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Financial liberalisation and household savings in Cameroon: A bound testing approach

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The main aim of this study is to determine the relationship that exists between financial liberalization policies and household savings in Cameroon. After building an econometric model of household savings, it is tested using the ARDL cointegration approach. The results indicate that there exist a long run positive and significant relationship between household saving and financial liberalization. In the short run, this relationship is positive though not significant. On the basis of these results, we recommend that Cameroonian authorities, in their quest for growth and prosperity for the country, should foster the ongoing liberalization process in the country.

Keywords: financial liberalization, household savings, ARDL modeling approach.

INTRODUCTION

The poor growth performance of developing countries in the mid twentieth century has been blamed to state interventionist policies that existed in such countries. Financial sector liberalization can be viewed as a set of operational reforms and policy measures designed to deregulate and transform the financial system and its structure with the view to achieving a liberalized market-oriented system within an appropriate regulatory framework. The pioneer theoretical analyses which provided a rationale for financial sector liberalization as a means of promoting financial development and growth were those of McKinnon (1973) and Shaw (1973).

The endogenous growth model of Pagano (1994) trace the steady state growth rate in terms of three parameters; level of technology, proportion of savings channeled into investment and the saving rate. Financial sector liberalization can affect economic growth through either one of these three channels. However, the effect of financial liberalization on private saving is theoretically ambiguous, because the link between interest rate levels and saving is ambiguous, and financial liberalization is a multi-dimensional and phased process, sometimes involving reversals (Bandiera, Caprio, Honnohan and Schiantarelli, 1998).

Some dimensions, such as increased household access to consumer credit or housing finance, might also work to reduce private savings rather than increasing them. Furthermore, the long-term effect of liberalization on savings may differ substantially from the impact effect. Hence to examine the impact of financial sector liberalization on economic growth, it is necessary to study the links between financial sector liberalization and saving.

The objective of this study is therefore to determine the effect of financial liberalization on household savings for the case of Cameroon. This is an interesting case as Cameroon has a rich history of financial policies as it has witnessed both financial repression and financial liberalization. Also, the country in order to accomplish its ambitions of meeting the millennium development goals and becoming an emerging nation in 2035 needs large financial resources to finance its projects. This obviously starts by making use of domestically available resources and this requires an effective policy that promotes its mobilization.

Financial liberalisation process in Cameroon

Cameroon undertook the liberalization of its financial sector in 1990, in the framework of broad Structural and Adjustment Reforms (SAPs). The financial reforms had as aim the development of a strong and efficient financial system that would be able to meet the financing needs of an economy that will henceforth be controlled by market forces.

As mentioned earlier, financial liberalization is a multidimensional and it encompasses official government policies that focus on deregulating credit controls, deregulating interest rate controls, removing entry barriers for foreign financial institutions, privatizing financial institutions, removing restrictions on foreign financial transactions and building a strong supervisory framework. We therefore analyze the process of financial liberalization in Cameroon along these lines.

Credit Controls

Prior to 1990, credit controls were implemented in the financial sector in the forms of directed credit programs in favor of priority sectors, the placement of credit ceilings and floors on credits allocated to different sectors and the implementation of differential interest rates in favor of certain sectors. High reserve requirements were also imposed in order to raise cheap resources for the government.

All this measures were imposed so as to direct credit to sectors that they deemed important. With the putting in place of monetary programming in 1991 and the money market in 1994, all these policies were abandoned. The allocation of credit was therefore left into the hands of the forces of demand and supply.

Interest rate Controls

Interest rate deregulation started in 1990 with the removal of interest rate ceilings and preferential rates for favored sectors. This was replaced by the putting in place of minimum deposit rates and maximum lending rates. The task of determining the interest rate is thus freely left in the hands of the market within the interest rate boundaries.

The boundaries serve as a protection against the risk of spoliation and exploitation of depositors and lenders respectively. This therefore shows the important role of the state in the process of financial liberalization. The aim of interest rate liberalization is to instill competition and enhance the efficient allocation of resources to the most productive sectors of the economy.

Entry Barriers

In 1973, Cameroon nationalized all the banks in its financial system (NCC, 1973). Prior to this, the Cameroonian financial banking system was made up only of the branches of foreign banks from the colonial masters. These banks therefore served the interest of these masters. It is as such that Cameroon in developing its development strategy considered the financial sector a very important tool and decided to nationalize all the banks that existed. Since then, entry was granted only on the condition that the state was the majority share holder.

