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Review

The Impact of Globalization on Real Exchange Rate in Pakistan (1980-2014)

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This research paper empirically investigated the impact of Globalization on real exchange rate (PKR/$) in Pakistan, using annual time series data for the period of 1980 to 2010. Two measures are used for economic globalization: trade openness and financial integration. This study reveals a significant positive impact of globalization on real exchange rate. The result of Real Exchange Rate model indicates that Globalization measures leads to increase real exchange rate (PAK/US). The increase in real exchange rate means, the depreciation in real exchange rate (Pak rupee depreciated against US Dollar). The impact of financial integration is more impressive both in term of the coefficient and significance level. The impact of Globalization's measure is insignificant in short run. The impact of controlled variable TOT is positive and significant in both the short and long run. Government consumption has no significant contribution to real exchange rate determination in both short and long run. This study provides empirical evidence that the process of globalization is one of the factors that affect real exchange rate. Real exchange rate plays an important role in the achievement of sustainable economic growth, employment generation, investment decision and consumption pattern of the country. Thus proper attention should be given to the determinants of real exchange rate and exchange rate policies in order to stabilize the country.

Keywords: Globalization, Real Exchange rate, ARDL, Pakistan.

INTRODUCTION

Globalization

The understanding of Globalization is different to different peoples. In broadest sense, the term consists of all types of economic and non-economic transfers between the nations including domination of the media and widespread use of the World Wide Web. In a narrower sense, it refers to the exchange of goods and services internationally,

international financial flows and labour force mobility (Ali et al 2013). The term globalization means integration of economies and societies through cross country flows of goods, services, capital, information, ideas, technologies and people. As cross border integration have several dimensions cultural, social, political and economic. But in fact, some people fear cultural and social integration even more than economic integration. The fear of "cultural hegemony" haunts many. Therefore the world is more integrated in economic sense Afzal (2007). Economic globalization concentrates on components like trade flows, financial transactions and labour mobility. The labour mobility is mostly restricted because of social, cultural and religious values, but now a day the people movements are restricted because of security reasons (Ali et al 2013, Afzal 2007). Therefore economic globalization is restricted to trade flows and financial transactions.

Economic Globalization

Economic Globalization is measured by trade and financial integration:

- Trade Openness.
- Financial Openness

Historical Development

Globalization has been a historical process. There was rapid integration of the economies in terms of trade flows, movement of capital and migration of people During the Pre-World War-I period of 1870 to 1914 The process of globalization was mainly due to the forces of technological innovation and progress in the fields of transport and communication. There were comparatively free trade and movement of people across the geographical boundaries as before. There were no passports and visa requirements and very few non-tariff barriers and restrictions on fund flows. However the pace of globalization slows downed during the era between two World Wars The inter-war period witnessed the erection of various barriers to restrict free movement of goods and Services and movement of people. Most economies thought that they could thrive better under high protective walls. After World War II, all the leading countries resolved not to repeat the mistakes they had committed previously by opting for isolation. Although after 1945, there was a drive to increased integration; it took a long time to reach the Pre-World War I level. In terms of percentage of exports and imports to total output, the US could reach the pre-World War level of 11 per cent only around 1970. Most of the developing countries which gained Independence from the colonial rule in the immediate Post-World War II period followed an import substitution industrialization regime. The Soviet bloc countries were also shielded from the process of global economic integration. However, times have changed. In the last two decades of nineteenth century, the process of globalization has proceeded with greater force. The former Soviet bloc countries are getting integrated with the global economy. More and more developing countries are turning towards outward oriented policy of growth. Yet, studies point out that trade and capital markets are no more globalized today than they were at the end of the 19th century. Nevertheless, there are more concerns about globalization now than before because of the nature and speed of transformation. What is striking in the current episode is not only the rapid pace but also the enormous impact of new information technologies on market integration, efficiency and industrial organization.

History From Pakistan

From the time of independence Pakistan has been adopted import substitution industrialization strategy through over value exchange rate, used quantities controls on import and the export taxes on principal agriculture export (cotton and jute) like western industrialization developing countries in 1950s and 1960s. There was fall in the external financial assistance and persistent balance of payment problems (BOP).

