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CO-MOVEMENT BETWEEN MACROECONOMIC VARIABLES AND CAPITAL FLIGHT

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ABSTRACT

This study investigates co-movement among macroeconomic variables and capital flight in Pakistan. The empirical estimation is based on time series data for a period of 30 years from 1983 to 2013. We collect data from World Development Indicator (WDI). We apply Auto Regressive Distributive Lag (ARDL) through Bounds Testing (BT) to estimate the long run relationship. In order to estimate short run dynamic, this study employs Error Correction Model (ECM). This study finds that the presence of a long-term association between capital flight and its determinants.

Contribution/Originality: This study contributes to identify the relationship between macroeconomic variables and capital flight in Pakistan

1. INTRODUCTION

A critical and burning issue of developing countries in today's world is of capital flight. Many developing countries are facing the problem of capital flight (Gunter, 2017). Most of the transition economies of the world are suffering from this problem. Though it's not only limited to the developing countries, it has been evident for some developed countries as well. However, developing countries suffer a lot as compared to developed ones due to the acute shortage of investable funds. Capital Flight is an instant cross-border movement of capital in response to unfavourable and undesirable circumstances that may put at risk the interests of the individual investors specifically and corporations in general (owners of capital) in the country. These unfavourable and unpredictable situations lead the local investors to move their capital abroad and foreign investors also lose their confidence. If the economic environment of the country is not favourable, then investors will move their capital to some safer country. It is important to probe the factors which are causing the capital flight or capital repatriation. It may be macroeconomic

mismanagement either in the form of higher inflation or higher taxation along with other reasons like the weak legal system for property rights and civil liberties, political riots, poor law and order situation. It is observed mismanagement of macroeconomic indicators may directly or indirectly encourage the capital flight from a country. We evaluate how poorly managed macroeconomic variables lead to fleeing capital abroad from the country.

1.1. The Emergence of Pakistan as Capital Scarce Country

Capital flight is a serious problem of scarce capital countries like Pakistan. The problem of capital flight was first highlighted in transition economies in the mid-1970s. When many countries experience the substantial inward movement of capital as debt from external sources, it becomes equalized with the outward movement of capital in the form of fleeing capital abroad (Alam and Quazi, 2003). It is observed $50 billion to over $200 billion capital fled from 1970s to 1980s (Cumby and Levich, 1987). Pakistan like other developing countries has witnessed a continuous inward movement in the form of debt from external sources, foreign aid, foreign grants. Pakistan had been deprived of its due foreign reserve at the time of partition and had started its journey as a scarce capital country in 1947. The weak political system and imposition of Martial Law time and worsen the economic conditions deteriorate the economic indicators each passing year in the economic history of Pakistan. Consequently, the investment climate is destroyed which leads the investors move to capital flight.

The shortage of investable funds is a major hurdle in the economic development of the developing countries. With only reliance on domestic savings, this vacuum cannot be filled. The more emphasis on savings may restrict the economic activity within the country. This fact raised the pressure for external dependence in the form of debt relief and foreign aid from the rest of the world. External borrowing is one of the major causes of capital flight. Pakistan remains steeped in foreign financing, at the same time outflow of domestic resources from the border is also observed. In these circumstances, it is important to highlight the factors which play their part in fleeing the capital abroad. In the extent of literature, it is proved that if the macroeconomic factors are poorly managed, they may become an important cause and determinants of capital flight. However, in Pakistan institutional quality is low, and the macroeconomic mismanagement is at dispelling all times like its balance of payments. Therefore, it is important to probe the issue and to minimize capital flight from Pakistan. The poor macroeconomic management destroys the investment climate in the country, local and foreign investors' loss their confidence in the economy and hence moving their capital abroad to safer and higher return destination. This massive outflow of capital restrains the economic activity and raises hurdles in policy formulation and implementation for the development and prosperity of the nation.

The determinants of capital flight are continuously highlighted in literature and certain relationships are established among the macroeconomic variables and capital flight in various developing countries. This study helps to identify macroeconomic factors (foreign direct investment, foreign aid, real GDP growth rate, volatility in high domestic inflation, volatility in exchange rate, volatility in external debt and volatility in fiscal deficit) which need particular attention to discourage resident of country to flee their capital abroad and encourage them to invest in their home country (Lee and Ng, 2015). The importance of capital for the economic growth of a country cannot be denied because it runs the economic activity of the country. Economic activities may include the building of infrastructure, the roads, the housing schemes, the hospitals, the transport, for power generation etc. For a capital-scarce developing country like Pakistan, it is important to overcome the problem of fleeing productive resources aboard to revive and flourish.