In 1990, the entry barriers were uplifted with the reform of the financial sector. This was done mainly to attract private joint venture banks with foreign collaboration with the hope that such banks would bring in much needed foreign capital and technical know-how, infuse modern banking skills to the domestic banks, and, widen as well as deepen the national financial structure.

Also, with the promulgation of the law on freedom of associations, we noticed a massive creation of micro-finance establishments. These institutions were first acting under the control of the ministry of agriculture and were out of official banking control. But, noticing their increasing importance they were brought under the control of COBAC.

Privatizing Public Financial Institutions

The financial liberalization process in Cameroon also involved the withdrawal of the state from the management of financial institutions. It is as such that in the process of restructuring the banking system after the financial crisis that started in 1990, the privatization of banks was undertaken. The process ended in 1997 with the complete withdrawal of the state as majority share holder from all banks. It should be noted that prior to liberalization; the state was the main economic agent and as such had the greatest part of deposits in the financial system.

With the economic crisis, the state had to withdraw its savings and this weakened the balance sheet of financial institutions. Also, the banks had to finance public enterprises on basis other than that of efficiency and this had serious consequences when such public projects turned out to be white elephants. Privatization was therefore undertaken with the aim that private individuals were better managers and that it would improve the efficiency of such institutions for resource collection and

allocation

Restrictions on International Financial Transactions

As Cameroon is a member of the Franc zone, there is no restriction on the movement in the zone. However, with countries outside of the zone, some restrictions do exist and is implemented by the Ministry in charge of finance in each member state. This relative openness of the financial account of Cameroon stayed until 1993 when convertibility was restricted first between member countries and France and secondly between the two economic zones (CEMAC and UMOA).

This restriction was imposed in order to limit capital flight prior to the devaluation in 1994. With the regain of liquidity of the banking system and the economic recovery of the economies of the CEMAC zone, exchange controls were harmonized in 2000. There was thus a return to more liberal relative financial openness. Also, the creation of the Doula Stock Exchange in 2001 will go a long way to increase capital transactions in the country.

Prudential Regulation

Before the creation of COBAC in 1992, banking supervision was in the hands of the Minister in charge of finance of each CEMAC member country. Each country therefore had to put in place a structure in charge of the supervision of financial institutions. The crisis of the mid 80s revealed the weakness of such a structure. In 1992, all six member states decided to harmonize banking regulation in the sub- region. COBAC was therefore created to assure the supervision of banking activities and institutions in the CEMAC zone.

The role of supervision is to ensure efficiency and stability of the financial system. In order to better perform this function, COBAC enacted a set of prudential ratios which include: the risk covering ratio which states that net capital of financial institutions should cover at least 5 percent of total credits; the risk division ratio which avoids that banks should not concentrate the total of their credits on a single borrower. It is set at 45 percent of net capital.

Also, banks cannot concentrate credit of more that 800 percent of their net capital on their big customers; the liquidity ratio which states that the liquid resources of banks should be at least 100 percent of their less than one month maturing obligations; and the risk transformation ratio which is the ratio of more than five year resources to assets of more that five years. This ratio should not be less than 50 percent. Since the implementation of these ratios, the banking system of Cameroon regained its liquidity and stability (Tchakounte and Bita, 2009).

Reform in Monetary Policy

The way monetary policy is conducted has a direct impact on the financial sector. After the full liberalization of the interest rate and elimination of credit ceilings, the monetary policy stance has been changed from direct to indirect. Under the indirect monetary policy stance, there is no direct control on the price or interest as well as on the volume of loans of commercial banks.

Market behavior is aligned through the use of indirect monetary policy instruments such as bank rate; cash reserve requirement, and open market operations. For example, in order to absorb the persistent over-liquidity of the banking system in Cameroon, BEAC increased the cash reserve requirement in 2001 (Tchakounte and Bita, 2009).

Capital Market Reform

In 2001, Cameroon created the Douala Stock Exchange (DSX). The DSX started operations effectively in 2006 with one listed company, the Société des Eaux Minérales du Cameroun (SEMC). Since then it has helped for the mobilization of public savings for Société Camerounaise des Palmeraies (SOCAPALM) in 2009 and the Republic of Cameroon in 2010.

Literature review

The original theoretical analysis which provided a rationale for financial sector liberalization as a means to promote savings and investment, and hence growth was that of Mc Kinnon (1973) and Shaw (1973). The models of McKinnon(1973) and Shaw(1973) focus specifically on financial repression in the form of ceilings on deposit and/or loan interest rates.

