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An Empirical Analysis of the Financial Revolving Door Hypothesis: An Evidence from Pakistan

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Abstract: *A simultaneous equation technique was used to investigate the relationship between capital flight (CF) and external debt (the financial revolving door theory) in Pakistan. Time series data from 1984 to 2020 are used to determine the algorithm. Using an appropriate approach, the research contributes to the measurement of capital flight from Pakistan. Three Stages Least Square is used in this study to examine institutions' relationships with capital market literature. (3SLS method). The study found that poor governance, inflation, external debt, and interest rate differentials caused CF and capital outflow by creating an unstable and unfavourable environment for savings and investment. CF causes external borrowings and world capital market borrowing. Capital retention is crucial due to this and ecological development policies. The Granger Causality Test validates Pakistan's Financial Revolving Door Hypothesis. The study concludes with policy suggestions.*

Key Words: Capital Flight, External Debt, Financial Revolving Door

Introduction

Capital flight is one of the most serious economic illnesses. It stifles economic development and results in a scarcity of resources available for the production of goods and services. The lack of productive tools also limits investment opportunities. The source nation pays a high opportunity cost. Scholars also found that money flees developing nations. (e.g., Tornell & Velasco, 1992; Alfaro, Kalemli-Ozcan, & Volosovych, 2007). According to economic literature, short-term loans or foreign borrowings into emerging countries cause economic volatility. (e.g., Montes, 1998; Griffith-Jones, Montes, & Nasution, 2001). Capital flees these countries. (e.g., Lessard & Williamson, 1987; Boyce & Ndikumana, 2001; Epstein, 2005). Thus, the study investigates capital flows, focusing

on foreign debt and *CF*.

Boyce (1992) was the first to look into the revolving door model, which proposed a theoretical link between *CF* and overseas borrowing. He examined the dynamics of capital emigration and foreign borrowings in the Philippines. Following this, research on India was conducted by Chipalkatti and Rishi (2001), Sub-Saharan Africa by Ndikumana and Boyce (2003, 2004), Indonesia by Pincus and Ramli (2004), and Turkey by Demir. (2004). The hypothesis basically claims direct and indirect links between capital outflow and foreign debt. A lack of financial means was a direct result of capital

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outflow. To compensate for this deficit, the debt-ridden economy drives *CF*, and vice versa. In reality, foreign borrowings occasionally switched from capital inflows to capital outflows in an instant. As a consequence of debt accumulation, rising debt servicing costs, and the possibility of debt default, investor class risks increased, prompting capital outflows. In the interim, there is a financial void that is attempted to be filled with external borrowings, resulting in a rise in external debt. The financial resources that fled took the shape of foreign investments or borrowings in order to conceal the source of the capital and take advantage of government guarantees against debt defaults. As a result, there is a cycle of *CF* and debt buildup.

Capital flight and foreign debt appear to be interconnected through a web of exogenous factors, as evidenced by the indirect nature of their relationship. *CF* and foreign debt are not caused by each other, but both can be exacerbated by economic failure. As a result of poor macroeconomic management, not *CF*, emerging countries have accumulated high levels of debt. The country's foreign debt has been exacerbated by poor policymaking, rent-seeking, and the promotion of *CF*. The liberalization of capital flows leads to excessive spending and irrational investment because of the pro-cyclical nature of these flows. In other words, a more relaxed atmosphere encourages even more relaxation, which in turn encourages more capital flows. However, when governance institutions are inadequate or nonexistent, domestic elites can easily misappropriate funds for lavish spending, wasteful investments that fail to generate enough foreign currency to service debt, or both. Last but not least, debt increases economic risks and leads to the outflow of capital. *CF* occurs when anticipated domestic rates of return are low because of factors such as low levels of human capital, underdeveloped domestic institutions, and limited and subpar public infrastructure.

Capital flight and foreign borrowings are subject to supply and demand, as we have seen. According to McKinnon (1991), wasteful capital outflows and unsound debt may result from excessive deregulation and rapid financial liberalization as the indirect variables mentioned in the revolving door model become more potent. This has resulted in substantial *CF* from Pakistan in recent years and a corresponding increase in the country's reliance on external borrowing. In other words, Pakistan has experienced a dramatic increase in its foreign debt and a severe shortage of capital resources. So, we're looking into the possibility of a revolving door hypothesis in Pakistan's economy. While many studies have established the connection between the two, relatively few have explored the potential interactive effects of the two. By concentrating on those points, this research should help close that gap in the literature.

