

# Impact of financial crisis on an economy: Pakistan as a case

Amna Nazeer<sup>1</sup>, Khuram Shafi<sup>2</sup>, Zahra Idrees<sup>2</sup>, Liu Hua<sup>2</sup>

<sup>1</sup>Schools of Statistics and Mathematics, HuaZhong University of Science and Technology, Wuhan, China <sup>2</sup>School of Management, HuaZhong University of Science and Technology, Wuhan, China

## **Email address**

amna.stats@yahoo.com (A. Nazeer)

## To cite this article

Amna Nazeer, Khuram Shafi, Zahra Idrees, Liu Hua. Impact of Financial Crisis on an Economy: Pakistan as a Case. *American Journal of Service Science and Management*. Vol. 2, No. 2, 2015, pp. 14-17.

## Abstract

Financial crisis has collapsed the large financial institutions, bailout the banks and downturns in stock market around the world. This paper focuses on the fact that how financial crisis can effect the Pakistan economy. This study takes the floating exchange rate as independent variables because the Asian crisis countries exchange rate prior to the 1997 crisis would suggest that their exchange rate looks very much like pegs to the US dollars for the extend period of time and another is interest rate volatility and the oil prices increases during the decade. The results in scenario to Pakistan showed that the floating or fluctuating exchange rate and interest rate had negative and oil prices had a positive relationship with financial crisis.

### **Keywords**

Floating Exchange Rate, Interest Rate Volatility, Oil Prices

# 1. Introduction

Financial crisis results in banks failures, massive distractions in assets, rapid drop in stock index and huge decline in equity market value. A country is defined as experiencing financial instability or financial crisis if it had at least one systemic banking crisis or borderline case [1]. During 2007-2009 global financial crisis per capita outcome suffer an annual reduction by 2.2%, largest reduction since World War II, leaving millions of people unemployed. Many financial crises originated from huge current account deficits although the sources of current account deficits vary from country to country. One well known debate in the literature is whether financial crises are related to "twin deficits" i.e. to the existence of both a government deficit and a current account deficit.

Along with the developed countries, the developing nations are also the direct victims of the global financial crisis and all the economic sectors feel the long lasting effects of that financial crisis. Pakistan is also among those nations whose overall economic growth suffers a decline as a result of economic crisis of 2007-09. Increasing twin deficit, quick fall in foreign exchange reserves and most worth noticing is the exceptional increase in poverty by almost 80%. Almost 70% increase in the fuel prices and food prices went up by almost 28% [2]. The economy of Pakistan is majorly supported by the agricultural sector that also has a direct impact of global financial crisis. Depreciation in exchange rate increases the prices of the food items and tradable agricultural products and lessens the contribution of agricultural sector in the GDP. Rise in the interest rate causes a decline in the capital investment and results in a rise in the input costs [3]. Low production causes many Multi-National companies to leave Pakistan and that increases the unemployment rate.

Many researchers ([4], [5] and [6] among others) in the light of the findings of their efforts have a good input to guide the government to deal with the factors that can disturb an economy as a result of financial crisis. This research is also conducted to find the relationship among some important determinants of financial crisis. Exchange rate, interest rate and world oil prices are used for this purpose.

# 2. Literature Review

Carmen M. Reinhart (2000) says during the past few years,

many countries have suffered severe currency and banking crises, producing a staggering toll on their economies, particularly in emerging-market countries. In many cases, the banking sector has been in excess of 20 percent of GDP, and output declines in the wake of crisis have been as large as 14 percent [7]. An increasingly popular view blames fixed exchange rates, specifically "soft pegs," for these financial meltdowns. Not surprisingly, adherents to that view advise emerging markets to join the ranks of the United States and other industrial countries that have chosen to allow their currency to float freely [8]. At first glance, the world (with the notable exception of Europe) does seem to be marching steadily toward floating exchange-rate arrangements. According to the International Monetary Fund (IMF), 97 percent of its member countries in 1970 were classified as having a pegged exchange rate; by 1980, that share had declined to 39 percent and in 1999, it was down to only 11 percent. Even in the Asian crisis countries' exchange rates prior to the 1997 crisis would suggest that their exchange rates looked very much like pegs to the U.S. dollar for extended periods of time.