In the decades of 1960s Ayub's regime, though some 1950s policies were continued, some new policies were practiced in the realm of economic management. Pakistan's economy experienced exceptional and spectacular growth rates in all sectors of the economy, which were the outcomes of the "functional inequality" growth strategy, highly protective Industrial policy and US experts' direct involvement in the planning process There was enviable growth, but it did not effectively trickle down (spread out) to the poorer sections as well as regions. The decade of

Table 1. Globalization and Pakistan

Year	Trade % of GDP	Rmtt % of GDP	FDI % of GDP
1975	27.30	2.06	0.08
1980	30.40	8.23	0.13
1985	27.20	8.72	0.46
1990	30.90	5.48	0.56
1995	29.60	3.41	1.74
2000	29.00	2.44	0.56
2005	31.60	4.06	1.39
2008	35.90	4 .07	3.41
2010	36.21	5.50	1.53
2012	38.01	6.2	1.33
2014	37.5	6.9	0.69

Source: Author's Estimates based on Hand Book of Statistics 2005, Economic Survey (various issues).

1970s brought many challenges and opportunities for Pakistan's economy. The economy was suffered from separation of its west wing (Bangladesh) and oil price hike of 1973, on one hand the increase in import bill and the loss of export due to the separation of west wing, thus worsened the balance of payments problem. Conversely, the emergence of Middle East market and remittances contributed significantly to improving the trade balance*.

The policy of nationalization was also practiced during Bhutto's regime. In 1980s the economy was liberalized with the assistance of IMF and World Bank, in order to improve the efficiency of the economy by increasing the role of the private sector. The reforms included the de-linking of the rupee from US dollar in January 1982, price deregulation of a large number of products, denationalization of industry, imports liberalization and export expansion schemes. Most of these reforms were implemented by mid-1980s. The process of globalization started during 6th Five-Year-Plan (1983-88) and was implemented with great force after 1988. The government pursued dynamic trade liberalization in the beginning of 1990s to convert the economy from a relatively inward looking to an open and outward looking economy. Government has taken a number of steps during 1990s that includes: privatization, liberalization of trade and foreign exchange, and opening up its capital markets to foreign investors.

Globalization and Exchange Rate

In the most recent era of 2000s extensive studies are concerned with globalization, and most of them investigate the impacts of globalization on various aspects of economy like growth, employment, inflation and development etc. The results of those studies are different for different economies. Dreher Axel (2006), Din et al. (2003), Jatuliaviciene and Kucinskiene (2006), Afzal (2007) and Ali et al (2013) consider openness as good policy tool to economic growth. Alberto (1998) and Onwuka and Eguavoen (2007) consider it as a negative contributor to economic performance of the developing countries because market structure and labour performance of the developing world cannot compete with the developed world and hence the net loser of process of globalization.

Exchange rate stability is considered one of the most important factors that promote investment, employment, consumption, price stability, stable economic growth and resource allocation of the country (Joyce and Kamas 2003). Real exchange misalignment can affect economic decisions. It has captured considerable place in the literature, because it has a significant impact on key macroeconomic variables. Therefore, a plethora of literature is existed on the subject of real exchange rate misalignment, and most of them examine the impacts of real exchange rate volatility rather than its determinants (real and nominal) for

this volatility. In fact, understanding the mechanism of how those factors affect the real exchange rate is very important to the implementation of an efficient and credible sustainable economic growth policy.

After the collapse of Bretton Wood System, real exchange rates have very much fluctuated in most of the developing countries, because they have turned their fixed exchange rate to floating exchange rate system. During 1970s, they have blamed the unanticipated monetary shocks for such wide fluctuation. Nominal shocks were considered as a sole determinant of real exchange rate (Dornbusch 1976). But this view about real exchange rate determination has lost its reliability in the recent literature (Rogoff 1999). The recent literature of "New Open Economy Macroeconomics" argued that along with monetary shocks non-monetary (real) shocks also responsible for the variation in real exchange rate (Milesi-Ferretti 2005, Zakaria and Ghauri 2011).

In the recent study conducted by Juthathip (2009) for developing Asia, showed that real exchange rate is determined by five key fundamental variables. These key variables are medium to long-run fundamentals: productivity differentials, openness, terms of trade, capital flows and government spending others variables such as output gap is included for some countries where such factors play an important role in determining real exchange rate RER.