Theoretical Background

Capital outflow and external borrowings are affected through direct and indirect channels.

Indirect linkages

Capital flight and foreign debt may be linked because of things outside of the country with the debt, such as its poor economic performance and track record. Morgan Guarantee Trust Company (1986), for example, lists persistently low economic growth, overvalued exchange rates, and poor economic and political governance as some of the indirect factors. This would cause not only money to leave the country but also a need to borrow from other countries. It shows that debt and *CF* are linked in a good way.

Direct Linkages

In terms of their causal connection, the direct links between *CF* and external debt are explained. Based on (i) whether the causal connection goes from debt to *CF* or vice versa; (ii) whether one provided only the reason for the other or both, the direct links are divided into four categories. Boyce (1992) used a diagram to demonstrate it, showing how debt causes *CF*, which he divided into debt-driven and debt-fueled *CF*, and how *CF* leads to foreign borrowings. He refers to them as external borrowings that are flight-driven and flight-fueled. His height is depicted below.

Table 1

External Debt and Capital Flight.

Indirect:	Exogenous variables:	Debt Disbursement Capital Flight	
Direct:		Causal mechanism: Motive only	Motive and capital
Direction of Linkage	Debt to capital flight (ED ->KF)	Debt-driven capital flight	Debt-fueled capital flight
	Capital flight to debt (KF->ED)	Flight-driven external borrowing	Flight-fueled external borrowing

Source: Boyce (1992)

Objectives of the Study

1. Measuring capital flight over the time period of 1984 to 2020 from Pakistan.
2. Testing the existence of the Financial Revolving Door Hypothesis in the case of Pakistan.

Review of the Literature

Boyce (1992) investigated the Philippines' *CF* - external debt connection. He determined this relationship's nature and strength using a simultaneous equation method. Flight-fueled foreign borrowing and debt-driven capital outflows have been discussed. He explained how one element drove the other in great detail. His findings supported a link between debt-fueled *CF* and foreign borrowing-fueled *CF*. He calls it the recirculation of similar money resources into and out of the Philippines.

From 1971 to 1997, Chipalkatti and Rishi (2001) estimated *CF* from the Indian economy. They also looked at the connection between external borrowing and capital outflows, concluding that there is bidirectional causality or a financial revolving door between the two variables. For the analysis, the three-stage least square (3SLS) technique was used. Furthermore, they presented evidence that India's *CF* is largely due to the country's lagging fiscal deficit. The writers argued for greater financial liberalization, which would increase FDI while decreasing foreign borrowing.

Demir (2004) examined the Turkish economy's relationship between *CF*, external debt, and financial liberalization. His study focused on Turkey's "lost decade," attempting to identify the factors impeding the country's economic development. He attributes the causal connection between capital outflow and external debt to unrestricted liberalization. He also found that government takeovers of failing private financial institutions, as well as the accumulation of foreign assets, led to an increase in financing needs and capital outflow.

Between 1976 and 1991, Le and Zak (2006) examined the magnitude of capital outflows from 45 developing nations. They discussed several key determinants of capital outflow, such as interest rate differentials, political insecurity, policymaking uncertainty, and economic risk. They found a significant relationship between three policy risks and capital outflow, and they observed that these risks influenced investors' investment decisions and asset allocation. Furthermore, they found that political risk, which includes unconstitutional changes in government, variations in policy implementation, and internal uprisings, is the most influencing factor for capital outflow. While constitutional reforms and political stability increased capital inflows and investor confidence, Beja (2007) investigated the link between capital outflow and external borrowing in the Thai, Indonesian, and Malaysian economies. Capital, he claims, is depleting and entering these countries. (Revolving door). He claimed that effective investment opportunities and active participation from foreign entrepreneurs necessitate stringent domestic management. Improved macroeconomic management and large international reserves, he claims, discouraged external borrowing and, ultimately, *CF*. He also found a negative relationship between interest rate differentials and *CF*, but a positive relationship between interest rate differentials and foreign borrowings, which could lead to an increase in *CF* as external obligations increase. As a result, he stressed that

