

Financial Development and Inflation Nexus in Nigeria: Evidence from ARDL Bounds Testing

Chindo Sulaiman

Department of Economics, Faculty of Social and Management Sciences, Bauchi State University Gadau-Nigeria
E-mail: sulaimanchindo@yahoo.com

Abstract

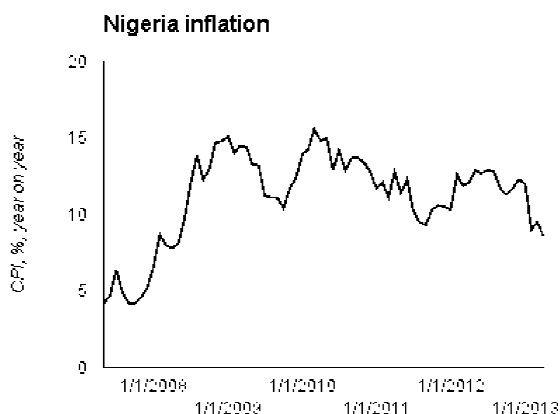
The nexus between financial development and inflation has been a topic of interest by researchers. This paper investigated the relationship between the two variables in Nigerian context. ARDL bounds testing approach has been employed to check for cointegration relation. The results reveal that financial development (proxied by M2/GDP ratio) is negatively correlated with inflation (proxied by CPI), both in the short run and long run as suggested by the theory. However, the result concurs with the theoretical provisions and related literatures in this area. The policy recommendation driven from this work is that, maintenance of low level of inflation could help in enhancing financial development in Nigeria. Therefore, policies geared toward maintenance of low level of inflation are desirable so as to accelerate financial development.

Keywords: Financial Development, Inflation, ARDL bounds testing

1. Introduction

Inflation and financial development nexus has attracted the attention of many macroeconomists in recent years. Inflation which refers to the persistent rise in the general price level of goods and services over a period of time is believed to have adverse effects on all classes of financial assets, narrow money inclusive. Additionally, it has been put forward that inflation encourages holding of currency and discourages holding of quasi-money (Odhiambo, 2005). Boyd et al (2001) showed that inflation is associated with financial repression and that financial sector becomes less developed as inflation rises, particularly when the average inflation rate is very high. Inflation has a threshold level below which it has a positive impact on financial development and above which the impact is negative (Khan et al., 2001). They used a large cross country sample and found empirical backing for the existence of such threshold. They further indicated that the inflation threshold is normally 3-6% per annum which also depends on the measure of financial development that is applied.

In Nigeria, historically, from 2006 until 2013, Nigeria Inflation Rate averaged 10.61 Percent reaching an all-time high of 15.60 Percent in February of 2010 and a record low of 3 Percent in July of 2006. In Nigeria, the Consumer Price Index (CPI) measures the change over time in prices of 740 goods and services consumed by people for day-to-day living. The index weights are based on expenditures of both urban and rural households in the 36 states. The most important categories in the CPI are Food and Non Alcoholic Beverages (51.8 percent of total weight); Housing, Water, Electricity, Gas and Other Fuel (16.7 percent) and Clothing and Footwear (7.7 percent). Transports account for 6.5 percent of total index and, Furnishings and Household Equipment Maintenance for 5 percent. Education represents 3.9 percent of total weight, Health 3 percent, Miscellaneous Goods and Services 1.7 percent and Restaurants and Hotels 1.2 percent. Alcoholic Beverages, Tobacco and Kola account for 1.1 percent of total index, Communications for 0.7 percent and Recreation and Culture for the remaining 0.7 percent (Tradingeconomics.com/Nigeria National Bureau of Statistics, 2013).



Source: Nigerian National Bureau of Statistics, 2013.

The above diagram shows the trend of inflation in Nigeria from January 2008 to January 2013 as reported by

Nigerian National Bureau of Statistics.

There is almost a general consensus that macroeconomic stability which is specifically defined as low inflation is positively related to economic growth. So also, low inflation is positively related to financial development. However, the question about the nature and existence of a link between inflation and financial development has been a topic of interest and debate by many researchers. Though the debate about the exact relationship between inflation and financial development is still on, researches on this topic have presented some important findings. For instance, it is generally accepted that high inflation rate has a negative effect on medium and long term growth (Bruno and Easterly, 1998). Kumapayi, et al. (2012) reports that over the last few decades, high inflation in Nigeria has caused returns on investment to decline. This thereby affects financial development negatively. In this study, the empirical impact of inflation on financial development shall provide an answer to the true relationship between inflation and financial development in Nigerian context.