Thus keeping in view the importance of real exchange rate for macroeconomic performance of the country, it is of much importance to clearly identify the determinants of real exchange rate.

The impacts of these factors are different on real exchange rate. Trade openness is empirically tested as determinant of exchange rate but mixed results were founded. Some studies were founded that trade openness has positive contribution to real exchange rate. In other words, increasing in trade openness will cause the domestic currency to depreciate (Connolly and Devereux 2000, Hau 2002). Trade liberalization depreciate real exchange rate if it is permanent in nature. However, it the beginning episodes of trade liberalization it does not affect real exchange rate. Thus it means that trade liberalization does not affect real exchange rate in the short run (Xaingming li 2004). Chin and Hong (2013) also reported depreciating effect of trade openness on real exchange rate for Malaysian economy. The other strand of literature claimed that there is no or negatative relationship between openness and real exchange rate. Elbadawi (1994) reported that trade intensity (X+M to GDP) has no significant impact on the real exchange rate. He also discussed shortly that trade intensity is not a perfect measure of the trade openness. Meleckly and Komarek (2007) failed to establish significant relationship between the openness and real exchange rate variation. In the case of Malaysia, Sadek and Yusoff (2009) analyzed the relationships between real exchange rate and trade openness in a BEER framework for Malaysian economy. They have Employed Johansen co-integration and VECM approach. They have founded a negative and significant impact of openness on real exchange rate.

Some studies have been conducted for Pakistan economy that analyzes the impact of trade openness on real exchange rate which has shown positive effect of trade openness on real exchange rate (Afridi, 1995, Siddiqui et al. 1996). Trade liberalization leads to rise in consumption and hence appreciate real exchange rate, if liberalization is uncertain in nature (for uncertain duration) and if trade liberalization is permanent in nature it will lead to depreciation in the real exchange rate (Calvo and Drazen 1998). Krueger (1978) was of the view that trade liberalization has been leaded to the depreciation in real exchange rate.

The factors of globalization like trade openness and financial integration are investigated in some of the past studies both individually and simultaneously. Some past studies undertaken by Hyder and Mehbob (2005), Caporale et al (2009), Rehman et al (2010) and Zakaria and Ghauri (2011) have incorporated these factors. Trade openness is founded depreciating on real exchange rate Hyder and Mehbob (2005). Caporale et al (2009) founded that international financial integration leads to a depreciation of the real exchange rate in the long run. Rehman et al (2010) investigated the impact of Foreign Direct Investment Inflows on Equilibrium Real Exchange Rate of Pakistan. They concluded that massive inflow of foreign direct investment and workers' remittances have significantly appreciated equilibrium real exchange rate of Pakistan.

Osinubi et al (2009) examined the impact of FDI on real exchange rate for the economy of Nigeria. The results suggest, among others, that exchange rate volatility need not be a

Table 2. Results of ADF and PP Tests

Variables	ADF test Statistics Level	ADF test Statistics Ist Difference	PP-test Statistics Level	PP-test Statistics Ist Difference	Order of Integration (at 5% level of significance)	Order of Integration (at 10% level of significance)
EXR	-1.633	-6.697*	-1.618	-4.426*	I(I)	I(I)
	(0.454)	(0.000)	(0.461)	(0.001)		
TOP	-2.136	-5.105*	-2.158	-5.113*	I(I)	I(I)
	(0.233)	(0.000)	(0.215)	(0.000)		
FI	-1.667	-6.085*	-2.103	-6.081*	I(I)	I(I)
	(0.435)	(0.000)	(0.448)	(0.000)		
GC	-1.452	-6.826*	-1.452	-6.786*	I(I)	I(I)
	(0.543)	(0.000)	(0.543)	(0.000)		
TOT	-1.173	-5.213*	-1.173	-5.408*	I(I)	I(I)
	(0.672)	(0.000)	(0.672)	(0.000)		

Note: The significance of statistics at 1% and 5 % levels are represented by * and** respectively.
The values in Parenthesis () are the P-values

