



## IMPACT OF FINANCIAL LIBERALIZATION ON ECONOMIC GROWTH: A CASE STUDY OF PAKISTAN

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### ABSTRACT

*We have tried to explore the link between financial liberalization index (FLI) and economic growth in Pakistan by using annual data for 1971- 2007. The Phillips Perron unit root test is utilized to verify the level of integration and Auto-Regressive Distributed Lag (ARDL) technique for obtaining long run and short run coefficients. The empirical finding indicates that FLI and economic growth are positively linked in the short run. On the other hand, FLI is statistically insignificant in the long run, while the impact of real interest rate (RIR) on economic growth is negative and significant. This means that one unit increase in the RIR causes GDP to decline by Rs. 1.03 million. Our investigation recommends that SBP and the GOP should pursue financial liberalization policies that are consistent with economic growth.*

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**Keywords:** Financial liberalization, Economic growth.

**JEL Classification:** G<sub>0</sub>, E<sub>20</sub>

### INTRODUCTION

A developed financial structure plays a vital function in the process of economic growth. It is also an undeniable fact that technology plays an essential part in the process of economic growth, but technological absorption needs huge investments that are funded by banks. In the early 1970s developing countries emphasized infrastructural development, assuming that such investments would open the door to industrialization and economic development. So they concentrated on building roads, bridges, communication networks, etc. They believed that good infrastructure would induce the private sector to invest in new projects that would promote economic development. Thus the development of agriculture, industry and services sectors would lead towards targeted economic growth. But the private sector investment could not increase as hoped

because resources were not used efficiently, due to governance problems and the highly controlled financial system by the regulatory authority. When economic development through infrastructural development failed, less developed countries moved from infrastructural development to financial sector development.

McKinnon (1973) brought the problem of financial repression in developing countries into focus. They claimed that financial liberalization policies would increase savings, which would spur investments and economic growth. This is because negative real interest rate causes a decline in the savings level, resulting in low investment levels and growth rates. Therefore, with rising interest rates, financial liberalization would increase both savings and productive investment levels. On the contrary, Structuralists and the neo- Keynesians stated that financial liberalization hurts economic development and increases the rate of inflation. Further financial liberalization causes an increase in interest rates and manufacturing costs, causing prices to rise.

On the basis of financial liberalization paradigm, developing countries took initial financial liberalization measures in the early 1980s, sometimes yielding impressive results. This motivated other countries to liberalize their financial systems. But financial liberalization also increased fragility and vulnerability giving rise to crises. The Asian financial crisis of 1997 appeared in the financial liberalization setting. According to the Structuralists IMF policies were the main cause of the Asian crisis. IMF's emergency loans were made conditional on structural reforms that went far outside the common stabilization procedures; they covered basic changes in labour laws, commercial governance and association among the government and commerce. Griffith-Jones *et al.* (2003) stated that rapid capital account liberalization, particularly in developing economies was the major cause of the 1990s crisis. For example, Mexico and the Republic of Korea liberalized the capital account rapidly giving rise to the financial crisis of the 1990s.

The objective pursued in this study is to explore the link between financial liberalization index and economic growth by applying the autoregressive distributed lag (ARDL) approach to cointegration. In the remaining paper Section 2 contains the review of literature; the summary of financial liberalization policies is explained in Section 3; section 4 contains the methodology. In section 5 we present the empirical results and conclude the paper in section 6.

## REVIEW OF LITERATURE

McKinnon (1973); (Shaw, 1973) described the term financial repression to denote ceilings on interest rate, high reserve requirements and directed credit policies, reducing the level of investment and its productivity in the economy. This observation was supported by a group of economists recognized as the McKinnon-Shaw school. We now review the studies that support the McKinnon and Shaw hypothesis.

Fry (1988) stated that financial liberalization increases the supply and allocation of resources for investment. Financial intermediation was found to have an affirmative shock on economic growth for a sample of 74 countries Levine and Beck (2000). Similarly, Bekaert and Harvey (2001) found financial liberalization contributing 30% to the process of economic growth. La Porta *et al.* (2002) test the ownership constitution of banks in the case of 92 countries and found that higher government possession of banks resulted in lower GDP growth rate (per capita) when the original financial intermediation development had a positive and significant effect. Nair (2004) suggested a significant negative impact of financial liberalization index on the household saving rate. Mattoo *et al.* (2006) found financial services liberalization having an affirmative and momentous effect on economic growth in a sample of 59 countries. Kiyota *et al.* (2007) found the Ethiopian economy benefiting from the opening of foreign banks and the related privatization of local banks.

