

Box 5

FINANCIAL INTEGRATION AND THE FINANCIAL CRISIS IN 2008: A CROSS-BORDER PORTFOLIO ALLOCATION PERSPECTIVE

This box studies the impact of the financial crisis on home bias (i.e. the tendency to favour investing in domestic assets even if the risk is distributed more efficiently if foreign assets are held in an investor's portfolio)¹. To carry out the analysis, we compile quantity measures based on end-of-period cross-border portfolio assets and liabilities and employ the Coordinated Portfolio Investment Survey (CPIS) of the IMF, which encompasses almost all international investment assets, mostly held by private agents. As data are collected with some lag starting from end-1997, the box reviews developments over the period 1997-2008.

Financial integration and home bias

Quantity-based measures have been used in the literature to show that financial capital is not sufficiently mobile across developed countries (the "Feldstein-Horioka puzzle"),² and that investors have a tendency to give too much weight to domestic assets in their portfolio, relative to an optimally diversified portfolio (i.e. they have a home bias). Measuring the degree of home bias across countries and asset classes, as well as monitoring its evolution over time, is therefore important in enhancing the understanding of the global financial integration process.³

1 K. R. French and J. M. Poterba (1991), "Investor Diversification and International Equity Markets", *American Economic Review*, 81, pp. 222-26; G. Huberman (2001), "Familiarity Breeds Investment", *Review of Financial Studies*, 14, pp. 659-80.

2 M. Feldstein and C. Y. Horioka (1980), "Domestic Savings and International Capital Flows", *Economic Journal*, 90, pp. 314-29.

3 A commonly used index to measure home bias is one minus the Foreign Asset Acceptance Ratio (FAAR). FAAR measures the extent to which the share of foreign assets in an investor's portfolio diverges from the share of foreign assets that would be held in a "borderless" global portfolio. By this metric, home bias is higher, the further FAAR is from unity. See IMF (2005), *Global Financial Stability Report*, September, Chapter 3, and C. Bertaut and W. Grivier (2004), "Recent developments in cross-border investments in securities", *Federal Reserve Bulletin*, Winter, pp. 19-31.

Despite the large cross-border portfolio allocation over the last fifteen years, portfolio home bias remains generally high across countries. However, it has decreased clearly on average across all developed countries and asset classes over the period 1997-2007, with the decrease being more pronounced for bond holdings than for equity holdings. These developments support the common view that financial integration was well advanced globally before the 2008 financial crisis.

Among the countries under consideration, Japan and Spain have the highest measured home bias in equity markets, amounting to 84% and 83% respectively in 2008 (see Chart A), while the United States and Japan have the largest home bias in fixed income markets, standing at 91% and 83% respectively in 2008 (see Chart B).

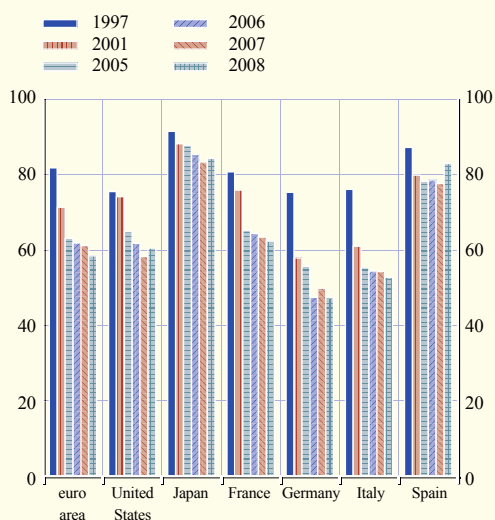
In 2008 the equity home bias for euro area residents (59%) was of the same order of magnitude as for US investors (61%), but the home bias for bond holdings by euro area investors was considerably lower.⁴ This, however, masks different developments across individual euro area representative investors. For example, German investors hold relatively more foreign stocks and bonds than the representative euro area resident. Conversely, Spanish and Italian investors hold respectively relatively more domestic stocks and bonds than other euro area residents. French investors have a lower home bias in debt instruments than in equity.