Table 3: Co-integration's Relationship between variables

Equations	F-Calculated P-values	F-Statistics values I(O) ----- I(1) Critical	Result
1. Fy (RER / TO, FI, TOT, GC)	**5.92 (0.010)***	**(3.29)----(4.37)**	**Co-integration**
2. Fy (TO / RER, FI, TOT, GC)	0.62 (0.44)	(3.29)----(4.37)	No Co-integration
3. Fy (FI / TO, RER, TOT, GC)	1.54 (0.002)	(3.29)----(4.37)	No Co-integration
4. Fy (TOT / TO, FI, RER, GC)	2.12 (0.201)	(3.29)----(4.37)	No Co-integration
5. Fy (GC / TO, FI, TOT. RER)	3.54 (0.101)	(3.29)----(4.37)	Inconclusive

*Represent significant at 1% and 5% level respectively.
^ Critical values for the Wald test (F-statistics) are taken from Pesaran et al. (2001) Table CI(III), case III (unrestricted intercept and no trend).

source of worry by foreign investors. Also, the study further reveals a significant positive relationship between real inward FDI and exchange rate. This implies that, depreciation of the Nigeria increases real inward FDI. Chiara Del Bo (2009) also investigated the impact of FDI on exchange rate volatility and political risk. The study period consists of over two decades for a penal of countries, both cross country and cross sector data are used, incorporated by partial equilibrium model of foreign entry. The econometric analysis confirms and verifies these results. The sectoral evidence indicates that the direction of specific industry effects, particularly regarding the role of interest rates and wages. The general conclusion with respect to the role of exchange rate instability and institutional risk are confirmed, with some qualifications for the primary, financial, depository, trade and service sectors.

But the impact of globalization on exchange rate is not investigated for Pakistan economy. It might be the first study that empirically investigates the impact of globalization on real exchange. However, this research on globalization and exchange rate have employed recent sophisticated econometric techniques (ARDL) is scare in Pakistan. The present study tries to fill the existed gap in literature. This study empirically explores the impact of globalization on real exchange rate in Pakistan using annual time series data for the period 1980 to 2010.

Table 4: Diagnostic Tests of the Real Exchange Rate Model

Tests	F-Statistic	Probability
1 . Serial Correlation	**0.268**	**0.612**
2. Hetro-scedasticity	**0.308**	**0.584**
3. Normality*	**2.647**	**0.266**
4. Functional Form	**0.054**	**0.818**

1. Lagrange Multiplier test
2. Regression of residuals on square fitted values
3. Skewnness and Kurtosis of the residuals (based on Chi-square test)
4. Ramsey's reset test.

The diagnostic tests tell us about the health of the regression, that how much our regression is strong. These tests shown in the above Table-4 are given their respective F-statistics and P-values. The corresponding T-values and P-values shows that there is no problem of serial correlation, hetroscadasticity, normality and functional form are associated with the model. On the basis of the above tests we can conclude that our findings are efficient and ok.

Model and Data Sources

This research study followed the model used by Rehman et al (2010). They have used the following model

LREER = β_0+ β_1 LPROD – β_2 LOPEN + β_3 LFDI + β_4 LREMIT+ ε……..(1)

But the current research study used the above model with a little distinction of construction in variables, but occupied almost all variables of globalization except debt servicing. Some important variables are also included to the model due to their theoretical empirical importance. These variables are government consumption and term of trade.

RER = β_0 + β_1 TOP + β_2 TOT + β_3FI +β4 GC + ε…….. ……..(2)

Where

RER =Real Exchange Rate
TOP = Trade Openness
FI = Financial Openness
TOT = Terms of Trade
GC= Govt Consumption
ε = White Noise Error Term.

Data for the period of 1980 to 2014 are taken from World Bank, State Bank of Pakistan (SBP) and Economic Survey of Pakistan.

Empirical Analyses

ARDL is free from pre-testing of the unit root because it is applicable incase of order I(0) or I(1) and both of I(0) I(1) simultaneously, but here we check unit root for the purpose of investigating the existence of any second order because in the presence of second order ARDL is inapplicable. Hence first of all here this study will checked out order of the unit root. The order of integration is described in Table-2.