financial liberalization alone is insufficient and that institutional reforms are required before financial liberalization reforms can be implemented. In finance, Cerra et al. (2008) examined the revolving door hypothesis. He used the simultaneous equation model and the two-stage least square (2SLS) method for the analysis. They gathered a big sample of emerging market economies from 1970 to 2001. Institutional quality and macroeconomic management were regarded as control variables. The hypothesis of the financial revolving door was verified. They believe that institutional quality and macroeconomic management are needed, and that inadequate infrastructure and institutional mismanagement contribute to external debt because weak institutions and an uneven macroeconomic environment cause *CF*. Furthermore, they claimed that FDI and foreign aid had a negative correlation with *CF*, whereas short-term debt inflows had a substantial effect. They predicted that debt relief, combined with better institutional quality and good governance, would lead to capital accumulation.

Ndikumana and Boyce (2011) examined the *CF* and foreign debt linkages of 33 Sub-Saharan African economies from 1970 to 2004. They looked into whether Sub-Saharan Africa is a net borrower to the rest of the world. According to them, capital outflows from Sub-Saharan Africa totalled $443 billion in 2004, while foreign financing totalled $195 billion. According to their research, for every extra dollar of foreign borrowing during that time period, 60 cents of capital flowed the following year. The debt overhang effect backed up their conclusions about the existence of debt-fueled capital outflow. They also investigated the nature of international debt and advocated for policies that could differentiate between legitimate and fraudulent debts.

Since the foreign debt crisis and the steep drop in capital inflows from developed nations and Bretton Woods institutions, Otenio et al. (2022) stressed the public importance of *CF* in East African member countries. This paper examined the effects of external debt on *CF* in Kenya, Tanzania, Uganda, Rwanda, and Burundi using panel data from 1988 to 2018. The debt-overhang theory examined foreign debt-induced capital migration from emerging to developed countries. The fixed effect regression showed that East African capital migration was positively and statistically significantly influenced by foreign debt. According to the findings, EAC states should borrow at a lower interest rate from new lenders and use the proceeds to repay earlier loans to reduce *CF*. Thus, the literature study hypothesizes direct and indirect links between external debt and capital outflow. Foreign borrowings and *CF* have supply and demand, it says. The reviewed literature shows few studies on *CF* and foreign debt in Pakistan. This research fills a gap.

Data and Methodology

Data Sources

The study made use of data from time series covering 1984 to 2020. World Development Indicators (WDI), the International Monetary Fund (IMF), and International Financial Statistics were used as secondary references for the statistics. (IFS). The trade mis-invoicing data came from different issues of the Direction of Trade Statistics. (DOTS). The study used the World Bank's residual method, which is a common way of measuring *CF*, to calculate how much money was leaving the country.

Methodology

We used the simultaneous system of equations to estimate the simultaneous relationship between two variables (external debt and capital flight) that were predicted in this model along with other supportive exogenous variables. The 3SLS method was used in the research to estimate the model's simultaneity. Zellner and Thiel were the first to describe the method. (1962). It is essentially an extension of 2SLS and far superior to it. When compared to ILS and 2SLS, 3SLS provides more efficient parameter values because it considers the cross-equation correlation between errors. This methodology can predict the parameters and apply them to all of the system's equations at the same time. This methodology takes into account the model's structure as well as the constraints placed on the structural parameters. As a result, when compared to single equation estimation techniques, this methodology takes into consideration all available information. So, with all of these benefits, the 3SLS or "Full Information Method" is used in the model of this research because only this technique provides us with more efficient estimates of parameters at the same time by incorporating the relationship between all

equations within a system. (Judge et al. 1988). Certain conditions had to be met in order for 3SLS to be used:

1. The model must be completely specified.
2. There is no serial correlation in the random term of each equation of the model.
3. The equations of the model must be over-identified.
4. There must be the existence of simultaneity in the equations of the model.
5. It is necessary for the application of 3SLS that the random variables of different relations existing at the same time must be dependent. That is, errors across equations are correlated. $E(e_i, e_j) \neq 0$ for $i \neq j$.