Cross-border portfolio flows have increased among euro area countries since end-1997 also because EMU acted as a catalyst for further portfolio transactions (i.e. through the reduction

4 The figures in this box refer to 12 euro area countries (i.e. Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain).

Chart A Equity home bias in selected economies

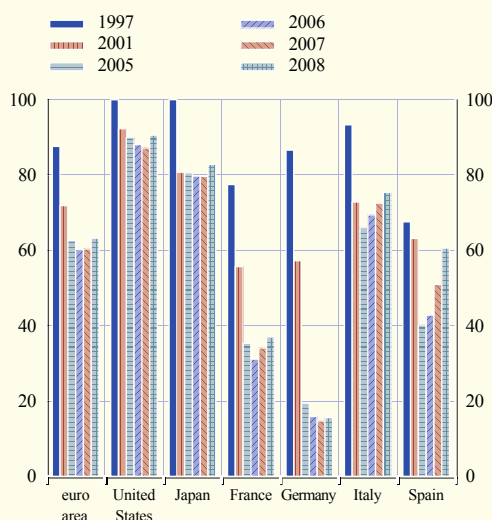
(percentages; end of period)



Sources: IMF, Thomson Financial Datastream, ECB staff calculations.

Chart B Debt home bias in selected economies

(percentages; end of period)



Sources: BIS, IMF, Thomson Financial Datastream, ECB staff calculations.

of legal barriers, in particular the implicit removal of intra-euro area currency matching rules,⁵ the sharing of common platforms (e.g. Euronext) and the simplification of cross-border regulations).⁶ This explains why some euro area countries have a lower home bias than the euro area as a whole.

The impact of the financial crisis on indicators of global financial integration in 2008

Investigating the reallocation of financial capital across the major advanced countries during the financial crisis (in particular in 2008) may provide important elements to better understand how the recent financial crisis might have affected the global financial integration process.

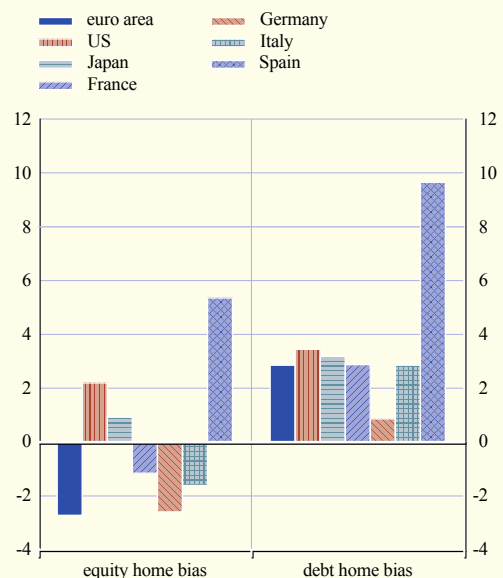
Typically, in times of financial and economic distress, the risk premium on equities relative to bonds increases, as investors move from more risky equity investments into the safer fixed income markets. Accordingly, the flight to quality that resulted from the crisis affected home bias in 2008.

During the financial crisis in 2008, home bias in debt markets rose significantly across all countries investigated in this box, with Spain recording the largest increase (by 10 percentage points; see Chart C).⁷ Home bias in equity markets increased to a lesser extent for US and Japanese investors and decreased for the euro area as a whole. The general trend increase in home bias in debt markets is due to the sharp rise in bond issuance in 2008, with debt being mostly subscribed by domestic investors. Conversely, the lower degree of equity home bias in the euro area is attributable to the larger fall in domestic market capitalisation. Overall, cross-border integration of debt markets seems much more vulnerable to financial instability, possibly owing to institutional features such as being less transparent and less liquid than stock markets.