2. Theoretical Background

The theoretical relationship between inflation and real activity is a negative one, especially for economies with relatively high rates of inflation. If inflation rate is high enough, the returns on savings are reduced which leads to a reduction in savings and savers alike, and hence credit becomes scarce in such an economy (Moore, 1986; Choi et al., 1996; Azariadis and Smith, 1996). Also, some evidences show that inflation and the development of the financial system are very negatively correlated, as are inflation and real equity returns (Huybens and Smith, 1999). Khan *et al.* (2001) postulate that, if inflation affects the development of the financial system, then the effect will have long-run impact. The effects of an increase in the inflation rate may be quite different depending on whether the rate of inflation is below or above the threshold level. Literatures (both theoretical and empirical findings) suggest that there are thresholds, possibly more than one in the relationship between inflation and financial activity depending on the country.

However, Khan *et al.* (2001) further argue that the negativity of the relationship between inflation and financial development can be explained by two theoretical frameworks of adverse selection/moral hazard problems and costly state verification frictions in credit markets. Accordingly, higher rates of inflation make holding of required reserves more costly. This therefore makes banks to strive to lower these costs and reduce real price paid to depositors. Additional reason which may account for the negative relationship between inflation rate and the rate of return is the rigidity of nominal interest rate mostly resulted from regulatory measures. Lowering real interest rates at higher rates of inflation results in fall in returns may subsequently lead to the outflow of funds from the financial system and hence lowers investment capital.

Theoretical literatures further argue that there exists a steady state where both banks and equity markets are active while inflation and real activity are negatively correlated. Thus, the negativity would be more pronounced at relatively higher inflation levels (Huybens and Smith, 1999).

3. Literature Review

The review of related literature always gives an insight on other researchers have approached a similar or related issue under study. However, this study is not an exception in this regard, thus some literature have been reviewed related to the topic of the study. In a related study, Barnes (2000) re-examined the trivariate relationship and the threshold effect within a panel setting using different models in order to separately test for thresholds in the relationship between banking sector development and inflation rate. The results show positive and often significant relationships between growth and the financial market development measures in the single threshold specifications. However, in the presence of an interaction term between inflation and financial market development, this relationship becomes larger and more significant after the threshold level of inflation is attained. Khan *et al.* (2001) assessed the impact of various factors such as GDP per capita, the degree of openness, the share of public consumption in GDP and inflation rate on financial activity. They specified an econometric model which explicitly allowed for inflation threshold effects and their findings revealed that an increase in inflation has a weak positive effect when initial rate of inflation is low and a negative effect at initially high inflation rate. They also found that threshold rates of inflation lie in the range 3-6 percent a year depending on the specific measure of financial development of a country.

Naceur and Ghazouani (2005) investigated the impact of inflation on the financial sector performance in the case of 11 MENA countries using the dynamic panel data with the Hansen's (1999) methodology to estimate threshold levels, and found that inflation has a negative and significant effects on the financial sector development but with no evidence of thresholds levels even after controlling for simultaneity and omitted variable biases. Furthermore, they illustrated that a marginal increase of inflation is harmless to stock market performance and banking sector development whatever the inflation rate. Keho (2009) investigated the causal and long run relationship between inflation and financial development for the seven countries of the West African Economic and Monetary Union (WAEMU) using Bounds testing approach to co integration. His result showed that, there is no evidence of long-run relationship between inflation and financial development for six

countries but in one country. However, Results from causality tests are mixed across the countries. There was no causality between inflation and financial development in two countries. While, financial development contributes to inflation in three countries. Moreover, inflation depresses financial development in one country. Rousseau and Wachtel (2002) investigated whether inflation slows down economic growth through negatively affecting the financial development and to what extent does varying level of inflation affects finance – growth nexus. They found that inflation inhibits economic growth both directly and indirectly through its effect on financial development. The direct effects are due to high inflation level and largely disappear when inflation rate is moderate. However, it has been found that the effect of financial depth on economic growth is much weaker when inflation level is high.