However, more than a change in interest rate, financial liberalization consists of a much more ambitious set of reforms. Reform measures are introduced in a number of different dimensions; privatization of public financial institutions, removal of restrictions to entry into banking, measures aimed at spurring competition in financial markets, reduction of legal reserve requirements, elimination of directed lending, prudential regulation measures, measures aimed at securities markets development and openness of capital account etc along with interest rate liberalization (Bandiera, Caprio, Honnohan and Schiantarelli, 1998). For analyzing the links between financial sector liberalization and saving, all these dimensions have to be captured.

Bayoumi (1993), using an overlapping generation model analyzes the impact of financial liberalization on household savings in the lifecycle framework.

Prior to financial liberalization, the young are unable to finance their desired level of consumption in the face of borrowing constraints while they are able to use capital markets to smooth consumption over their middle to old age. Since consumption was lower than desired in the young age, normally the consumption will be higher in their middle and old age. Financial liberalization increases the competition between providers of financial intermediation and it reduces liquidity constraints of consumers. This has a temporary and a permanent effect.

The initial temporary effect is the increase in aggregate consumption by the young consumers, which will wane over time. However, the consumption of old consumers is not immediately affected as they are still affected by their inability to borrow when they were young. The permanent effect of financial liberalization is that as young consumers are no longer credit constrained, they will smooth their consumption. As a result, the saving of a young consumer becomes sensitive to wealth, real income and other demographic and macroeconomic factors.

Financial liberalization has theoretically both long-term and short-term effects on saving. Long term effects include improved saving opportunities including higher deposit interest rates, a wider range of savings media with improved risk-return characteristics, more banks and other financial intermediaries and reduction in liquidity constraints.

First, though the use of financial instruments offer the household sector wide and indirect access to the yield on the investment opportunities available in the economy (Mc Kinnon and Shaw, 1973; Romer, 1986; Lucas, 1988; Barro, 1991;Japelli and Pagano, 1993), reliable access to borrowed funds through the financial system can lower the saving rate as it may result in consumption rather than savings (Japelli and Pagano, 1994) or reduce the level of precautionary saving also, turning some households into dissavers (Townsend, 1994; Honohan, 1999).

Second, though financial liberalization leads to an increase in the real interest rates paid to households, its effect on saving is ambiguous due to the presence of offsetting income and substitution effects. Higher real interest rate increases the present price of consumption in relation to the future price of consumption, thus providing an incentive to increase current saving (substitution effect). If the household is a net lender, then higher real interest rate increases lifetime income, and thus tends to increase consumption and decrease saving (income effect). Hence higher real interest rate will promote savings only if the substitution effect is greater than the income effect.

Third, financial institutions, by pooling a large number of independent default risks can reduce the risk per unit of money deployed. However, the theoretical effects of a change in risk on the saving rate are also ambiguous. Studies (Rothschild and Stiglitz, 1971) show that risk and savings are positively related if the coefficient of relative risk aversion is non-increasing and greater than one, that is the motive for savings. This means that savings rate will be lower in economies with less risky sources of income. If the coefficient of relative risk aversion is non-decreasing and less than one, risk and savings will be inversely related. Whether savings increases or decreases with change in risk depends critically on the coefficient of relative risk aversion.

Fourth, increased financial intermediation as a result of financial sector liberalization will reduce transaction costs between savers and investors and help to channelize savings into more productive areas. However, financial sector liberalization will not rescue all low income households in developing countries from liquidity constraints and such households will also tend to rely more on nonfinancial mechanisms such as coinsurance through village or extended family networks, for precautionary saving (Townsend, 1990; Honohan, 1999).

Finally, if financial liberalization has a favorable effect on the allocation of resources, this will generate increase in income that will in turn increase saving (Bandiera, Caprio, Honohan and Schiantarelli, 1998).

There are also short-term effects of financial liberalization in addition to the long-term effects on saving. These include capital inflows due to financial liberalization, which will in turn lead to a credit boom, leading to real income surges, and this has a transitory effect on the volume of saving. Financial liberalization has been accompanied by real estate booms in some countries; the resulting increase in real wealth may have a temporarily negative impact on saving (Bandiera, Caprio,Honohan, Schiantarelli, 1998).

The above review shows that the overall effect of financial sector liberalization on savings is ambiguous.