In the late 1980s and early 1990s have been the decompositions of capital flows directed to developing countries which accompanied a robust increase in overall flows. Commercial bank lending, which supported the bulk of the debt rescheduling in early 1980s following Mexico's bank debt moratorium in August 1982, and, to a lesser extent, official flows (i.e. financial aid, concessionary and conditional loans) have given way to a substantial increase in other private inflows, that is to both short-term and long-term portfolio placements and direct investments. According to the IMF, while the total external debt of developing countries increased by almost 40% to USD 1,600 billion between 1987 and 1994, the external debt owed to non-bank private sources, which was some 14% of the total at the end of 1987, had reached almost 27% by end of 1994, and is now expected to grow to some 31% by end of 1996. Conversely, external bank debt fell from 41% of the total in 1987 to 28% over the same period, contracting in absolute terms in the process. This trend is even more pronounced if one concentrates the attention on certain subsets of developing countries. For instance, developing countries in the Western Hemisphere (i.e., mostly Latin American countries) saw the relative importance of external private non-bank debt increased almost threefold, from about 13% to 38% of overall foreign debt, while that of commercial bank debt was halved from 62% to 31% [9]. The global economic challenges of the 1980s, the colossal debt overhang, wild swings in exchange rates and continue observing imbalances in external payments have presented the IMF with the immense task of devising orderly and effective solutions. And they have focused unprecedented attention on the organization. Thrown suddenly and inadvertently into the epicenter of the world economic crises after the 1973-1974 oil price shocks, the IMF has gradually and erroneously come to be seen as the world's master economic trouble-shooter. A limited-purpose organization, conceived in 1944 to deal with 1930s style exchange and payments problems, the Fund has

recently been pushed by circumstances into becoming a superagency in charge of the global debt and development problems of the 1970s and 1980s tasks for which it has neither adequate expertise nor sufficient resources [10].

Borrowing from the IMF did not initially involve 'conditionality' this was introduced in the 1950s as the USA continued to fear that it might in effect be required to underwrite the Fund's lending operations. By the time the Bretton Woods system was up and running at the end of the 1950s, when the free convertibility of European currencies was introduced, the IMF had assumed the general role of overseeing, or even managing, the Bretton Woods system. This system involved countries pegging the par values of their currencies, and only altering them in the event of a 'fundamental disequilibrium', where domestic and external policy targets became incompatible at the pegged exchange rate. However, not all currencies were treated equally. The US dollar was made the pivot of the system, with its price being tied to gold. Although in principle involving an adjustable peg system for exchange rates, the reality was that pegs were not adjusted very frequently so that balance of payments correction in fact relied heavily on managing domestic aggregate demand [11]. IMF programs may prescribe economic reform packages that are conducive to multinational investors, leading to higher levels of economic stability and strong macroeconomic performance. Countries in economic crisis that urn to the IMF for supporting habit their ability to attract multinational investors, countries weathering a financial crisis attract fewer FDI inflows if they sign IMF agreements [12].

As the debate about international financial reform was going on, the world was in effect forced by expediency to adopt generalized flexible exchange rates in 1973 to try and correct persistent currency misalignment, and encountered an enhanced need for international financial intermediation in the context of the quadrupling in the price of oil in 1974, which created large surplus in the oil exporting countries and large deficits among oil importers. While the Fund responded by creating a temporary oil facility designed to recycle oil revenues from oil producers to countries with oil-related balance of payments deficits, the task of recycling petrodollars was largely performed by private international banks [13].