The simultaneous equations model can be written in the estimable form as below:

The Model

$$\ln ED_t = \alpha_0 + \alpha_1 \ln KF_t + \alpha_2 OPP_t + \alpha_3 \ln ED_{t-1} + \alpha_4 \ln KF_{t-1} + \alpha_5 TOT_t + \alpha_6 EXR_t + \alpha_7 (R\text{-}R^F)_{t-1} + \varepsilon_{1t} \ldots\ldots\ldots (1)$$

$$\ln KF_t = \beta_0 + \beta_1 \ln ED_t + \beta_2 \ln KF_{t-1} + \beta_3 (R\text{-}R^F)_{t-1} + \beta_4 EXR + \beta_5 FDI_t + \beta_6 CPI_t + \beta_7 TOT_t + \beta_8 ICRG_t + \varepsilon_{2t} \ldots\ldots\ldots (2)$$

Endogenous Variables used in the Model

The variables used in this study are explained as under: $\ln ED_t$ is the debt borrowed from external or foreign sources also called External debt. The data used in this study was taken from WDI. While the $\ln KF_t$ is the *CF* or the movement of capital resources from the home country to some other foreign country whether from legal or illegal channels. It is estimated on the basis of the proposed methodology of the World Bank (1985), Morgan Guarantee Trust (1986) and Cline (1987).

Exogenous Variables of the Study

TOT_t is the Terms of Trade presented as the ratio of export prices to import prices. CPI_t is the inflation rate which represents the persistent increase in the general price level of consumer items. $R\text{-}R_{t-1}$ is the interest rate differential, estimated as the difference in the rate of interest between two alike interest-bearing instruments. It is widely used as the measure of profit in order to sell and purchase foreign exchange in the foreign exchange market. Here we have taken this variable as the lag value of the difference between the money market rate of Pakistan and the US bond rate. OPP_t is the degree of openness widely used and calculated through the addition of exports and divided by the GDP of the country.

When a business or other organization invests directly in a foreign nation, this is known as FDI. Companies that receive FDI from foreign entities tend to be heavily influenced and controlled by those entities. The International Country Risk Guide (ICRG) uses 22 indicators of governance across three risk groups to provide a proxy for governance, abbreviated as ICRGt. Economic, governmental, and monetary perils are the three main types. One of the most influential variables affecting the country's foreign debt and capital flows is the exchange rate of Pakistani Rupees to United States Dollars, abbreviated as EXRt. One-period lag values of foreign debt (lnEDt-1) and *CF* (lnKFt-1) are employed.

Measuring CF

The World Bank proposed and extensively adopted

the residual method for estimating *CF*. According to this approach, *CF* is the gap between financial inflows and outflows. Net foreign direct investment and shifts in external debt borrowings (CDET) are two examples of where money can come from. (NFDI). Alternatively, the uses of funds encompass both the current account deficit and the shift in official reserves (CRES). (CAD) Thus:

$$KF = (CDET + NFDI) - (CAD + CRES) \ldots\ldots (3)$$

The above equation is called Baseline *CF* (BKF), the positive sign of KF's values indicates *CF* and the negative sign shows an inflow of capital. But the measurement of *CF* required certain adjustments to be made; because the data contain measurement errors. The first adjustment is for bank accounts. The adjustment is specifically used to assess the impact of exchange rate fluctuations on the external loan stock. (DEBT). Long-term external debt (LTDEBT) is typically denominated in a mix of hard currencies, and changes in those currencies impact the USD values of LTDEBT, which has consequences for CDET. Thus, the beginning-of-year adjusted external debt (ATTD)

that accounts for fluctuations in foreign currency rates is:

External Debt Adjustments

⟦ATTD⟧_(t-1)=∑_(i=EU,UK,FF,DM,Yen,SF)▒[(α_(i,t-1) ⟦LTDEBT⟧_(t-1))(⟦FX⟧_i/⟦FX⟧_(i,-1))]+⟦ ∑_(i=USD,MUL,Other)▒(β_(i,t-1) ⟦LTDEBT⟧_(t-1))⟧+⟦IMF⟧_(t-1) (⟦SDR⟧_t/⟦SDR⟧_(t-1))+⟦STDEBT⟧_(t-1)……..(4)

