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The EMU effects on asset market holdings and the recent financial crisis☆

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ABSTRACT

This paper examines if there are significant integration effects from the establishment of European Monetary Union (EMU) and the introduction of euro on EMU and non-EMU equity and bond markets. This is done by looking at the holdings of these markets. We investigate to what extent these effects have been affected by the recent global financial crisis. This is done based on gravity model determining bilateral asset holding among the EMU countries, non-EMU European countries and the rest of world. This model can control for the effects of other economic (gravity-type) variables on the effects of the EMU on financial markets, like the size of the capital markets across countries, the geographical distance, information asymmetries etc. Ignoring these effects may exaggerate the actual EMU integration effects. The paper provides clear cut evidence that the establishment of the EMU had significant integration effects on equity and bond markets. It significantly increased the EMU bond and equity holdings by the EMU and non-EMU investors. These effects have become important since year 2001. However, they have considerably reduced after year 2007, due to the recent global financial crisis. Across the EMU countries, we have found that the strongest disintegration effects of the above crisis were observed for the peripheral countries of the EMU. These effects became evident before the start of the European debt crisis in early 2010.

1. Introduction

The establishment of the European Monetary Union (EMU) in the nineties and the introduction of euro in year 1999 in scriptural form (in year 2002 in fiduciary form) as a common currency has been among the most influential developments on the integration of the European financial markets. It has opened up possibilities for fully integrated financial markets of the same scale as those of the US. Financial integration is an essential precondition for a deeper and truly single European economy. It can remove existing obstacles to cross border investment projects and it can lead to the reduction of the investment risk across the EU countries. The immediate effects of the EMU on the Eurozone macroeconomy can be summarized as follows: price standardization and transparency, elimination of intra-European exchange rate risks, competition intensification in the financial sector across the EMU member states, elimination of currency related investment constraints and reduction of costs for investors (i.e., pension, government and corporate debt, and mutual funds) and, finally, convergence of interest rates, equity returns, bond yields and inflation rates across the EMU countries. See Jappelli and Pagano (2007) and, for a survey, European Commission (E.C.) (2006).

The introduction of the EMU and its integration effects on financial markets coincided with an unprecedented growth trajectory in the past two decades of financial liberalization, globalization along with a rapid pace of financial innovation and moral hazard (Crotty, 2009). On the other hand, over the last decade, the global financial crisis and the subsequent governments' bail outs to restore financial market confidence reversed the previous decade financial market liberalization and integration effects, by creating concerns on the existing global financial architecture (see, e.g., Wolf (2009)).

In the case of the EMU bond and equity markets, both the expansion and glooming faces of the international financial system are evident in the post-2000 decade. As suggested from our real life descriptive evidence, there are substantial changes of the bond and equity holdings of the EMU and non-EMU countries, since the establishment of the EMU. Fig. 1 presents the EMU bond holdings by the EMU and non-EMU investors, for the period of our sample (1997–2010). The figure clearly shows that, even before the launch of euro in fiduciary form in year 2002, the

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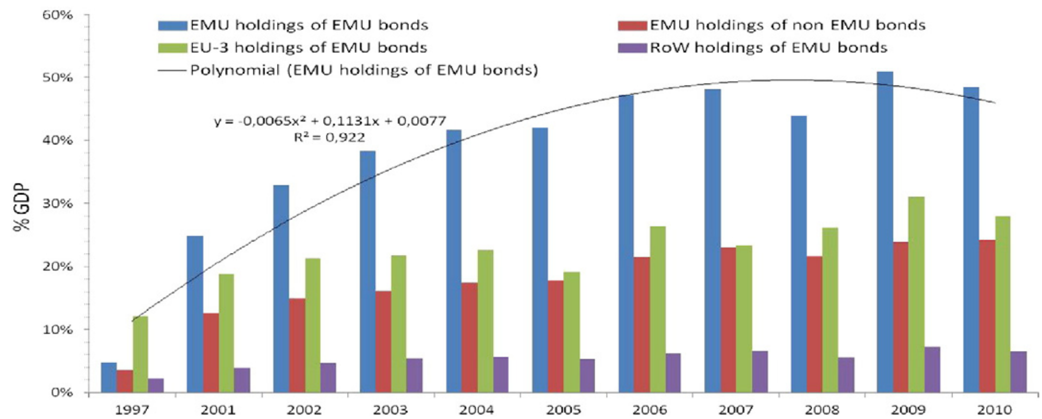

Fig. 1. EMU, EU-3 and RoW bond holdings as percent of GDP, Coordinated Portfolio and Investment Survey (CPIS), IMF.