Early in the 1980s, and partially in response to a second big increase in oil prices at the end of the 1970s and a change in the dominant economic paradigm, the Fund had retreated from the EFF and had, in effect, phased out low conditionality lending through reforms to the CFF. The emphasis had returned to conventional macroeconomic stabilization based on controlling aggregate demand through fiscal and monetary policy. In the late 1980s, the Fund offered an institutional response to concern that it was under-emphasizing the supply side and the social consequences of adjustment. Its rhetoric began to refer more to encouraging economic growth as a 'primary' objective of adjustment programmers and protecting 'vulnerable groups' from the costs of adjustment. Perhaps most notably, the Fund introduced in 1987 the Enhanced Structural Adjustment Facility (ESAF). This was targeted at low income countries and emphasized a broader range of conditionality which, while still including conventional demand-side measures, also included specific supply-side and microeconomic measures.

Hamilton (2005) argues that a potential macroeconomic effect of oil price is on the inflation rate as long run inflation rate is governed by monetary policy, and so ultimately it depends on how the central bank responds to oil prices [14]. Nevertheless, LDC debt to foreign bankers is beyond redemption, as the laws of mathematics operate inexorably to accelerate the interest burden beyond even the most optimistic assessment of ability to pay [15].

## 3. Methodology

In this study financial crisis is taken as the dependent variable and floating exchange rate, interest rate volatility and the oil prices are treated as the independent variables. The financial crisis has struck on international scale. It has resulted in the collapse of large financial institutions, the bailout of banks by national government and downturns in stock market around the world. Floating exchange rate of a country is such a regime where the foreign exchange market determines the value of that country's currency through supply and demand for that particular currency relative to other currencies. Thus, floating exchange rates fluctuate freely and are controlled by the trading factors in the forex market. This regime is a contrast to fixed exchange rate regime. Interest rate volatility (both real and nominal) is significantly a higher and indifferent league all together from that of the true floaters. The high volatility both real and nominal interest rate appear to had two explanations. It suggests that countries are not relying exclusively on foreign exchange market intervention to smooth fluctuation in the exchange rate. The high variability of interest rate also suggests that there are chronic credibility problem. Following is the hypothesis to be tested is given below:

 $H_o$ = floating exchange rate, interest rate volatility, oil prices has impact on financial crisis

H<sub>a</sub>=floating exchange rate, interest rate volatility, oil prices has no impact on financial crisis

The data related to the defined variables is collected from Asian Development Bank. The above mentioned hypothesis is analyzed using multivariate regression method. The relationship among the said variables is given in equation 1.

$$FC = \beta_0 + \beta_1 (ER) + \beta_2 (irate) + \beta_3 (OilP) + error$$
(1)

The labels FC stands for financial crisis and ER, irate and OilP denotes the exchange rate, inflation rate and oil prices respectively. The coefficient of each variable in the left hand side measures the impact of that respective variable on the right hand variable assuming the impact of every other variable held constant. To have valid results the error term is assumed to be distributed normally with zero mean and constant variance. The Analysis of variance (ANOVA) is used to test the significance of the equation 1 and to strengthen the validation of the given hypothesis.

## 4. Data Analysis

The regression equation given in equation 1 is estimated using the ordinary least square method and the estimated results are provided in table 1. The regression equation is

FC = 197 - 2.26 ER - 5.73 irate + 2.37 OilP

Table 1. Summary of regression coefficients

Variable	Coefficient	t-value	Sig
constant	196.80	5.14	0.000
ER	-2.2579	-3.11	0.003
irate	-5.7330	-2.34	0.023
OilP	2.3687	3.32	0.002
R-Sq = 30.3%		R-Sq(adj) = 26.3%	

The above table and equation show the estimated relationship between the variables. Floating exchange rate and interest rate volatility has negative impact on to the financial crisis while oil prices have the positive impact on financial crisis. Rise in the exchange rate and interest rate will lead the financial crisis to fall. Oil prices, however upon a rise will sustenance financial crisis. For significant estimates of the independent variables p-value must be less than 0.05. It is quite clear that all the estimates have p-value lower than 0.05 and hence have a significant impact in determining the financial crisis in case of Pakistan. The value of the regression coefficient  $R^2$  does not seem to be very high but the results of the estimation.