Here α_i represents the percentage of LTDEBT in Euros (EU), Pound Sterling (GBP), French Francs (FF), German Marks (DM), Japanese Yen (Yen), and Swiss Francs (SF), whereas i represents the proportion of LTDEBT in USD, multiple currencies, and other currencies. FX is the rate at which these hard currencies are exchanged for US currency USD. SDR represents the exchange rate of special drawing rights in US currency USD, and STDEBT represents short-term external borrowings. The preceding year is indicated by the notation t-1. If a hard currency appreciates compared to the US dollar, it reduces the FXi/FXi,t-1 (Ratio of current and previous exchange rates of hard currencies) and ATTDt-1, implying that the DEBT should be lower. So the adjustment factor for the effect of exchange rate fluctuations on external debt borrowing, or adjusted external debt for exchange rate fluctuations (ADEBT), is:

ADEBT = ATTDt-1 + DEBTt-1 …… (5)

The above Equation (5) provides an estimate of the extent to which foreign exchange fluctuations affected DEBT. For instance, if the Japanese yen appreciates against the US dollar, all else being equal, we anticipate a lower ATTDt-1, and thus the ADEBT is negative. Consequently, CDET would not accurately reflect the net inflow of new borrowings. Accordingly, the change in the corrected external debt is computed. (CDETADJ). Using Equation 5, we subtract from CDET the external debt adjusted for exchange rate fluctuations (ADEBT).

CDETADJ = CDET – ADEBT …….. (0.1)

Since CDET = DEBT – DEBTt-1, the above equation 5.1can also be shown as:

CDETADJ = DEBT – ATTDt-1 ……. (0.2)

To obtain adjusted capital flight equation 5.2 can be re-calculated as:

KFADJ = (CDETADJ + NKI) – (CAD + CRES) ……. (0.3)

Trade mis-invoicing

The current account is the focus of the second sort of adjustment. We need to modify systematic trade mis-invoicing in particular by estimating the trading partner country's data comparison. Under-invoicing of exports and over-invoicing of imports are frequently cited as significant routes for *CF*. Imports are under-invoiced in order to avoid customs duties and trade laws. In theory, import under-invoicing generates capital inflows because they are taxed while passing the border, but import under-invoicing shields them from taxation and trade restrictions. Export over-invoicing is committed if firms are rewarded for improved export performance, which leads to invoice padding. If any of the above occurs, the current account will produce inaccurate estimates; thus, changes are required to produce accurate estimates. The first stage is to calculate the import mis-invoicing (DM) and export mis-invoicing (DX) for a single country using a comparison of its main industrialized trading partners:

DX = PX - CIF*X ……. (0.4) (a)

DM = M - CIF*PM …… (0.4) (b)

Therefore, in Pakistan's context, PX is the advanced countries' imports from Pakistan and PM is their exports to Pakistan; X is Pakistan's exports and M is Pakistan's imports from advanced countries, respectively; CIF factor is the cost of insurance and freight, and FOB is the abbreviation for free on board. These are the adjustments for the cost of insurance and freight; we assumed a value of 1 for them here. In Equations 4(a) and 4(b), we compare Pakistan's trade data with those of its main trading partners. The justification for this comparison is that it is generally anticipated that industrialized and developed countries' calculated trade statistics are more reliable and accurate than Pakistan's. The disparity in calculations enables us to comprehend the phenomenon of overcharging exports and undercharging imports. Positive values of DM and DX indicate over-invoicing of imports and under-invoicing of exports, while negative values indicate under-invoicing of imports and net over-invoicing of exports, respectively.

In the next stage, to find Pakistan's global exports and imports discrepancies MISX (Exports Mis-invoicing) and MISM (Import Mis-Invoicing), we multiply DM and DX by the reciprocal of the shares of all developed trading partners of Pakistan's total imports (M_INDUS) and total exports (X_INDUS):

MISX = DX / X_INDUS ……. (0.5) (a)

MISM = DM / M_INDUS …….. (0.5) (b)

In the final step, by adding Equations 5.5(a) and 5.5(b) total trade mis-invoicing MIS is obtained.

KFADJ = (CDETADJ + NKI) – (CAD + CRES) + MIS …….. (6)

In order to estimate trade mis-invoicing, the data was obtained from the Direction of Trade Statistics DOTS-IMF of 25 major trading partner countries of Pakistan which accounts for 70% of trade. The countries list is given in ANNEX 1.

