

ABSTRACT

An analysis to investigate the impact of exchange rate volatility was performed in this study considering trade and capital flows within Pakistan's trade partners perspectives. Two different sets of volatility variables were derived and compared by using two currencies as a base for the measurement of exchange rates, viz. US dollar and Pak-rupee, for this purpose. The Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model based approach was considered appropriate to calculate and generate the variance series as a proxy of volatility. Some other important specifications like Component (CGARCH), Exponential (EGARCH), Power or Nonlinear (PGARCH), Threshold (TGARCH) models were included in analysis to capture the impact of volatility clustering, asymmetrical news, leverage effect, dominant shock, impact of bad news, elements of long run persistence and the nonlinearities in volatility of exchange rates respectively. Monthly series, beginning from January 1970 to December 2009, reflecting relatively high frequency data were used to make detailed analysis of long run and short run volatility scenarios. A Sample of only twenty-nine countries was considered after sorting out the forty selected significant trade partners of Pakistan on the basis of data availability regarding all relevant variables, with limitation that many developing countries could not be included in final analysis. The resultant sample contained fifteen developed countries that shared about fifty percent of total trade with Pakistan and only fourteen developing countries. The main objective of this study was to explore the linkages of exchange rate volatility under trade and capital flows context by comparing both identical currencies based exchange rate volatilities within short and long run scenarios primarily for Pakistan along with her counterpart developing countries. The application of panel data techniques based on fixed effects models allowed us to accomplish this objective because it ensures the removal of any undesirable distorting effects that may exist due to the omitted variable bias in the system of equations and controls the inter-country variations by cross effects and intra-country variation by period effects. Mainly GARCH (1,1) models, for both currencies exchange rates, were used to derive effective volatility proxy. Whereas, other volatility proxies as obtained through different GARCH based specifications permitted us to diagnose in detail the nature of volatility relevance implied within the context of trade and capital flows in developing

countries like Pakistan. Fixed effect models, as compared to random effect models, were found more appropriate to estimate trade related functions including real trade balance, real exports, real imports, and real capital flows as well. Mainly, pooled data least squared dummy variables (LSDV) technique allowed us to develop different long run and short run fixed effect models by employing all sampled countries to analyze mutual trade aspects. The sample was further divided into two sub-groups: developed countries sub-sample and developing countries sub-sample, with the purpose to compare the impact of volatility under various trade options to evaluate developing countries trade suitability within their own group as potential strategy to avoid exchange rate volatility distortions. The results revealed that exchange rate volatility remained highly significant in short run irrespective of the currency used and lead to reduce exports as well as imports when trade was done mutually among sampled countries including both developed and developing ones. However, United States Dollar based exchange rate volatility (USD-ERV) helped to improve the trade balance while it was deteriorated with increased Pakistan Rupee based exchange rate volatility (PKR-ERV), these results remained consistent in mutual and intra developing countries both cases. Increased capital outflows were found significant independent of the currency in use across developed and developing countries when they exchanged the financial assets mutually. Some interesting findings were obtained within developing countries framework; basic volatility effect was absent for real exports with both currencies, it was absent for real imports with PKR but inverse with USD; No such effect was even existed for capital outflows in both currencies. However caused reduction in long run US dollar based imports and Pak-rupee based exports and imports both. Pak-rupee remained useful to avoid volatility impact when intra-developing countries trade occurs. However, in short run, mutual trade among developed and developing countries expanded with rise in volatility. The favorable effect of using US dollars appeared in case of trade balance only. Capital outflows increased when volatility was arrived during mutual trade irrespective of the currency in use. Effects of other volatility components on trade remained significant mostly in terms of US dollars as compared to Pak-rupee.