

DO PULL AND PUSH FACTORS AFFECT FOREIGN PORTFOLIO INVESTMENT: EMPIRICAL EVIDENCE FROM PAKISTAN

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ABSTRACT

Individual investors seeking alternatives across the countries are more likely to use Foreign Portfolio Investment (FPI). FPI helps host countries to expand economically. The present study investigated the impact of pull and push factors on FPI. Time series data has been taken from 1990-2021. The FPI was the response variable, and other macroeconomic indicators like inflation and economic growth, real interest rate, exchange rate and imports, money growth, and population are key affecting variables. To calculate short-run and long-run dynamics with proper lag durations, to avoid autocorrelation and endogeneity, Augmented Dickey-Fuller (ADF) Test, Vector Error Correction Model (VECM), Johansen co-integration test have been used. The results revealed that exchange rate, population, imports, and money growth favorably and robustly impact FPI. In contrast, real interest rates and inflation have a negative impact on FPI in Pakistan. This study has practical implications for regulators by advising and encouraging investors to make better FPI choices while macroeconomic variables are altering. These findings will guide policymakers and investors in making informed decisions. It is recommended that researchers explore possible investment variables to clarify the importance of other factors better. The government must create a conducive business environment where capital can flow from within or out of the country. So that foreign portfolio investment can increase in Pakistan

Keywords: Foreign Portfolio Investment, Emerging Economies, Pull and Push Factors, Investors.

INTRODUCTION

Portfolio investment is creating and managing a hands-off or active investment of assets to make a return. These securities are kept outside the investor's country in a foreign portfolio investment. Individual investors who desire to invest in alternatives abroad of their own country are more likely to use foreign portfolio investment (FPI). On a larger scale, FPI is declared on the balance of payment (BOP) and is included in a government's financial account. Over a monetary year, the BOP calculates the amount of money flowing from one country to another (Omotosoet al., 2022). In emerging economies, FPI is a critical source of finance, and in such nations, domestic financial options are restricted. On the other hand, more regulatory oversight and sufficient

shareholder protection frequently deter international investment in the countries that most need it. Firms often commit to more substantial supervision by cross-listing in a nation with greater regulatory control to overcome weak home-country institutions and boost their appeal to investors (Lang et al., 2020).

Like other emerging countries, Pakistan's economy requires a steady influx of foreign capital. Because market volatility is high due to unstable political situations, foreign investors hesitate to invest in Pakistan. FPI is among the most significant capital inflows in the nation's economy. As a result, through FPI, overseas investors might be convinced to invest in Pakistan. Even though it is a simple investment, it

may help Pakistan attract international buyers and positively influence employment and income (Ullah et al.,2021).

Portfolio flows have the relative impact of external "push" forces and internal economic "pull" fundamentals. Pull factors, which indicate the presumed attractiveness of different investment sites, are private and public economic variables that draw capital into a nation. Domestic interest rates, market capitalization, GDP growth, and exchange rates are among them. Push factors are external variables that encourage investment to move outward (to the home nation), while shortcomings are features of the host nation. Because of its expanding volume and importance, the drivers of FPI are becoming more complicated. Emerging markets compete for foreign investment; as a result, they must provide more significant returns while providing a safe and appealing investment environment, as foreign investors want (Waqas et al.,2015).

Governments often appreciate capital flows because they improve with efficient fund allocation, which increases capital availability and promotes spending and investment. However, the percentage of cross-border capital flows varies from nation to nation. In particular, poor and developing countries attract less international investment than their rich and developed competitors. There are still many significant and challenging issues about the benefits and risks of capital flows, especially those from industrialized to developing countries. Emerging economies continue to suffer from managing the fluctuation of capital flow movements, which seems constant (Ostry, 2016).

Pakistan has made it possible for outside investment, with moderation. By concentrating on the "pull" components, Pakistan has made significant progress in establishing its financial markets for stable foreign capital flows. Push and pull factors both affect how money is flowing. Push factors include global liquidity, interest rates, growth, and the need for diversification, whereas pull factors include macroeconomic conditions, successful policies, stable markets, and institutions (Hannan, 2018). Due to the rising investor facilitation schemes offered by host countries, boundaries are now becoming obsolete in today's world. Investors around the globe evaluate important macroeconomic factors before making investment decisions. These components vary from nation to nation due to their unique populations and socioeconomic policies.

