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LOW SAVINGS RATES IN THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS): THE ROLE OF THE POLITICAL INSTABILITY-INCOME INTERACTION

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Abstract

This paper employs PCSE, OLS and TSLS with random effects to investigate the impact of the political instability-income interaction on savings in ECOWAS countries during the period 1996-2012. The empirical evidence illustrates that higher political stability is associated with higher savings and income levels moderate the adverse effect of political instability on savings, indicating that the impact of political instability on savings is higher in low income ECOWAS countries, but lesser at higher levels of income. The paper recommends the promotion of political stability via increases in incomes to raise savings in the ECOWAS region.

Keywords: *savings, political instability.*

JEL classification: O1, O11

INTRODUCTION

The role of savings in economic development has been discussed extensively in the literature (for instance, see Lucas 1988; Romer 1986; Solow 1956). Despite the importance of high savings rates, World Development Indicators (WDI) reveal that savings rates declined and/or fluctuated across developing regions of the world, including East Asia and the Pacific, the Middle East and North Africa, Latin America and the Caribbean, Europe and Central Asia, and Sub-Saharan Africa (SSA) between 1970 and 2010. In addition, the ECOWAS region recorded little success in savings mobilization compared to other developing regions during the same period. Although inadequate savings undermines a country's economic development (Adewuyi, Bankole, and Arawomo 2010) increased access to international capital can cushion the adverse effects of lower savings in an economy. Unfortunately, many SSA countries (including ECOWAS) are facing declines in international capital inflow as a results of factors that include lending constraints (Elbadawi and Mwega 2000), while the recent global financial crisis has further reduced the countries' access to external resources.

Besides low savings, the ECOWAS region has witnessed political instability since the 1960s, when a number of countries attained independence, and up through the late 1980s due to frequent military interferences in politics (Edi 2006). The region has also seen changes in government (elected or military) more than any other region on the African continent due mainly to military coups. In the year 1985, for instance, 11 ECOWAS countries had military governments (Edi 2006). Other than military coups, ethnic and religious crises including civil wars appear to be common characteristics of ECOWAS countries. In particular, there were civil wars in Liberia (1989-96 and 1999-2003), Sierra Leone (1991-2002),

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Guinea Bissau (1998) and Cote D'Ivoire (2002-2007 and 2010-2011) (Zounmenou and Loua 2011). Also, between 2009 and 2012, the military staged coups in Guinea Bissau, Mali and Niger, while Nigeria continues to contend with ethno-religious crises. The political crises facing these countries are due to lack of economic opportunities, youth unrest, organized crime, piracy, endemic corruption, higher spending on the military than basic services, disrespect for the rule of law and democratic principles by the ruling elite, human rights abuse, military interference in politics, and lack of institutional reforms (Akenroye 2012).

Though the literature has not adequately addressed the role of political instability in savings mobilization (Da Silva 1998), political instability may be an important determinant of savings, particularly in ECOWAS countries. During periods of political instability, government and policy makers usually make sub-optimal and short-term macroeconomic policies, including switching policies, and in the process create volatility which has negative consequences on the economy (Aisen and Veiga 2013; Alesina et al. 1996). These consequences include low production and income, and declining welfare (Alesina and Perotti 1996), as well as poor investment and growth (Barro 1991; Campos and Nugent 2003) all of which tend to lower savings. Da Silva (1998) opined that instability increases a state's discretionary power to the extent that the state violates the individual's property rights or fails to enforce their rights, including non-guaranteeing of contracts such as savings and investment. Political instability also increases the perceived uncertainties/risks associated with savings and investment because it may prevent people from enjoying the returns/incomes from their savings/investment, and therefore lead to lower future savings.

Edwards (1996) argued that a higher probability of changes in the government/party in power (political instability) reduces the incentives to save. The author maintained that, since savings only translates after a lag into investment, production and consumption, projects initiated by the government in power today may be completed and its benefits realized at a later date when the opposition party may have assumed power. If this happens, the credit of such projects usually goes to the opposition, even though it was initiated by the party previously in power. In addition, Edwards (1996) pointed out that political polarization (differences in political parties' preferences) influences a government's decisions to save. If the preferences of the party in power are similar to those of the opposition, there is a high tendency that the party in power will save (even if there is a high probability of changes to the party in power) and vice versa. Therefore, it is common to see lower savings in politically unstable countries.

Given that income level varies across countries, the impact of political instability on savings may depend on income level. Mauro (1995) asserted that low income (poor) countries tend to be politically unstable, thus suggesting that high income moderates (lowers) the impact of political instability in an economy. It also indicates that at high income levels countries may likely have a politically stable environment which in turn enhances overall economic performance, including promoting savings mobilization. Therefore, it is expected that for low income ECOWAS countries, higher income would lead to an improvement in political stability and higher savings.

The objective of this paper therefore is to examine the impact of political instability-income interaction on savings in the ECOWAS. We believe that focusing on the ECOWAS region will reduce the problem of heterogeneity found in many cross-country studies (Gyimah-Brempong 2002). The remainder of the paper is structured as follows. Section two highlights savings and political instability patterns in ECOWAS countries, while section three reviews the empirical literature on savings. Section four contains a theoretical framework and model, and section five presents results and discussion. Section six concludes the paper.

