

Financial Sector Development and Economic Growth: Evidence from Sri Lanka

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INTRODUCTION

The idea that there is a linkage between financial sector development and economic growth is not new or uncommon. Though this is a well-researched area in economics, there is no unanimity on the nature of the relationship. Some researchers argue that there is a positive relationship while some argue that it is negative. Although several studies inquire into this relationship in Sri Lanka, no attempt has been taken to view the financial sector in terms of various aspects that represent the two main branches, bank-based and market-based. The objective of this paper is to inquire into the relationship considering the financial sector as a combination of the banking sector and equity markets.

THE PROPOSED MODEL

The proposed model assumes that economic growth is dependent on financial development. In literature, several measures are used to represent economic growth. Among them, there are measures such as the growth of real GDP and the growth of real per capita GDP. This study uses the growth rate of real GDP as it is more appropriate in conducting a study for one country.

Financial development is characterized by two sectors, namely bank-based and market-based. (Levine & Zervos, 1998; Levine, 2002; Guru & Yadav, 2019). In literature, various aspects of bank-based financial sector development are measured using many variables. Guru and Yadav (2019) suggest the size of financial intermediaries.

The increase in the size of financial intermediaries reduce investment appraisal cost, lead to the efficient mobilization of

savings and availability of information on financial markets and instruments, and provides a strong platform to exchange products. Guru and Yadav (2019) argue that financial stability indicates the development of the bank-based financial sector as it facilitates the smooth functioning of financial services. The supply of domestic credit to the private sector represents another aspect of financial development because it indicates the efficient allocation of funds to new projects. Ahmed and Ansari (1998), emphasize the use of interest rates as an indicator of bank-based financial development. Since monetization acts as complementary to physical capital and it results in the reduction of transaction frictions and expansion of the availability of credit, Ahmed and Ansari (1998) suggest that it represents an important aspect of bank-based financial development. Finally, domestic financial deepening contributes to higher investment and faster productivity growth, thus contributing to bank-based financial development.

Three variables are identified to measure market-based financial development. The increase in stock market size improves the ability to mobilize and diversify risk (Levine & Zervos, 1998). The value of shares traded and the turnover ratio are measures of liquidity in the market (Guru and Yadav, 2019). The former measures the liquidity compared to the economy, and the latter measures liquidity compared to market capitalization. More liquid stock markets improve the share of capital to the best use, influence investment, and facilitate technological innovation.

Against this backdrop, the study proposes the following functional relationship:

$$\begin{aligned} & \textit{Economic Growth} \\ & = f(\textit{Size, Stability, Credit, Interest, Monetization,} \\ & \quad \textit{Deepening, Market, Shares, Turnover}) \end{aligned}$$

METHOD

The ratio of quasi money to nominal GDP is selected to be the proxy for the size of financial intermediaries. Financial stability and supply of domestic credit to the private sector are assumed to be represented by the ratio of credit to deposit and the ratio of domestic credit issued to the private sector by commercial banks to nominal GDP, respectively. The average weighted deposit rate (AWDR) is taken as the representative of the interest rates in the economy. Monetization and financial deepening are proxied by the ratio of M1 to nominal GDP and the ratio of financial sector contribution to nominal GDP, respectively. When it comes to the market-based variables, the ratio of market capitalization to nominal GDP is chosen to be the measurement of stock market size. The value of shares traded is computed as a ratio of it to nominal GDP. Turnover itself acts as the statistical measurement of it. The model to be estimated is stated by the following equation:

$$EG_t = \beta_0 + \beta_1 Q_t + \beta_2 CD_t + \beta_3 CR_t + \beta_4 IR_t + \beta_5 M_t + \beta_6 FD_t + \beta_7 MS_t + \beta_8 VT_t + \beta_9 TO_t + u_t$$

where EG is economic growth, Q is the ratio of quasi money to nominal GDP, CD is a credit to deposit ratio, CR is the ratio of domestic credit issued to the private sector to nominal GDP, IR is the AWDR, M is the ratio of M1 to nominal GDP, FD is the ratio of financial sector contribution to nominal GDP, MS is the ratio of market capitalization to nominal GDP, VT is the ratio of the value of shares traded to nominal GDP and TO is stock market turnover.