It is clear from the above table that all the variables are integrated of order one I(1) and we can proceed to the next step because of the absence of second order I(2). Hence ARDL is applicable and will provide efficient results. Now we can proceed to the first step of the ARDL procedure of investigating of long run relationship (co-integration).

Table-3 clarified that there is long run relationship exists, when real exchange rate is dependent variable and the rest of variables i.e. globalization and other important variables, which affect real exchange rate. However, government consumption variables are tested as dependent variable the result is inconclusive but there is no clear evidence of long run relationship. In case of all other possible combination long run relationship is not founded.

LONG RUN COEFFICIENTS OF THE MODEL

$$RER = -42.46 + 0.07TOP_t + 1.75\,\mathrm{FI}_t + 0.7TOT_t + 1.06GC_t$$

T.Vs → (-42.5) (2.068)** (2.641)* (0.601) (1.82)***

SHORT RUN COEFFICIENTS OF THE MODEL:

$$\Delta RER = -12 - 0.23\Delta RER_{t-1} + 0.021\Delta TOP_{t-1} + 0.61\Delta \mathrm{FI}_{t-1} + 0.20\Delta TOT_{t-1} + 0.30\Delta GC_{t-1}$$

T.Vs → (-4.5) (0.68) (0.041) (0.601) (1.84)*** (0.489)

$$-0.289\,ECM_{3t-1}$$

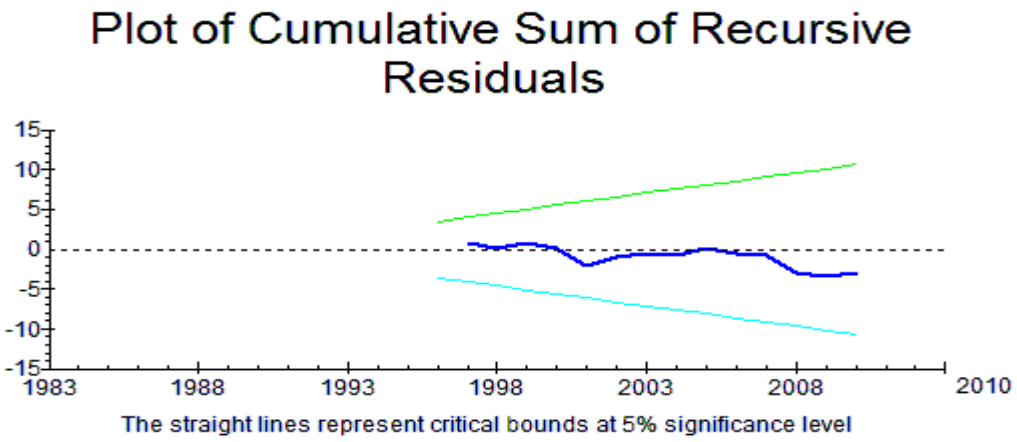

Figure 1

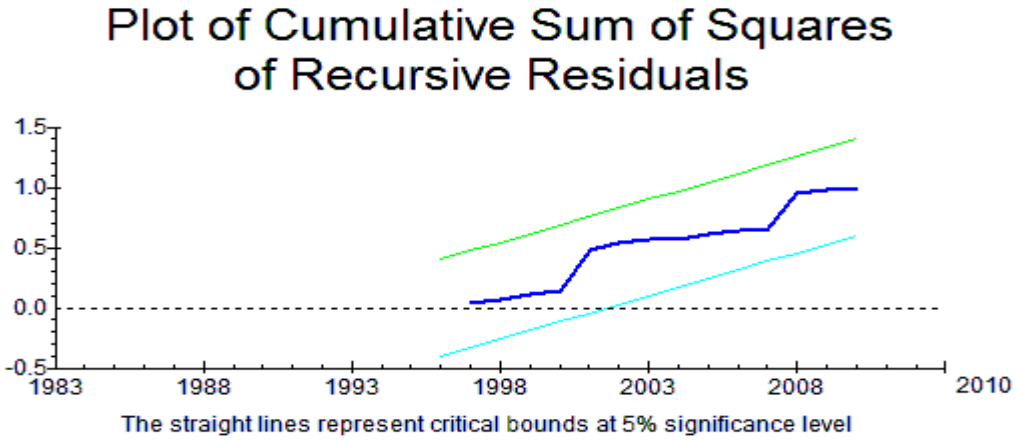

Figure 2

(-4.53)*.