In a related single country study which examines the financial development and inflation nexus, Bittencourt (2008) tried to examine the role of inflation on financial development in Brazil using data covering the period between 1985 to 2002, and 10 economically diverse regions. Based on both the time series analysis and the panel data analysis, he found that inflation is detrimental to financial development. Furthermore, his evidence is significant and robust for different data sets, different proxies of financial development and different estimators. In a similar study, Lee and Wong (2005) investigated the relationship between financial development, inflation and economic growth in Taiwan and Japan using TAR approach to investigate the possible inflationary threshold effects. Their findings indicate that there exists one inflation threshold value in Taiwan and two in Japan. The results further suggest that changes in inflation could contribute to the cause of structural change in the relationship between financial development and economic growth.

In a related panel study, Using a panels of emerging European countries from 1995 to 2006 and, African countries from 1990 to 2006 respectively, Zoli (2007) and, Andrianaivo and Yartey (2009) report that inflation has a serious effects on financial development. In other words, inflation has detrimental effects on financial development. However, Dehesa et al. (2007) used a panel of 120 countries over a period of 1997-2004 to report that lower inflation increases the amount of credit in these countries. The relationship between these two variables in Nigeria would be examined by this paper by adopting two proxies of financial development- M2/GDP ratio and Credit/GDP ratio, and CPI as proxy for inflation.

4. Methodology

4.1 Indicators (Proxies) of Financial Development

There are general and specific indicators of financial development. Lynch(1996) differentiated the two - the rise in variety of financial instruments and the number of financial institutions in financial market are general instruments. While, structural and quantitative indicators are specific. Other indicators include the ratio between M2 and M1, financial irrelations ratio (FIR), positive real interest rate and low transaction cost. Moreover, some of the common indicators (measures) adopted by past literature include the ratio of Liquid liabilities (M2), market capitalization or private sector credits to GDP. Therefore, we intend to adopt ratio of liquid liabilities to GDP (M2/GDP) and the ratio of private sector credits to GDP (CREDIT/GDP). Because, these two are more applicable to Nigerian economy compared to others. Also, these measures of financial development have been proved to be more reliable and more accurate to represent the functioning of financial system development.

4.2 Data and Variables

The data used in this paper have all been sourced from World Bank Official website. It is annual in nature and covers the period from 1960 to 2011 for Nigeria.

Inflation rate is proxied by the Consumer Price Index (CPI) while financial development is measured by two different indicators - (FD1), the ratio of credits provided by financial intermediaries to the private sector to GDP and (FD2), the ratio of broad money (M2) to GDP. Introducing a control variable, GDP per capita (PCGDP) has been used to represent the volume of real activity.

4.3 Model Specification

We begin with the specification of the time series model as follows:

$$\ln FD_t = \alpha_0 + \alpha_1 \ln CPI_t + \alpha_2 \ln PCGDP_t + U_t \quad (1)$$

The unrestricted error correction version of the ARDL model for testing cointegration can be specified as follows:

$$\Delta \ln FD_{it} = \beta_0 + \sum_{i=1}^k \lambda_i \Delta \ln FD_{it-i} + \sum_{i=0}^k \eta_i \Delta \ln CPI_{t-i} + \sum_{i=0}^k \delta_i \Delta \ln PCGDP_{t-i} + \alpha_1 \ln FD_{it-1} + \alpha_2 \ln CPI_{t-1} + \alpha_3 \ln PCGDP_{t-1} + \varepsilon_t \quad (2)$$

Where FD_{it} represents financial development 1 & 2 which are ratio of credit to GDP (Credit/GDP) and ratio of broad money to GDP (M2/GDP) respectively. CPI represents consumer price index which is the proxy for inflation. PCGDP is the GDP per capita.

The model can be further divided into two measurement of financial development in order to test each for cointegration separately:

$$\Delta \ln FD1_t = \beta_0 + \sum_{i=1}^k \lambda_i \Delta \ln FD1_{t-i} + \sum_{i=0}^k \eta_i \Delta \ln CPI_{t-i} + \sum_{i=0}^k \delta_i \Delta \ln PCGDP_{t-i} + \alpha_1 \ln FD1_{t-1} + \alpha_2 \ln CPI_{t-1} + \alpha_3 \ln PCGDP_{t-1} + \varepsilon_t \quad (3)$$

Where $\Delta \ln FD1_t$ stands for Credit to GDP ratio.

$$\Delta \ln FD2_t = \beta_0 + \sum_{i=1}^k \lambda_i \Delta \ln FD2_{t-i} + \sum_{i=0}^k \eta_i \Delta \ln CPI_{t-i} + \sum_{i=0}^k \delta_i \Delta \ln PCGDP_{t-i} + \alpha_1 \ln FD2_{t-1} + \alpha_2 \ln CPI_{t-1} + \alpha_3 \ln PCGDP_{t-1} + \varepsilon_t \quad (4)$$

Where $\Delta \ln FD2_t$ stands for change in M2 to GDP ratio.

