

FINANCIAL MARKETS DISPARITIES IN DEVELOPED AND DEVELOPING COUNTRIES

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Abstract

Financial markets are important in the process of economic growth and development in their role in savings mobilization. Despite the limited range of financial assets available to savers in developing nations, monetarization ratios are generally lower for such countries than for developed countries. The menu of assets available to private savers in developing countries from the formal financial system is often limited to cash, demand deposits, time deposits and sometimes government securities.

The paper utilizes granger causality, unit root tests and Ordinary Least squares regression to estimate the relevance of monetarization of the economy. Evidence from statistical data shows that causality exists from growth of GDP to monetarization of the economy, which was the main objective of this study. The unit root test reveals that growth of GDP is stationary at levels whereas Monetarization ratios are stationary at first difference. The results are consistent with economic theory. The major recommendation is that the government should reduce the restrictions on banks, especially the reserve ratio. This will allow banks to create more credit, and with competition lending rates will reduce, hence increased investments.

Introduction

Financial markets are markets where financial assets and financial liabilities are bought and sold, examples of which are stock market, the bond market and bank activities (Colander, 1993). A market is an institution that brings buyers and sellers together hence a financial market is an institution that brings buyers and sellers of financial assets together.

Financial assets have a maturity of over one-year. They include stocks, bonds and mortgages. A stock is a partial ownership right to a company with no maturity date but with dividends and capital gains. A bond is a promise of the bond-issuer to pay interest of a certain amount at specified intervals (usually annually) to the bondholder and to pay the bond's face value when the bond matures. A mortgage is a secured loan on real estate.

Financial markets are important in the process of economic growth and development in their role in savings mobilization. They have the potential to aid growth by complementing domestic savings. A key economic feature that differentiates developed and developing countries is the structure of their financial systems (Agonor, and Montrel, 1996).

Despite of the more limited range of financial assets available to savers in developing nations, monetarization ratios are generally lower for such countries than for developed countries. The disparity is more pronounced by the fact that in developing countries, interest bearing assets such as time and savings deposit bear the brunt of interest-rate ceilings.

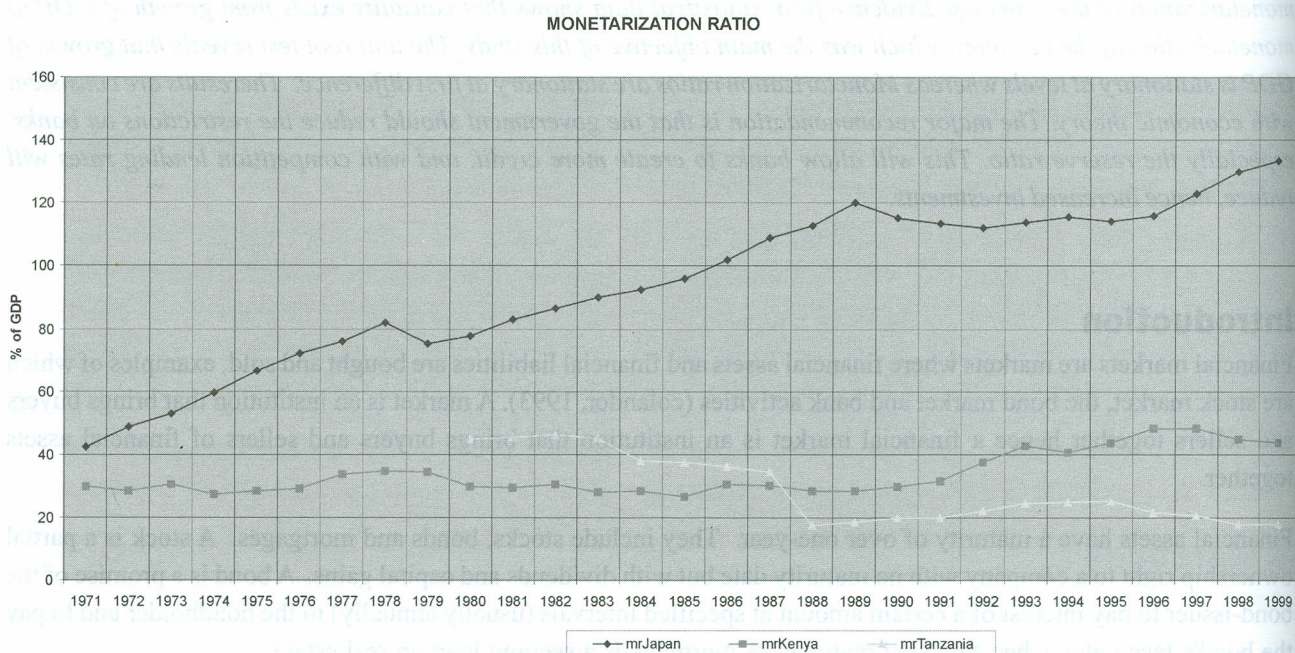
The menu of assets available to private savers in developing countries from the formal financial system is often limited to cash, demand deposits, time deposits and sometimes government securities. In addition to being limited in scope, the financial system is often also limited in size and geographical distribution. Many private individuals thus have limited access to commercial banks, which are by far the dominant organized financial institutions often operating under oligopolistic market structure and a high degree of concentration. Other specialized institutions exist, but they typically conduct a very small portion of total financial intermediation in the economy. Secondary