In this study, we investigate the co-movement of major macroeconomic variables (foreign direct investment, foreign aid, real GDP growth rate, volatility in high domestic inflation, volatility in the exchange rate, volatility in external debt and volatility in fiscal deficit) and capital flight.

The rest of the paper follows the following pattern: theoretical underpinnings of all the concepts are done in next section, introduction to the concept and its summary; part 3 deals with the methodology where descriptive statistics are reported next followed by a conclusion.

2. REVIEW OF LITERATURE

The problem of capital flight is highlighted in the literature, Kindleberger (1937) describes this concept as the abnormal flows from the country in response to complicated fears and uncertainties. Kant (2002) identifies that the presence of uncertainties and fears behind outflows are the main causes. There is a distinction between normal and abnormal capital flight (Lensink *et al.*, 2000). The normal capital flight is categorized as a short-term speculative capital outflow in response to some investment risk and uncertainties. In this respect, it is the hot money that flies away in unfavourable circumstances and repatriates instantly as the economic situation changes. Cheung and Qian (2010) clarify the usual connotation of illegality associated with the term capital flight. In a technical perspective, capital flight has been taken place either by the legal or illegal channels or both. Thus, it is an injustice to relate it to only with illegal connotation. Therefore, such measures should be interpreted as estimates of unrecorded instead of illegal transactions.

The capital flight is concerned with acquiring the funds from domestic sources and channelling them to offshores. It is done through illicit practices such as classification of trade documents (trade miss invoicing) (Ndikumana and Boyce, 2010; Mejdoub and Arab, 2017; Zhu and Chen, 2018). Some authors defined it as "money that runs away or flees" (Kindleberger, 1937) but some scholars of the view that all flows of productive resources from poor or countries with economic dispel to developed countries called capital flight (Tornell and Velasco, 1992; Amiri and Talbi, 2014; DBa, 2014; Kazan and Ozdemir, 2014). Capital flight also termed as illegal transportation of capital aboard (Kant, 2002). Since last two decades, literature keeps on growing on the determinants of capital flight from transition economies. Literature suggests that mismanagement at a macroeconomic level may be the crucial cause of capital flight. If macroeconomic variables including higher tax rates, overvaluation of exchange rates, increasing and uncontrolled inflation, lack of economic growth and mismanagement of fiscal deficit are mismanaged, it gives investors clue of insecurity and thus enhances capital flight (Cuddington, 1986; Conesa, 1987; Lessard and Williamson, 1987; Dhrifi, 2014; Rauf, 2016; Noor and Nancy, 2018).

Lensink *et al.* (2000) identify political instability is one of the determinants of capital flight. Alam and Quazi (2003) state that political instability as a most important and dominant cause of capital flight along with other macroeconomic factors for Bangladesh. Ndoricimpa (2018) finds that political and economic instability, wars and exports as a greater cause of major capital flight in Burundi. Baek and Yang (2010) identify the institutional quality as a key determinate of capital flight for developing countries. They used the institutional quality index, which contains twelve sub-components: (1) political stability (2) investment profile (3) socioeconomic conditions (4) corruption (5) internal conflict (6) external conflict (7) law and order (8) military in politics (9) ethnic tensions (10) religious tensions (11) bureaucracy quality (12) democratic accountability. Among them, corruption, government stability and law and order significantly affect the cross-border movement of capital flight. Liew *et al.* (2016) examine the determinants of capital flight in Malaysia; results suggest a positive association between macroeconomic variables and capital flight such that political risk and financial crisis increase capital flight. However, foreign direct investment and external debt are buffers to capital flight. Similarly, a study from Jordan finds a negative association between economic growth and capital flight (Al-Basheer *et al.*, 2016). Geda and Yimer (2016) estimate the volume of capital flight and its determinants from Ethiopia. Results suggest that over the period of 42 years (1970-2012) a capital worth $31 billion was taken out of the country due to political, economic and institutional factors.