*, ** and *** represents the significance at 1%, 5% and 10% respectively.

The estimated long run coefficient of real exchange rate model (C1) shows that the measure of economic globalization: trade openness and financial integration are positive and significant at 5% and 1% level of significance respectively. The impact of economic globalization on real exchange rate is depreciating. The coefficient of trade openness and financial globalization stood at 0.07 and 1.75 which means that, one percent increase in trade openness will leads to depreciate Pak-rupee by 0.07% and financial globalization will depreciate Pak-rupee by 1.75 percent. The depreciating impact of trade openness on real exchange rate is consistent with the theoretical Kruger (1978) and empirical studies Zakaria and Ghauri (2011), Sunil, K (2010), Hau (2002) and Cannoly and Devereux (2000). The result of this study is against of Rehamn et al. (2010) about trade openness on real exchange rate.

While both the trade openness and financial integration is positive but insignificant in the short run. According to Rehman et al. (2010) the inflow of capital affect real exchange rate through both supply and demand sides. In supply side, the inflows of capital as FDI, WR and FA raise the stock of existing capital and carry spillover effects of technology diffusion which firstly lead to an increase in growth and cause drop in non-tradables' prices and resulting in depreciation in real exchange rate and in the latter spell, the increase in output of non-tradables increases income and increased in demand tends to appreciation in RER. The first round effect (supply side effect) dominated the latter effect (Demand effect).

The outflow of capital as debt servicing might reduce the import demand by reducing the existing capital stock and tends to appreciate the real exchange rate. The overall impact of financial integration is appreciating on real exchange rate means that inflow of capital dominated the capital outflow. This characteristic of RER is against the recognized phenomena of "Dutch disease" in literature. Capital outflow might cause depreciating effect to real exchange rate. Here in case of Pakistan the capital inflow effect is dominated by the outflow effect. The previous studies reported that the impact of capital inflow as FDI, WR and FA is appreciating (Existence of Dutch Disease) on real exchange rate in case of Pakistan (Hussainn 2009, Rehman et al. 2010 and Makhlouf 2011).

Similarly, the long-run coefficient of TOT has positive sign but insignificant, indicating that the variation in term of trade has no effect on RER. This study concluded that with the decrease in Pakistani products prices as compare to foreign products have no increases in their demand (inelastic demand). The coefficient of government consumption expenditure (GC) has positive and statistically significant in long run but insignificant in the short run. We can conclude that represented huge trade liberalization (reduction in tariff and non tariff barriers) affect real exchange rate positive in Pakistan. Trade policy: huge reduction in trade barriers significantly depreciate real exchange rate in Pakistan. Finally the coefficient of ECM term is negative and statistically significant i.e. -0.289, this means that about -2.89 percent of the disequilibrium in the real exchange rate will adjusted in about to three and a half years. This also confirmed that long run equilibrium relationship.

The results of study shows that globalization (OP and FI) is also one of the important determinants of real exchange rate among real and nominal variables in case of pakistan.

CONCLUSION

This paper examines the impact of globalization on real exchange rate in Pakistan, using annual time series data for the period of 1980 to 2014. Two measures are used for economic globalization: trade openness and financial integration. The research reveals a significant positive effect of trade openness and financial integration on real exchange rate. The result of Real Exchange Rate model indicates that Globalization measures leads to increase real exchange rate (PAK/US). The increase in real exchange rate means, the depreciation in real exchange rate (Pak rupee depreciated against US Dollar). The impact of financial integration is more impressive both in term of the coefficient and significance level. The impact of Globalization's measure is insignificant in short run. The impact of controlled variable TOT is positive and significant in both the short and long run. Government consumption has no significant contribution to real exchange rate determination in both short and long run. This study provides an empirical proof that the process of globalization is one of the factors that affect real exchange rate. Real exchange rate plays an important role in the achievement of sustainable economic growth, employment generation, investment decision and consumption pattern of the country. Thus proper attention should be given to the determinants of real exchange rate and exchange rate policies in order to stable stabilize the country.

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REFERENCES

Afridi, U. (1995), "Determining Real Exchange Rates", Pakistan Development Review, 34(3): pp 263-276.