Empirical Analysis

In this section, we have empirically estimated the model of our study. Here we have applied the 3SLS technique for our simultaneous model. But the application of 3SLS is require certain assumptions to be fulfilled which have been discussed and justified in the coming lines.

Identification Status of the Model

The first condition requires that the equations of the model must be over-identified. To check this we applied the order condition. In a model of simultaneous equations in order for an equation to be over-identified, the number of predetermined variables excluded from the equation must be greater than the number of endogenous variables included in that equation less 1. The following results of order conditions are as under.

E = endogenous (dependent) variables in a given equation of the simultaneous model.

F = predetermined (exogenous) variables in the simultaneous model.

f = predetermined (exogenous) variables in a given equation of the simultaneous model.

Equation (1)

F-f ≥ E-1

9-6≥2-1

3>1 Over identified

Equation (2)

F-f ≥ E-1

9-7≥2-1

2>1 Over identified

The order condition confirmed that both the equations of the model are over-identified.

Model Specification Test

To ensure that both equations of the model are correctly specified, we estimated each equation by OLS and then the Ramsey Reset test was applied. The results are as under.

Table 2
Ramsay Reset Test.

Equation	F-statistic	Probability
$lnED_t$	0.77	0.5202
$lnKF_t$	1.93	0.1521

Source: Author's Own Calculations

The null hypothesis in the test was the model is correctly specified. As the probability of F-statistic is insignificant in both equations, therefore, we accepted the null hypothesis that the model is completely specified.

Test of Autocorrelation

To test the autocorrelation Breusch-Godfrey's (1980) serial correlation Test was applied. The null hypothesis is that there is no serial correlation in the model. The test was applied to each equation of the model. The results are presented in Table 2.

Table 3

Breusch Godfrey serial correlation LM.

Equation for	Chi^2-statistic	Probability
$lnED_t$	0.77	0.1045
$lnKF_t$	1.039	0.3080

Source: Author's Own Calculations

As the probability value of Chi^2-static is insignificant for each equation, therefore, there is no serial correlation in the model.

Test of Simultaneity

To test simultaneity, we applied the method presented by Pindyk and Rubinfeld (1998). At first, reduce form equation was obtained and the residual was also estimated.

$$\widehat{lnKFt} = 0.666 + 0.0009\,TOT_t - 0.0390\,(R\text{-}R^F)_{t-1} - 0010\,EXR_t + 0.2722\,lnED_{t-1} + 0.4004\,lnKF_{t-1} + 0.0220\,CPI_t - 0.7901\,OPP_t + 0.1471FDI_t - 0.9757\,ICRG_t + U_{21t} \ldots. (7)$$

Above is the reduced form of equation 2. Residual was predicted and put into equation (1) of the model and then estimated through OLS. After that F-test was applied to the residual. The significance of the F-test ensures simultaneity in the model.

$$lnED_t = \alpha_0 + \alpha_1\,lnED_{t-1} + \alpha_2\,lnKF_t + \alpha_3\,lnKF_{t-1} + \alpha_4\,EXR_t + \alpha_5\,OPP_t + \alpha_6\,TOT_t + \alpha_7\,(R\text{-}R^F)_{t-1} + \alpha_8\widehat{lnKFt} + \varepsilon_{1t} \ldots\ldots\ldots\ldots\ldots\ldots(8)$$

The estimated value of the F-statistic is presented in Table 3 along with its probability. The significance of the F-test confirmed the simultaneity in the model.

Table 4

Simultaneity Test

Test statistic	Value	d.f.	Probability
F-statistic	0.1862	(8,27)	0.097

Source: Author's Own Calculations.

Application of the 3SLS Method

Our model is estimated as under by using the 3SLS technique. The results are presented in Table 4:

Table 5

3SLS Estimation Results.

