Effects of Financial Liberalization on Financial Development: An Empirical Study with Reference to Sri Lanka

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Introduction

The relationship between liberalization and financial development has been well documented in literature. A considerable body of theoretical literature suggests a positive relationship between capital account liberalization and financial development. Klein and Giovani (2000) showed a statistically significant relationship between liberalization and financial development. They also argued that openness of capital account affects financial deepness and economic growth. Empirical results of Chinn and Hiro (2005) suggest that financial openness does contribute to equity market development, but only when a threshold level of general development of legal systems and institutions has been attained. Eichengreen et al. (2009) find reasonably strong evidence that financial openness has positive effects on the growth of some industries, although these growth-enhancing effects evaporate during financial crises. Also there is evidence that the positive effects of capital account liberalization are limited to countries with relatively well-developed financial systems, good accounting standards, strong creditor rights and rule of law. In the case of Sri Lanka, there is a dearth of studies that empirically examines the impact of capital account liberalization on financial development and we will focus on that issue.

Objectives

The objective of this study is to empirically examine the relationship between capital account liberalization and financial development in Sri Lanka.

Methodology

This research use five financial development variables. Thus, five different measures based on the above variables were used as proxies for financial development. First measure is broad money supply (M2/GDP) which is considered the broadest measure of financial intermediation including three types of financial institutions like Central Bank of Sri Lanka (CBSL), deposit money banks, and other financial institutions. Our second measure is the sum of demand deposits, time deposits, savings deposits and foreign currency deposits to GDP which measures the ability of banks to attract financial savings and provide a liquid store of value. Our third measure is claims on the private sector divided by GDP (Loans/ GDP) which measure the extent to which the private sector relies on banks to finance consumption, working capital and investment. Our fourth measure is credit provided by the banking sector to GDP ratio, which measures how much intermediation is performed by the banking system, including credit to the public and private sector. Finally our fifth measure is stock market capitalization divided by GDP which measures the development of equity markets(SMC/GDP).

Annual data were fitted to the econometric model for the period 1978-2009. The data were drawn from a number of sources, primarily the CBSL Annual Reports, the IMF's International Financial Statistics, and the databases associated with Chinn and Hiro (2005). This study used the capital account openness index (KAOPEN) developed by Chinn and Ito. This index is the first principle component of the four IMF binary variables. These binary variables are based upon the Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) of IMF. All the estimations were carried out using E-views software. Since the study deals with time series data, testing stationarity is a very important precondition and in this study, Augmented Dickey Fuller (ADF) unit root test is used to check for the stationary. The study used Johansen cointegration test and Error correction model to examine the long run and short run relationships. The Granger causality test measures the possible causal relationship between variables.

Results

According to the Augmented Dickey Fuller (ADF) unit root test, all the variables are stationary at their first difference, concluding all variables under investigation are integrated in order one (I(1)). This study used pair

wise cointegration test and according to results, capital account liberalization and broad money supply have a long run relationship.

According to trace statisti,c we can reject the null hypothesis confirming the cointegrating relationship in the model. Adjustment coefficient value is -0.7616 (for the brevity of this abstract detailed output is not given here). This indicates that broad money supply comes to the equilibrium with a negative slope with 76 per cent deviation, ever year. Above result was further confirmed by using normalized contegation equation. From both results we find evidence for a long run relationship between capital account liberalization and broad money supply. However capital account liberalization is not integrated with the other four financial development variables discussed above.

Table 1: Cointegration Test Result

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.477562	22.36233	20.26184	0.0253
At most 1	0.091683	2.884850	9.164546	0.6024

* denotes rejection of the hypothesis at the 0.05 level

M_2/GDP $= 0.316731 + 0.019767 \ (KAOPEN)$
$\qquad\qquad (0.00243) \quad (0.00303)$
$\qquad\qquad$ (standard errors are in parenthesis)

When we consider the short run equilibrium, there was no short run relationship for the above model. The only short run relationship found in the study was stock market capitalization. Error correction model related to stock market capitalization indicates it has a short term relationship with capital account liberalization. The estimated equation is given below. [$\hat{\hat{\varepsilon}}$ is the estimated residuals from the cointegration regression of stock market capitalization (SMC/GDP) as a function of capital account liberalization (KOPEN)].

$\Delta(SMC\ /GDP\ )_t = 0.055444\ \hat{\varepsilon}_{t-1} + 0.028121\ \Delta(SMC\ /GDP\ )_{t-1} -$
$0.841020\ \Delta(SMC\ /GDP\ )_{t-2} + 0.078330\ \Delta(KOPEN\ )_{t-1}$
$+ 0.011518\ \Delta(KOPEN\ )_{t-2} + 0.008613$

In order to further test the lagged effects of the variables (history of the variables) we performed the Granger causality test (up to four lags) and the results are given in Table 2. Results of this test indicate capital account liberalization causes broad money supply and total deposits.

Table 2: Granger Causality Test Results

Lag	F-Statistic	P value.	Causality	Lag	F-Statistic	P value	Causality
1	13.8821	0.0009^{***}	KAOPEN→ (M2/GDP)	1	9.724	0.0042***	KOPEN → DEP/GDP
2	6.45901	0.0055^{***}	KAOPEN→ (M2/GDP)	2	4.187	0.0270**	KOPEN → DEP/GDP
3	4.97375	0.0088^{***}	KAOPEN→ (M2/GDP)	3	2.918	0.0568	KOPEN → DEP/GDP
4	4.64357	0.0088^{***}	KAOPEN→ (M2/GDP)	4	3.311	0.0322**	KOPEN → DEP/GDP

[***]1%, [**]5% , Significant level'
DEP/GDP is total deposits as a ratio of GDP

Above results also indicate that capital account liberalization does not cause other financial development variables. Analysis of data indicated in correlation test that capital account liberalization and financial development variables have a weak positive relationship.

Conclusion and Policy Recommendations

The findings of the study revealed that capital account liberalization has an impact on financial development but the relationship is not strong. The most important conclusion is that capital account liberalization has a positive impact on broad money supply in the long run. This implies that the liberalization process increased financial intermediation in Sri Lanka. Also, capital account liberalization positively impacted on total deposits. But this relationship cannot be seen in long run. It implies that liberalization positively affects the ability of banks to attract financial savings and provide a liquid store of value. Error correction model results

imply that stock market capitalization and capital account liberalization have a short term relationship. Sri Lankan Stock market capitalization and capital account liberalization have positive relationship through short term transactions.

These results generate some policy implications. Sri Lankan banking system must take some policy changes to attract capital that comes through the capital account liberalization. There are few limitations to credit and claims on the private sector. Because of these limitations, capital account liberalization does not affect loans and credits. Policymakers must take actions to facilitate the banking sector to attract capital and also to limit the speculation transactions in the stock market. Because of the weak financial system, the relationship with capital account liberalization and financial development is not strong. Overall we conclude that facilitating the financial sector, developing the legal system and institution are essential components for effective capital account liberalization.

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