Objective of the Study

1. The objectives of this study are to overview the recent trends of foreign portfolio investment in Pakistan,
2. To analyze the impact of pull and push factors on foreign portfolio investment in Pakistan's emerging economy, identify the long- and short-run relationship between FPI and Pull and Push factors
3. Provide appropriate recommendations for concerned stakeholders

REVIEW OF LITERATURE

Liyange (2016) investigated the push and pull variables that impact capital flows into Sri Lanka. They made use of data from 2001 to 2015. To identify the push and pull variables that impact capital flows, researchers employed VECM and the OLS technique. They demonstrated that pull variables like real GDP, interest rates, and economic stability draw capital flows. Additionally, they showed how the actual determinants of capital flows vary on various scales. Haider et al. (2016) evaluated those economic aspects that encourage investors to invest in a given country. They assessed how FPI drivers affected the Chinese economy. They showed that GDP, exchange rate, and external debt benefit FPI. Pakistan has been dealing with budget deficits, political instability caused by terrorism, and an insufficient legal system, all of which are preventing significant inflows of capital.

Vo et al. (2017) analyzed the factors influencing FPI, varying from developed to developing economies. They used fresh data from the International Monetary Fund's extensive organized portfolio investment surveys. They discovered that G7 portfolio investors have a proclivity to deviate from recommended portfolio allocations and are open to minor variances in source and destination countries. Raghavan et al. (2017) examined the elements and determinants in the financial segment of FPI. They made use of monthly data from June 2014 to December 2016. When discussing the impact of FPI and its factors, the Correlation, Co-integration, and Casual linkages methods are applied. The null hypothesis demonstrated that ER is suitable and FPI does not provide opportunities to motivate reality.

Mudyazvivi (2018) evaluated the effect of Nigeria's investment and economic growth on FPI from 1985 to 2016. The direction of causation between Nigeria's investment and economic growth and foreign investment was the central objective of the study's

usage of the VECM to assess the short-run and long-run connection of the factors. Granger causality test results showed no connection between investment and economic growth and FPI in Nigeria; however, the findings indicated that financial market development significantly affects FPI in Nigeria. Shabbir (2019) analyzed Pakistani stock prices and foreign portfolio investments (FPI) as having a short- and long-term dynamic link. For both the long-run and short-run relationships among foreign portfolio investment and other policy factors, the ARDL approach was utilized. They showed statistically significant findings, excluding the exchange rate.

Oke et al. (2020) investigated the pull and push variables that affect FPI in international economies. They take the data for the time 1986 -2018. The bound cointegration test and the ARDL error correction model were used. According to the study, economic decision-makers in the host state can be more focused on enhancing their economic growth by increasing GDP to attract new investors, as slowing financial growth, low rates of return, and rising inflation rates in industrialized economies may encourage foreign investors to attract people to emerging markets. Makoni (2020) analyzed how the real exchange rate and capital openness affected FPI from 2009 to 2016. They used the panel data approach for nine African countries. It was discovered that accurate exchange rates, capital openness, and inflation rates all had a negative association with foreign portfolio inflows.

Ullah et al. (2021) investigated the fact that a short-term investment in assets traded on a stock market is known as an FPI. Over the last decade or so, PSX has grown as a way of adding incentives to exchange occurs to abroad investors. Even though researchers have done extensive work on FDI, there has yet to be significant work on FPI in Pakistan. Many factors can influence foreign cash flows in or out of the country. Araoye (2021) evaluated the effects of macroeconomic expansion and finance development on FPI in Nigeria. They made use of time series data from 1990 to 2019. The factors were determined to be stationary using the ADF unit root test and any other time series data. The VECM was used to estimate the effect of the independent factors on the dependent variable. They demonstrated economic value's positive but considerable impact on FPI in Nigeria.

Balogun (2021) examined the significant rise in cross-border foreign money flows as one of the most

critical indicators of higher profitability. Although foreign investments into developed economies have reduced in 2018, the variables affecting foreign capital include macro- and microeconomic, regional, organizational, and corporate performance variables. The advantages of Investment include increased employment, human resource development, exchange rate stability, and the creation of a competitive market.