In summation, the literature on capital flight, it is found that poorly managed macroeconomic variables have a certain relationship with the problem of capital flight directly or indirectly. Among them, inflation minimizes real

returns on domestic capital. Larger fiscal deficit motivates the investors to move capital abroad to escape high future taxation risks through high future inflation. High debt signals for higher future taxation, increasing capital flight. Foreign direct investment is an indicator of the soundness of the foreign investment climate. Hence, the low level of foreign direct investment is an indicator of lack of investment climate and limited growth. Foreign aid is an indication of dependency and more chances for its outflow exist. The degree of currency overvaluation is a factor that influences the rate of return for domestic as well as overseas investors. The value of domestic saving decreases with the expiations of depreciation in currency and thus it forces domestic investors to move their capital abroad. High-interest rate differential motivates the investors to move their capital to the high rate of return destination. Low level of international reserve is the likelihood of balance of payment crisis. Based on the above arguments we develop the following hypotheses:

- H1: Foreign direct investment significantly affects the capital flight.
- H2: Foreign aid significantly affects the capital flight.
- H3: Real GDP growth significantly affects the capital flight.
- H4: High domestic inflation significantly affects the capital flight.
- H5: Exchange rate significantly affects the capital flight.
- H6: External debt significantly affects the capital flight.
- H7: Fiscal deficit significantly affects the capital flight.

3. METHODOLOGY

We collect data from World Development Indicator (WDI) for 30 years from 1983-2013. We also use International Monetary Fund source data for the calculation of capital flight estimates. We apply the ARDL method for co-integration, by following the method (Pesaran and Shin, 1999; Alimi, 2014). ARDL can be applied regardless of the stationary attributes of the variable in the sample. It accommodates more variables as compared to other Vector Autoregressive (VAR) models. All tests and procedures are employed to check the significance of the macroeconomic variables on the occurrence of capital flight and prolonging the issue in the short run as well as in the long run. We apply the Augmented Dickey-Fuller (ADF) test to confirm stationary of data then ARDL and Error Correction Model (ECM) are applied to know the long-run and short-run association between capital flight and macroeconomic variables respectively.

There are numerous ways to test the presence of a long-term equilibrium association between time series variables. Engle and Granger (1987) test, Phillips and Hansen (1990) fully modified OLS procedures, maximum likelihood-based (Johansen, 1988; Johansen, 1991) and Johansen and Juselius (1990) tests are the most widely used methods. The variables in the system to be integrated into order 1, i.e. I (1) as per the requirement of the methods. Furthermore, these methods have low power and do not give the efficient results in a small sample. Due to such difficulties, the ARDL co-integration method has become popular in recent years.

For the measurement of capital flight, two important methods in the literature are the hot money method and the residual method developed by the World Bank. Baek and Yang (2010) use both methods in their study to measure the capital flight. Cheung and Qian (2010) adopt the residual method to estimate the severity of the issue. They find it gives intuitive results and it covers broad nature. Ndikumana and Boyce (2010) use the residual method for the estimation of the figure of capital flight for a set of African countries. We use the residual method in this study to measure the capital flight.

3.1. Unit Root Investigation

We use ADF to check the stationarity of data. The statistical results may be spurious if data is non-stationary. Augmented Dickey and Fuller (1981) have been exploring the series for the existence of unit root. The autoregressive model is termed as stationary as per α value, but it should be less than 1 in this case.

$$X_t - X_{t-1} = \propto X_t - X_{t-1} + \epsilon_t \quad (1)$$

Dickey-Fuller test works in this way. The lag of X in the equation (1), the value of long-term potentiation. The null hypothesis is:

$$H_0 : \beta_0 = 0, H_1 : \beta_1 \neq 0$$

If β_1 is zero, we consider, the unit root in the series. The null hypothesis is rejected regarding the presence of the unit root in the series. Unit root test is essential to avoid the likelihood of false regressions as Ouattara (2004) reports that the bounds test is based on the assumption that the variable is I(0) or I(1), so the calculation is performed in the presence of the I(2) variable. F-statistics become invalid (Pesaran *et al*., 2001). Likewise, other diagnostic tests are applied to detect heteroscedasticity, serial correlation, and conflict to normality.

3.2. Auto-Regressive Distributive Lag (ARDL)

If the data I(0) or I(1) is found, the ARDL integration method is applied, which includes three phases. In the first phase, the presence of long-run association among variables is established by testing the significance of the lag variable in the error correction mechanism regression. The first lag of the level of each variable is then added to the equation to create an error correction mechanism equation, and the variable addition test is performed by an F-test that calculates the significance of all the lag variables. The second phase is to estimate the ARDL form of the equation, where the optimal lag length is chosen as per one of the standard criteria for instance Schwartz Bayesian or Akaike Information. Then solve the limited version of the equation for a long-term solution.