Galindo *et al.* (2007) using panel data pertaining to 12 developing countries at the firm level reported that financial liberalization resulted in better allocation of investment funds due to improvement in efficiency. Khan and Qayyum (2007) attribute long run growth in Pakistan to trade and financial liberalization. Ang and Mckibbin (2007) reported financial liberalization having a positive effect in enhancing the development of the financial sector in Malaysia. McKinnon (1973) hypothesis predicted that financial liberalization would lead to economic growth through savings, investment and capital accumulation channels. But financial liberalization causes financial crises in many countries as the Mexican financial crises (1994-95), the Asian crises (1997-98), the crises in Brazil, Russia and many Latin American countries (1998-99) reveal.

We now review empirical studies attributing financial liberalization as the cause of the crises. Arestis and Demetriades (1999) examined financial liberalization in developing countries with weak institutions causing financial destabilization. Weller (1999) suggested that before liberalization countries need to focus on stabilizing institutions. According to Demirgüç-Kunt and Enrica (2001) a liberalized financial system would be more amenable to banking crises, as banks and financial institutions enjoy greater freedom to take risks. Arphasil (2001) attributed the source of the East Asian financial crisis in 1997-98 to interest rate and capital account liberalization, since financial liberalization gives rise to credit booms and short terms borrowings from abroad. This causes instability resulting in financial fragility. Wade (2001) warned that capital account liberalization can be hazardous when the banks do not have exposure to international markets and non-banks also borrow abroad. The hazards are even more horrendous when the exchange rate is hanged and the financial sector is supported on bank borrowing instead of equity finance.

Wyplosz (2002) finds financial liberalization destabilizing developing countries economy more than the developed countries because the former tend to go through a boom bust cycle. Singh *et al.* (2003) refuted the observation of the donors that the Asian crisis was the result of imperfect

structures of corporate governance and a poor competitive atmosphere in the countries. He stated that the basic cause of the crisis was the precipitous capital account liberalization. Tornell *et al.* (2004) have shown empirically that the occurrence of financial crises increases as a result of financial liberalization. And according to Mete (2007) financial liberalization has increased the vulnerability of the Turkish economy to currency crises.

### Overview of Financial Liberalization Policies in Pakistan

Pakistan started financial reforms in the latter part of the 1980s on the suggestion of the World Bank (WB) and the International Monetary Fund (IMF). These reforms were supposed to expedite the process of economic growth and strengthen the financial market. The entire financial liberalization process in Pakistan is divided into three phases. The first phase is from 1991-1997. During this phase the 1974 Act of nationalized commercial banks was changed to improve the banking sector performance. First, the Muslim Commercial Bank (MCB) and the Allied Bank Limited (ABL) were partially privatized in 1991. In 1995 interest rate was deregulated and the Credit Deposit Ratio (CDR) was marketized, while the external account was liberalized in 1994. The second phase was from 1998-2001. During this period the partially privatized banks were completely privatized. The entry barriers in the banking industry were also removed to facilitate faster growth of private banks. On July 21, 2000 the exchange rate was fully liberalized. During the third phase, in 2002 the United Bank Limited (UBL) and Investment Corporation of Pakistan (ICP) in 2003 were privatized. In 2005 Prudent Regulations for agri-financing were implemented. This facilitated banks to launch new agri-financing schemes. In 2009 Prudent Regulations were issued with regards to consumer financing and small and medium enterprise financing. In this study we use a financial liberalization index to capture the impact of financial liberalization policies on economic growth, which was earlier constructed for Pakistan by Hye and Wizarat (2010) using Bandiera *et al.* (2000). Eleven financial liberalization policy components were used by Hye and Wizarat to compute the financial liberalization index. These are: interest rate deregulation; credit controls; stock market reforms; removal of entry barriers; Islamization; Prudential Regulations; privatization of financial institutions; non-performing loans; external account liberalization; debt management reforms and open market operations. The financial liberalization index shows that financial liberalization measures were implemented in Pakistan during the period 1990-1997.