ECONOMETRIC METHODOLOGY

Variables and data

Guided by literature and the availability of data for the case of Cameroon, the following variables are used for the econometric analysis.

Financial liberalization measure

Financial liberalization is a process that involves the implementation of a number of policies. In order to show the degree or the level of financial liberalization at a particular time, a financial liberalization index (FLI) is

constructed based on the method proposed by Abiad and Mody (2005). Their measure of financial liberalization takes into account six different dimensions of financial market policies. These are:

- Credit controls: directed credit towards favored sectors or industries, ceiling on credit toward sectors, and high reserve requirements,
- Interest rate controls: direct interest rate controls by the government, or interest rate controls through the use of floors, ceilings and interest rate bands,
- Entry barriers: licensing requirements for newly established domestic financial institutions, entry barriers for foreign banks, and restrictions on certain types of banking practices, such as specialized bank services or establishing universal banks,
- Operational restrictions for securities markets: restrictions on staffing, branching and advertising, and the establishment of securities markets,
- Privatization of financial institutions, and
- Restrictions on international financial transactions: capital current account controls and the use of multiple exchange rates.

For each of these six dimensions, a country gets a score that runs from zero to three. The meaning of the scores is as follows:

- 0 means that for a particular dimension of financial market policies, the country is fully repressed;
- 1 means partial repression;
- 2 means largely liberalized; and
- 3 means fully liberalized.

The way the financial liberalization measure is constructed allows for identifying changes in financial market policies and quantifying the extent to which they contribute to liberalizing financial markets. It also allows us to take into account periods in which governments decide to re-control markets, for instance during or after periods of severe financial and/or economic crisis. In short, the measure enables to determine more exactly the magnitude and timing of changes of various dimensions of financial market policies.

This financial liberalization dataset improves on data used in earlier studies in a number of ways. In most cases, the data in these earlier works have one or more of the following weaknesses.

First, many papers take a crude measure of financial liberalization, for instance by taking a value of 0 for the years in which a particular financial market is not liberalized and a value of 1 from the year onwards when the market is officially liberalized. Harris, Schiantarelli and Siregar (1994), Jaramillo, Schiantarelli and Weiss (1996), Hermes and Lensink (1998), and Bekaert, Harvey and Lundblad (2005), to name a few, use this type of measure. Yet, financial liberalization is a process, rather than just one event.

Second, in several papers the analysis focuses on just one or a few dimensions of financial liberalization. Levine (2001), for example, looks only at opening up domestic banking and stock markets to foreigners, Eichengreen and Leblang (2003) consider only capital account liberalization, and Bekaert, Harvey and Lundblad (2005) focus on stock market liberalization. These papers thus do not analyze the effects of financial liberalization in all its important dimensions.

Third, some studies only look at the effects of financial liberalization in the short term of say up to ten to fifteen years. This is true for all studies using firm-level and this is not surprising, given the difficulty of getting consistent firm-level data for a long time-period. However, even some of the country-level studies take a relatively short perspective. Bekaert, Harvey and Lundblad (2005) investigate the relationship using data for the period 1980-97.

In this study, we consider a time period from 1973 to 2010 and the following dimensions of financial liberalization for the construction of the financial liberalization index for Cameroon: credit controls, interest rate controls, entry barriers, privatization of public financial institutions, restrictions on international capital movement, and prudential regulations. The construction of the index is shown in the table1A in the appendix. In figure 1, we have the evolution of the process of financial liberalization in Cameroon.

Other variables

The other variables included in the model apart from household saving rate(HSR) are; real disposable income (RDI), real deposit rate (RDR), Inflation (INF), youth dependency ratio (YDR) and old dependency ratio (ODR). All these variables are obtained from the World Bank development indicators 2011 CD ROM, and the IMFs international financial statistics 2010 CD ROM.

