

Does Financial Liberalization Contribute in the Stability of Money Demand: Empirical Evidence from Pakistan

Niaz Hussain Ghumro¹, Mohd Zaini Abd Karim²

Ph.D Candidate, Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Working as Assistant Professor at Sukkur IBA Pakistan

Professor, Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia

*Corresponding Author

Niaz Hussain Ghumro

Email: niaz_ghumro@iba-suk.edu.pk

Abstract: Since the nineties, Pakistan like other developing economies has excessively been using various regulations, restrictions, and financial liberalization to transform the financial sector. The financial sector being less state-directed has remained open to foreign banks and non-banks financial institutions, enhancing competition in the market. This paper provides an analysis of broad money demand function and the role of financial liberalization in Pakistan. The ARDL Bounds Approach has been employed with annual time series data from the period 1972-2014. The results provide evidence that financial liberalization has positive effects on broad money demand in both the long-run and short-run. Further, the findings reveal that error correction converges with a slower speed of 23.4% to equilibrium. Furthermore, financial liberalization contributes to the instability of the model for broad money demand. The paper recommends that broad money supply should not be used as policy tool and the policies of the financial liberalization should be used properly to stabilize the money demand function hence, enhancing economic growth in the Pakistan.

Keywords: financial liberalization, Pakistan, economies, regulations

INTRODUCTION

Monetary authorities in all the economies have focus on the role of money demand function as a monetary tool to gauge the performance of the economy. Almost all policy makers have examined relationship between monetary aggregates and set of important macroeconomic variables that determines economic performance in the economy. The economy like Pakistan has been transiting from financial instruments to financial liberalization throughout the financial markets, improving its monetary system's efficiency. The effective monetary policy can be translated as the stability of money demand function in the development of an economy.

In developing economies like Pakistan, demand for the narrow and broad monetary aggregates has remained temporally unstable due to financial reforms particularly in the financial sector. Generally, financial reforms increase competition introducing additional monetary substitutes such as credit cards and electronic transfers, increasing time deposits' liquidity, and raising capital mobility which may contribute to instability in the money demand. Consequently, central banks of the most of the developed countries have discarded money supply as a policy instrument because it becomes difficult to forecast money demand in the presence of a

temporally unstable function. Since the late seventies, bank rate has become more attractive as a policy instrument than money supply stabilizing the unstable economy in the central banks of developed economies. Since the early 1990s, Pakistan has introduced several financial reforms in its financial sector. The chunk of main policies consists of interest rates liberalization, reducing control on credit, enhancing efficiency and competition in the financial sector, strengthening supervisory framework, and promoting deepening and growth of financial markets. However, whether financial liberalization may contribute to the instability of money demand in Pakistan is not satisfactorily resolved. Thus, it is essential to analyze the impact of financial liberalization on money demand in Pakistan. The remainder of the paper is organized as follows. Section two presents the review of related literature. Section three discusses the methodology and data. Section four presents and discusses the empirical results and section six concludes the paper.

LITERATURE REVIEW

Conceptually the main objective of financial liberalization is to improve resource allocation and management in an economy. Liberally performing financial sector contributes to the economic development in an economy. The real economy is

closely inter-linked with financial sector in terms of monetary and fiscal policies. Financial liberalization results positive effects influencing, among other thing, trade and growth in the real economy. However, financial liberalization may have some worsening consequences in terms of instability. For instance, with an easy entry to financial institutions can increase the number of financial institutions including banks. They may hoard nonperforming loans, unbalanced portfolios of assets and liabilities, and many collapses as seen in Philippines in 1996 [1].

Financial innovation plays critical role in money demand. Theoretically it has been well focused in the body of economic literature. Money demand can be more interest elastic by creating additional money substitutes [2]. Lieberman [3] argues that increasing use of credit, properly synchronizing expenditures and receipts, reducing mail float, rising use of monetary substitutes, and effective payment mechanism are responsible to decrease transition money demand in the economy.