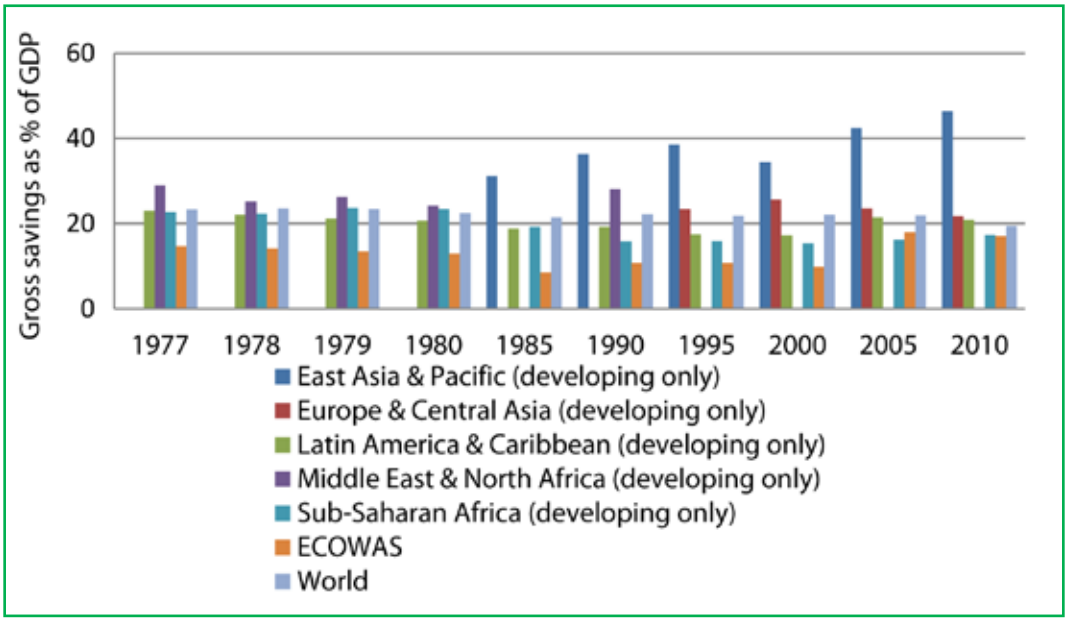
SAVINGS AND POLITICAL INSTABILITY IN ECOWAS COUNTRIES

As mentioned in the introductory section, the ECOWAS region has recorded little success in the mobilization of savings required to boost investment and growth. For instance, ECOWAS savings rates were lower than those of Latin American and the Caribbean, SSA and the world averages between 1970 and 2010. Similarly, two regions - East Asia and the Pacific and Europe and Central Asia, had higher savings rates compared to ECOWAS in 1980-2010 and 1990-2010, respectively (Figure 1).

In addition, at the individual level, many ECOWAS countries did not fare better as their savings rates were lower than both regional and world savings rates between 1970 and 2010. Also, ECOWAS countries' savings rates occasionally fluctuated and declined during the same period (Figure 2). Elbadawi and Mwega (2000) attributed the low savings rates in SSA countries (including ECOWAS) to low income per capita, a high young-age dependency ratio, and high dependence on aid.

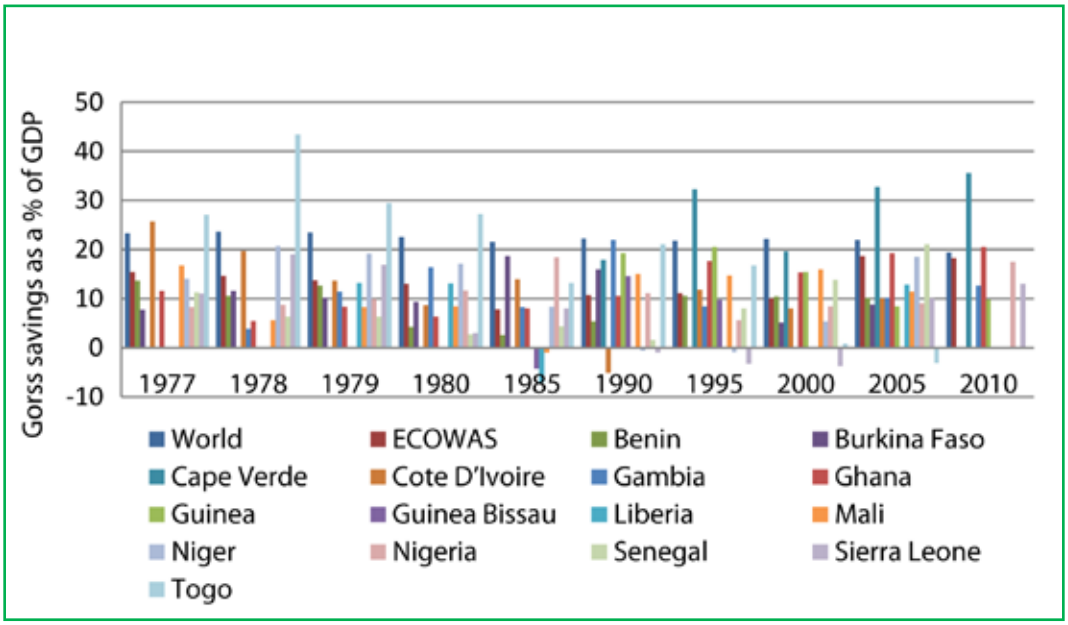
Coupled with inadequate savings rates, is the political instability (military coups, political violence, civil wars, and ethno-religious crises) that has ravaged the region since the 1960s and has continued unabated. The rising political crisis and uncertainty in many developing countries have attracted the interest of notable organizations, institutions and groups, who later devised the mechanisms to measure the extent of perceived political uncertainties or risks in each country. One such organization is the Political Risk Service Group, which publishes the International Country Risk Guide (ICRG). The ICRG political risk rating (PRR) ranges between 0% and 100%. A PRR of 0.0%-49.9% implies a very high risk; 50.0%-59.9% a high risk; 60.0%-69.9% a moderate risk; 70.0%-79.9% a low risk; and 80.0% or more indicates a very low risk. Figure 3 shows the PRR for ECOWAS countries from 1999 to 2011. Gambia and Ghana appeared to be the least politically risky among ECOWAS countries, as their PRR was 60% and above during 1999-2011, but Gambia's recent rating suggests that it is heading towards becoming a high risk country. Also, Burkina Faso was rated above many countries in the region, with an average PRR of 60% during the same period. In the same vein, Sierra Leone had a better