The bound testing approach for cointegration analysis

The use of the bounds technique is based on three validations. First, Pesaran *et al*. (2001) advocated the use of the ARDL model for the estimation of level relationships because the model suggests that once the order of the ARDL has been recognized, the relationship can be estimated by OLS. Second, the bounds test allows a mixture of I(1) and I(0) variables as regressors, that is, the order of integration of appropriate variables may not necessarily be the same. Therefore, the ARDL technique has the advantage of not requiring a specific identification of the order of the underlying data. Third, this technique is suitable for small or finite sample size

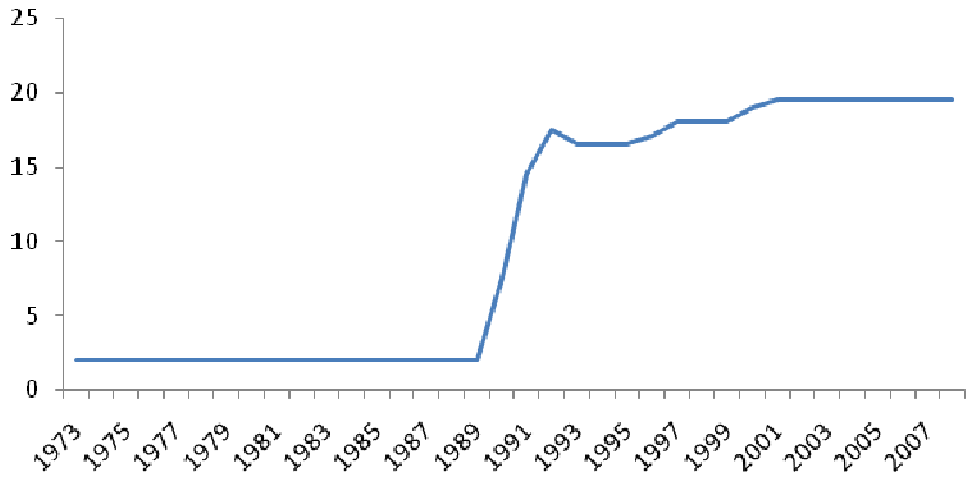

Figure 1. Evolution of financial liberalization index in Cameroon

(Pesaran *et al*., 2001).

Following Pesaran *et al*. (2001), we assemble the vector autoregression (VAR) of order *p,* denoted VAR (*p*), for the following saving function:

$$Z_t = \mu + \sum_{i=1}^{p} \beta_i z_{t-i} + \varepsilon_t \quad (1)$$

where z^t is the vector of both x^t and y^t , where y^t is the dependent variable defined as household saving rate(HSR), x_t is the vector matrix which represents a set of explanatory variables i.e., financial liberalization(FLI), real disposable income(RDI), real deposit rate (RDR), inflation (Inf), youth dependency ratio (YDR), old dependency ratio (ODR), and *t* is a time or trend variable. According to Pesaran *et al*. (2001), y_t must be I(1) variable, but the regressor x_t can be either I(0) or I(1). We further developed a vector error correction model (VECM) as follows:

$$\Delta z_t = \mu + \alpha t + \lambda z_{t-1} + \sum_{i=1}^{p-i} \gamma_t \Delta y_{t-i} + \sum_{i=1}^{p-1} \gamma_t \Delta x_{t-i} + \varepsilon_t \quad (2)$$

Where Δ is the first-difference operator. The long-run multiplier matrix λ as:

$$\lambda = \begin{bmatrix} \lambda_{YY} \lambda_{YX} \\ \lambda_{XY} \lambda_{XX} \end{bmatrix}$$

The diagonal elements of the matrix are unrestricted, so the selected series can be either I(0) or I(1). If $\lambda_{yy} = 0$, then *Y* is I (1); In contrast, if $\lambda_{yy} < 0$, then *Y* is I(0).

The VECM procedures described above are imperative in the testing of at most one cointegrating vector between dependent variable y_t and a set of regressors x_t . To derive model, we followed the postulations made by Pesaran *et al*. (2001) in Case III, that is, unrestricted intercepts and no trends. After imposing the restrictions $\lambda_{yy} = 0$, $\mu \neq 0$ and $\alpha = 0$, the GIIE hypothesis function can be stated as the following unrestricted error correction model (UECM):

$$\Delta(HSR)_t = \beta_0 + \beta_1 (HSR)_{t-1} + \beta_2 (FLI)_{t-1} + \beta_3 (RDI)_{t-1} + \beta_4 (RDR)_{t-1} + \beta_5 (INF)_{t-1} + \beta_6 (YDR)_{t-1} + \beta_7 (ODR) + \sum_{i=1}^{p} \beta_9 \Delta(HSR)_{t-i} + \sum_{i=0}^{q} \beta_{10} \Delta(RDI)_{t-i} + \sum_{i=0}^{r} \beta_{11} \Delta(RDR)_{t-i} + \sum_{i=0}^{s} \beta_{12} \Delta(Inf)_{t-i} + \sum_{i=0}^{u} \beta_{13} \Delta(YDR)_{t-i} + \sum_{i=0}^{v} \beta_{14} \Delta(ODR)_{t-i} + \sum_{i=0}^{w} \beta_{14} \Delta(FLI)_{t-i} + \mu^t \ldots (3)$$

Where Δ is the first-difference operator and u^t is a white-noise disturbance term.