To test for cointegration relation among the variables, we test the following null hypothesis of no cointegration $H_0: \alpha_1 = \alpha_2 = \alpha_3 = 0$. If the F-statistic is greater than the upper bound of the critical values of Narayan (2005) bounds testing table, we conclude that cointegration exists and if it falls below the lower bound, we conclude that no cointegration. However, if it falls in between the upper and the lower bounds, the result is inconclusive.

However, if cointegration exists, the following long run model could be estimated:

$$\ln FD_{it} = \beta_1 + \sum_{i=1}^k \lambda_{1i} \ln FD_{it-i} + \sum_{i=0}^k \eta_{1i} \ln CPI_{t-i} + \sum_{i=0}^k \delta_{1i} \ln PCGDP_{t-i} + v_t \quad (5)$$

While, the short run model is stated as follows:

$$\Delta \ln FD_{it} = \beta_2 + \sum_{i=1}^k \lambda_{2i} \Delta \ln FD_{it-i} + \sum_{i=0}^k \eta_{2i} \Delta \ln CPI_{t-i} + \sum_{i=0}^k \delta_{2i} \Delta \ln PCGDP_{t-i} + \theta_i ECM_{t-1} + \xi_t \quad (6)$$

Where the error correction term is defined below:

$$ECM_t = \ln FD_t - \beta_1 - \sum_{i=1}^k \lambda_{1i} \ln FD_{t-i} - \sum_{i=0}^k \eta_{1i} \ln CPI_{t-i} - \sum_{i=0}^k \delta_{1i} \ln PCGDP_{t-i} \quad (7)$$

ECM_t refers to the error correction term in the model which measures the speed of adjustment to equilibrium in the long run.

5. Empirical Findings

Before embarking on estimation, we have firstly tested the stationarity of the series involved. While testing, we employed Augmented Dickey Fuller (ADF) and Philips Perron (PP). The results reveal that all the four variables are not stationary at level except inflation (CPI), but become stationary after first differencing.

Table 1. Unit root test using ADF and PP Tests.

Variables	ADF Test Statistics (with linear trend and intercept)		PP Test Statistics (with linear trend and intercept)	
	Level	First Difference	Level	First Difference
Credit/GDP [ln(FD1)]	-1.3903	-7.6219***	-1.5604	-5.5900***
M2/GDP [ln(FD2)]	-2.2611	-5.4278***	-1.7123	-5.2793***
Inflation [ln(CPI)]	-3.3555*	-7.2575***	-3.2008*	-16.1846***
PCGDP [ln(PCGDP)]	-0.1879	-7.2433***	-0.3240	-7.2517***

***Significant at 1% level. **Significant at 5% level. *Significant at 10% level.

Next step, ARDL bounds testing approach is conducted to check whether long run relationship between financial development indicators and rate of inflation exist or not. The results show that Null hypothesis of no co integration cannot be rejected when using FD1 and on the other hand, it can be rejected when using FD2 indicator. For FD2, the computed F-statistics (6.7378) exceeds the upper bound of the critical values (4.070, 5.190) table by Narayan 2005 which justifies the existence of co integration at 5% level of significance (Table 2).

Table 2: The bounds test for the existence of level cointegration relationship

Model	F-statistics	Lag	Significance Level	Critical Bounds' values			
				Unrestricted intercept & no trend		Restricted intercept & no trend	
				I(0)	I(1)	I(0)	I(1)
$F(FD1 PCI,PCGDP)$	3.5124	2	1%	5.817	7.303	4.695	5.758
$F(FD2 PCI,PCGDP)$	6.7378	2	5%	4.070	5.190	3.368	4.178
			10%	3.333	4.313	2.788	3.513

n = 50

Based on Narayan (2005).

We have presented the ARDL estimate in Table 3 based on Schwarz Bayesian Criterion, which reveals that CPI which measures inflation significantly impacts negatively on financial development indicator at 10% level which is in conformity with the theory.

Table 3: ARDL Estimates (2, 0, 1) selected based on Schwarz Bayesian Criterion (SBC).