We apply the following model to investigate the association between capital flight and macroeconomic variables.

$$LKF_t = \propto_0 + \beta_1 LFDI_t + \beta_2 LAID_t + \beta_3 LGR_t + \beta_4 LINF_t + \beta_5 LREXR_t + \beta_6 LEXD_t + \beta_7 LFD_t + \mu_t \quad (2)$$

LKF = Log of capital flight measured as residual method, LFDI = Log of foreign direct investment, LAID = Log of official development assistance, LGR = Log of real GDP growth rate, LINF = Log of annual domestic inflation rate, LREXR = Log of real effective exchange rate, LEXD = Log of relative external debt and LFD = Log of annual fiscal deficit

An ARDL representation of the above equation is as below:

$$\Delta LKF_t = \alpha_1 + \alpha_2 LKF_{t-1} + \alpha_3 LFDI_{t-1} + \alpha_4 LAID_{t-1} + \alpha_5 LGR_{t-1} + \alpha_6 LINF_{t-1} + \alpha_7 LREXR_{t-1} + \alpha_8 LEXD_{t-1} + \alpha_9 LFD_{t-1} + \sum_{i=1}^{p} \gamma_{1i} \Delta LKF_{t-i} + \sum_{i=1}^{p} \gamma_{2i} \Delta LFDI_{t-i} + \sum_{i=1}^{p} \gamma_{3i} \Delta LAID_{t-i} + \sum_{i=1}^{p} \gamma_{4i} \Delta LGR_{t-i} + \sum_{i=1}^{p} \gamma_{5i} \Delta LINF_{t-i} + \sum_{i=1}^{p} \gamma_{6i} \Delta LREXR_{t-i} + \sum_{i=1}^{p} \gamma_{7i} \Delta LEXD_{t-i} + \sum_{i=1}^{p} \gamma_{8i} \Delta LFD_{t-i} + \varepsilon_t \quad (3)$$

Where i ranges from 1 to p

3.3. Error Correction Model (ECM)

The third phase requires the use of the difference between the variable and the long-term lag solution to estimate the error correction equation and determine the adjustment speed of the equilibrium return. The error correction model helps to gauge the short-term relationship with the help of the coefficient values of the independent variables and their level of significance. It is worth mentioning here that the coefficient values of the cointegration error term should come in negative to confirm the presence of short-term association in the model. A general error correction representation of equation is given below:

$$\Delta LKF_t = \pi_0 + \sum_{i=1}^{p} \pi_{1i} \Delta LKF_{t-i} + \sum_{i=1}^{p} \pi_{2i} \Delta LFDI_{t-i} + \sum_{i=1}^{p} \pi_{3i} \Delta LAID_{t-i} + \sum_{i=1}^{p} \pi_{4i} \Delta LGR_{t-i} + \sum_{i=1}^{p} \pi_{5i} \Delta LINF_{t-i} + \sum_{i=1}^{p} \pi_{6i} \Delta LREXR_{t-i} + \sum_{i=1}^{p} \pi_{7i} \Delta LEXD_{t-i}$$

$$+\sum_{i=1}^{p}\pi_{8i}\Delta LFD_{t-i}+\Theta ECM_{t-1}+\upsilon_t \quad (4)$$

3.4. The Residual Measure for the Estimation of Capital Flight

The residual measure goes on for comparison between the funds from their sources of generation to the ultimate destinations of uses.

The estimation of capital flight by World Bank residual method as:

$$Capital\ flight = \Delta EXD + NFDI - CAD - \Delta IR \quad (5)$$

Where ΔEXD represents the variation in external debts; NFDI represents the net foreign direct investment; CAD represents the current account deficit, ΔIR represents the variation in international reserves.

An outward (inward) capital flow exists when external debt increases and funds in the form of net inflows of foreign direct investment generate a greater (less) source of records than the capital record of the destination given in the statistical data of current account deficit and international reserve accumulation account. It is important to get a notice that in this measure of capital flight, all foreign assets and liabilities are included related to the public sector as well as private sectors.

4. ANALYSIS

In this part, we apply the ADF, ARDL and ECM to check the stationarity of data, long-term dynamic and the short-term projection of the nature of relationship respectively.