Equation (3) also can be viewed as an ARDL of order (p, *q*, *r, s, u, v, w*). Equation (3) indicates that household saving ratio tends to be influenced and explained by its past values. The structural lags are established by using minimum Akaike's information criteria (AIC). From the estimation of UECMs, the long-run elasticities are the coefficient of one lagged explanatory variable (multiplied by a negative sign) divided by the coefficient of one lagged dependent variable (Bardsen, 1989). The short-run effects are captured by the coefficients of the first-differenced variables in equation (3).

After regression of Equation (3), the Wald test (*F*-statistic) was computed to differentiate the long-run relationship between the concerned variables. The Wald test can be carry out by imposing restrictions on the estimated long-run coefficients. The null and alternative hypotheses are as follows:

$H_o : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0$ (no long-run relationship)

Against the alternative hypothesis

Table 1. ADF unit root test results

	ADF TEST STATISTICS		
variables	**level**	**First difference**	**Decision**
LHSR	-2.893872	-7.304418***	I(1)
LFLI	-1.129090	-3.627007***	I(1)
LRDI	-1.439138	-2.643870***	I(1)
LRDR	-1.353104	-5.626483***	I(1)
LINF	-5.871967***	--------	I(0)
LYDR	-1.682368	-3.644551**	I(1)
LODR	-0.070769	-3.1222***	I(1)

NB: (*), (**), (***) indicates significance at 10%, 5%, and 1% respectively
Source: Authors calculations

$H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq 0$ (a long-run relationship exists)

The computed *F*-statistic value will be evaluated with the critical values tabulated in Table CI (iii) of Pesaran *et al.* (2001). According to these authors, the lower bound critical values assumed that the explanatory variables x_t are integrated of order zero, or I(0), while the upper bound critical values assumed that x_t are integrated of order one, or I(1).

Therefore, if the computed *F*-statistic is smaller than the lower bound value, then the null hypothesis is not rejected and we conclude that there is no long-run relationship between household saving ratio and its determinants. Conversely, if the computed *F*-statistic is greater than the upper bound value, household saving ratio and its determinants share a long-run level relationship. On the other hand, if the computed *F*-statistic falls between the lower and upper bound values, then the results are inconclusive.

RESULTS AND DISCUSSIONS

Unit root test results

The order of integration of variables should be checked because ARDL-bounds test approach depends on the time series characteristics of the data sets. Although both I(0) and I(1) variables can be used in the ARDL approach, the variables must not be I(2) stationary because, in the presence of I(2) variables the computed F-statistics provided by Pesaran *et al* (2001) are not valid as the bound test is based on the assumption that the variables are I(0) or I(1).

Therefore, the implementation of unit root tests in the ARDL procedure is still necessary in order to ensure that none of the variables is I (2) or higher. The ADF test is applied for unit root test of all series under consideration. The results of the stationarity tests on the variables are presented in table 1 above.

Cointegration test results

The bound test procedure begins by estimating equation (3), followed by verification of the robustness of the model using several diagnostic tests such as Breusch-Godfrey serial correlation LM test, ARCH test, Jacque-Bera normality test and Ramsey RESET specification test. All the tests disclosed that the model has the aspiration econometric properties, it has a correct functional form and the model's residuals are serially uncorrelated, normally distributed and homoskedastic.

Therefore, the outcomes reported are serially uncorrelated, normally distributed and homoskedastic. Then, finally, the wald test is used to test restrictions on the long run coefficients in order to ascertain the existence of a long run relationship. The results for equation 3 are shown in table 2 below.

As the computed F-statistics (5.019430) is greater than the upper bound at the five percent level (4.01), we conclude that there exist a long run relationship between household saving rate and its determinants in Cameroon.

Long run relationship

The coefficients of the long run relationship between the log of household saving rate and its determinants are reported in table 3 below.