RESEARCH METHODOLOGY

This study examined the impact of pull and push factors on the extent of change in FPI. The study utilized time series data for 30 years between 1990 and 2021. This study is analyzed by estimating impulse-response functions from a vector autoregression model. The researchers employed unit root test through the Augmented Dickey-Fuller (ADF) Test, Vector Error Correction Model (VECM), and Johansen co-integration test to calculate short-run and long-run dynamics with appropriate lag durations, prevent autocorrelation and endogeneity, and get findings of the study. Data was collected from the World Bank's website and other authentic sources for economic indicators. Eview's statistical software and MS Excel were used to analyze selected time series data to examine the impact of pull and push factors on Foreign Portfolio Investment (FPI) in the emerging economy of Pakistan.

Econometric Model

Using the portfolio theory of global capital flows, which aims to explain the link between the FPI and the exchange rate, economic growth, inflation, money growth, imports, actual interest rate, and population, the model's notations are as follows:

$$FPI = \beta_0 + \beta_1 IMP + \beta_2 INF + \beta_3 RIR + \beta_4 EG + \beta_5 POP + \beta_6 MG + \beta_7 ER + \epsilon_{it} \dots \dots \dots (1)$$

Whereas

FPI = Foreign Portfolio Investment

IMP = Imports

INF = Inflation

RIR = Real interest rate

EG = Economic growth

POP = Population size

MG = Money Growth

ER = Exchange rate

ϵ_{it} = error term

Description of the variables (Table 1)

Variables	Proxies/Measurement	Source
FPI (DV)	Foreign Portfolio Investment is measured annually as the total level of direct investment.	World Banks' Website
IMP (IV)	Imports are measured annually as total goods and services purchased from the rest of the world.	
INF (IV)	Inflation, a macroeconomic indicator, is measured as the consumer price index, and the annual price is taken.	
RIR (IV)	The annual value of the real interest rate is taken	
EG (IV)	Gross Domestic Product taken annually	
POP (IV)	Annual population of the country	
MG (IV)	Money Growth taken annually	
ER (IV)	Annual value of exchange rate with US dollar	

Results and Discussions

Descriptive Statistics

Table 2 gives good normality results. Large kurtosis values for money growth real interest rate were recorded, suggesting that these factors have a leptokurtic distribution and high peaks because their values exceed 3. Independent factors like Economic Growth (EG), Exchange Rate (ER), Inflation Rate (INF), Imports (IMP), and Population (POP) are usually distributed because their kurtosis values are less than 3. Moreover, Skewness of Foreign Portfolio Investments (FPI), Inflation (INF), Real Interest Rate (RIR), Economic Growth (EG), Population (POP), and Money Growth (MG) are minorly and normally negatively skewed, but Imports (IMP) and Exchange

Rate (ER) are normal and minorly positive skewed. However, the whole data is normal and shows the good normality of results. The Foreign Portfolio Investments (FPI) describes -4.06 ± 1.6 average value and value of standard deviation, respectively. Imports (IMP) indicate a mean value of 2.24 and 0.33 standard deviation; Inflation (INF) shows 0.887 ± 0.249 mean and standard deviation, respectively. Moreover, Economic Growth (EG) and Population (POP) show an average value of 0.039 and 8.2 and standard deviation values $\pm 0.019 \pm 0.10$. Money Growth (MG) also reveals an average value of 1.16 and a standard deviation of 0.18. Lastly, the exchange rate (ER) shows a mean value of 72.93 and a standard deviation of 39.2

Table: 2 Descriptive Statistics

	FPI	IMP	INF	RIR	EG	POP	MG	ER
Mean	-4.06	2.26	0.887	0.771	0.039	8.2	1.16	72.93
Median	-1.05	2.15	0.958	0.863	0.043	8.21	1.16	60.5
Max.	1.44	2.74	1.486	1.301	0.077	8.35	1.63	162.9
Min.	-3.84	1.75	0.398	-0.35	0.005	8.03	0.63	21.71
Std.Dev.	1.06	0.33	0.249	0.444	0.019	0.10	0.18	39.3
Skewness	-1.49	0.08	-0.11	-1.15	-0.069	-0.2	-0.4	0.766
Kurtosis	5.38	1.31	2.849	3.802	2.231	1.84	4.96	2.873
Prob.	0.00	0.15	0.953	0.019	0.665	0.38	0.06	0.207
Obs.	32	32	32	32	32	32	32	32