The financial reforms can interpret the trend behavior of money velocity at different stages of the development in an economy. Bordo and Jonung [4] find that technical progress has two influences on the trend behavior of money in financial sector dominating at its specific stage of the development. During the first stage, rise in the monetization characterizes the economy and demand deposits and cash are rapidly used for transactions avoiding earlier dependence on the barter trade. Consequently, transaction demand for balances increases more than income and the negative trend characterizes the velocity. During the second stage, financial liberalization introduces a wide range of highly liquid and tradable securities substituting money as a store of value. The money balances are economized with growing funds transfer and financial innovations in the economy. Consequently, money balances grow slowly in relation to volume of transactions and positive trend characterizes the velocity over the time. Hence the trend behavior of velocity takes the form of U-shaped pattern. Money demand function cannot be modeled easily with such patterns.

The body of empirical literature has been evaluated on the impact of financial liberalization in various forms on money demand. Studies are collected on money demand whether it is affected by financial reforms. First, if it is affected, it is expected to use M_2 providing evidence some economies of scale with negative effects on money demand. Furthermore, real deposit rate responses rapidly money demand being purely market based. Second, if financial reforms have continuously created near money assets. This may

contribute instability in money demand. This lacks the well-defined and long-run relationship between the determinants and money i.e. cointegration tests might fail to support the cointegration.

Empirically, financial liberalization may influence money behavior with different channels of the financial reforms in the body of literature. Proliferation of financial institutions has created competition among institutions including banks, enhanced intermediation; spur advances, introduced technology (ATM, electronic transfer, bank cards), assured availability of financial instruments substitute to money. They may contribute to lower money demand as these developments facilitate the converting money substitutes into money. However, money demand may spur over time because of rise in monetization of financial deepening and economy in the developing countries [5]. The studies conducted by Dekle and Pradhan [6] and James [7] argued that money demand can be changed in either direction by financial innovations. Furthermore money can be transformed into various categories. With interest rates liberalization on time deposits, households may change their assets from demand deposits and currency to time deposits raising (lowering) velocity of narrow money (broad money) [7]. Arrau, et al. [8] urged to incorporate financial innovation as a policy variable estimating money demand. Siklos [9] for the five countries US, UK, Canada, Norway, and the Sweden and Melnick [5] for the Israel analyzed money demand function and reported establishing notion of cointegration by introducing financial innovation as an independent variable. Arrau, et al. [8] estimated money demand function for ten developing countries including Argentina, Brazil, Chile, India, Israel, Korea, Malaysia, Mexico, Morocco, and Nigeria using different proxies for the financial innovation. By employing simple household model, they concluded the vital role of financial innovation in estimating money demand and argued that inflation rate increases its role and fluctuations.

Sekine [10] estimated money demand and analyzing role of wealth in Japan. The results of the study show that money demand becomes more stable with financial liberalization and wealth effect. Dekle and Pradhan [6] estimated money demand functions for the four ASEAN countries including Singapore, Indonesia, Malaysia, and Thailand inducing real income, interest rate, and financial liberalization as explanatory variables. By employing Johansen's Full-Information Maximum Likelihood procedure, it is revealed that all variables move together in the same direction in the long-run and concluded that financial liberalization makes the money demand stable. It is a fact that deregulations of interest rates, competition in banking sector, liberalization of restrictions on capital

flows cross the borders in these countries has remained higher than the other developing countries.

Pradhan and Subramanian [11] estimated money demand function for India in the presence of structural break. By employing three steps, procedure for stability of money demand was tested with financial reforms. The results of the study confirmed that financial reforms contribute to the stability of money demand in India.

James [7] estimated money demand for Indonesia analyzing the effects of financial liberalization (particularly, financial innovation and institutional regulations). By employing ARDL bounds testing approach by Pesaran *et al.*[13], it was found that financial liberalization affects to the stability of money demand.

Akhtaruzzaman [12] analyzed the money demand for Bangladesh by looking at the effects of globalization and financial liberalization. By employing Johansen Jusilus cointegration analysis with ECM, it was found that stability of money demand is affected by only financial liberalization but not by globalization. Furthermore, it was established that currency substitution should be focused of policy due to its effective role in the monetary sector.