Figure 1: Savings rates across developing regions



Source: Authors computation base on the WDI data

Figure 2: Savings rates across ECOWAS countries



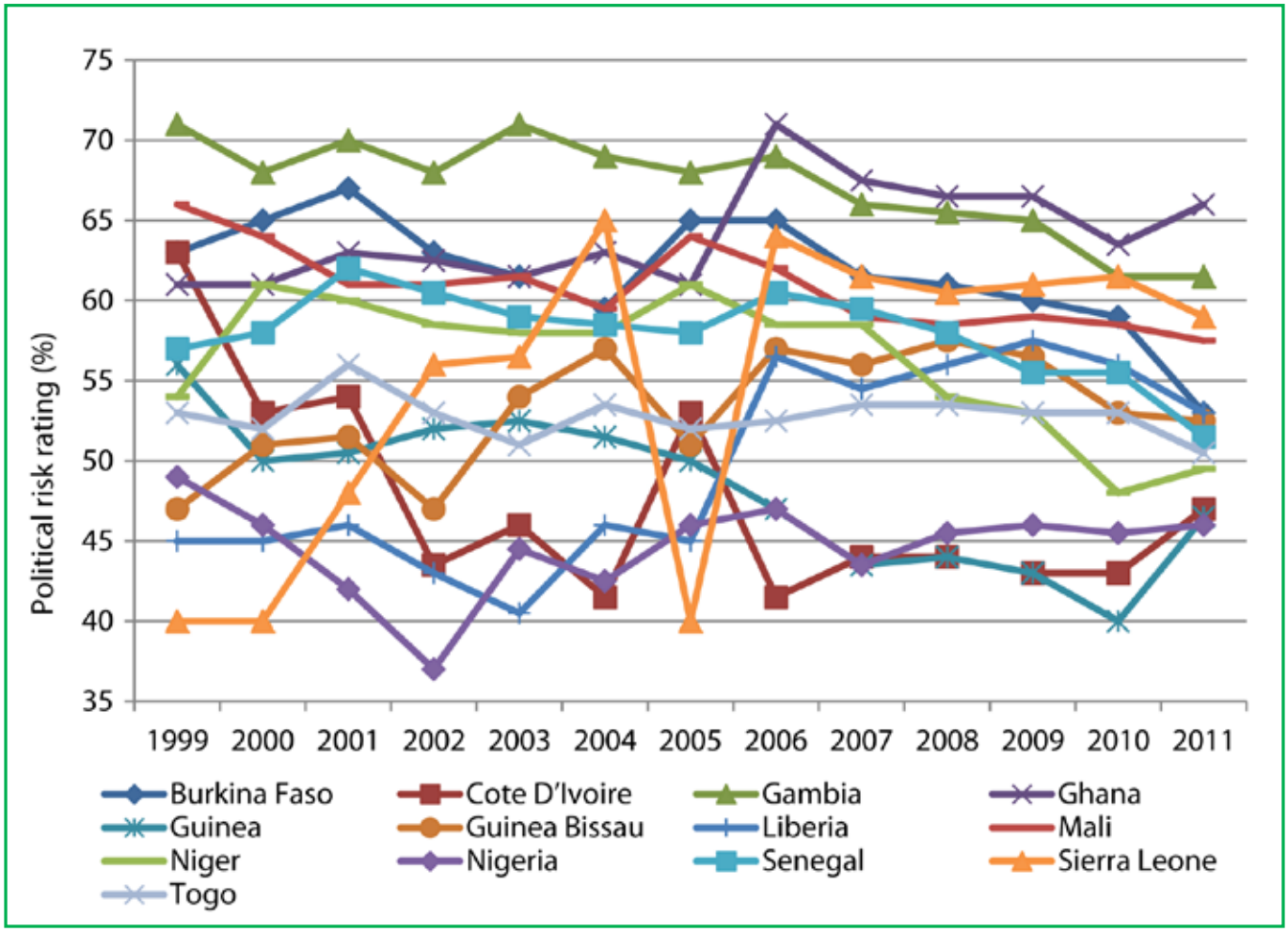
Source: Authors computation base on the WDI data

political environment compared to most of its neighbors, as its rating stood at an average of 60%-65% during 2004-2010.