Table-1. Results of Unit Root Investigation

Variable	Test for Unit Root	Test Stat	1% Critical Values	5% Critical Values	Conclusion
LKF_t	At Level	-3.515	-3.670	-2.954	I(0)
$LFDI_t$	At Level	2.840	-3.671	-2.964	I(1)
	At 1st Difference	-4.583	-3.679	-2.968	
$LAID_t$	At Level	-3.162	-3.670	-2.964	I(0)
LGR_t	At Level	-3.657	-3.670	-2.964	I(0)
$LINF_t$	At Level	-2.083	-3.670	-2.964	I(1)
	At 1st Difference	-5.472	-3.679	-2.968	
$LREXR_t$	At Level	-3.668	-3.670	-2.964	I(0)
$LEXD_t$	At Level	0.006	-3.670	-2.964	I(1)
	At 1st Difference	-3.893	-3.679	-2.968	
LFD_t	At Level	-1.762	-3.670	-2.964	I(1)
	At 1st	-6.454	-3.679	-2.968	

Table 1 indicates that there is a mixture of I(0) and I(1) for the underlying regression, so the ARDL model should be performed. The non-stationary data is dealt with by taking different logs or indifference levels to make it stationary. We find mixed results some variables are stationary at level and some get stationary after first difference.

Table-2. Bounds Testing Results

Null Hypothesis: No long-run relationships exist		
F-statistic	5.657763	K= 7
Critical Value Bounds		
Significance	I(0)	I(1)
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

The next step is to estimate the long-term association between variables, which can be done by using the bounds test after the ARDL method. ARDL technique has the major assumption that variables in the model are co-integrated into the order of I(0) or I(1) or both. It provides support for the implementation of the bounds test, which is a three-step process and the lag order is chosen in the initial step. As suggested by Pesaran and Shin (1999) and Narayan (2004) since the observations are annual, the maximum order of lag2 is chosen in the ARDL and estimate for the period of 1983 to 2013. Infect Schwarz-Bayesian criterion (SBC) is also used to determine the optimal number of lags contained in the conditional ECM since the calculation of the co-integrating, F-statistic is sensitive to the lag length (Pesaran *et al*., 2001). There is no evidence of serial correlation. The lag length of the minimized SBC is 1. The calculated co-integration F-statistic is shown in table 2. In the same table, the critical values are displayed together. The calculated F-Statistic is higher than the upper bound critical value of not only 10% (3.13), 5% (3.5) and even the 1% (4.26) significance level, by using restricted intercept and no trend as stated by Pesaran *et al*. (2001). It means that the null hypothesis without co-integration is rejected. Thus, there is co-integration association between the variables. In other words, the results of the Bounds Testing are supportive of the presentence of a long-term relationship between the capital flight and macroeconomic variables of our study.

Table-3. ARDL Cointegrating and Long Run Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$LINF_t$	-0.254481	0.301093	-0.845190	0.4113
LGR_t	-1.330765	0.369608	-3.600476	0.0026
$LFDI_t$	0.655261	0.216875	3.021376	0.0086
LFD_t	1.367548	0.604445	2.262487	0.0389
$LEXD_t$	-2.712593	0.672390	-4.034254	0.0011
$LAID_t$	1.516815	0.550065	2.757518	0.0147
$LREXR_t$	-2.420652	1.165085	-2.077661	0.0553
C	42.354373	6.049850	7.000896	0.00000

The confirmation of the existence of a long-term association between the dependent and independent variables leads to the application of ARDL on the model. We find that except inflation, the long run coefficient of rest of all variables is statically significant which are depicting the existence of a long-term relationship and our findings are aligned with previous studies (Conesa, 1987; Lessard and Williamson, 1987; Tornell and Velasco, 1992); (Mikkelsen, 1991; Boyce, 1992; Kant, 1996; Collier *et al*., 2001).

Table-4. Error Correction Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$D(LINF_t)$	-0.250239	0.288520	-0.867318	0.3994
$D(LGR_t)$	-0.367187	0.246069	-1.492211	0.1564
$D(LFDI_t)$	1.383448	0.295911	4.675222	0.0003
$D(LFD_t)$	1.344754	0.543838	2.472710	0.0259
$D(LEXD_t)$	-2.667379	0.578457	-4.611194	0.0003
$D(LAID_t)$	-0.005932	0.287000	-0.020669	0.9838
$D(LAID_{t-1})$	-0.795388	0.384503	-2.068614	0.0563
$D(LREXR_t)$	-10.619245	3.092644	-3.433711	0.0037
ECM_{t-1}	-0.983332	0.148520	-6.620882	0.0000