Zouhar and Kacemi [14] investigated money demand function for the Morocco by analyzing impact of financial liberalization on the stability of money demand. By employing the Johansen Maximum-Likelihood procedure, the results revealed the existence of the long-run money demand function. The stability test concluded absence of structural break in money demand function.

Rao and Kumar [15] analyzed money demand function for the 14 Asian countries employing three alternative panel data methods of Pedroni, Mark and Sui and Breitung. They showed the dominance of M_1 but other monetary aggregates cannot be ruled out among the countries under sample supporting the stability of money demand with financial reforms.

Haghighat [16] investigated money demand function for Iran by including income, inflation, exchange rate, and financial reforms as exogenous variables in the model. By using Johansen Julius cointegration with ECM technique, it concluded about the stability of money demand and also stressed for inclusion of financial reforms in the model to strengthening the power of prediction.

The number of studies regarding impact of financial liberalization on money demand in Pakistan is

no satisfactory. Since the number of the studies do not add value to the literature. Studies among others are Khan [18] estimated money demand including income, inflation, real interest rate, short term and medium term maturities' nominal interest rates, exchange rate and financial liberalization as exogenous variable from the period 1971Q3 to 1993Q3 in Pakistan. By employing Engle-Granger two step procedure for establishing cointegration, results shows stability with all the variables except financial liberalization.

Hye *et al.* [17] investigated money demand for Pakistan incorporating economic activity, inflation, financial innovation, interest rate, exchange rate, and stock prices as explanatory variables. By using Johansen Julius cointegration and Fully Modified Ordinary Least Squares (FMOLS) methods, It is revealed that estimated coefficient of financial innovation is positive statistically significant in both long-run and short-run.

Khan and Hye [18] estimated money demand for Pakistan including GDP, real deposit rate, exchange rate, and financial liberalization as explanatory variables in the model. By employing JJ cointegration and ARDL models, results confirm the significant role of financial liberalization in both short-run and long-run. Based on the evidence from the reviewed studies, financial liberalization as an independent variable is included to analyze its impact on money demand in Pakistan.

There are many motivations for the court of enquiry. Arguably, money demand is simply household's wish to hold money. In the past literature, money demand has been investigated in various dimensions but particularly the focus remained on its determinants and the stability. Validation of monetary policy relies upon the existing firm relationship among the money demand and its determinants along stability. Different economists have identified different determinants that exert effects on the money demand. The familiar determinants are output, inflation, interest rates, exchange rates that can show their significant impact on money demand. This study extends the canvass for money demand function by incorporating exchange rate and financial liberalization as the additional exogenous variables

METHODOLOGY AND DATA

Following Khan [19] and Rao and Kumar [15], the model for money demand takes the following form:

$$\ln M_t = c_0 + c_1 \ln Y_t + c_2 I_t + c_3 \pi_t + c_4 \ln RER_t + c_5 FL_t \varepsilon_t \dots \dots \dots (1)$$

Where, this model explains the money demand for Pakistan. In this model, the dependent variable is the broad money supply (M), the gross domestic Product (Y), the discount rate (I), the inflation rate (π), the exchange rate (RER), and financial liberalization (FL) are independent variables in the above model. The expected signs of the coefficients of independent variables in equation (1) are as follows.

$$c_1 > 0, c_2 < 0, c_3 < 0,$$

and while c_4 and c_5 may be positive and negative.

Generally money demand function is specified as a function of real balances, imposing price homogeneity in the model. There are severe econometric caveats using nominal money balances rather than real money balances as a response variable [20]. In this model, (M2) is the broad nominal monetary aggregate which is sum of narrow money (M1) and the quasi money. It is deflated by GDP deflator for year the 2006 to obtain broad real money (LNM2). broad money demand, real income, and exchange rate in these models are expressed in terms of natural logarithm.