In the case of Cote D'Ivoire and Guinea, their PRR indicates that political instability is on the rise. For example, Guinea's PRR fell from almost 50% in 1999-2005 to less than 50% in 2006-2011, while Cote D'Ivoire's PRR declined continuously from 1999 to 2011. The PRR of Guinea Bissau stood at 51%-57%, but recent ratings point to a worsening political situation in the country. Liberia's low PRR reflects the instability faced by the country in the past, but the rating has shown a gradual improvement starting from 2006. Unfortunately, Africa's most populous and richest country (Nigeria) had a very low PRR (less than 50%) from 1999 to 2011, signaling a highly politically unstable environment. Other countries such as Niger and Senegal fared better than Nigeria as they both had a PRR of 50%-60%. Though Mali's PRR was 60% during 1999-2006, it has continued to decline since 2007.

In summary, available evidence suggests that low income ECOWAS countries are politically unstable and have failed to mobilize the higher savings needed to raise

Figure 3: ECOWAS countries political risk rating



Source: Authors computation base on the ICRG data. Benin and Cape Verde are excluded

investment and growth. It is not surprising, therefore, that the region is highly underdeveloped, with unfavorable economic conditions such as low income, high poverty, and unemployment, to mention just a few.

REVIEW OF THE EMPIRICAL LITERATURE ON SAVINGS

Many scholars have attempted to investigate the determinants of savings across countries. For instance, Kelly and Mavrotas (2003) investigated the determinants of savings in 17 African countries with a primary focus on financial development. The authors employed a panel co-integration method and discovered that financial sector development has a positive effect on savings in the countries considered in their study. Also, Agenor and Aizenman (2004) employed the instrumental variable technique to examine the determinants of savings in SSA countries during the period 1980-1996. The results show that the terms of trade and income per capita have a positive effect on savings, while government savings, financial development and foreign savings have a negative effect on savings.

Hondroyiannis (2006) assessed the main determinants of savings in 13 European countries from 1961 to 1998 by employing the panel co-integration technique. The author confirmed a positive effect of old-age dependency, government budget, growth of real disposable income, real interest rate and inflation rate on savings. In addition, the author discovered that liquidity constraints and financial development have a negative impact on savings. Gutiérrez (2007) studied the determinants of savings in 9 Latin American countries from 1990 to 2003, using pooled OLS, fixed effects and random effects estimation techniques. The results illustrate that inflation rate, GDP growth, government balance, and financial depth have a positive impact on savings, while foreign savings has a negative effect on savings. Adewuyi, Bankole, and Arawomo (2010) examined the determinants of savings in ECOWAS countries during the period 1980-2006, using pooled OLS, fixed effects and random effects methods of analysis. The authors confirmed the negative impact of gross domestic income per capita, deposit rate, financial development, inflation, budget deficit and terms of trade on savings**,** while they showed that life expectancy has a positive effect on savings.

There are not many studies conducted to investigate the

impact of political instability on savings. But the few studies that have examined the relationship between the variables revealed that political instability has a negative impact on savings. For instance, Venieries and Gupta (1986) did a cross-national study to examine the impact of income distribution and socio-political instability on savings. The authors concluded that socio-political instability has a negative impact on savings. Similarly, Edwards (1996) established that political instability has a negative influence on savings in the sample of countries considered in his study. Also, Fielding (2003) evaluated the effect of several indicators of political instability on macroeconomic performance in Israel. The author found a significant and negative effect of political instability on the saving behavior of Israelis. However, Radelet, Sachs, and Lee (1997) did not find any significant relationship between political factors and saving rates in a sample of 72 countries.

It is glaring that researchers have not paid adequate attention to the savings and political instability relationship, particularly in the ECOWAS, one of the world's most politically unstable regions and least successful in savings mobilization. In fact, Edwards (1996) considered only 4 ECOWAS countries, namely – Ghana, Nigeria, Sierra Leone and Togo, while Venieries and Gupta (1986) included 5 countries – Cote D'Ivoire, Niger, Nigeria, Senegal, and Sierra Leone in their analysis, thus ignoring other countries that are considered to be highly politically unstable in the region. Also, to our knowledge, researchers have yet to examine whether the impact of political instability on savings depends on income level in ECOWAS countries. Thus, this paper extends the literature by investigating the impact of political instability on savings, including examining whether the impact of political instability on savings depends on income level in the ECOWAS region.

THEORETICAL FRAMEWORK AND MODEL

The savings model used in this paper was formulated on the basis of the ideas of Friedman's (1957) Permanent Income Hypothesis (PIH) and Modigliani and Brumberg's (1954) Life Cycle Hypothesis (LCH). In explaining the LCH, Ando and Modigliani (1963) emphasized that individuals accumulate wealth during their working years and make provisions for old age when they will no longer be able to earn income. Specifically, during young age, individuals earn low income relative to their consumption, and borrow to finance their consumption needs. In the second phase of their lifetime, individuals earn income higher than their consumption, pay back their debt and save/invest the remainder. The final phase is when individuals attain retirement (non-working) age and their incomes fall to zero. Thus, they will fall back on past savings or returns from their investment in order to maintain their consumption. Dirschmid and Glatzer (2004) asserted that the LCH assigns an important role to income and income growth, and the age structure of the population in explaining savings rates. On the other hand, the PIH states that permanent wealth is more important than current disposable income in explaining individuals' consumption. Another important assumption of the PIH is that permanent changes in income exert more influence on consumption than temporary changes in income. An important determinant of permanent income is individuals' assets categorized into both human (such as education) and non-human assets (for example, bonds, property, etc.).