The results show that there exist a long run positive relationship between financial liberalization and household savings rate in Cameroon. Also, old dependency ratio strongly and significantly influences household saving rate. Youth dependency ratio has a

Table 2. Bounds Test for Cointegration Analysis

Wald F- Statistics	Critical value	Lower Bound Value	Upper Bound Value
5.019430	1%	3.74	5.06
	5%	2.86	4.01
	10%	2.45	3.52

Note: Computed F-statistic: 5.508 (Significant at 0.05 marginal values).Critical Values are cited from Pesaran et al. (2001), Table CI (iii), Case 111: Unrestricted intercept and no trend.

Table 3. Results of long run relationship

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.819183	24.95960	-0.032820	0.9740
LFLI	0.507594	0.086412	5.874115	0.0000
LINF	0.242845	0.355695	0.682734	0.4994
LODR	30.00985	11.38021	2.637021	0.0125
LRDI	0.102395	0.202811	0.504877	0.6169
LRDR	-0.240955	0.287748	-0.837382	0.4082
LYDR	-10.15058	4.675281	-2.171117	0.0370
R-squared	0.788136	Mean dependent var		2.957829
Adjusted R-squared	0.715454	S.D. dependent var		0.206968
S.E. of regression	0.144069	Akaike info criterion		-0.882793
Sum squared resid	0.705703	Schwarz criterion		-0.590232
Log likelihood	25.09725	F-statistic		8.091921
Durbin-Watson stat	1.901045	Prob(F-statistic)		0.000018

Table 4. Results of short run coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.087696	0.036128	-2.427384	0.0210
D(LFLI)	0.097560	0.096971	1.006072	0.3219
D(LINF)	0.639682	0.390748	1.637069	0.1114
D(LODR)	27.38914	21.36137	1.282181	0.2090
D(LRDI)	0.577074	0.274924	2.099029	0.0438
D(LRDR)	-0.244930	0.281820	-0.869102	0.3913
D(LYDR)	-14.02685	9.084361	-1.544066	0.1324
ECT (-1)	-0.941779	0.171084	-5.529283	0.0000
R-squared	0.604566	Mean dependent var		-0.000449
Adjusted R-squared	0.518065	S.D. dependent var		0.178036
S.E. of regression	0.123595	Akaike info criterion		-1.166754
Sum squared resid	0.488825	Schwarz criterion		-0.828978
Log likelihood	31.33508	F-statistic		6.989106
Durbin-Watson stat	2.179823	Prob(F-statistic)		0.000045

similar but opposite effect.

Short run relationship

The estimation of the short run parameters show that there exist a strong error correction mechanism, through the error correction term, that absorbs 94% of a shock the following year. This confirms the existence of the cointegration relationship. In the short run, though there is a positive effect of financial liberalization on household saving, it is not significant. Only the constant term and

real disposal income have significant and positive effects.

CONCLUSION

The objective of this study was to test for the relationship between financial liberalization and household saving behavior in Cameroon using an ARDL cointegration modeling approach. The results reveal that there exist a long run positive and significant relationship between financial liberalization and household saving in Cameroon. In the short run this relationship exists but is not significant.

This therefore has significant policy implications for government authorities in Cameroon. In their search for resources to carry out their ambitious programs of higher economic growth and prosperity, they should foster the ongoing liberalization process in the country so as to permit its financial sector better mobilize domestic resources. This should mainly be in areas of international financial movements and prudential regulation where there are still some shortcomings.

REFERENCES

Abiad A, Mody A (2005). "Financial Reform: What Shakes It? What Shapes It?", Am. Econ.Rev., 95 (1): 66-88.

Bandiera O, Caprio G, Honohan P, Schiantarelli F (2000). "Does Financial Reform raise or reduce saving?", Rev. Econ. and Stat., 82(2):239-263.

Bardsen G (1989). "Estimation of long-run coefficients in error correction models", *Oxford Bulletin of Econ. and Stat.*, 51: 345-50.

Barro R (1991). "Economic Growth in a cross section of countries", Quarterly J. Econ. 106: 407-443.

Bayoumi T (1993). "Financial Saving and Household Saving", Econ. J. 103.

Bekaert G, Harvey CR, Lundblad C (2005). "Does Financial Liberalization Spur Growth?", J. Financial Econ.77 (1): 3-55.

Eichengreen B, Leblang D (2003). "Capital Account Liberalization and Growth: Was Mr. Mahathir Right?", Int. J. Finance and Econ. 8 (3): 205-224.