### METHODOLOGY

To investigate the impact of financial liberalization Index on economic development in Pakistan we employ a Cobb-Douglas production function, specified below:

$$G = \alpha LF^{\sigma} K^{\gamma} \text{ --- (1)}$$

Where GDP is referred to as G, LF is total labor force, K indicates gross fixed capital formation,  $\sigma$  and  $\gamma$  are the respective partial elasticities,  $\alpha$  is the residual on account of the real interest rate (RI)

and the financial liberalization index (FI), etc. Decomposing the residual we rewrite equation [1] as follows:

$$Ln(G)_t = \Omega_0 + \Omega_1 FI_t + \Omega_2 RI_t + \Omega_3 L(K)_t + \Omega_4 L(LF)_t + \Psi_t \text{ --- (2)}$$

$Ln(G)_t$ ,  $Ln(K)_t$  and  $Ln(LF)_t$  are natural logarithms of gross domestic product, gross fixed capital formation and labor force respectively in equation [2].  $RI_t$  is the real interest rate and  $FI_t$  is the financial liberalization index, while  $\Psi_t$  is the error term. The time series data from 1971 to 2007 has been obtained from the Hand Book of Statistics on Pakistan’s economy, various issues of the Pakistan Economic Survey and the Statistical Bulletin of the State Bank of Pakistan (SBP). And as stated earlier the financial liberalization Index used in this study was developed earlier by Hye and Wizarat (2010). Gross domestic product and gross fixed capital formation are in million rupees, labor force is in million numbers. The real interest rate ( $RI_t$ ) is the nominal deposit rate ( $r_t$ ) minus the inflation rate ( $\pi_t$ ) [ $RI_t = r_t - \pi_t$ ].

For estimation purposes we first employ Phillips Perron (PP) unit root test to verify whether the variables have a unit root i.e. the data are stationary or non stationary. We employ the autoregressive distributed lag (ARDL) procedure of Pesaran and Bahram (1997) and Pesaran *et al.* (2001) to test long run association between financial liberalization index and economic growth. The literature proposed various cointegration testing techniques, the pioneering work of Engle and Granger (1987), Phillips. and Hansen. (1990), Johansen (1991); (Johansen, 1995), Gregory and Hansen (1996) tests with unknown timing break, ECM test(Banerjee *et al.*, 1998) and so on. The autoregressive distributed lag (ARDL) model has several advantages in comparison with other cointegration techniques. *First*, ARDL model avoids endogeneity problems. *Second*, it estimates the long run and short run parameters simultaneously. Third, pre-testing for unit roots is not required because the methodology is appropriate whether the primary variables are I (0), I (1) or mutually integrated. Fourth, all the variables are assumed to be endogenous. The existence of a long run relationship is investigated by estimating the following unrestricted error correction model.

$$\begin{aligned} \Delta Ln(G)_t = & \omega_0 + \omega_1 \sum_{i=1}^n \Delta Ln(G)_{t-i} + \omega_2 \sum_{i=0}^n \Delta FI_{t-i} + \beta_3 \sum_{i=0}^n \Delta RI_{t-i} \\ & + \omega_4 \sum_{i=0}^n \Delta Ln(K)_{t-i} + \omega_5 \sum_{i=0}^n \Delta Ln(LF)_{t-i} + \chi_1 LnG_{t-1} + \chi_2 LI_{t-1} + \chi_3 RI_{t-1} \\ & + \chi_4 Ln(K)_{t-1} + \chi_5 Ln(L)_{t-1} + \psi_t \text{ --- (3)} \end{aligned}$$

In equation 3 the terms with summation signs show the error correction dynamics, while the second part (containing  $\chi$  s) correspond to the long run relationship. The existence of a long run relationship is tested by the use of F-tests. The null hypothesis defined by

$\langle H_0 : \chi_1 = \chi_2 = \chi_3 = \chi_4 = \chi_5 = 0 \rangle$ , is tested against the alternative hypothesis  $\langle H_0 : \chi_1 = \chi_2 = \chi_3 = \chi_4 = \chi_5 \neq 0 \rangle$ . The asymptotic distribution of the F-statistic is

nonstandard, regardless of whether the variables are  $I(0)$  or  $I(1)$ <sup>1</sup>. When a long run relationship exists, the F-test indicates that the variable should be normalized and long run and short run coefficients estimated.

