

The impact of the introduction of the Euro on foreign exchange rate risk exposures

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Abstract

This paper tests whether significant changes in stock return volatility, market risk, and foreign exchange rate risk exposures took place around the launch of the Euro in 1999. The experiment analyzes weekly returns for 3220 nonfinancial firms from 18 European countries, the United States, and Japan. We find that though the Euro's launch was associated with an increase in total stock return volatility, significant reductions in market risk exposures arose for nonfinancial firms both in and outside of Europe. We show that the reductions in market risk were concentrated in firms domiciled in the Euro area and in non-Euro firms with a high fraction of foreign sales or assets in Europe. The Euro's introduction led to a net absolute decrease in the foreign exchange rate exposure of nonfinancial firms, but these changes are statistically and economically small. We interpret our findings in the context of existing theories of exchange rate risk management.

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“For businesses, a common currency will reduce transactions costs — eliminating, among other things, the unnecessary waste of resources involved in dealing with several European currencies. At present, doing business across borders means having to buy and to sell

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foreign currencies — and taking the risk that sudden changes in their relative value could upend an otherwise sound business strategy. They can be hedged, of course, but only at a cost that must ultimately be borne by the customers.”

Jürgen Schrempp, CEO of DaimerChrysler AG
(Newsweek Special Issue 9/1998–2/1999)

1. Motivation

To date, academic studies have had limited success in empirically identifying significant exposures of nonfinancial firms with regard to unexpected changes in exchange rates (Bodnar and Wong, 2003; Griffin and Stulz, 2001; He and Ng, 1998; Bartov et al., 1996; Prasad and Rajan, 1995; Bartov and Bodnar, 1994). Since financial theory predicts, however, that firm value should be affected by foreign exchange rate risk (Levi, 1994; Shapiro, 1974; Dufey, 1972), the apparent discrepancy between theoretical hypotheses and the existing empirical evidence of over 60 studies is still perceived to be an unresolved issue in the finance literature.²

This paper takes a new look at the exposure puzzle by studying the potential impact of the introduction of the Euro. The introduction of the Euro as a common currency in January 1999 is an important historical event and one that provides a useful experimental setting to investigate the foreign exchange rate exposure phenomenon. As a matter of fact, an important argument in favor of a common European currency has been the reduction of foreign exchange rate risk that would benefit European firms in general and corporations with significant trade or investments in Europe in particular.³ This paper performs a firm-level analysis of changes in overall stock return volatility, its components related to market risk and foreign exchange rate risk, and how they are different for firms with economic activity in Europe compared to control samples, in particular. Moreover, we investigate to what extent the effect of the Euro on multinational firms is a function of firm, industry, and country characteristics.

To this end, this paper benefits from a high degree of detail on geographic segment data on sales and assets provided by OSIRIS (Bureau Van Dijk Publishing), a comprehensive database of 31,000 listed companies in 125 countries. The primary advantage of OSIRIS is that it reports much richer segment data per firm than other databases. To illustrate, OSIRIS has seven times as many geographic segments for firms in Europe, four times as many for Japanese firms, and three times as many for U.S. firms than the Worldscope database that is commonly used for international studies. Moreover, OSIRIS also covers a larger number of firms in Europe, which is the focus of the investigation. To the best of our knowledge, this data has not been used to study foreign exchange rate exposures, which may be important as the pattern of geographic segment sales is economically a crucial determinant of the foreign exchange rate exposure. After all, since the Euro is introduced in a specific set of European countries only, firms with foreign activities in

² A plausible explanation for the low significance of exchange rate exposure consists of hedging at the firm level. Bartram et al. (2004) show that 45% of 7263 non-financial firms in 48 countries around the world do use currency derivatives and that the economic risks in the firms' home markets are important determinants of their usage. Given the variety of methods for hedging, including foreign currency debt, derivatives, operative hedges, pass-through, etc., however, the importance of this effect is difficult to assess empirically.

³ See the European Commission's (1985) White Paper (EC85), especially Part 2.IV on the removal of technical barriers in financial services. See also its 1992 White Paper (SEC92-2472) on removing the obstacles to a common currency and Part 2.III of the 1995 Green Paper (EC95) on the practicalities of a single currency for enterprises (European Commission 1992, 1995).

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