We find a short-run relationship between external debt, real effective exchange rate, foreign direct investment, and fiscal deficit with capital flight except for the lag difference of inflation, real gross domestic growth rate and official development assistant. We find that inflation insignificantly affects the capital flight because capital fleeing abroad adjust itself very rapidly in the short-run, and the inflation is adjusted annually. Hence the impact of inflation cannot be captured in the short-run. Same is the case for real domestic growth rate and the official development assistance which are normally computed on an annual basis. Hence, to know their short-term influence the figures of quarterly needs to be calculated and adopted in the future study. While short-term results of external debt, real effective exchange rate, foreign direct investment and fiscal deficit are supporting our hypothesis and also in line with literature (Conesa, 1987; Lessard and Williamson, 1987; Mikkelsen, 1991; Boyce, 1992; Tornell and

Velasco, 1992; Kant, 1996; Collier *et al.*, 2001; Cheung and Qian, 2010). The importance of the error correction term (ECT) indicates a causal relationship in at least one direction. The lagged error term (ECMt-1) is negative and significant. The coefficient -0.983 shows a high yield that converges to equilibrium, which means that the ratio of deviation from the long-term equilibrium is corrected to 98% per year. The lag length of the short-term model is chosen according to the Schwarz-Bayesian criterion (SBC).

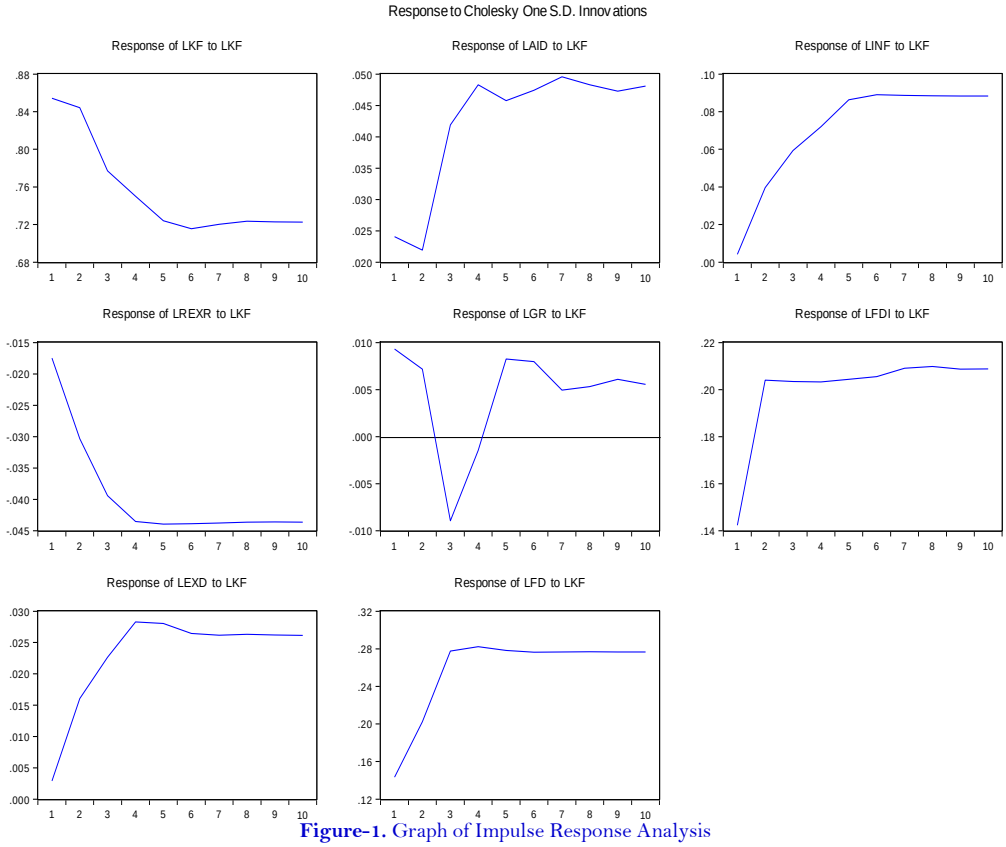

Figure-1. Graph of Impulse Response Analysis

From the estimated VAR, we calculate Variance Decomposition (VDCs) and Impulse Response Function (IRFs), which are used to evaluate the dynamic interactions and strengths of a causal relationship between variables in the system. The IRFs captures changes in domestic inflation, foreign direct investment, real effective exchange rates, GDP growth, fiscal deficits, official development assistance, and changes in outside debt. The statistical significance of the IRFs is examined at 95% confidence bounds. These figures confirm that a one standard deviation change in foreign direct investment, domestic inflation, gross domestic product growth rate, real effective exchange rate, official development assistance, fiscal deficit and change in external debt leads to change in capital flight.