## EMPIRICAL RESULTS

The financial system plays a key role in the development of economic growth. Its crucial assignment is to shift limited funds from savers to borrowers for spending and investment. The financial system routes funds from lenders to borrowers, and while both technology and financial innovations are directly associated with economic growth. Since these involve huge investments they are financed by banks and non banking financial institutions. Pakistan has adopted financial liberalization policies proposed by McKinnon and Shaw, in order to develop the financial sector. But as stated earlier, many studies have found that financial openness can enhance a country's vulnerability to crisis<sup>2</sup>[Demirgüçs-Kunt and Enrica (2001), Kaminsk and Sergio (2003) and Rajan and Luigi (1998)]. We now empirically evaluate the impact of financial liberalization on economic growth, empirical results for which are reported below.

**Unit Root Test<sup>3</sup> Results:** The PP unit test results shown in *Table-1* reveal that all the variables [L (G), L (LF), L(K), RI and FI] are non-stationary and have a unit root in their level form<sup>4</sup>. However the PP test results with reverence to all the variables in the first difference form are stationary<sup>5</sup> at the 1 percent level of significance.

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<sup>1</sup> If the calculated overall *F*-statistic lies above the upper bound [ $I(1)$ ], then the null hypothesis is rejected at the 1%, 5% or 10% level, showing co-integration between the variables. If, on the other hand, it lies below the lower bound [ $I(0)$ ] there is no cointegration. But if the test statistic falls within the lower and upper bounds the evidence is inconclusive. Critical value of the lower and upper bound derived from Turner, P., 2006. Response surfaces for an f-test for cointegration. *Applied Economics Letters*, 13(8): 479-482. response surface, according to the sample size. In this case, the time series properties must be known before any conclusion can be drawn Pesaran, M.H., Y. Shin and R.J. Smith, 2001. Bound testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3): 289-326..

<sup>2</sup> If financial liberalization is not managed properly, it can lead to distressing financial crises.

<sup>3</sup> A series is said to be (weakly or covariance) stationary if the mean and auto covariance of the series do not depend on time. Any series that is not non stationary is said to be stationary. A common example of a non-stationary series is the random walk. For the random walk, if there is one unit root then the series is  $I(1)$ . While a stationary series is  $I(0)$ . Standard inference producers do not apply to regressions, which contain integrated regressors. It is, therefore important to check for stationarity, which is done by applying the unit root test.

<sup>4</sup> The mean and auto covariance of all the variables depend on time.

<sup>5</sup> The mean and auto covariance of all the variables do not depend on time.

**Table-1.** Unit Root Test Results

Regressors	PP Unit Root Test	
	Level	1 <sup>st</sup> Difference
L(G)	-2.42	-6.12*
L(LF)	-1.28	-5.84*
L(K)	-1.74	-4.25*
RI	-3.14	-5.08*
FI	0.64	-2.37*

Note: \*: 1% Level of significant

In order to apply the ARDL method, we obtained optimal lags of first difference variables by using Schwarz Bayesian Information Criterion (SBC). The calculated F-statistic is 6.84, which is higher than the upper bound critical value at 5% level of significance<sup>6</sup>. This confirms the existence of a long run association between the variables.

**Table-2.** Long Run Coefficients

Regressors	Dependent variable $L(G)_t$	
	Coefficients	t-Ratio[P-value]
$L(LF)_t$	7.19	3.11[0.01]
$L(K)_t$	1.46	14.55[0.00]
$(RI)_t$	-0.03	-2.46[0.02]
$(FI)_t$	-0.09	-0.88[0.38]
Constant	-28.38	-3.78[0.00]
R-Squared	0.97	
R-Bar-Squared	0.97	
F-stat[P-value]	130.36[0.00]	
DW-statistic	2.31	

Table-2 illustrates the long run coefficients where the optimum ARDL economic growth model is selected on the basis of Schwarz Bayesian Criteria (SBC). According to empirical results, capital and labor have a positive and statistically significant impact on economic growth. But RI has a negative and statistically significant impact on economic growth, while FI has a negative and insignificant impact on economic growth in the long run. The former result implies that one unit increase in the RI causes GDP to decline by Rs. 1.03 million<sup>7</sup>. Our results therefore reject McKinnon and Shaw hypothesis in the long run.