Table 2. Analysis of Variance results

Source	DF	SS	MS	F	Р
Regression	3	34198	11399	7.67	0.000
Error	53	78775	1486		
Total	56	112973			

The results provided in table 2 help us to support our null hypothesis. Very low p-value suggests that the variability in financial crisis is well estimated through the equation 1.

#### 5. Conclusion

This paper has tried to find that how financial crisis can effect the Pakistan economy. The financial crisis strikes at international level defaults the banks, strike down the stock market so this paper find that how financial crisis effect the Pakistan economy. The results show that the floating exchange rate, interest rate volatility and oil prices had significant impact on financial crisis. Result of ANOVA supports the null hypothesis that floating exchange rate, interest rate volatility and oil prices has impact on financial crisis. In future the government of Pakistan should have a check on all the determinants of the financial crisis to lower its impact in future. Although rational rise in the exchange rate and interest rate will decrease the impact of financial crisis but this rise may result in increasing inflation which will lead to more poverty. Already almost half of the population of Pakistan is living a life below poverty line. To deal with the

financial crisis in future serious measures in term of the exchange rate and inflation rate need to be taken in to the considerations.

#### References

- [1] Hon Chu, K. (2007). Financial crises, liberalization, and government size. *Cato J.*, *27*, 37.
- [2] Ahmed, V., & OlDonoghue, C. (2010). Global economic crisis and poverty in Pakistan. *International Journal of Microsimulation*, 3(1), 127-129.
- [3] Latif, A., Nazar, M. S., Shah, M. Z., & Shaikh, F. M. (2011). Global Financial Crisis: Macroeconomic Linkage to Pakistan's Agriculture. *Asian Social Science*, 7(7), 90-93.
- [4] Amjad, R. (2010). Economic and social impact of global financial crisis: implications for macroeconomic and development policies in South Asia. *PIDE Monograph Series*.
- [5] Batool, I., Imran, R., Chani, M. I., Hunjra, A. I., & Jasra, J. M. (2011). Financial crises and economic growth in Pakistan: a time series analysis. *Middle-East Journal of Scientific Research*, 9(3), 425-430.
- [6] Nazir, M. S., Safdar, R., & Akram, M. I. (2012). Impact of Global Financial Crisis on Banks' Financial Performance in Pakistan. *American Journal of Scientific Research*, (78), 101-110.
- [7] Reinhart, C. M. (2000). The mirage of floating exchange rates. *American Economic Review*, 65-70.

- [8] Goldstein, M., Hills, C. A., & Peterson, P. G. (Eds.). (1999). Safeguarding Prosperity in a Global Financial System: The Future International Financial Architecture: Report of an Independent Task Force Sponsored by the Council on Foreign Relations. Peterson Institute.
- [9] Scattaglia, M., & Steinherr, A. (1998). Emerging Market Financing: Potential and Risks Illustrated with a Study of Mexico. *Revue économique*, 87-102.
- [10] Amuzegar, J. (1986). The IMF under fire. Foreign policy, 98-119.
- [11] Bird, G (2001). A suitable case for treatment? Understanding the ongoing debate about the IMF. *Third World Quarterly*, 22(5), 823-848.
- [12] Jensen, N. M. (2004). Crisis, Conditions, and Capital The Effect of International Monetary Fund Agreements on Foreign Direct Investment Inflows. *Journal of Conflict Resolution*, 48(2), 194-210.
- [13] Hamilton, J. D. (2005). Oil and the Macroeconomy. The New Palgrave Dictionary of Economics Palgrave Macmillan, London. Available online at http://www. dictionaryofeconomics. com/dictionary. Jiménez-Rodríguez, Rebeca and Marcelo Sánchez, 201-228.
- [14] Macroeconomics Analysis Of High Oil Prices On Pakistan Economy.
- [15] Fryer, D. W. (1987). The political geography of international lending by private banks. *Transactions of the Institute of British Geographers*, 413-432.