The IRF shows the response of an endogenous variable over time to a given innovation. On the other hand, the VDC represents the contribution of each innovation source to the prediction error variance for each variable. VDC is an alternative to IRF to check the impact of the shock on the dependent variable. It indicates how much the prediction error variance of any variable in the system is explained by the innovation of each explanatory variable in a series of time frames. Often, its series of shocks describe most of the error variance, although the shock also influences other variables which exist in the system. Therefore, we use VDC to examine the extent to which shocks to the capital flight are explained by foreign direct investment, domestic inflation, gross domestic product growth rate, real effective exchange rate, official development assistance, fiscal deficit, and change in external debt. It supports the link among capital flight and identified major macroeconomic determinants and enhances our insights of their relationship. It also helps to identify response transmission patterns over time.

Table-5. Results of Variance Decomposition Analysis

Period	S.E.	LKF_t	$LAID_t$	$LINF_t$	$LREXR_t$	LGR_t	$LFDI_t$	$LEXD_t$	LFD_t
1	0.854399	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	1.238516	94.05112	2.505205	0.001334	1.790568	0.139972	0.144043	1.366026	0.001731
3	1.509080	89.85996	2.973802	0.004326	3.042895	0.549127	0.389707	3.156378	0.023809
4	1.730718	87.09522	3.020996	0.003981	3.066639	1.714668	0.380857	4.699228	0.018413
5	1.917934	85.17130	3.723691	0.005435	3.031299	2.128018	0.322138	5.596246	0.021874
6	2.083193	83.99020	4.331538	0.017415	3.055342	2.050332	0.333979	6.202550	0.018641
7	2.236182	83.26314	4.501880	0.017668	3.052505	2.103305	0.366359	6.678956	0.016188
8	2.380573	82.70649	4.626560	0.016390	3.043198	2.237656	0.358071	6.996360	0.015275
9	2.516519	82.26355	4.817685	0.017793	3.048118	2.260285	0.350422	7.227902	0.014240
10	2.645294	81.90973	4.950520	0.018917	3.054231	2.261588	0.356448	7.435552	0.013011

Cholesky Ordering: Lkf Laid Linf Lrexr Lgr Lfdi Lexd Lfd

5. CONCLUSION

This study determines the relationship between capital flight and foreign direct investment, domestic inflation, gross domestic product growth rate, real effective exchange rate, official development assistance, fiscal deficit and change in external debt of Pakistan that has been coping with the transition process during the last few decades. This study finds that the presence of a long-term association between capital flight and its determinants. Further concludes that these macroeconomic determinants of capital flight are related in the short run. The role of capital is a critical one in running and flourishing the economy of the country. In case when the country is already suffering from balance of payment crisis, steeped in high external debt, suffering from a trade deficit and having a low financial reserve, it is of vital importance to put the best efforts to avoid such circumstances that lead to capital scarcity. Among the other major causes of capital scarcity in Pakistan, like low productivity due to less skilled labour and absence of advanced technology and equipment, high population growth rate, dependence on foreign aid and many others, capital flight is the major one. In this study, we focus on the macroeconomic determinants which become the cause of capital flight directly or indirectly. There is a need to emphasize on the interest rate, foreign exchange rate, taxation, inflation which directly impact the interests of the investors. While on the other hand, the high fiscal deficit, low GDP growth, high current account deficit, low international reserve indirectly impact the returns of the investors, so there is a need to take concrete steps to provide a profitable investment climate to investors. Maintaining good macroeconomic policy not only attracts investors and fetches their saving to host country that provides better opportunities and a good investment climate with higher and safer returns. Macroeconomic determinants have a major part in determining the fleeing capital but by including some other important non-economic factors like political instability, institutional quality, corruption etc. can give a brighter picture of the scenario (Osei-Assibey *et al.*, 2018). This study helps to identify macroeconomic factors which need attention to discourage to flee their capital and savings abroad and encourage them to invest in the home country and attract foreign investors.

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