Variables	(1)	(2)
	$lnED_t$	$lnKF_t$
$lnED_t$		0.380*
		(0.217)
$lnKF_t$	0.263***	
	(0.0829)	
$lnED_{t-1}$	$_t$0.815***	
	(0.0814)	
$lnKF_{t-1}$	-0.143**	0.412***
	(0.0627)	(0.112)
$(R\text{-}R_f)_{t-1}$	0.00441	-0.0396***
	(0.00406)	(0.0136)
CPI_t		0.0162***
		(0.00605)
EXR_t	0.00162**	-0.00141
	(0.000811)	(0.00229)

Variables	(1)	(2)
	$lnED_t$	$lnKF_t$
FDI_t		0.140***
		(0.0419)
TOT_t	0.000329	0.00143
	(0.000544)	(0.00165)
OPP_t	-0.511*	
	(0.279)	
$ICRG_t$		-1.342*
		(0.813)
Constant	1.693	5.075
	(1.458)	(4.803)
Observations	36	36
R-squared	0.9915	0.9366

Standard errors in parentheses
**** p<0.01, ** p<0.05, * p<0.1*

Results of Equation 1

Capital flight (lnKFt) has a positive and significant association with external debt in column 1 of the equation lnED, i.e. the greater the flight of capital, the greater the external debt. Because of a lack of financial resources, the nation has increased its borrowing from external sources, and the process is ongoing. As a result, a 1% increase in *CF* results in a 0.380% increase in external debt. The outcome is congruent with Ndikumana and Boyce's predictions. (2011). The lag value of external debt has a positive and significant effect on external debt, indicating a circular debt problem. According to the findings, a 1% rise in the previous year's external debt results in a 0.85% increase in the current year's external debt. While the lag value of *CF* shows a negative and significant relationship with external debt, it suggests that the country's stock of external resources would help to keep capital in the lag period. So a 1% rise in lagged period *CF* results in a 0.143 per cent decrease in external debt. The phenomenon is particularly visible in Pakistan, where loan servicing also involves the country's capital resources.

The exchange rate (EXRt) has a positive and substantial effect on external borrowing; both theoretically and empirically, an increase in the exchange rate leads to an increase in the debt burden. As a result, a rupee rise in exchange rate results in a 0.016 per cent increase in external debt. While the lag value of interest differential (R-RF)t-1 has a positive but insignificant relationship that suggests the interest differential returns in the lag period. Inflation (CPIt) and Openness (OPPt) show a negative and significant relationship with external debt, indicating that openness is beneficial for the country because it creates circumstances in which it is easier to engage in international trade and more returns in the form of foreign exchange, which ultimately helped to reduce the external debt burden. As a result, a 1% rise in openness results in a 0.510 per cent decrease in external debt. The outcome is also consistent with Zakariya's discovery. (2012).

Results of Equation 2

A higher level of external debt is positively correlated with a higher level of *CF*, measured by the number of units of KFt that have been transferred out of the country. Therefore, a rise of 1% in foreign debt causes a rise of 0.38 % in *CF*. Our predictions and those of Chipalkatti and Rishi (2001) and Boyce (1998) are all confirmed by this finding. (1992). *CF* has a positive and statistically significant effect on the present year as measured by its lag value, lnKFt-1. This is because once *CF* has begun, it tends to persist for a considerable amount of time. If *CF* increased by 1% last year, it would rise by 0.41 per cent this year. The interest rate differential, calculated as the difference between the money market rate in Pakistan and the bond rate in the United States, has a negative and statistically significant association with outflows of capital. A reduction in *CF* can be achieved by increasing interest rate differentials in favour of Pakistan, which encourages investors to keep their money in the nation. For every percentage point that separates interest rates, *CF*

slows by 0.039 percentage points. Chipalkatti and Rishi (2001) and Yalta and Yalta (2001) both agree with our findings. (2012). *CF* is negatively impacted by the EXRt exchange rate, but only slightly.

Since CPIt, or inflation in consumer prices, lowers the value of a country's currency, asset owners may sell their holdings in exchange for foreign currency or even leave the country entirely,
giving rise to the phenomenon of *CF*. Our calculations suggest that for every 1 percentage point that inflation rises, investors pull out $0.016% more of their money. Le and Zak (2006) and Bakare both reached the same conclusion as presented here. (2011). There is a favourable correlation between FDI (foreign direct investment) and outbound monetary flows. Investors steal money from a nation by leaving with its surplus. When FDI rises by 1%, money flees by 0.14 percentage points. Governance when it comes to politics, ICRGt is the standard bearer. Due to the fact that poor governance makes businesses and investors wary of putting money into a nation, there is a negative and statistically significant correlation between the two. Rather, they put their money elsewhere, as has recently occurred when a number of companies abandoned Pakistan's manufacturing sector for Bangladesh. Our estimated coefficient, then, suggests that for every percentage point rise in effective governance, *CF* will decrease by 1.34 percentage points. Our predictions and the findings of the research by Le and Rishi (2006), Le and Zak (2006), Bakare (2011), and Cerra et al. are all supported by this finding. (2008).