Both the LCH and PIH appear to be identical in many aspects because they assume that forward-looking consumers plan for their future consumption by making an attempt to smooth-out consumption as much as they can due to variations in their income streams (Jappelli 2005; Pistaferri 2009; Rao and Sharma 2007). The obvious difference between the theories is that the LCH assumes that individuals do not live forever, while the PIH assumes that individuals live forever (Pistaferri 2009). And since individuals do not live forever in real life, both theories can be considered as one.

Given the issues raised above, an ideal savings model would consists of variables such as income (PCY) and income growth (GPCY), and age structure of the population (AGE). Moreover, since it is assumed that consumers can borrow and save/invest part of their income, it implies that real interest rate (RIR) is also important when making consumption/savings decisions and should be included in the savings model. Thus, the savings (GSR) model is specified as:

$$GSR = \beta_0 + \beta_1 PCY + \beta_2 GPCY + \beta_3 AGE + \beta_4 RIR + U \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

Following previous studies, the savings equation above is slightly modified to incorporate other important variables. Given that agriculture (AGR) is the major occupation in ECOWAS countries, the variable is also included in the model. Furthermore, since income is more uncertain in developing countries than developed countries (Athukorala and Sen 2004), inflation (INF) is included in the model to capture the level of uncertainty in the ECOWAS. Moreover, given that low income (poor) countries tend to be politically unstable (Mauro 1995) and have lower savings rates, it is possible that income level moderates the impact of political instability on savings, so that in high income countries the effect of political instability on savings will be lower but higher in low income countries such as ECOWAS. Thus, political instability (POL) and a political instability-income interaction (POL*PCY) are included in the savings model. The general savings model is:

$$GSR = \beta_0 + \beta_1 PCY + \beta_2 GPCY + \beta_3 POL + \beta_4 RIR + \beta_5 INF + \beta_6 AGE + \beta_7 AGR + \beta_8 POL * PCY + U \ldots\ldots 2$$

The savings model above will be estimated using the panel model specified as follows:

$$GSR_{it} = \delta_0 + \delta_1 PCY_{it} + \delta_2 GPCY_{it} + \delta_3 POL_{it} + \delta_4 RIR_{it} + \delta_5 INF_{it} + \delta_6 AGE_{it} + \delta_7 AGR_{it} + \delta_8 POL * PCY_{it} + U_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Where *it* is the time period *t* in country *i*, and U is the error term. The variables are defined or measured as follows:

GSR is the gross savings rates and dependent variable. It refers to gross (national) savings as a percentage of GDP. The data were collected from the WDI. However, data on Nigeria were obtained from the Central Bank of Nigeria (CBN) due to its unavailability in the WDI. Although the LCH focuses on individual savings, it has been extended to study aggregate savings (see Bloom, Canning, and Graham 2003; Bloom et al. 2007; Cook 2005). For instance, Bloom, Canning and Graham (2003) argued that it is difficult to aggregate over individual savings, and therefore used aggregate savings rates in their analysis. In line with this, Cook (2005) claimed that data on aggregate savings rates are widely available and are also likely to be more consistent. Thus, we employed aggregate savings rates.

PCY refers to income (GDP) per capita. The data were collected from the WDI. The subsistence-consumption theories argue that savings rates tend to be higher in high income countries and lower in low income countries (Metin-Ozcan, Gunay, and Ertac 2003). Thus, we expect a negative relationship between income per capita and savings rates in ECOWAS countries.

GPCY is the income (GDP) growth rate. The data were collected from the WDI. The PIH predicts a negative relationship between income growth and savings because forward looking consumers anticipate future increases in their permanent income, and therefore dissave against future earnings. But the LCH asserts that increases in income growth have a positive effect on savings, since income growth increases the savings of the working population relative to the non-working population (Metin-Ozcan, Gunay, and Ertac 2003). Overall, we expect the relationship between income growth and savings rates to be either positive or negative.

INF refers to inflation rate. The data were collected from the WDI. Athukorala and Sen (2004) suggested that the impact of inflation raises uncertainty about future incomes, leading to higher savings for precautionary purposes, particularly for households in developing countries whose income prospects are much more uncertain than their counterparts in developed countries. Also, if individuals seek to maintain a target level of wealth or liquid assets relative to income, savings will rise with inflation. Similarly, Metin-Ozcan, Gunay, and Ertac (2003) suggested that macroeconomic uncertainty (captured by inflation rate) is expected to have a positive effect on savings, as people try to hedge against risk by increasing their savings. This view is supported by Skinner (1988) and Zeldes (1989). In the same manner, Hondroyiannis (2006) suggested that in societies where income prospects are less uncertain, inflation may results in lower savings. Thus, we expect a positive relationship between inflation and savings rates.

RIR is the real interest rate. It is the nominal deposit rate adjusted for inflation rate. The data were obtained from the WDI. The LCH asserts that a rising interest rate raises the opportunity cost of current consumption, making the individual consumer reduce current consumption and increase savings (substitution effect). But if a consumer is a net lender, increases in the interest rate lead to higher income and consumption, and results in lower savings (income effect). If the substitution effect outweighs the income effect, the relationship between interest rate and savings would be positive (Athukorala and Sen 2004; Nwachukwu and Egwaikhide, 2007). Therefore, we expect the relationship between savings rates and real interest rate to be either positive or negative.