(LNY) is real income and is measured as real gross domestic product expressed in million rupees at constant price for year the 2006. Since the effects of increase in the real income on the domestic money demand can be signed by doing comparative statics on equation (1). Particularly, $c_1 > 0$ means increase in the real incomes raises the number of transaction in the economy that leads to increase quantity of money demand theoretically. Therefore, it is expected to be positive relation with money demand.

The opportunity cost of holding money stock is termed as interest rate. The proxy of domestic interest rate is taken as bank discount rate (I). Majority of the rates depends upon it because it is issued for other banks by State Bank of Pakistan. Since the increase in the discount rate can be signed by making comparative statics on equation (1). Specifically, $c_2 < 0$ means increase in discount rate raises the opportunity cost of holding domestic money and then lowers the amount of holding money [7]. Thus the expected sign of discount rate is negative with money demand. Inflation rate is a persistently substantial change (continuous rise) in price level in the overall economy. GDP deflator is used as proxy to find inflation rate and defined as follows:

$$\frac{GDP \text{ Deflator}(t) - GDP \text{ Deflator}(t-1)}{GDP \text{ Deflator}(t-1)}$$

Where GDP-Deflator (t) is the current year's GDP-deflator and GDP-Deflator (t-1) is the previous year's GDP-Deflator. It is used in the model as (π). The

effects of increase in general price level can be signed by comparative statics on equation (1). Particularly, $c_3 < 0$, means increase in the price level raises the opportunity cost of holding money and then lower the amount of domestic money. Since it has theoretically negative relationship with money demand so its sign is expected as negative.

Real Exchange Rate (LNRER) The exchange rate defined as number of units of Pak rupees per U.S. dollar. This reveals that depreciation of domestic currency reflects an increase. The nominal exchange rate is converted into real exchange rate by $RER = \frac{EX * P^*}{P^d}$. Where EX is the nominal exchange rate of Pakistan versus US dollars. P^* is the price level in US and P^d is the domestic price level in Pakistan. However, the sign of real exchange rate cannot be determined on the domestic money demand. It is positive or negative. The negative sign is an indication of increase in exchange rate reduces the domestic money demand, supporting the hypothesis of currency substitution while, positive sign means increase in real exchange rate increases the domestic money demand further, supporting to Wealth effect hypothesis.

The variable under study, FL is a dummy variable to capture the effect of financial liberalization in the model. It is measured in terms of 0 (zero) and 1 (one). FL equals to one for the year 1990 and after and zero for the year before 1990 [21]. Its sign is also dubious so it may be positive or negative.

The ARDL Bound Testing Approach

To achieve the objectives, the autoregressive distributed lag (ARDL) Bound Testing approach has been used which is a modern cointegration technique for examining long-run and short-run relationships between dependent and independent variables under the analysis. This approach is appropriate for small sample size and statistically significant for examining cointegrating relationships in the samples, whereas Johansen cointegration approach needs large sample size for valid findings [22]. All cointegration approaches follow all independent variables to be of the same integration order but ARDL does not demand so. It cancels all pretesting for standard cointegration tests [13]. Moreover, the ARDL is possible for same number of optimal lags, while it is impossible for other traditional techniques.

In this paper, it is pondered the nascent empirical procedures for examining effect of exchange rate on money demand. It is assumed that money demand is being examined by explanatory determinants such as the gross domestic product (Y), the interest rate (i) which is discount rate of the central bank in Pakistan, the inflation rate (π), and the real exchange rate (RER).

All variables under study are described in the form of natural logarithmic notation (Ln). The ARDL model described by [13] takes the form as:

$$\Delta LnM_t = \alpha_0 + \sum_{i=1}^{q_1} a_i \Delta LnM_{t-1} + \sum_{i=1}^{q_2} b_i \Delta LnY_{t-1} + \sum_{i=1}^{q_3} d_i \Delta Ln\pi_{t-1} + \sum_{i=1}^{q_4} e_i \Delta LnRER_{t-1} + \rho_0 LnM_{t-1} + \rho_1 LnY_{t-1} + \rho_2 \pi_{t-1} + \rho_3 RER_{t-1} + g_1 FL_t + \mu_{1t} \dots \dots \dots (2)$$