Granger Causality Test Results:

To confirm the existence of the financial revolving door hypothesis, we apply the Granger Causality test to check uni-directional or bi-directional causality between external debt and *CF*. The hypotheses are given as under:

H_0: capital flight and external debt does not cause each other.

H_1: capital flight and external debt does cause each other.

After the selection of the appropriate lag length, the granger causality test was applied and the results are presented and explained below:

Table 6

The Granger Causality Test.

Equation	Excluded	Chi^2	Df	Prob > Chi^2
$lnKF_t$	$lnED_t$	10.185	3	0.017
	All	10.185	3	0.017
$lnED_t$	$lnKF_t$	7.7611	3	0.051
	All	7.7611	3	0.051

From the table, it is confirmed that *CF* and external debt cause each other. The significance of the results concludes that there is bi-directional causality between *CF* and external debt and confirms the existence of the financial revolving door hypothesis in Pakistan.

Conclusion

Supply-and-demand management reduces *CF*. Conditions allow income migration. This theory holds that strong structures and well-executed reforms will keep funds in a nation. The indirect theory explains foreign debts and *CF*, according to the revolving door papers. Excessive borrowing causes *CF*. *CF* can occur in steady macroeconomic conditions. Correlations between present and past flows suggest that direct factors drive the revolving door, and external borrowings and *CF* support this. Data shows a positive feedback loop between *CF* and external borrowing. *CF* reduces a country's domestic resources, which increases debt and debt servicing costs, increasing the risk of default.

Our results supported strict capital restrictions with a sound macroeconomic framework. Debt maturity reduction helps manage money and keep the foreign investment. Today, foreign direct investment is vital. Capital accumulation requires efficient management and routing of economic plans to improve infrastructure, shipping, storage, ports, and human resources. Tax breaks for firms that spend

over a threshold should attract foreign investment. Indian manufacturers get a 15% tax rebate on machinery purchases over INR 1 billion. These moves will restore confidence in foreign investors, including disillusioned Pakistanis abroad. Keeping financial investment returns fair attracts foreign investment. Investors watch macroeconomic variables like interest rates, exchange rates, and inflation. These affect company owners' and financiers' plans and expectations, reducing the incentive to spend and create new capital. Financial investments must yield a good profit. To boost the country's score and attract foreign investment, the government should emphasize good governance indicators.

Supply-demand management reduces *CF*. Capital can leave a nation. Reforms and institution-building reduce *CF*. Revolving door papers propose using indirect theory to understand cross-sectional relationships between external borrowing and *CF*. *CF* and foreign borrowing remain annually correlated. *CF* can occur in stable socioeconomic conditions. Correlations between present and past flows suggest that direct factors drive the revolving door, and external borrowings and *CF* support this. Borrowing money abroad and vice versa causes *CF*, according to data. *CF* reduces a country's domestic resources, which increases debt and debt servicing costs, increasing the risk of default.

We recommend strict capital controls with an efficient institutional structure based on stable macroeconomic policies. Longer loan maturities aid capital management and reduce capital outflow. FDI is crucial. Supporting capital accumulation through infrastructure, shipping, storage, ports, and human resource usage requires careful management and effective economic plans. Foreign investors need financial allowances. If they spend more than INR 1 billion on plant and equipment, Indian manufacturers can get a 15% tax rebate. These moves will restore confidence in foreign investors, including disillusioned Pakistanis abroad. Keeping financial asset returns fair attracts foreign investment. Investors may consider macroeconomic aspects like interest rates, exchange rates, and inflation rates. These affect company owners' and financiers' plans and expectations, reducing the incentive to spend and create new capital. Investment returns must be attractive. To boost the country's score and attract foreign investment, the government should emphasize good governance indicators.

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