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## Monetary and financial integration: Evidence from the EMU <sup>☆</sup>

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### ABSTRACT

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This paper examines the impact of European Monetary Union (EMU) accession on bilateral international commercial bank lending patterns. Using a difference-in-differences methodology, I demonstrate that accession to the EMU was accompanied by a change in Portuguese and Greek borrowing in favor of borrowing from their EMU partner nations. This extends the evidence in the literature that overall international borrowing is facilitated by the creation of a monetary union, and raises the possibility of financial diversion.

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## 1. Introduction

It is widely believed that monetary integration can lead to both enhanced trade and financial integration. Rose (2000) demonstrates a robust relationship between monetary integration and bilateral

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trade volumes. Considering financial integration, Blanchard and Giavazzi (2002) show that increases in the 1990s of the correlations between current account positions and per capita incomes of future European Monetary Union (EMU) countries exceeded those of non-EMU European Union (EU) countries, and further exceeded those of non-EU OECD countries, suggesting that monetary integration enhanced financial integration. Lane (2006a, 2006b) finds evidence of a euro-area bias in international bond portfolio movements.

There are a number of reasons why monetary integration might enhance financial integration: First, monetary integration reduces currency risk in international lending between partner countries. Second, membership in a monetary union increases the penalty for default on lending (e.g. Gourinchas and Jeanne, 2006).

Europe's monetary integration took place at a time where goods and financial markets were also being liberalized. Blanchard and Giavazzi (2002) note that since the early 1990s the European Union has harmonized its safety requirements and enhanced its distribution networks. This has led goods produced in the EU to become closer substitutes, implying that borrowing EU nations would face smaller declines in their terms of trade if they needed to generate current account surpluses to service their debt obligations. Holding all else equal, this should enhance their borrowing capacity. Financial liberalization was also taking place within the EU, due to the elimination of capital controls and the adoption of new regulations which allowed European banks to operate branches in foreign nations subject to their home-country laws (European Central Bank, 1999).

To examine the reasons why increased financial integration appears to follow increased monetary integration, it is useful to distinguish between source-neutral and source-specific increases in borrowing and lending opportunities. For example, the impact of increased goods market integration on potential adverse terms of trade effects would appear to make EMU nations safer borrowers from any nation, rather than just their EMU partners. Similarly, if sovereign defaults occur on all creditor nations simultaneously, as appears to have been the case historically, then the creditworthiness arguments stressed by Gourinchas and Jeanne (2006) would also appear to be source-neutral.<sup>1</sup> In contrast, if entering into a monetary union facilitates borrowing by reducing currency risk, then we should not only see increased overall borrowing, but also a relative increase in borrowing from the monetary union partner nations.

It follows that bilateral information on the pattern of increased borrowing and lending by EMU member nations could help to identify the channels by which monetary and financial integration are linked. In this paper, I move in this direction by examining the impact of accession to the European Monetary Union on bilateral commercial bank lending. I look for evidence that accession to the EMU increased the relative bilateral financial integration with the rest of the EMU, in addition to the impact on overall financial integration identified in the literature. The analysis therefore extends the aggregate evidence on financial integration in Blanchard and Giavazzi (2002) and Lane and Milesi-Ferretti (2003).

Consolidated data on bilateral foreign claims of reporting banks for twenty creditor countries and a large number of borrowing countries are available from the Bank for International Settlements (BIS) semi-annually from 1985.<sup>2</sup> Unfortunately, data on bilateral borrowing by the twenty creditor countries themselves were not released by the BIS prior to 1999. As the initial EMU partner nations tend to include prominent creditor countries, bilateral data are largely unavailable for these nations. For example, one cannot obtain commercial bank claims by the United Kingdom on France prior to the year 1999. As we are interested in assessing the impact of accession to the EMU on bilateral borrowing in that very year, this would appear to pose an insurmountable problem.

<sup>1</sup> Of course, if default were selective, then the Gourinchas and Jeanne (2006) effect could also increase the relative amount of financial integration with EMU partner nations.

<sup>2</sup> The inclusion of conditioning variables reduces the sample of creditor countries to sixteen. The consolidated BIS figures may induce errors in measurement of cross-border obligations from a number of sources: First, the use of consolidated data may not correctly assign the risk of banks' foreign-branches. Second, "outward risk transfers" are sometimes used to transfer risks to residents of other countries, and this data set would not pick these up. Still, as these errors fall in the regressand of the specification they only make the effect of EMU accession harder to find and do not appear to introduce any bias issues.

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