EMU bond holdings by the EMU investors have increased from 5% of GDP in year 1997 to the astonishing level of 52% in year 2007. Since then, they have reduced to 44% in year 2010. The last result may be obviously attributed to the recent financial crisis.

Apart from the intra-EMU countries, Fig. 1 shows that substantial was also the increase of EMU bond holdings by investors of the three non-EMU EU countries, defined as EU-3 = {UK, Sweden, Denmark}, and the top 5 largest in terms of global markets capitalization rest of word (RoW) countries, defined as RoW = {US, Canada, Japan, Switzerland, Australia}. For the EU-3 countries, these holdings doubled from 12% of GDP in 1997 to 27% in 2008. Since then, they considerably declined. For the RoW countries, they increased from 2.3% in 1997 to 7.3% of GDP in 2009. After this year, they declined markedly.

The trends of the EMU equity holdings by the EMU and non-EMU investors can be seen by Fig. 2. As for the bond holdings, these indicate that, after the establishment of the EMU, a sharp increase in the intra-EMU equity holdings is observed from 3% of GDP in year 1997 to 25% in year 2007. This trend declines after this year. The same pattern is also observed for the non-EMU equity holdings by EMU investors. At a less degree, the above trends on the EMU equity holdings appear to be also followed by the EU-3 and RoW investors.

The above evidence raises a number of questions on the integration effects of the EMU and the global financial crisis on international financial markets. First, can the increase of both the bond and equity holdings of the EMU and non-EMU investors be attributed to the introduction of the EMU, or is it the outcome of the global financial market liberalization occurred over the last decade? Has the introduction of the EMU succeeded in making more attractive the EMU financial markets for the non-EMU investors? What was its effect on the decisions of the EMU investors to hold assets from non-EMU countries? Have any integration effects of the EMU on financial markets affected by the recent global financial crisis? Was there any difference in these effects between the core and peripheral EMU countries? Answering these questions has important policy implications for the integration and openness of the EMU financial markets, as well as for the global architecture and sustainability of financial market innovations introduced over the past quarter century.

To answer the above questions, we employ an econometric framework which is based on a gravity model. This model is often used in the economic literature to examine which economic variables explain bilateral economic integration effects in trade flows. In empirical finance literature, it has been recently employed to determine the patterns of bilateral capital flows between different countries (see, e.g. Martin and Rey (2004), Di Giovanni (2005), Aviat and Coeurdacier (2007), Lee (2008), Lane and Milesi-Ferretti (2003), Lane (2006) and Coeurdacier and Martin (2006)). In particular, the last two studies are focused on investigating the integration effects of the EMU on the Eurozone bond and equity markets before the recent global financial crisis. In investigating the effects of the EMU on financial markets, the gravity model has the interesting property that can control for the effects of factors, like geographical distance, market size, capital market transparency, economic sophistication and depth, trade etc., on the asset holdings of the EMU and/or non-EMU investors. Ignoring to control for these factors (as is the case of the above studies) may lead to misleading results about the significance and the actual magnitude of the EMU's integration effects on the EMU financial markets.

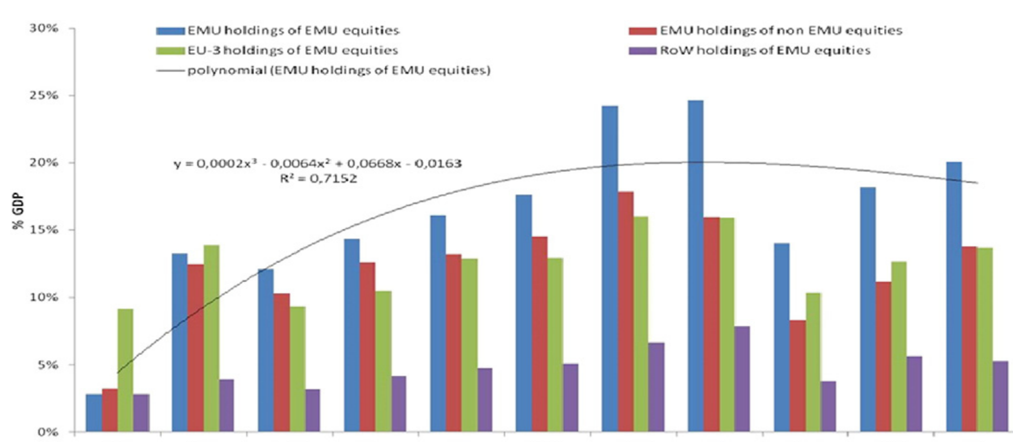

Fig. 2. EMU, EU-3 and RoW equity holdings as percent of GDP, Coordinated Portfolio and Investment Survey (CPIS), IMF.