Estimation of the model is based on quarterly data during the sample period 2002Q1-2020Q4. The Auto-regressive Distributed Lag (ARDL) approach has been employed to identify whether there is a long-run relationship exists between economic growth and financial market variables. Akaike Information Criterion is employed to determine the optimum lag length. Given that the model is free from autocorrelation and dynamically stable, the bounds test has been performed. The computed F statistic is 7.27, and it exceeds the I(1) critical value of 3.9 at a 1 percent significance level, thus implying the existence of a cointegrating

relationship between various aspects of financial development and economic growth.

EMPIRICAL FINDINGS

In estimating the model, two changes had to be made in the list of independent variables. Turnover (TO) had to be dropped as it bears a very high correlation with value traded (VT). Financial contribution (FD) was also removed to obtain the dynamic stability of the model.

Table 1: Long-run coefficients

Variable	Coefficient	<i>t</i> -statistic
<i>Q</i>	7395298	11.1688**
<i>CD</i>	-16256.73	-1.1128
<i>CR</i>	-7246692	-8.7263**
<i>IR</i>	15946307	4.2618**
<i>M</i>	11560575	2.9258**
<i>MS</i>	1346452	7.3919**
<i>VT</i>	-3019520	-1.1762

Note: ** indicates significance at 1% level.

Values of the coefficients in the long-run relationship are reported in Table 1. Quasi money, AWDR, M1 and market capitalization have a significant positive impact on economic growth. All four relevant coefficients are significant at a 1 percent level of significance and bear the expected sign. Although the coefficient of the credit to the private sector is statistically significant at a 1 percent level it indicates a negative relationship with economic growth. Evidence for such a negative relationship is not uncommon in the literature. For instance, some researchers argue that credit to the private sector does not speed up the economic growth in developing economies that have unsustainable growth in private credit. There is also a view that inflation has a significant and negative effect on Credit to GDP at high inflation rates. The credit-

to-deposit ratio and the value of shares traded have an insignificant impact on economic growth in the long run.

Table 2. Short-run coefficients

Variable		Numerical Value	t -stat
Q	ΔQ_t	-519511.8	-3.017**
	ΔQ_{t-1}	-1542366	-4.926**
	ΔQ_{t-2}	-1730487	-5.925**
	ΔQ_{t-3}	-393205.9	-3.008**
CD	ΔCD_t	-1311.021	-0.336
	ΔCD_{t-1}	-3874.111	-1.016
	ΔCD_{t-2}	-9802.231	-2.803**
CR	ΔCR_t	-142384.9	-0.598
	ΔCR_{t-1}	895404.5	2.833**
	ΔCR_{t-2}	1115057	4.091**
IR	ΔIR_t	5747984	4.004**
	ΔIR_{t-1}	3846944	2.789**
	ΔIR_{t-2}	4339925	3.005**
M	ΔM_t	-108707.5	-0.323
	ΔM_{t-1}	-1514266	-3.703**
	ΔM_{t-2}	-863829.6	-2.473*
MS	ΔMS_t	71634.28	1.303
	ΔMS_{t-1}	-176321.5	-3.044**
	ΔMS_{t-2}	-240139.2	-5.130**
	ΔMS_{t-3}	-184031	-4.182**
VT	ΔVT_t	-1303010	-3.492**
	ΔVT_{t-1}	822780.3	2.218*
Error Correction Term		-0.219835	-8.841*

Note: * and ** indicate significance at 5 percent and 1 percent levels, respectively.