Harris JR, Schiantarelli F, Siregar MG (1994). "The Effects of Financial Liberalization on the Capital Structure and Investment Decisions of Indonesian Manufacturing Establishments", World Bank Econ. Rev., 8 (1): 17-47.

Hermes N, Lensink R (1998). "Banking Reform and the Financing of Firm Investment: An Empirical Analysis of the Chilean Experience, 1983-92", J. Dev. Stud., 34: 27-43.

Honohan (1999). "Financial policies and saving" in Hebbel, K. S and Serven, L. (ed.) The Economics of Saving and Growth: Theory, Evidence and Implications for Policy, Cambridge University Press, World Bank.

Jappelli T, Pagano M (1994). "Saving, Growth and Liquidity Constraints", Quarterly J. Econ., 109:183-109.

Jaramillo F, Schiantarelli F, Weiss A (1996). "Capital Market Imperfections Before and After Financial Liberalization: An Euler Equation Approach to Panel Data for Ecuadorian Firms", J. Devel. Econ. 51: 367-386.

Levine R (2001). "International Financial Liberalization and Economic Growth", Review of International Economics, 9 (4): 688-702.

Lucas RE (1988). "On the mechanics of Economic Development", J. Monetary Econ. 22: 3-42.

Mc Kinnon RI (1973). "Money and Capital in Economic Development", Brookings Institution, and Washington D.C.

Pagano M (1993). "Financial Markets and Growth: An Overview", Eur. Econ.Rev. 37: 613-622.

Pesaran MH, Shin Y, Smith R (2001). "Bounds testing approaches to the analysis of level relationships", J. Appl. Econo., 16:289-326.

Romer PM (1986). "Increasing Returns and long run growth", J. Polit. Econ. 94:1002-1037.

Rothschild, Stiglitz (1971). "Increasing risk II: its economic consequences", J. Econ. Theory, 3: 66-84.

Shaw GS (1973). "Financial Deepening in Economic Development", Oxford University Press, New York.

Tchakounte MN, Bita CA (2009). " la reforme du secteur bancaire Camerounais", Revue africaine de l'intégration, 3 (2).

Townsend RM (1994). "Risk and Insurance in Rural India", Econ., 62 (3):539-592.

APPENDIX

Construction of financial liberalization index

Year	CC	IC	EB	Privi	RCAP	PR	MPR	FLI
1973	0	0	0	0	1	1	0	2
1974	0	0	0	0	1	1	0	2
1975	0	0	0	0	1	1	0	2
1976	0	0	0	0	1	1	0	2
1977	0	0	0	0	1	1	0	2
1978	0	0	0	0	1	1	0	2
1979	0	0	0	0	1	1	0	2
1980	0	0	0	0	1	1	0	2
1981	0	0	0	0	1	1	0	2
1982	0	0	0	0	1	1	0	2
1983	0	0	0	0	1	1	0	2
1984	0	0	0	0	1	1	0	2
1985	0	0	0	0	1	1	0	2
1986	0	0	0	0	1	1	0	2
1987	0	0	0	0	1	1	0	2
1988	0	0	0	0	1	1	0	2
1989	0	0	0	0	1	1	0	2
1990	1	2	1	1	1,5	1	0	7,5
1991	3	3	3	2	1,5	1	1	14,5
1992	3	3	3	2	1,5	2	3	17,5
1993	3	3	3	2	0,5	2	3	16,5
1994	3	3	3	2	0,5	2	3	16,5
1995	3	3	3	2	0,5	2	3	16,5
1996	3	3	3	2	1	2	3	17
1997	3	3	3	3	1	2	3	18
1998	3	3	3	3	1	2	3	18
1999	3	3	3	3	1	2	3	18
2000	3	3	3	3	2	2	3	19
2001	3	3	3	3	2	2,5	3	19,5
2002	3	3	3	3	2	2,5	3	19,5
2003	3	3	3	3	2	2,5	3	19,5
2004	3	3	3	3	2	2,5	3	19,5
2005	3	3	3	3	2	2,5	3	19,5
2006	3	3	3	3	2	2,5	3	19,5
2007	3	3	3	3	2	2,5	3	19,5
2008	3	3	3	3	2	2,5	3	19,5
2009	3	3	3	3	2	2,5	3	19,5
2010	3	3	3	3	2	2,5	3	19,5

With; CC = is credit controls; IC = interest rate controls; EB= entry barriers; Privi = privatization of financial institutions; RCAP = restrictions on capital movements; PR = prudential regulations; MPR = monetary policy reforms