Afzal, M., (2007), "The impact of globalization on economic growth of Pakistan: An error correction modeling". The Pakistan Development Review 46(4): Part II, pp 723–734.

Ali, S., Zaman, K., and Shah, M (2013), "The Impact of Economic Globalization on Macroeconomic Performance in Pakistan (1980-2010)". International Journal of Marketing and Technology: 3(4), pp 25-37.

Ali Ali, S., Zaman, K., and Shah, M (2013), "The Impact of Globalization on Unemployment (The case study of Pakistan 1980-2010)", International Journal of Physical and Social Sciences: 3(4), pp 148-166.

Chishti, S., and M. A. Hasan (1993), "What Determines the Behaviour of Real Exchange Rate in Pakistan?", Pakistan Development Review, 32(4): pp 1015-1029.

Connolly, M., and J. Devereux (1995), "The Equilibrium Real Exchange Rate: Theory and Evidence for Latin America", in J. L. Stein, P. R. Allen and Associates (Eds.), Fundamental Determinants of Exchange Rates, (Oxford University Press, New York 1995), pp 154-181.

Dornbusch, R. (1976), "Expectations and Exchange Rate Dynamics," Journal of Political Economy, 84: pp 1161-76.

Elbadawi, I. A. (1994), "Estimating Long-Run Equilibrium Real Exchange Rates", in J. Williamson (ed.), Estimating Equilibrium Exchange Rates (Institute for International Economics, Washington DC) pp 93-131.

Hassan, G., and Holmes, M. (2012), "Remittances and the real effective exchange rate". MPRA Paper No. 40084, Online at http://mpra.ub.uni-muenchen.de/40084/

Hau, H. (2002), "Real Exchange Rate Volatility and Economic Openness: Theory and Evidence", Journal of Money, Credit and Banking, 34(3): pp 611-30.

Hussain, S,. 2008, "Sources of Real Exchange Rate Misalignment Evidence from Pakistan." SBP Working Papers Series, WP 26, State Bank of Pakistan

Joyce, J. P. and L. Kamas (2003), "Real and Nominal Determinants of Real Exchange Rates in Latin

America: Short-Run and Long-Run Equilibrium", Journal of Development Studies, 39(6): pp 155-82.

Lee, C., and Law, C.H. (2013), "The Effects of Trade openness on Malaysian Exchange rate". MPRA Paper No. 45185. Online at http://mpra.ub.uni-muenchen.de/45185/.

Li, X. (2004), "Trade Liberalization and Real Exchange Rate Movement", International Monetary Fund Staff Papers, 51(3): pp 553-84.

Nasim, S.M. (1998), "Globalisation, Technology and Asian Economic Growth". The Pakistan Development Review, 37(4), pp 635-659.

Osinubi, T .S., and Amaghionyeodiwe, Lloyd A. (2009), "Foreign Direct Investment And Exchange Rate Volatility In Nigeria". International Journal of Applied Econometrics and Quantitative Studies: 6(2).

Rehman, H., Jaffri, Atif. A., and I. Ahmed (2010), "Impact of Foreign Direct Investment (FDI) Inflows on Equilibrium Real Exchange Rate of Pakistan." A Research Journal of South Asian Studies 25 (1). January-June 2010, pp.125-141.

Rogoff, K. (1999), "Perspectives on Exchange Rate Volatility," in M. Feldstein (ed.) International Capital Flows, (University of Chicago Press, Chicago) pp 441-453.

Siddiqui, R., Afridi, U., and Z, Mahmood. (1996). "Exchange Rate Determination in Pakistan: A Simultaneous Equation Model". The Pakistan Development Review: 35(4).

Siddiqui, R., and Ayesha, Salam. (2000). "Exchange Rate Variability and Relations Between Pakistan and Japan". A paper presented at a conference organized by Quaid-i-Azam University, Islamabad and Japan Foundation, Japan on October 24-25, 2000 in Islamabad.

Zakaria, M., and Ghauri, B.A (2001), "Trade Openness and Real Exchange Rate: Some

Evidence from Pakistan". The Romanian Economic Journal, Year XIV, no. 39, PP 201-229.