Against this backdrop, a natural question to ask is whether the financial crisis affected the decision by financial investors to invest in the

Chart C Change in equity and debt home bias in 2008 relative to 2007

(percentage points; end of period)



Sources: BIS, IMF, Thomson Financial Datastream and ECB staff calculations.

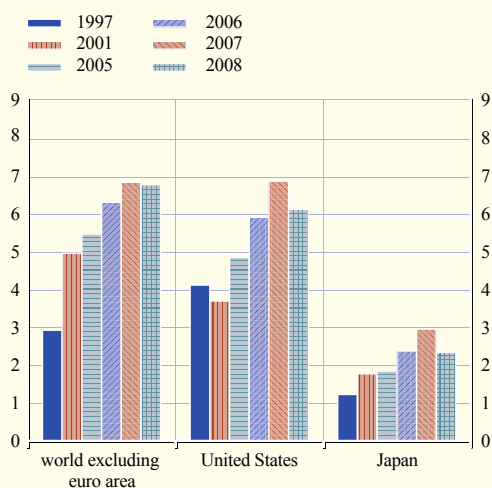
5 The role of EMU is stronger in fixed income markets because insurance corporations and pension funds, which purchase primarily fixed income securities, are subject to some form of restrictions on the level of their non-domestic investment and, therefore, on the level of their assets in foreign currencies. Since the introduction of the euro in January 1999, the intra-euro area currency matching rule has shifted from national currencies to the euro. The resulting greater flexibility allowed individual euro area country portfolios to secure better diversification of investment risk by purchasing more non-domestic euro area assets.

6 B. Gerard and R. A. De Santis (2010), "International portfolio reallocation: Diversification benefits and European monetary union", *European Economic Review*, 2009, 53, pp. 1010-27. R. A. De Santis (2010), "The geography of international portfolio flows, international CAPM and the role of monetary policy frameworks", *International Journal of Central Banking*, forthcoming in the June 2010 issue.

7 Home bias in debt markets in France, Italy and Spain increased at the end of 2007 possibly due to the outbreak of the financial crisis in August 2007.

Chart D Euro area equity securities held abroad

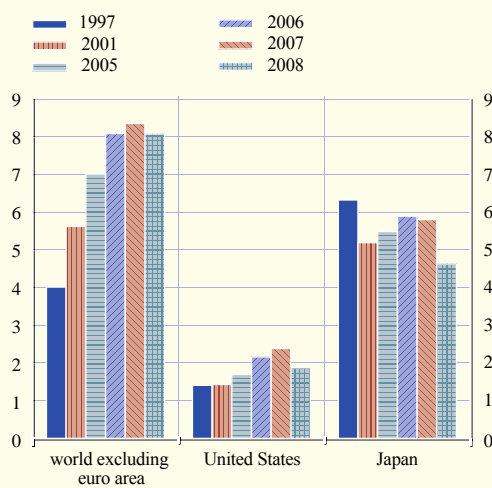
(percentage share of the foreign total equity portfolio; end of period)



Sources: IMF, Thomson Financial Datastream, ECB staff calculations.

Chart E Euro area debt securities held abroad

(percentage share of the foreign total debt portfolio; end of period)



Sources: BIS, IMF, Thomson Financial Datastream, ECB staff calculations.

euro area in 2008. As reflected in Charts D and E, overall, foreign investors reduced only slightly their relative holdings of euro area equity and debt securities in 2008. However, the United States and Japan reduced their exposure to both types of euro area assets in 2008 to a greater extent. If the increase in US and Japanese investors' home bias turns out to be of a more permanent nature, real returns on euro area assets would have to increase in order to attract the same amount of capital from these countries.

The increase in home bias in 2008 is most likely due to a temporary rise in the risk of holding foreign assets, as a consequence of the plunge in global financial wealth in 2008. However, if it is due to information asymmetries, transaction costs or other non-pecuniary motives to invest abroad, the more lasting increase in home bias could have important negative implications for global financial market efficiency and, ultimately, for the real cost of finance.