Effects of Exchange Rate Volatility on Trade
Some Further Evidence

PADMA GOTUR*

The volatility, frequency, and erratic pattern of exchange rate movements witnessed since the beginning of generalized floating have led to widespread interest in the nature and extent of the impact of such movements on trade. A principal concern is that exchange rate volatility appears to increase the risk and uncertainty in international transactions and may therefore adversely affect trade and investment flows. This concern has strengthened in recent years in response to increasing protectionist trends and slowing growth of world trade, and numerous empirical studies have been written on the subject. The generally inconclusive findings of these studies, however, have failed to provide any empirical basis for the view that exchange rate volatility has discouraged international trade. Indeed, a recent survey of the empirical studies examining the effects of increased exchange rate volatility on international trade concluded that “the large majority of empirical studies . . . are unable to establish a systematically significant link between measured exchange rate variability and the volume of international trade, whether on an aggregated or on a bilateral basis” (International Monetary Fund (1984, p. 36)). A recent paper by Akhtar and Hilton (1984a) examines afresh the issue of whether exchange rate uncertainty,

*Ms. Gotur, an economist in the Research Department, is a graduate of George Washington University, where she was an assistant professor of economics.

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proxied by observed exchange rate volatility, has had statistically significant adverse effects on international trade.1

The results of Akhtar and Hilton’s study differ from the findings of other researchers. They find that exchange rate volatility, as measured by the standard deviation of indices of nominal effective exchange rates, has had significant adverse effects on the aggregate trade in manufactured goods of the United States and the Federal Republic of Germany. On the basis of regression results for export and import price and volume equations, the authors report a marginally significant adverse effect of exchange rate volatility on U.S. export volumes and U.S. import prices and significant adverse effects on German export and import volumes. Therefore, the authors conclude that nominal exchange rate uncertainty has had a significant negative effect on trade. Although Akhtar and Hilton’s results from a similar exercise based on a measure of real exchange rate volatility are less conclusive, they find the weight of the evidence sufficient to conclude that “from the perspective of international trade, it is desirable to reduce exchange rate uncertainty or variability” (1984a, p. 73). They go on to suggest that this objective may be accomplished through changes in macroeconomic policies, official intervention, or substantial changes in the exchange rate system. The authors do note that, notwithstanding the possible adverse effect of exchange rate uncertainty on trade, other considerations may still support present floating exchange rate arrangements.

The purpose of the present study is to test the robustness of Akhtar and Hilton’s empirical results, with their basic theoretical framework taken as given. The analysis has two parts. The first simply extends Akhtar and Hilton’s analysis, which was limited to the United States and Germany, to include France, Japan, and the United Kingdom. The second examines the robustness of their results with respect to changes in the choice of sample period, volatility measure, and estimation techniques.

The main conclusion of the analysis is that the Akhtar-Hilton methodology fails “to establish a systematically significant link between measured exchange rate variability and the volume of international trade” (International Monetary Fund (1984, p. 36)). The results obtained are not sufficiently robust to indicate the

1 Unless otherwise noted, all subsequent references to Akhtar and Hilton’s work are to their more comprehensive paper (1984a); their second paper (1984b) is a condensation of this first paper and reports only selective results.