The parameter ρ_j , where $j=1, 2, 3, 4$ portrays long run effects for corresponding variables normalized by ρ_0 , meanwhile the $a_i, b_i, d_i, e_i,$ and f_i the indicators of money demand in Pakistan depict short-run effects for ARDL model. In ARDL model null hypothesis is stated as (i.e. $H_0: \rho_1 = \rho_2 = \rho_3 = \rho_4 = 0$), describing no co-integration) is examined by calculating an F-statistic for all variables expressed in terms of log. Afterwards, one has to compare calculated F-value with the tabulated value prepared by [13]. If calculated F value falls in the right of upper bound the no cointegration null hypothesis is rejected, whereas, if it falls below the lower bound it is not rejected. Finally, the result makes indecisive if it is between the bounds.

Equation (2) has been estimated without the ECM term in start, whereas later it is inculcated in ARDL model as in equation (3)

$$\Delta LnM_t = \alpha_0 + \sum_{i=1}^{q_1} a_i \Delta LnM_{t-1} + \sum_{i=1}^{q_2} b_i \Delta LnY_{t-1} + \sum_{i=1}^{q_3} d_i \Delta Ln\pi_{t-1} + \sum_{i=1}^{q_4} e_i \Delta LnRER_{t-1} + g_2 \Delta FL_t + \gamma(ECM)_{t-1} + \mu_{1t} \dots \dots \dots (3)$$

Table 1: Stationary Results of Augmented Dickey Fuller (ADF) Test Statistics for Data (1 972-2014)

	Level		First Difference	
	C	C+T	C	C+T
LN2M	-0.35	-2.25	-5.05***	-4.99***
LN2Y	-0.37	-1.17	-6.56***	-6.81***
I	-3.475***	-3.616*	-4.333***	-4.199***
π	-3.291***	-3.415*	-7.775***	-7.679***
LnRER	-1.05	-0.45	-4.81***	-4.79***

Note: 1. *, **, and *** show the results significance at the level of 10%, 5%, and 1% respectively.

Since there is a mixture of results of stationary for all the variables in this paper. There is no any variable stationary at second difference. This glimpse of stationary results in Table 1 is appropriate and allow us to employ the Autoregressive distributed lagged (ARDL) bounds testing approach. The maximum three lags on each first-differenced variable are imposed due to small number of observations. Knowing the advantage of Hannan-Quinn Criteria (HQC) over others, optimum lags have been selected and results are reported in the Table 2 for the optimum model for real broad monetary aggregates (LN2M) in Pakistan.

Data

The data set ranges from 1972 to 2014 (43) taken from the various reports of State Bank of Pakistan, Pakistan Statistical Bureau, Pakistan Economic Survey, IFS and WDI CD ROM, 2014 pertaining to IMF and World Bank respectively. All data are expressed in domestic, international (\$US) currency and unit less. The broad money, real income, and exchange rate are expressed in terms of logarithms (Ln) only, but others are the same due to percentage. The dependent variable includes broad money demand only and independent variables enlist the real income, interest rate (discount rate), inflation, real exchange rate, and financial liberalization.

EMPIRICAL RESULTS

There is no need to check the stationary about the variables in this paper but just is checked for stationarity due to time series by confirming non availability of I(2) as an integration order. So, Augmented Dickey Fuller (ADF) test is applied to examine the stationarity at level and first difference for all the data series in this paper. Results reported in Table 1 show that discount rate (I), inflation rate(π) is stationary at level. While, real broad money demands (LN2M), real income (LN2Y), and real exchange rate (LN2RER) are stationary at first difference. While the financial liberalization is a dummy variable so, there is no need to check its stationarity because of only two values zero and one.

