number of cross sections(countries)

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