Table: 3 Correlation Matrix

	FPI	ER	IMP	RIR	EG	INF	MG	POP
FPI	1							
ER	-0.065	1						
IMP	0.089	0.632*	1					
RIR	0.048	-0.435*	-0.43*	1				
EG	-0.203*	-0.361*	-0.034	-0.104	1			
INF	0.043	-0.080	0.025	-0.093	-0.32*	1		
MG	-0.430*	0.395*	-0.30*	0.069	-0.27*	0.083	1	
POP	-0.130	0.942*	0.76*	-0.52*	-0.21*	-0.131*	0.26*	1

*Significant at $p < 0.05$

The degree of the relationship between the variables in the model is represented by correlation. The positive connection between the variables suggests that higher levels of foreign investment would be linked to real interest rates, inflation, and imports. The correlation matrix table indicates that FPI is negatively correlated with Exchange Rate (ER) but insignificant. However, FPI positively correlates with Imports (IMP) and Real Interest Rate (RIR) but is insignificant. Further, FPI negatively correlates

significantly with economic growth (EG) at $p < 0.05$. Moreover, Inflation (INF) has a positive and significant correlation with FPI at $p < 0.05$. lastly, Money Growth (MG) and Population (POP) have a negative and insignificant correlation with FPI. The strongest negative association, on the other hand, is found for economic expansion and money growth with FPI. Currency exchange rates and population also showed a negative relationship.

Unit Root Test

Table 4: Unit Root Test

Variables	ADF statistics	Critical Value			Order of Integ.
		1%	5%	10%	
FPI	-7.396	-3.724	-2.986	-2.633	1(0)
	-7.396	-3.724	-2.986	-2.633	1(1)
	4.343	-3.753	2.998	-2.638	1(2)
IMP	-1.861	-3.662	-2.960	-2.619	1(0)
	-5.083	-3.670	-2.964	-2.621	1(1)
	-6.621	-3.689	-2.972	-2.625	1(2)
INF	-4.596	-3.711	-2.981	-2.630	1(0)
	-5.303	-3.670	-2.964	-2.621	1(1)
	-6.650	-3.689	-2.972	-2.625	1(2)
RIR	-1.559	-3.670	-2.964	-2.621	1(0)
	-9.321	-3.670	-2.964	-2.621	1(1)
	-6.653	-3.689	-2.972	-2.625	1(2)
EG	-3.56	-3.662	-2.960	-2.619	1(0)
	-6.531	-3.670	-2.964	-2.621	1(1)
	-9.482	-3.679	-2.986	-2.623	1(2)
POP	-4.573	-3.738	-2.992	-2.636	1(0)
	-2.137	-3.753	-2.998	-2.639	1(1)
	-2.029	-3.753	-2.998	-2.639	1(2)
MG	-0.181	-3.662	-2.960	-2.619	1(0)
	-4.170	-3.670	-2.964	-2.621	1(1)

	-1.130	-3.679	-2.968	-2.623	1(2)
ER	1.805	-3.679	-2.968	-2.623	1(0)
	-4.370	-3.679	2.968	-2.623	1(1)
	-6.590	3.689	2.972	-2.625	1(2)

A unit root test is carried out in the first phase using augmented Dickey-Fuller (ADF) to understand the series' nature better. In addition, it is tested; either the stationarity result is at level 1(0) or first-order difference 1(1) or at the second-order difference. In the second stage, the Johansen co-integration test is performed to analyze the long-term relationship in this model. These variables are exchange rate, import, economic growth, money growth, and RIR (real interest rate). They are stationary at first differences 1(1). Evaluating if the non-stationary factors could be co-integrated comes after knowing

the integration order. When two-time series co-integrate, it indicates that there is still a long-term or stable link among them. The Augmented Dickey-Fuller (ADF) unit root test revealed that the variables Foreign Portfolio Investment, Economic Growth, Exchange rate, Import, Real Interest rate, and Money Growth were not stationary at level. However, they were significant at first level of difference 1(1). As a result, they become stationary when the first difference is taken. The first stage is to establish if the non-stationary factor may be co-integrated after identifying the order of integration.