AGE refers to age dependency rate. This variable is defined as the ratio of the population below 15 years plus the population over 65 years to the working population (aged 15-64 years). The data were obtained from the WDI. In explaining the LCH, Ando and Modigliani (1963) argued that individuals accumulate wealth during their productive/working years and save (or make provisions) for retirement, since income is expected to fall during retirement. Thus, if the working population rises relative to non-working (dependent) population, savings will rise and vice versa. Thus, we expect either a positive or negative relationship between age dependency and savings rates.

AGR refers to agriculture. It is measured as agriculture value as a percentage of GDP. The data were obtained from WDI. Given that a larger percentage of ECOWAS population engage in agricultural activity, it is obvious that many face uncertainty in their future income. Interestingly, researchers have pointed out that price fluctuations occasioned by the recent global financial crisis, increased uncertainty and risk and affected the economic status of commodity producers, consumers and traders (Pop, Rovinaru, and Rovinaru 2013). Skinner (1988) suggested that greater uncertainty about future incomes compels consumers to set aside some resources for precautionary purposes. Chowdhury (2001) and Khan and Hye (2010) discovered that agricultural sector share in GDP has a positive impact on savings. Thus, we expect a positive relationship between agriculture share in GDP and savings rates.

POL refers to political instability. The variable has been measured by the number of people killed in domestic mass violence as a fraction of the total population, number of successful coups, number of attempted but unsuccessful coups, or number of politically motivated assassinations (Alesina and Perotti 1996). However, due to the unavailability of such rich data for ECOWAS countries, the variable is proxied by the ICRG political risk rating or index. The ICRG index has many components, including political leadership, military presence in politics, external conflicts, organized religion in politics, racial and national tension, law and order, political terrorism, civil war, and political party development. Two other indicators were employed to serve as consistency and robustness checks for the results obtained using the ICRG index. They include the Global Insight Business Conditions and Risk Indicators (WMO) index, and the Cingranelli-Richards Human Rights Database and Political Terror Scale (HMO) index (obtained from Worldwide Governance Indicators). The ICRG index ranges between 0% and 100%, while the HMO and WMO indices range between 0 and 1. Higher values indicate higher political stability (lesser political instability) and vice versa. Political instability disrupts production activity, destroys physical capital and displaces human capital, leading to high unemployment and lower savings (Le 2004). On the other hand, political instability may promote precautionary savings to address great risks ahead, so that

higher instability would be associated with higher savings. The few studies conducted to assess the impact of political instability on savings indicate that political instability has a negative effect on savings (see Edwards 1996; Fielding 2003; Venieries and Gupta 1986). Thus, we expect a positive relationship between higher political stability (higher political risk rating) and savings rates.

POL*PCY refers to the political instability-income interaction and indicates that the impact of political instability on savings depends on income levels. Though political instability tends to have adverse impact on savings, we expect income levels to moderate its impact on savings. Thus, the impact of political instability on savings should be lesser in higher income countries, but higher in low income countries such as ECOWAS. A potential problem that may arise using this variable is multicollinearity because the interaction term is calculated from POL and PCY, which are also present in the model. Therefore, multicollinearity is eliminated by regressing POL*PCY on POL and PCY, and the residuals series is used in our estimation.

It is important to mention that, of the 15 countries that make up the ECOWAS, only 13 were considered in this study. The remaining two (Benin and Cape Verde) were left out due to the unavailability of data on political instability indices for the countries. Moreover, we are missing data on other variables (in particular savings rates) for some years in certain countries, such as Liberia and Guinea Bissau. Thus, we are left with an unbalanced dataset of 121 observations. The period covered is 1996-2012.

PRESENTATION OF RESULTS AND DISCUSSION

In the estimation of panel models that involve time-series and cross-sectional data (TSCS), one usually encounters problems of contemporaneous correlations and heteroscedasticity (Beck and Katz 1995). Therefore, any inferences drawn based on the standard errors obtained using the ordinary least squares (OLS) estimator will be misleading. A better alternative is the Generalized Least Squares (GLS) method (Parks 1967). Employing the GLS to estimate models of TSCS requires one to have knowledge of the error process (auto-correlation and heteroscedasticity parameters), but this is usually not possible (Beck and Katz 1995). A superior method of estimation is the Feasible GLS (FGLS). Unfortunately, the FGLS tends to understate the exact variability of the estimates of the standard errors of the coefficients (Beck and katz 1995).

The problems highlighted above can be avoided by using the Panel Corrected Standard Errors (PCSE) method (Beck and Katz 1995). The PCSE generates robust covariances and accounts for deviations from the errors, leading to the ability to draw meaningful inferences. Also, it has been suggested that the PCSE performs better than the FGLS (Jonsson 2005) and it has been employed in recent studies (see, Bjørnstad and Nymoen 2008; Hanke and Hauser 2008; Juttner, Chung, and Leung 2006; Silaghi and Ghatak 2011). Thus, we employed the PCSE to estimate the savings models for ECOWAS countries.

In addition, we conducted redundant fixed effects and Hausman tests to select the most appropriate of the competing models, which included pooled OLS, fixed effects (FE), and random effects (RE). The redundant fixed effects test tests the hypothesis of no time-specific effects in the estimates. If the test reveals the presence of effects, it is highly probable that the OLS estimator will not be a good predictor of the cross section units over the time period. Similarly, the Hausman statistic is used to test the hypothesis that the RE estimates are consistent and preferable to FE estimates.