The framework of cointegration in the bounds test compares the F-statistics against the critical values in the tables of [13, 23] for the specific sample sizes. The bound test for the real broad monetary aggregates (M_2) in in the Panel-A of the Table 3. Using the asymptotic critical value computed by [13, 23], it is found that both test statistics are significant at 1% level for M_2 . The results lead to reject the null hypothesis of no cointegration irrespective of order of integration. Since the computed values of F for M_2 is 3.975 which is greater that upper bounds of 10% level of

significance. So, it provides evidence about the presence of valid long-run relationship between the both monetary aggregates and set of independent variables in Pakistan.

After establishing long-run relationship between dependent and independent variables in ARDL model, long-run and short-run elasticities are computed

and results are reported in Panel-A and B of the Table 2. Lag selection criterion is an important issue in ARDL model. The best performing ARDL model depends upon the significance of VECM parameters. The Hannan-Quinn Criteria (HQC) are relatively more preferred for model specification because it tends to define parsimonious specification clearly: the current study prefers it due to small sample size [13].

Table 2A: ARDL(2, 1, 3, 0, 0) Model for Broad Money Demand in Pakistan, Panel-A: Short-Run Effects

	Lag Order			
	0	1	2	3
$\Delta \ln M2$		0.233		
		(1.774)*		
$\Delta \ln Y$	0.118			
	(1.739)*			
ΔI	-0.009	-0.007	0.025	
	(-1.106)	(-0.723)	(3.272)***	
$\Delta \pi$	-0.00866			
	(-2.70531)**			
$\Delta \ln RER$	0.138			
	(1.226)			
ΔFL	0.098			
	(2.532)**			

Note: 1. *, **, and *** show the results significance at the level of 10%, 5%, and 1% respectively.

Table 2B: ARDL (2, 1, 3, 0, 0) Model for Broad Money Demand in Pakistan, Panel-B: Long-Run Effects

C	$\ln Y$	I	π	$\ln RER$	FL	ECM(-1)
34.185	0.493	-0.054	-0.037	0.588	0.420	-0.234
(9.467)***	(4.458)***	(-1.709)*	(-1.691)	(1.835*)	(1.805)*	(-2.77)***

Note: 1. *, **, and *** show the results significance at the level of 10%, 5%, and 1% respectively.

As the results reported for estimated coefficient of financial liberalization (FL) in panel A and B of the Table 2 reveal that it is positive and statistical significant at level of significance of 5 % and ten percent in the short-run and long-run respectively. It semi-elasticity suggests that one unit increase in the financial liberalization raises money demand by 1.226 percent and 0.420 percent in the short-run and long-run respectively.

Further, it depicts the elasticity of coefficient of exchange rate (LNRER) is positively related to M2 and remains statistically significant at 10% level of significance in the long-run while insignificant in the short-run. Further, it supports the wealth effect hypothesis in the Pakistan, holding foreign currency more than the domestic currency due to future expectation for the further depreciation in the domestic currency in the long-run.

Panel-A and B of the Table 2 reveal the results that the long-run coefficients for Equation (2) follow a

similar pattern. The results show that for M2, income ($\ln Y_t$) variable is positively related and statistically significant at 1% and 10% the long-run and short-run respectively. However, we found that income elasticity of money demand are positively related and significant in the long-run at the level of significance 1% (due to one percent rise in real income real broad money supply should be increased only by 50 basis points) and at 10% in the short-run (due to one percent rise in real income real broad money supply should be increased only by 12 basis points).

In addition, both of the interest rate (I) and inflation rate (π) hold expected signs according to economic theory. Inflation is significant in the short-run at 1% while it is insignificant in the long-run. Discount rate is significant in the long-run while, it is insignificant in the short-run. Panel A and B of Table 2 show that interest rate and inflation have mix effects in the short-run and long-run with real money demand.

The long-run effects would be only meaningful if cointegration or joint significance of lagged variables is established in equation (02). Since the ECM term shows the speed of adjustment in restoring equilibrium in the dynamic ARDL model. Error correction term for M2 is described in Panel-B of the Table 2. The ECM coefficient shows how quickly variables return to equilibrium and it should be statistically significant coefficient with a negative sign. As above discussed, the coefficient of ECM (-1) for M2 is -0.234 and statistically significant at the level of 1% which describes that every year equilibrium is corrected by the speed of 23% for M2 through the set of independent variables such as income, interest rate, inflation rate,

exchange rate, and financial liberalization which is slower speed toward equilibrium.