securities and equities markets are either non-existent or very limited in scope, so that bank credit and internally generated funds provide the bulk of financing for private firms.

Commercial banks often operate under a large array of government - imposed restrictions. This include binding legal ceilings on lending rates, high reserve ratios and liquidity requirements, and restrictions on their portfolio composition designed to direct resources toward favoured sectors. The commercial banking sector is often subject to high reserve and liquidity ratios as well as legal ceilings on interest rates together with sectoral credit allocation quotas. In response to this "financial repression," an informal financial sector often arises with market-determined loan interest rates, operating in parallel with the official sector. The instruments of monetary policy and the nature of the monetary transmission mechanism in this setting tend to be quite different from their industrial- country counterparts, when such markets are large (Agenor and Montiel, 1996).

Financial markets in developing countries are very different from those in developed countries. The contrast between developed and developing countries can be illustrated using monetization ratios. The index measures the size of the banking system by taking the ratio of its liabilities (either narrow or broad money) to GDP. As evident from figure 1.1 below, monetization ratios are generally lower for developing countries than for developed countries.

Figure 1.1 Monetization Ratios



Source of Basic data: *International Financial Statistics, IMF (Various Issues).*

Besides, industrial countries macroeconomic performance is far much better than that of the developing countries. Industrial countries register higher growth rates of output as compared to the developing countries, which to say the least register dismal growth. These leads to the question, are financial markets and their macroeconomic role potentially different in developing and developed countries?

The general objective of the study is to establish the disparities existing in the financial markets in developed and developing countries. The specific objective is to identify the causality between financial markets on macroeconomic performance.

Literature Review

Several studies have been done to ascertain the relevance of financial markets in the economic growth process. This shows the importance accorded to financial markets in the process of economic growth. In a study by Calvo (2000) international capital flows present a serious policy dilemma for emerging market economies in that on one hand they have the potential to aid growth by complementing domestic savings and on the other hand their volatility can be

economically destabilizing and may retard growth. The study further says that capital flow problem manifests itself in an abrupt reversal of capital flows, which may result from a sudden perception of higher country risk. The abrupt reversal is accompanied by sudden deposit withdrawals (bank runs) and a collapse on the real estate market. The lessons from the study include reform in the financial sector, limiting short term debt in the basket of foreign borrowing, preventing over expansion of credit, and limiting the use of current account deficits for financing consumption and low quality investment.

In another study by Agenor and Montiel (1996), financial system in most developing countries is 'repressed' by a series of government interventions that have the effect of keeping low interest rates that domestic banks can offer to savers. The study says that the motivation for the interventions is a fiscal one, in that the government wants to actively promote development but lacks the direct fiscal means to do so. Thus in many developing countries the combination of low nominal deposit interest rates and moderate to high inflation has often resulted in negative rates of return on domestic financial assets, with an adverse effects on saving and the financial intermediation process. The study advocates for less government intervention in the financial markets.

Ogwumike and Omole (1997) conducted an empirical study on the role of capital markets in mobilizing domestic resources for economic development in Nigeria. Their objective was to find the major factors confronting the stock market and determine the impact of government policy on the operations of the exchange. Investors were found to be willing to take up bank loan for the purchase of shares in quoted companies. They also found out that bank loans were not available to investors. Financial savings did not readily flow in to the stock markets as investments because there were other investment outlets such as real estate development and financing of local purchase orders, which were more profitable. Also, the volume and value of transactions were found to be very low while financial instruments were few.