Endogeneity

Studies have indicated that income GDP per capita/income growth is endogenous to savings (Baldé 2011; Loayza, Schmidt-Hebbel, and Servén 1999; Sinha and Sinha 1998), suggesting that while increases in income per capita/income growth results in higher savings, rising savings also leads to higher income per capita/income growth. The causality between savings and income/growth would lead to correlation between the control variables and disturbance term, and therefore violates the assumptions of the linear regression model (Baldé 2011). Besides, it is difficult to determine the impact of the individual variable on savings, and estimating such a relationship leads to a potential endogeneity bias.

One way to solve this problem is to employ the Two Stage Least Squares (TSLS)-instrumental variables method to estimate the relationship between savings and its potential determinants. The technique involves finding variables that are highly correlated with the endogenous variable, but uncorrelated with the disturbance term. While it is somewhat difficult to select the appropriate instruments to control for endogeneity, employing the lagged values of explanatory variables which are also endogenous can be very helpful (Baldé 2011). For instance, Baldé (2011) employed the TSLS-instrumental variables method, which takes into account FE to estimate the relationship between savings/investment and aid and remittances in SSA. The author used income per capita lagged by two periods as an instrument for income per capita. Thus, we follow Baldé's approach in our estimation by using the TSLS. The Hausman test was also employed to determine whether FE or RE is to be used along with the TSLS estimator. Lastly, White's method was used to correct for heteroscedasticity, and TSLS estimates were employed to serve as a consistency and robustness check for PCSE estimates.

Presentation of Results

Prior to estimation of the savings model, we conducted a correlation test on political instability indicators. The correlation matrix reported in Table 1 suggests a strong correlation between ICRG and WMO (r=0.76), ICRG and HMO (r=0.64), and HMO and WMO (r=0.53). These findings suggest that the indicators are measuring the same thing.

Table 1: Correlation matrix for political instability indicators

	ICRG	WMO	HMO
ICRG	1.00	–	–
WMO	0.76	1.00	–
HMO	0.64	0.53	1.00

Note: ICRG is International Country Risk Guide, HMO is Cingranelli-Richards Human Rights Database and Political Terror Scale, and WMO is Global Insight Business Conditions and Risk.

The results of estimations and tests conducted using the ICRG index are presented in Table 2. The result of the redundant fixed effects test indicates the presence of effects in the estimates. The result of the Hausman test demonstrates that the RE estimates are preferable to FE estimates. The results of the RE estimation reveal that higher political stability (captured by a higher political risk rating) and the political instability-income interaction have a significant positive effect on savings. Other important determinants of savings include the inflation rate and agricultural share in GDP, with positive and negative effects, respectively.

In an attempt to check the consistency and robustness of the results obtained using the ICRG index, we re-estimated the savings models using the WMO and HMO indices. Although not presented here, the results are consistent.

We went further to estimate our relationship using the OLS and TSLS estimators taking into account RE, as the results of the Hausman test indicated that models with RE would be preferable. Using the ICRG index, the results presented in Table 3 indicate that higher political stability has a significant positive effect on savings, and the impact of political instability on savings is higher at low income levels

Table 2: Estimation results using the ICRG index (Dependent variable: GSR)

Variables	Pooled OLS	FE	RE
Constant	-1.6926	84.181***	13.4614
	(15.246)	(27.3159)	(18.4148)
POL	0.1460**	0.1579*	0.1314**
	(0.0642)	(0.0899)	(0.0773)
PCY	0.0043**	0.0026	0.0039
	(0.0021)	(0.0026)	(0.0025)
POL*PCY	-0.0001**	-0.0009**	-0.0008**
	(0.0001)	(0.0001)	(0.0001)
GPCY	0.1438	0.1211	0.1170
	(0.1159)	(0.1208)	(0.1093)
AGE	0.1359	-1. 975**	-0.2055
	(0.2982)	(0.5685)	(0.3806)
INF	0.325***	0.2190	0.3085*
	(0.0950)	(0.2467)	(0.1612)
RIR	0.2140*	0.2042	0.2320
	(0.1230)	(0.2550)	(0.1726)
AGR	-0.218**	0.1471	-0.166**
	(0.0673)	(0.1105)	(0.0776)
R^2	0.45	0.59	0.34
Redundant FE Test	-	3.46	-
		(0.0001)	
Hausman Test (X^2)	-	0.00	-
		(1.0000)	
F-Stat.	11.54	8.19	7.33
	(0.0000)	(0.0000)	(0.0000)
Obs.	121	121	121

Note: *, **, *** indicates significant at 10%, 5%, and 1%, respectively. Columns 3 & 4 are estimates generated using the robust coefficient covariance method, i.e. PCSE (Cross-section SUR). Standard errors are in parenthesis. A positive sign of POL indicates higher political stability (lesser political instability).

but lesser at high income levels. Other than our variables of interest, income per capita, inflation rate, and real interest rate all have a significant positive impact on savings, but the effect of agriculture on savings is negative. We also used the WMO and HMO indices to check for the consistency of the results obtained using the ICRG index. The results (though not presented here) are consistent.

Overall, the results of PCSE, OLS, and TSLS with RE illustrate that higher political stability is associated with higher savings, and higher income tends to reduce the impact of political instability on savings. Moreover, the OLS and TSLS estimates are identical for our variables of interest, indicating that the OLS estimates are consistent and unbiased. Therefore, endogeneity is not a problem in the estimated relationships, and there is no simultaneity between savings and income per capita/income growth.

