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The EMU Effect on the Currency Denomination of International Bonds

Countries have taken substantial steps to help local firms mitigate their exposure to currency risk by issuing debt denominated in their domestic currencies and by promoting local currency bond markets, as in the Asian Bond Market Initiative. Currency risk arises when a firm's revenues are in its home currency, while its liabilities are in a foreign currency. This exposes firms to the risk of balance sheet deterioration in the event that their home currency suffers a substantial depreciation against the foreign currency. The development of local currency bond markets may not only mitigate currency risk, but it also may reduce the cost of issuing debt to domestic firms, who may be better known locally than abroad.

Some 20 years ago, such arguments also supported the formation of the European Monetary Union (EMU), on the expectation that monetary integration would be followed by growing financial integration within the region, including the development of domestic bond markets. A number of studies on the EMU have focused on aggregate-level data and have confirmed that financial integration did, indeed, increase, as aggregate volumes of foreign lending rose in both international banking and bond markets. Several reasons for this development have been posed. For one, monetary integration could have reduced the currency risk associated with lending and borrowing by individuals and corporations among EMU members. In addition, the very existence of the EMU might have increased the perceived penalty borrowers would face if they defaulted on a debt obligation to another union member, making borrowers across national boundaries more creditworthy. Furthermore, the increased volumes of transactions in European bond markets, perhaps in response to the first two changes, could have lowered the costs of issuing in those markets, making it more attractive for issuers to denominate their bonds in euros.

In this *Letter*, we review recent work by Hale and Spiegel (2008) that focuses not on aggregate-level

data but on micro-level data to study the impact of the launch of the EMU on the currency denomination of international bonds. The research examined the currency-of-issue decision for over 45,000 issues by a large number of individual firms (5,000) from 22 different countries in international bond markets. The results confirm that the share of euro-denominated bonds in the sample of non-financial firms increased substantially after the launch of the EMU. Among those firms, the probability of issuing in euros increased by 35 percentage points after the launch of the EMU compared to the pre-EMU probability of issuing in a future EMU member national currency. It also finds that this increase came largely at the expense of the share of issues denominated in U.S. dollars, suggesting that further growth in European bond markets may lead to additional declines in the share of bonds denominated in the dollar.

Aggregate evidence on the impact of the EMU

A large literature focusing on aggregate data has found evidence of a "euro effect" in firms' financing decisions. Galati and Tsatsaronis (2003) find large reductions in yield spreads in European bond markets after the launch of the EMU. Evidence of a euro-area bias in the pattern of financing following the launch of the EMU has been demonstrated for international bond portfolios (e.g., Lane 2006) and international lending by commercial banks (e.g., Spiegel 2008). Coeurdacier and Martin (2007) estimate that the launch of the EMU led to a 14%-17% decline in transactions costs in European bond markets.

The use of micro-level data has some advantages over aggregate-level data. For example, the micro data allow one to control for other features that might affect the firm's choice of currency for issuing its debt—such as the size of the issue, its term, its governing law, and the firm's nationality—and thereby to identify more clearly the magnitude of the EMU effect on the choice. In addition, it allows one to identify differences in firms' responses to the EMU's launch.

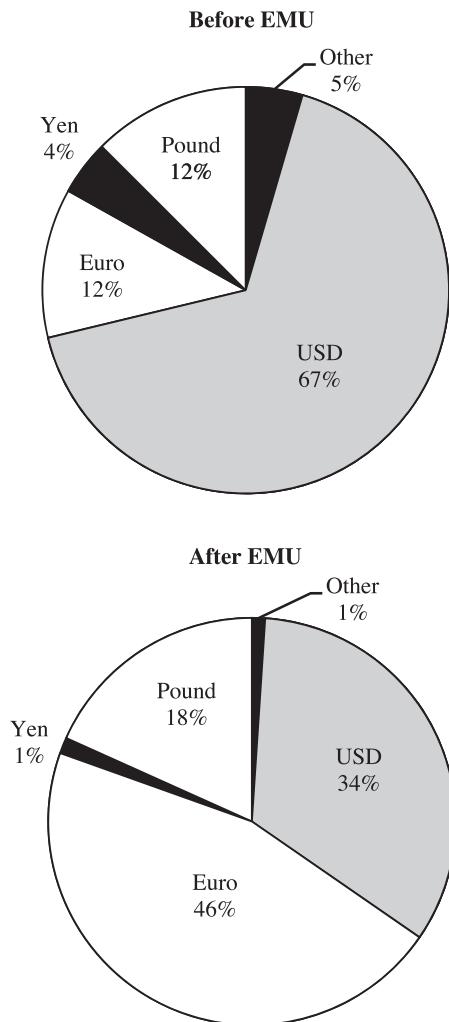
Currency denomination of bonds before and after the EMU