Variable	Coefficient	Standard Error	T-statistics [p-value]
$FD2 (-1)$	1.0193***	0.1222	8.3402 [0.000]
$FD2 (-2)$	-0.2809**	0.1115	-2.5195 [0.015]
CPI	-0.0339*	0.0195	-1.7396 [0.089]
$PCGDP$	-0.1726**	0.0777	-2.2210 [0.032]
$PCGDP (-1)$	0.3119***	0.0863	3.6139 [0.001]
Constant	0.7884	0.1339	0.5887 [0.559]

$$R^2 = 0.9322$$

$$S.S.E = 0.1105$$

$$AIC = 36.3547$$

$$DW - Stat = 2.0484$$

$$\text{Adjusted } R^2 = 0.9245$$

$$F(5, 44) = 121 [0.000]$$

$$SBC = 30.6186$$

Note: $FD2$ is the dependent variable. *** (**)* denotes significance at 1%, 5% and 10% level respectively.

Furthermore, we have estimated the long run coefficients of the ARDL (2, 0, 1) where the results reveal that inflation though insignificant but has negative relationship with financial development in the long run based on the sign of the coefficient of CPI. This finding substantiates the findings of Nurettin and Kadir (2012) who conducted similar research in Turkey. So, also the findings can be theoretically justified.

Table 4: The Estimated long run Coefficients Using ARDL Approach (2, 0, 1) selected based on Schwarz Bayesian Criterion (SBC).

Variables	Coefficient	Standard Error	T-statistics [p-value]
CPI	-0.1298	0.0902	-1.4388 [0.157]
$PCGDP$	0.5326***	0.0963	5.5309 [0.000]
Constant	0.3012	0.4949	0.6086 [0.546]

Note: $FD2$ is the dependent variable. *** (**)* denotes significance at 1%, 5% and 10% level respectively

Finally, in order to obtain the short run coefficients of the specified ARDL (2, 0, 1), the error correction version of the ARDL model is estimated (Table 5). The estimated model reveals that in the short run, inflation has significant negative impact on financial development at 10% level in Nigeria. This indicates that higher inflationary level will affect financial development negatively which will make it weak. The $ecm (-1)$ which is less than one and statistically significant justifies the cointegration relationship among the variables and also shows the speed of adjustment of the variables' convergence to equilibrium in the long run (26%).

Table 5: Error Correction Representation for the Selected ARDL Model (2, 0, 1) based on Schwarz Bayesian Criterion (SBC).

Regressors	Coefficient	Standard Error	T-statistics [p-value]
$\Delta(FD2)(-1)$	0.2809**	0.1115	2.5195 [0.015]
$\Delta(CPI)$	-0.3397*	0.0195	-1.7396 [0.089]
$\Delta(PCGP)$	-0.1726**	0.0777	-2.2210 [0.031]
Constant	0.0788	0.1339	0.5887 [0.559]
$ECM (-1)$	-0.2616***	0.0614	-4.2594 [0.000]

$$ecm = FD2 + 0.1298 * CPI - 0.5326 * PCGDP - 0.3012$$

Note: $DFD2$ is the dependent variable. *** (**)* denote significance at 1%, 5% and 10% level respectively

6. Conclusion

In conclusion, we have examined the relationship between inflation and financial development in Nigeria for the period of 1960-2011 using annual data from World Bank database. Two indicators of financial development were adopted in this study- ratio of credit to the private sector to GDP and ratio of broad money (M2) to GDP. Credit to GDP ratio has been found to be not-cointegrated with inflation but when ratio of M2 to GDP was used, cointegration exists. The short and the long run estimated coefficients of the specified ARDL (2, 0, 1) reveal negative relationship between inflation and financial development which concords with related past literatures. The policy implication that can be deduced from this study is that, maintenance of certain lower level of inflation can accelerate financial development in Nigeria, hence promoting economic growth. Therefore, in order for government to achieve growth via financial development, then low level of inflation should be maintained. Hence, policies geared toward maintenance of low level of inflation are desirable so as to accelerate financial development