To ascertain the goodness of the ARDL model, the diagnostic tests and the stability test have been conducted. The Panel-A of the Table 3 depicts that all tests such as Ramsey RESET stability test, JarqueBera Test for normality, ARCH Test, and the Breusch-Godfrey Serial Correlation LM test are passed by the model that reveal no indication of autocorrelation. As for stability of parameters is concerned, Figure 1 shows that model does not cross the band lines in the CUSUM but crosses the band lines in CUSUMQ tests. In other words, it provides sufficient evidence that the model for M2 is unstable and cannot be used as policy purposes.

Table 3: Battery of Diagnostics and Stability of the parameters in the Model (Panel-A: Battery of Diagnostic Tests)

Bounds Test	RESET	Normality	ARCH-Test	LM
(3.957)*	1.677(0.105)	1.279(0.572)	0.008(0.929)	3.098(0.212)

- Note:**
- The values in parentheses are absolute t values in Exhibit-A and B and pvalues in Exhibit-C.
 - The upper bound critical value is 3.5 for the F statistics in Pesaran *et al.* [13] at 5%.
 - RESET is Ramsey's specification test. It follows χ^2 distribution with one degree of freedom. 3.84 is the CV at 5%.
 - ARCH Test is for Homoscedasticity of residuals with χ^2 distribution with one degree of freedom. 3.84 is CV at 5%.
 - LM is the Lagrange multiplier test for serial correlation with χ^2 distribution with four degrees of freedom. 9.48 is the critical value at the level of significance 5%.

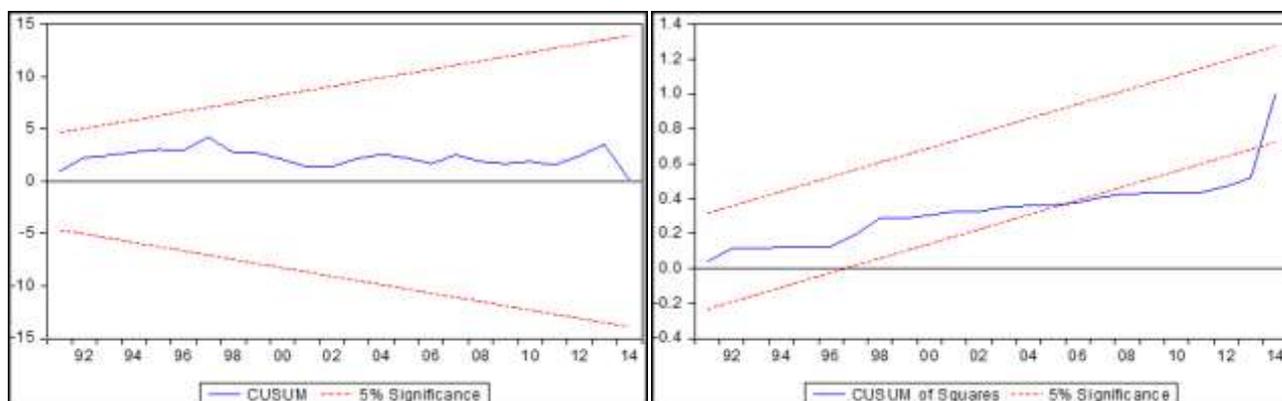


Fig. 1: CUSUM and CUSUMQ Plots for the Stability of Parameters of the Model

CONCLUSION

This paper provides a study about real broad money demand by including financial liberalization, with annual time series data ranging time span of 1972-2014 in Pakistan. The ARDL Bounds approach has been employed and results reveal that financial liberalization has positive effects on money demand in Pakistan. Further, it contributes in the instability of the model for M2. The paper recommends that broad money supply should not be used as policy tool and the

policies of the financial liberalization should be used properly to stabilize the money demand function hence, enhancing economic growth in the Pakistan.

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