Johansen Co-integration Test

Table 5: Johansen Co-integration Test

Hypothesized		Trace	0.05		
No. of CE(s)	Eigen-value	Statistic	Critical value	Prob.**	Co-integrated or Not
None *	1.000	500.879	197.371	0.000	Co-integrated
Atmost1 *	0.955	266.602	159.530	0.000	Co-integrated
Atmost2 *	0.858	173.452	125.615	0.000	Co-integrated
Atmost3 *	0.745	114.880	95.754	0.001	Co-integrated
Atmost4 *	0.600	73.861	69.819	0.023	Co-integrated
Atmost5	0.534	46.356	47.856	0.069	No Co-integrated
Atmost6	0.408	23.474	29.797	0.224	No Co-integrated
Atmost7	0.216	7.738	15.495	0.494	No Co-integrated
Atmost8	0.015	0.444	3.841	0.505	No Co-integrated

The long-term relationships between foreign portfolio investments and other independent variables, such as exchange rates, economic growth, inflation, imports, population, actual interest rates, and exchange rates, are examined in this test using the Johansen co-integration method. This proves that these essential variables had a long-term association. Max-Eigen and Trace statistics exceeded their respective critical values and were substantial at a 5

percent level. As a result, it was determined that the study's variables had a valid long-term equilibrium connection. The co-integration study concludes by advising that the selected set of co-integrated time series variables have an error-correction explanation demonstrating the variables 'long-term adjustment mechanism.

Error Correction Model (VECM)

Table 6: Vector Error Correction Model (VECM)

	FPI	t-Statistics	Standard error
FPI (-1)	0.1418	[0.60189]	(-0.23569)
FPI	-0.0611	[-0.26207]	(-0.23333)
IMP	-1.31E+0	[-0.86081]	(-1500000000)
INF	3.11E+08	[0.28595]	(-1100000000)
RIR	2.27E+08	[0.36984]	(-610000000)
EG	-1.74E+10	[-1.00213]	(-17000000000)
POP	3.24E+08	[1.04057]	(-310000000)
MG	-5.31E+08	[-2.44946]	(-220000000)
ER	12791189	[0.81884]	(-16000000)
R-squared	0.795		
Adj. R-squared	0.525		
F-statistic	1.455		

Furthermore, the VECM approaches are utilized to identify the existence of a possible short-term association and the speed of short-term modification. This allows for the time taken for a dependent variable to recover to stability due to variations in other factors to be directly calculated using error correction models.

CONCLUSION AND SUMMARY

The study concentrated on the variables that impact the flow of foreign portfolio investments into Pakistan. According to the analysis, real interest rates have a short-run, favorable but significant influence on foreign portfolio investment. Since a rational investor seeks to avoid risk and maximize return, international investors will become more attracted to investments if real interest rates rise to put money to work in Pakistan. Also, changes in the genuine interest rate have little impact on how much foreign portfolio investment flows into the Pakistani economy. The study concentrated on the factors that influence flows of foreign portfolio investments in Pakistan. The study examined the effects of pull and push variables on Pakistan's developing economy. Using Pakistan as a case study from 1990 to 2021,

the study examined the push and pull variables as predictors of FPI flows into the economy. Secondary data on foreign portfolio investments and chosen pull and push components were used to conduct the analysis. ADF co-integration test and the vector error correction technique were also used.

The study concludes that the main push and pull variables that affect foreign portfolio investment flows to Pakistan are as follows: exchange rate, imports, inflation, population, and Economic Growth. For Pakistan to draw in more foreign investment from the world community, it is also necessary that Pakistan evaluate its financial regulations, particularly those dealing with investor protection and financial openness. In times of economic instability, it strengthened investor support. The excessive attention on the need for foreign money, particularly in the Pakistani economy, inspired this study.

Foreign investors will be encouraged by a favorable exchange rate, while they will not be by a negative one. The analysis findings indicate that foreign portfolio investment is a long-term and short-term significant function of the exchange rate. This implies that the increase in Pakistan's exchange rate

encourages big investors. In light of the rise, it has been claimed that foreign capital is required to complement domestic resources in this economy. Even though many researchers have maintained that foreign investment benefits the host country, others have warned that it might harm the economy's expansion.