References

- Andres, J. I. Hernando & Lopez-Salido, J.D.(1999), "The role of the financial system in the growth-inflation", link: the OECD experience. Banco de Espana, Servicio de Estudios Documento de Trabajo, no. 9920.
- Andrianaivo, M. and C. A. Yartey, (2009). "Understanding the Growth of African Financial Markets". *IMF Working Paper*.
- Azariadis, C. and B.D. Smith, (1996), "Private information, money and growth: Indeterminacies, fluctuations and the Mundell-Tobin effect", *Journal of Economic Growth* 1, 309-322.
- Barnes, M.(2000), "Threshold relationships among inflation, financial market development and growth", Adelaide University, Cies, *policy discussion paper*, no. 0036.
- Bittencourt, M.(2011), "Inflation and financial development: evidence from Brazil", *Economic Modelling* 28, 91-99.
- Boyd, J.M., R. Levine & Smith, B.D.(1996), "Inflation and financial sector performance". Federal Reserve Bank of Minneapolis. *Working paper*, 573d.
- Boyd, J.M., R. Levine & B.D. Smith,(2001), "The impact of inflation on financial sector performance", *Journal of Monetary Economics*, 47, 221-248.
- Bruno, M. and Easterly, W.(1998), "Inflation crises and long-run growth", *Journal of Monetary Economics* 41, 3-26.
- Choi, S., Smith, B.D., et al.(1996), "Inflation, Financial Markets, and Capital Formation", Federal Reserve Bank of St. Louis *Review*.
- Dehesa, M., P. Druck, et al.(2007), "Relative Price Stability, Creditor Rights, and Financial Deepening", *IMF Working Paper*.
- Engle, R.F. & Granger, C.W.J.(1987), "Co-integration and error correction: representation, estimation and testing", *Econometrica* 55, 251-276.
- Gillman, M., M. Harris & Kejak, M.(2006), "The interaction of inflation and financial development with endogenous growth", *Money, Macro and Finance Research Group Conference 2006*.
- Goldsmith, R. W. (1987), "Premodern financial system", *Cambridge University Press*. *Uluslararası Alanya İşletme Fakültesi Dergisi* 4/2 (2012) 87
- Hansen B.E. (1999), "Threshold effects in non-dynamic panels: Estimation, testing and inference", *Journal of Econometrics*, 93: 345-368.
- Huybens, E. & Smith, B.(1999), "Inflation, financial markets, and long-run real activity", *Journal of Monetary Economics*, 43, 283-315.
- Johansen, S. and Juselius, K.(1990), "Maximum likelihood estimation and inferences on co-integration with application to demand for money", *Oxford Bulletin of Economics and Statistics* 52, 169-210.
- Keho, Y. (2009), "Inflation and financial development: cointegration and causality analysis for the UEMOA countries", *International Research Journal of Finance and Economics* 27, 117-123.
- Kumapayi, A. A., Nana and Ohwofasa, B. O. (2012), "Impact of Inflation on Monetary Policy and Economic Development in Nigeria: Evidence from empirical Data", *Asian Journal of Empirical Research* 2 28-39.
- Khan, M., A.S. Senhadji & Smith, B.D.(2001), "Inflation and financial depth", *IMF Working Paper* no. 01/44.
- Kulyk, A.(2002), "Inflation and financial depth in transition economies", *M.A thesis*, National University of kyiv-mohyla academy.
- Lee, C. & Wong, S.Y.(2005), "Inflationary thresholds effects in the relationship between financial development and economic growth: evidence from Taiwan and Japan", *Journal of Economic Development* 30, 49-68.
- Lynch, D.(1996), "Measuring financial sector development: a study of selected Asia pacific countries", *Developing Economies*, 33(1), pp. 3-33.
- Moore, B.J. (1986), "Inflation and financial deepening", *Journal of Development Economics* 20, 125-133
- Narayan, P., & Smyth, R. (2005), "Trade Liberalization and Economic Growth in Fiji An Empirical

- Approach” *Journal of the Asia Pacific Economy*, 10(1), 96–115.
- Naceur, S. B. & Ghazouani S.(2005), “Does inflation impact on financial performance in the MENA region”, *Journal of Middle East economics and finance*, 3, 219-229.
- Odhiambho N.M. (2005), “Financial development and economic growth in Tanzania: A dynamic causality test” *African Finance Journal*, 7, Part 1.
- Pesaran, H.M., Y. Shin & Smith, R.J.(2001), “Bounds testing approach to the analysis of level relationships” *Journal of Applied Econometrics* 16, 289-326.
- Rousseau, P.L. & Wachtel, P.(2002), “Inflation thresholds and the finance-growth nexus” *Journal of International Money and Finance* 21, 777-793.
- Zoli, E., (2007), “Financial Development in Emerging Europe: The Unfinished Agenda”, *IMF Working Paper*.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