<sup>6</sup> Critical values derive from Turner, P., 2006. Response surfaces for an f-test for cointegration. Applied Economics Letters, 13(8): 479-482. response surface. The 5% lower and upper bound critical values are 3.57 and 4.92 respectively.

<sup>7</sup> The real interest rate in the level form and the GDP are in the natural logarithm form. The antilog of RIR coefficient which is 0.03 is 1.03.

Table-3 demonstrates the short run results. They reveal that K, FI and RI are the key determinants boosting economic growth in the short run.

**Table-3.** Short Run Coefficients of Economic Growth Model

Regressors	Dependent variable: $\Delta L(G)_t$	
	Coefficients	t-Ratio[P-value]
$\Delta L(LF)_t$	-1.67	-0.63[0.53]
$\Delta L(K)_t$	2.34	3.36[0.002]
$\Delta(RI)_t$	0.014	1.77[0.09]
$\Delta(FI)_t$	0.18	1.75[0.09]
<i>ECM</i> (-1)	<b>-0.36</b>	-3.19[0.00]
Constant	-19.16	-2.56[0.01]
R-Squared	0.59	
R-Bar-Squared	0.44	
F-stat	6.08[0.00]	
DW-statistic	2.31	

The coefficient of error correction terms is (**-0.36**) i.e. it is negative and statistically significant, indicating that 36 percent discrepancy in the short span is adjusted in the long run every year. Labour is not significantly connected to growth in the short run because Pakistan is a labor abundant country. So in the short run economic growth cannot enhance with increase in LF. The validity of the long run and short run results are confirmed by both the diagnostic test results and cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ)( see Appendix).

## POLICY RECOMMENDATION AND CONCLUSION

In this paper, financial liberalization hypothesis is tested by applying the semi-log function for Pakistan's economy for the years 1971-2007. Our results indicate that the FI is negative and insignificant, while the RI is negative and significant in the long run. Our results reject the neo-liberal world view in the long run in case of Pakistan. While labor and capital are positively associated with economic growth. The FI and RI show a robustly positive (statistically significant) affiliation with economic growth in the short run.

On the basis of empirical results the following policy implications are derived: financial liberalization is affecting growth adversely through making the economy more vulnerable to shocks [Griffith-Jones *et al.* (2003) and Singh *et al.* (2003)]. The present practice of using greater financial liberalization as a performance indicator by the IMF, State Bank of Pakistan (SBP) and

the Government of Pakistan (GOP) is flawed. The SBP and the GOP should pursue financial liberalization which is consistent with growth and stability. For it is not financial liberalization per se that is desirable, but financial liberalization that promotes growth and well being of the country without making it vulnerable.

The world financial crisis has also brought to the fore the importance of regulation of banks and financial companies. And as Joseph Stiglitz has already warned us that market volatility is expected to become more intense. The SBP needs to strengthen its risk monitoring capability and regulate commercial banks and financial companies in the light of this strategy. The strategy needs to identify aspects of financial liberalization that are hurting the economy and reverse such liberalization by adopting a more pragmatic approach.

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## Appendix

### Diagnostic Test results

Test Statistics	LM Version	F Version
A: Serial Correlation	-	0.05[0.82]
B: Functional Form	-	2.94[.11]
C: Normality	0.36[0.84]	-
D: Heteroscedasticity	-	1.43[0.24]

Figure-1.

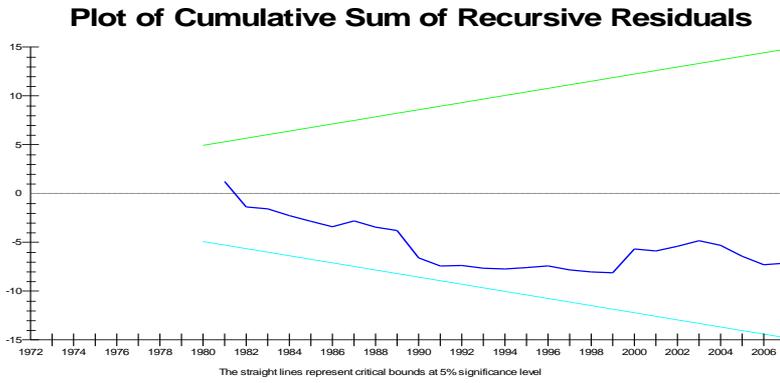


Figure-2.