The study's significant findings are empirical investigations that revealed that pull variables significantly impacted foreign portfolio investment in Pakistan. The analysis showed that although the push factors significantly impact FPI in Pakistan. The study revealed that the exchange rate is more critical than favorable factors in attracting foreign portfolio investment. The analysis also showed that the population positively impacts foreign portfolio investment. The study also showed that inflation has a negative impact on FPI in Pakistan. It is concluded that significant push and pull variables influence the inflows of international portfolio investment into Pakistan. Based on the data collected, the study suggests that developing economies are substantial for attracting foreign portfolio investment flows with appropriate management of the exchange rate, population, and economic growth.

Based on the study's findings, the following suggestions are made for Pakistan to draw more FPI and achieve maximum advantages. The government should implement policies that will encourage the long-term growth of the capital market and the economy as a whole because FPI has a positive effect on the economic growth in Pakistan. This will significantly increase the long-term funding attracted and made available for beneficial uses. Efforts must be made to lower inflation once again.

FUTURE RECOMMENDATIONS

This study strongly recommends that international investors consider Pakistan's macroeconomic environment before investing. The increase in FPI, real interest rates, imports, population, and economic growth should all be visible to foreign investors. They should also consider the volatility of the exchange rate and inflation. The study's conclusions would help make investments in developing nations with Pakistan-like macroeconomic structures. It is recommended that researchers explore possible investment variables better to clarify some of the remaining variability in Pakistan since the analysis only accounts for about 60% of the variation of the dependent variable. This study examined the effects

of pull and push variables on Pakistan's developing economy. This could improve capital formation, which is essential to stabilizing the economy's lagging output and boosting the declining foreign reserves.

REFERENCES

- Araoye, F. E. (2021). Impact of Capital Market Development on the Foreign Portfolio Investment in Nigeria. *Journal of Accounting and Finance Research*, 1(1), 70-88.
- Balogun, R. B. (2021). *Determinants of Foreign Portfolio Investment in Sub-Saharan Africa* (Doctoral dissertation, Kwara State University (Nigeria)).
- Haider, M. A., Khan, M. A., &Abdulahi, E. (2016). Determinants of foreign portfolio investment and its effects on China. *International Journal of Economics and Finance*, 8(12), 143-150.
- Hannan, S. A. (2018). *Revisiting the determinants of capital flows to emerging markets--a survey of the evolving literature*. International Monetary Fund.
- Lang, M., Maffett, M., Omartian, J. D., & Silvers, R. (2020). Regulatory cooperation and foreign portfolio investment. *Journal of Financial Economics*, 138(1), 138-158.
- Liyanage, E. (2016). Determinants of capital inflows: Evidence from Sri Lanka. *Staff Studies*, 44(1-2).
- Mudyazvivi, E. (2018). *An analysis of push and pull factors of capital flows in a regional trading bloc* (Master's thesis, University of Cape Town).
- Oke, M. O., Adejayan, A. O., Kolapo, F. T., & Mokuolu, J. O. (2020). Pull and Pull Factors as Determinants of Foreign Portfolio Investment in the Emerging Market.
- Omotoso, M. O., Schutte, D. P., &Oberholzer, M. (2022). The effect of adopting International Financial Reporting Standards on foreign portfolio investment in Africa. *South African Journal of Accounting Research*, 36(1), 57-79.
- Ostry, J. D. (2016). Managing the exchange rate in the face of volatile capital flows. In *Contemporary Issues in Macroeconomics* (pp. 129-147). Palgrave Macmillan, London.
- Raghavan, S., &Selvam, D. M. (2017). Determinants of Foreign Portfolio Investment and Their Effects on the Indian Stock Market. *International Journal of Management*, 8(3).
- Shabbir, M. S., & Muhammad, I. (2019). The dynamic impact of foreign portfolio investment on stock prices in Pakistan. *Transnational Corporations Review*, 11(2), 166-178.

Ullah, Z., Shah, M. H., Khan, W., & Ali, A. (2021). Macroeconomic Factors as Drivers of Foreign Portfolio Investment in Emerging Economy. *Multicultural Education*, 7(6).

Vo, X. V., Nguyen, D. P., Ho, V. T., & Nguyen, T. T. (2017). Where do the advanced countries invest? An investigation of capital flows from advanced countries to emerging economies. *Journal of*

International Financial Markets, Institutions and Money, 51, 142-154.

Waqas, Y., Hashmi, S. H., & Nazir, M. I. (2015). Macroeconomic factors and foreign portfolio investment volatility: A case of South Asian countries. *Future Business Journal*, 1(1-2), pp. 65-74.