Kofi (1998) conducted a descriptive study, which analyzed the factors affecting the development of Ghana stock exchange. The study analyzed the effect on investment of local investors' income, education, and the investors' ability to use available information in investment decisions. It established that many of the local investors could be described as low-income investors. A sizeable percentage had no formal education and the knowledge of local investors about the capital markets was quite poor. Also, the ability of many investors to use information in investment decisions was weak. While the ratio of local investors to foreign investors was about 3:2, the local institutional to individual investment ration was about 1:1. Farmers and artisans played an insignificant role in investing in the GSE. The study recommended that the Ghanaian government needed a campaign to educate the public about the activities of the GSE and to promote investment in general. There was need to give fiscal incentives in the form of taxation in favor of listed companies, and to pursue prudent macroeconomic policies.

In another study by Umlauf (1991) on how taxes affect stock market behaviour in Sweden, the study established that volatility in Swedish stock market did not decline during high-tax regimes. Instead, index levels fell dramatically in response to transaction tax increase. Weekly to daily returns variance ratios declined during high-tax regimes suggesting that taxes induce greater negative autocorrelation in returns. The study also established that investors were withdrawing from investing in stocks and shares and looking for other alternative markets as taxes increased.

Also Inanga and Emenuga (1996) studied the effect of taxation on financial assets on investment in stock markets. It found out that excess taxation of capital gains from the sale of shares encourages investors to retain their shares and takeout their profit in dividends. Several studies on Nigeria's capital market have observed thin stock trading and a "buy-and-hold attitude" of inventors in the market. The tax environment could be a reason for the observed investor aversion to stock disposal.

Kimura and Amoro (1999) examined the impediments to the growth of the Nairobi Stock Exchange. The study established that the major factor that has incubated growth of NSE is lack of awareness and information on the role, functions and operations of the stock exchange. Banks tend to indirectly discourage the stock exchange as a means of raising capital since they play the dual role of being investment advisors as well as lenders for the stock exchange itself. For the stock exchange there was inadequate marketing and insufficient number of products to attract the investing public. The study concluded that if the stock exchange is to be enhanced as a vehicle for mobilizing capital for development, then all players in the field must change their approaches and, the stock exchange must play an increasing role in educating the public.

Theoretical Framework

Financial markets, which include the money and capital markets have the decisive task of mobilization of financial resources to aid economic growth and development. From the introduction, monetarization ratios of industrialized countries are higher than those of their developing countries counterpart. The Friedman's theory of the demand for money stipulates that money demand is a function of income, opportunity cost of holding money, prices level, and tastes and preferences (Delomeand and Ekelund, 1983). It logically follows that high economic performance translates to high monetarization ratios.

This can be presented as follows

$$\dot{m} = \mu \left(\dot{g} \right) \quad (3.1)$$

Where

\dot{g} is the real GDP growth rate

m is the monetarization ratio.

Equation (3.1) represents a functional relationship between real GDP growth rate and monetarization ratios.

This information can also be presented as follows.

$$\dot{m} = \alpha_0 + \alpha_1 \dot{g} + \phi \quad (3.2)$$

The coefficients α_i can be obtained by estimating equation (3.2). ϕ is the stochastic/error term which captures the effects of other variables not included in the model.

According to Granger causality approach, if a variable Z_t can be predicted more efficiently if the information in the X_t process is taken into account in addition to all other information in the universe, then X_t Granger causes Z_t (Lutkepohl, 1993). Monetarization of the economy causes GDP growth, if the first variable is better predicted from past values of the first and the second variables together rather than from the past values of the first variable alone.

Three patterns of causality can be expected between variables: (i) unidirectional, a causality from the second to the first variable: (ii) bi-directional causality, a causality from the second to the first variable and vice versa, (iii) no causality.

To test for Granger causality, extensions of equation (3.2) may be written by including the lags of both the left-hand side and the right -hand side variables as follows:

$$\dot{g}_t = \alpha_{10} + \sum_{i=0}^k \alpha_{1i} (\dot{m})_{t-i} + \sum_{j=1}^k \beta_{1j} (\dot{g})_{t-j} + \phi_t \quad (3.3)$$

$$\dot{m}_t = \alpha_{20} + \sum_{i=1}^k \omega_{2i} (\dot{m})_{t-i} + \sum_{j=1}^k \psi_{2j} (\dot{g})_{t-j} + \theta_t \quad (3.4)$$

By estimating the above models, causality between the two variables can be tested.