Table 3: Estimation results using the ICRG index (Dependent variable: GSR)

Variables	OLS/RE	TSLS/RE
Constant	13.4614	-4.0378
	(16.1078)	(20.6255)
POL	0.1314**	0.2378**
	(0.0605)	(0.1141)
PCY	0.0039	0.0093*
	(0.0030)	(0.0049)
POL*PCY	-0.0008***	-0.0007***
	(7.68E-05)	(9.33E-05)
GPCY	0.1170	-0.7784
	(0.0931)	(0.8461)
AGE	-0.2055	-0.0484
	(0.3534)	(0.3985)
INF	0.3085*	0.3044*
	(0.1741)	(0.1817)
RIR	0.2320	0.4597*
	(0.1515)	(0.2452)
AGR	-0.1663**	-0.0225
	(0.0761)	(0.1180)
R^2	0.34	0.03
F-Stat.	7.33	8.73
	(0.0000)	(0.0000)
Obs.	121	121

Note: *, **, *** indicates significant at 10%, 5%, and 1%, respectively. White's method correction was used to solve the problem of heteroscedasticity. Standard errors are in parenthesis. A positive sign of POL indicates higher political stability (lesser political instability).

Discussion

The results reported above reveal that higher political leads to higher savings in ECOWAS countries. The finding confirms the outcome of previous studies (see, Edwards 1996; Fielding 2003; Venieries and Gupta 1986). Thus, declining political unrest/violence, higher stability in government, lesser ethno-religious conflict, etc., reduce uncertainties and risks associated with savings, and therefore promote savings mobilization. Similarly, higher political stability promotes the enforcement of property rights and the guarantee of contracts. This increases the assurance that individuals will enjoy the returns/incomes on their savings/investment, leading to future higher savings. A politically stable atmosphere enhances production through higher savings and investment, to mention just a few. The increased output growth leads to higher employment and income, and savings.

The political instability-income interaction is significant and the variable has the expected sign (especially in the estimation that considered the ICRG index). This suggests that income level moderates the adverse effect of political instability on savings, so that at higher income levels the impact of political instability on savings is less. Since it has been suggested that low income (lack of economic opportunities) is a major reason for political instability in ECOWAS countries (Akenroye 2012), higher incomes (and improvement in economic conditions) will reduce discontent and dissatisfaction among the citizens, including socio-political unrest and frequent changes in government. In fact, an improvement in incomes (economic conditions) has been found to promote political stability, including sustaining democracy (Adelman and Morris 1968; Feng 1997; Helliwell 1994). Thus, higher income will reduce political instability in ECOWAS countries and promote savings mobilization.

Income per capita has a significant and positive effect on savings. This finding lends support to those reported in previous studies in developing countries (see Collins 1991; Elbadawi and Mwega 2000). Thus, rising income raises households' ability to finance their consumption and saving of the remainder. Cross–country studies have indicated that high income countries save a higher percentage of their income (Metin-Ozcan, Gunay, and Ertac 2003).

Inflation rate has a significant positive effect on savings. This outcome confirms those of previous studies (see Burnside, Schmidt-Hebbel, and Servén 1999; Callen and Thimann 1997; Hondroyiannis 2006; Hüfner and Koske 2010; Loayza, Schmidt-Hebbel, and Serven 1999). Thus, higher inflation (a measure of macroeconomic uncertainty) raises uncertainty regarding future earnings, and therefore forces individuals to increase their savings on precautionary grounds. Athukorala and Sen (2004) pointed out that households' income is more uncertain in developing countries than their developed counterparts, making savings rise with the inflation rate. In-as-much as many households in ECOWAS countries are employed in the agricultural sector and face uncertainty with respect to their future incomes, they are compelled to save for precautionary purposes.

Real interest rate has a significant and positive effect on savings. The finding lends support to previous ones

(see Athukorala and Tsai 2003; Callen and Thimann 1997; Burnside, Schmidt-Hebbel, and Servén 1999; Hondroyiannis 2006; Hüfner and Koske 2010). Thus, increases in real interest rate induce households to raise their savings in a bid to earn higher returns in the future. Lowering inflation rate increases real interest rates (Edwards 1996).

Agriculture has a significant and negative effect on savings. This reflects a situation where the agricultural sector is highly underdeveloped and practised at subsistence level, implying low incomes for most households employed in the sector in ECOWAS countries. Thus, given low income levels and subsistence agricultural production, additional output will be consumed rather than sold to generate additional income, leading to lower savings. In fact, poor households will often resort to drawing on past savings (if they have them at all) rather than raising savings.

CONCLUSION AND RECOMMENDATIONS

The ECOWAS region has not been able to mobilize the adequate savings required for achieving higher rates of investment and growth. The region has also witnessed higher political instability and remains one of the world's poorest and most unstable regions. This study employs PCSE, OLS and TSLS with random effects to investigate the effect of the political instability-income interaction on savings in ECOWAS countries. The PCSE, OLS and TSLS estimates are identical for our variables of interest (political instability and political instability-income interaction). The empirical evidence indicates that a politically stable environment is required for the mobilization of higher savings in ECOWAS countries. Moreover, the results illustrate that the impact of political instability on savings is higher in ECOWAS countries due to their low income levels. Other important determinants of savings include income per capita, inflation rate, real interest rate and agricultural share in GDP. Based on the findings, policies to raise incomes are required to promote political stability in order to raise savings in the region.

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