Estimation results for the short-run are reported in Table 2. Contemporaneous as well as lag terms of quasi money, AWDR, and value traded have a significant impact on economic growth. The contemporaneous impact of quasi money and value traded is negative. Lag terms of credit to the private sector, M1 and market capitalization have a significant impact on economic growth while their contemporaneous terms do not. Only the second lag term of

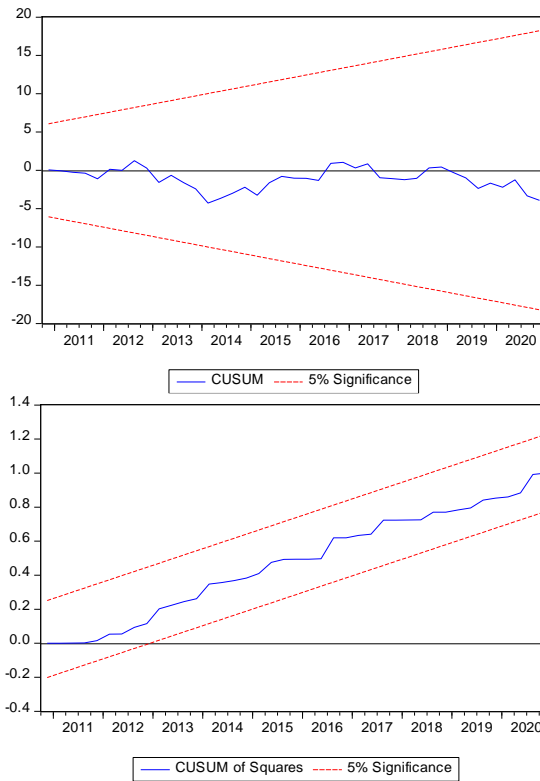
credit to deposit ratio significantly influences economic growth. The error correction term is significant and lies between 0 and -1, thus implying that 21 percent of the error during the previous period is corrected. A summary of the diagnostic tests is reported in Table 3.

Table 3. Summary of the diagnostic tests

Test	Test statistic (Probability)	Decision
Breusch-Pagan-Godfrey	1.13 (0.3289)	No heteroskedasticity
Glejser	1.31 (0.2020)	No heteroskedasticity
LM test (4 lags)	0.63 (0.6408)	No serial correlation
Ljung-Box (4 lags)	2.77 (0.598)	No serial correlation
Ramsey RESET	0.31 (0.7541)	Model is correctly specified

Figures 1 and 2 indicate that the plots of the CUSUM and CUSUM of squares test statistics do not cross 5 percent critical lines throughout the period considered. The implication is that structural breaks are unlikely, and the parameters are more likely to remain fixed during the entire sample period.

Figure 1, Figure 2



CONCLUSIONS

This study focuses on identifying the relationship between economic growth and financial sector development. The empirical results show that both market-based and bank-based financial sector development has an important role to play in determining economic growth in both the short- and long run in Sri Lanka. More specifically, quasi money (size of financial intermediaries), interest rate, domestic credit to the private sector, M1 (Monetization), and market capitalization (size of the stock market) are instrumental in determining economic growth in Sri Lanka in both long-and short-run. However, the credit to deposit ratio (financial stability) and value traded (liquidity in the stock market) influence the economic growth only in the short run. The findings of the study are in line with previous literature. For instance, Ahmed and Ansari (1998), and Guru and Yadav (2019) have reported similar results.

There are several important implications. The size of the banking sector and the stock market is essential in economic growth. However, somewhat surprisingly, the financial stability in the economy has only a lagged effect on economic growth in the short-run while it does not influence economic growth in the long-run. Though the credit to the private sector stimulates economic growth in the short-run with a lagged effect, it does not support economic growth in the long-run. The findings also imply that interest rates promote economic growth in the short- and long-run. Based on the findings of the study, it can be recommended that policymakers focus on the ways and means of expanding both the banking sector and the stock market.

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