□ The existence of a relationship between the two variables is tested through the null hypothesis such that in equation (3.3)

$$H_0: \alpha_{1i} = 0, i=1,2,\dots,k \quad (3.5)$$

$$H_0: \psi_{2j} = 0, j=1,2,\dots,k \quad (3.6)$$

for all i and j , using standard For Wald tests. If atleast one coefficient α_{1i} is statistically different from zero, then monetarization of the economy cause GDP growth; likewise, if at least one coefficient ψ_{2j} is statistically different from zero, then, GDP growth causes monetarization. If both null hypotheses (3.5) and (3.6) are rejected, then, there

is a bi-directional causality and both variables are related to past effects of one another. Before conducting causality tests the two variables must be found to be individually stationary.

Data, Model Estimation and Results

This section presents the data used in the study and model estimation based on the econometric methodology outlined in the previous section. Prior to the model estimation, data was tested for the presence of unit root. This was succeeded by Granger causality tests, where three cases exist as earlier mentioned i.e. unidirectional, bilateral or independence. The

Augmented dickey Fuller test is used to test for stationarity of the time series data of GDP growth rate and monetarization ratios.

Data

To achieve the objectives of the study, annual time series data for the period 1971 to 1999 was obtained from the International Financial statistics (IMF, various issues) yearbooks and the World Bank Africa Database 2001 CDROM. The data collected include narrow and broad money, nominal GDP and the GDP deflator.

Unit root Tests

The unit root tests are performed at different lag lengths because of the low power of the test (i.e. the power of rejecting the null hypothesis when it is false is low). The test reveals that GDP growth rates are stationary while Monetarization ratios are stationary at first difference. The results are presented in Table 4.1

Table 4.1 Stationarity/ Unit Root Test Results

Variable	Specification	Lags	Levels
GDP growth	With intercept and no trend	0	-2.655223
		1	-3.6959*
		3	-1.878486
		5	-1.107282
	With trend and intercept	0	-3.060394
		1	-4.772388**
		3	-3.025303
		5	-4.699600**
Monetarization ratio	With intercept and no trend	0	-0.57486
		1	-0.894599
		3	-0.673170
		5	-0.958332
	With trend and intercept	0	-1.597529
		1	-1.745948
		3	-1.296941
		5	-1.545562

*Significant at 5 percent level of significance. **Significant at 1percent level of significance.

Granger Causality Tests

The major objective of this study is to establish if there is significant causality between economic growth and monetarization of the Kenyan economy. Granger causality test helps to determine the direction of causality between the two series, by assuming that the information relevant to the prediction of the respective variables is contained solely in the time series data on these variables.

Table 4.2 Granger Causality Test Results

Null Hypotheses	Lags	F-statistics
Monratio to GDP growth	2	1.14554
Monratio to GDP growth	3	0.61582
Monratio to GDP growth	4	0.43639
GDP growth to Monratio	2	5.25764**
GDP growth to Monratio	3	2.67920*
GDP growth to Monratio	4	1.49503

***Significant at 1percent level of significance *Significant at 5 percent level of significance*

The Granger causality test results for the 2,3, and 4 lag lengths are presented in table 4.2. The results reveal the existence of a unidirectional causality running from GDP growth to monetarisation of the economy. This is consistent with economic theory on demand for money.

Summary and Conclusions

This study examined the relationship between economic performance and monetarization of the economy in Kenya during the period 1971 to 1999. Evidence from statistical data shows that causality exists from growth of GDP to monetarization of the economy, which was the main objective of this study. The unit root test reveals that growth of GDP is stationary at levels whereas monetarization ratios are stationary at first difference. The results are consistent with economic theory.

Recommendations

The policy implications to be drawn from these findings are very important, especially to developing countries.

- The government should reduce the restrictions on banks, especially the reserve ratio. This will allow banks to create more credit, and with competition lending rates will reduce, hence increased investments.
- The low monetarization ratios of developing countries reveal the need to sensitize households and firm the importance of depositing their cash balances in the financial institutions. This will lead to high monetarization of the economy, hence financial resources will be available for borrowers.
- The financial institutions may invest more on instruments that will increase the velocity of money e.g. ATMs, sms banking, etc. This will aid economic growth by increasing transactions in either goods or services.
- The governments should provide investment incentives for financial institutions to invest more in rural areas to aid in the mobilization of savings. This would assist improving the monetarization ratio.
- Financial markets in developing countries should provide a broader range of assets to households and firms and sensitize them on the benefits of acquiring them.

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