Figure 1 presents the currency composition of international bonds issued by nonfinancial firms in the sample, adding up the amounts raised via international bond issues in the nine years before and the eight years after the EMU launch. For clarity, all the currencies of future EMU-member countries in the pre-EMU era are combined into one group called "euro." The biggest change in the currency composition is the dramatic increase in the share of euro-denominated bonds and the corresponding decline in the share of U.S.-dollar-denominated bonds. Less big, but still substantial, is the increase in bonds denominated in British pounds and the decline in bonds denominated in the yen and other currencies.

Figure 1 thus demonstrates that the micro-level data support the findings from aggregate-level data that the launch of the EMU increased the share of financial assets denominated in the currencies of its member countries. It also suggests that there have been positive spillover effects for the British pound, possibly related to the introduction of the new TARGET settlement system in the European Union (EU), which includes the U.K., when the EMU was launched. The authors also find that the same pattern holds for firms operating in small countries outside the EU—the share of international bonds issued by nonfinancial firms denominated in currencies of the EMU members increased dramatically after the launch of the euro.

Using regression analysis, Hale and Spiegel capitalize on the ability of the micro-level data set to control for other factors that may influence the choice of currency denomination of a bond, such as the nationality of the issuing firm, the size of a bond issue, its credit rating, the governing law under which the bond contract is signed, interest rates, inflation, and the exchange rate volatility in different countries at the time of the bond issue. Their results indicate that the effect of the EMU on the currency composition of bond issues is very large for nonfinancial firms. Combining all possible currencies into five categories—U.S. dollar, euro, yen, pound, and other currencies—they find that after the launch of the EMU the probability that a nonfinancial firm would choose to denominate its bond issue in euros increased by 35.6 percentage points, while the probability of denominating the bond in U.S. dollars fell by 34.5

Figure 1
Currency composition of nonfinancial international bonds before and after the EMU



Data Source: Bondware, authors' calculations.

percentage points. The probabilities of denominating bonds in yen, pounds, or other major currencies did not show significant change.

Interestingly, the currency composition of bond issues by financial firms did not change much after the EMU. The authors argue that this may reflect the fact that, because financial firms face lower costs in issuing bonds, they did not experience the same gain from an increased size of the euro-denominated bond market as did nonfinancial firms.

They further find that the increase in the probability of denominating bonds in euros rather than in U.S. dollars is especially prominent for firms that are issuing in international bond markets for the

first time. Since such firms are not yet tied to any specific currency via institutional factors, such as a relationship with a specific bond underwriter, it is not surprising that they represent the group most likely to be attracted to a new large market of bonds denominated in euros. This finding is important in that it suggests that firms that tap the international bond market for the first time are much less likely to denominate their bonds in U.S. dollars than they were before the introduction of the euro. In that sense, the launch of the euro portends a decline in the dominance of the dollar in international bond markets.

Conclusion

The results discussed here confirm a substantial shift towards denominating debt in euros after the launch of the EMU among nonfinancial firms, but not among their financial counterparts. In addition, the results speak to the impact of the EMU's launch on the dominance of bonds denominated in U.S. dollars in international bond markets, as the percentage point increase in the probability of denominating debt in euros was almost exactly matched by the percentage point decrease in the probability of denominating debt in dollars.

These results suggest that firms that are issuing in dollars are somewhat less tied to that currency than those that are issuing in other non-euro currencies, such as yen or pounds. This would explain their greater likelihood of switching to euro denomination after the advent of the EMU. This is not surprising, as the dominance of the dollar in international bond markets appears to have left it the currency of choice among firms that are relatively footloose. However, as the market for bonds denominated in euros continues to grow, these increases may continue to come largely at the

expense of a decline in the share of dollar-denominated issues in international bond markets.

The fact that firms switched currency denomination of their international bonds relatively easily as a response to the launch of the EMU also suggests that they are likely to be responsive to improvements in local currency bond market conditions. Thus, official efforts in Asia or elsewhere to improve liquidity or institutional features of local currency bond markets may find some traction in inducing local firms to begin issuing in their domestic currencies.

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