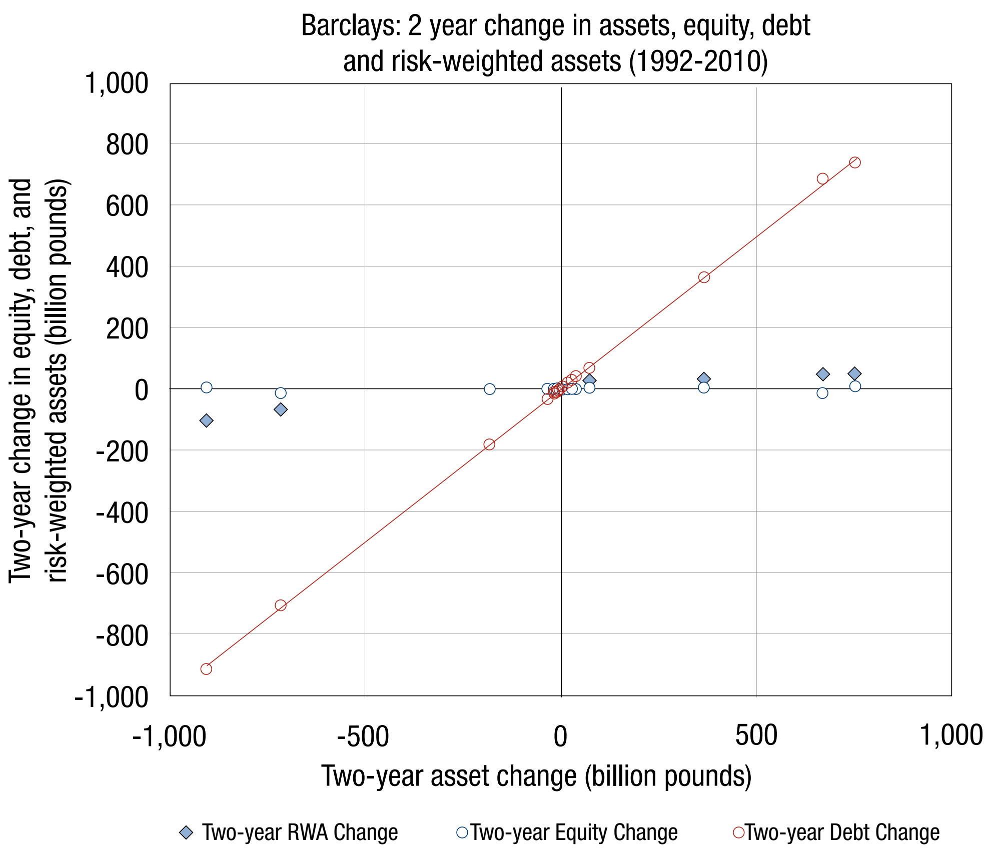
procyclical and volatile one that is important for transmitting financial conditions. To illustrate this, consider Figure 2, which is from the IMF's *Global Financial Stability Report* of April 2010. It shows the capital inflows into forty-one countries, including many emerging economies. The negative green bars starting in 2008Q4 are particularly striking, indicating the sharp withdrawal of bank flows.[8]

Also apparent in the figure is how the volatility of banking-sector credit flows is quite different from the volatility of other types of capital flows.

## Procyclical Behavior of Banks and Asset Price Amplification

The outsized impact of bank-related capital flows derives in part from how banks manage their balance sheets. Bank lending is highly procyclical, rising significantly in good times and falling in bad times, perhaps even more than the availability of projects deserving of funding would imply. Bank lending appears to respond not just to the creditworthiness of projects, but also to slack in the balance-sheet capacity of banks—in other words, their ability to take on additional risk.[9]

**Figure 3: Scatter chart of two-year change in assets of Barclays against change in equity, debt, and risk-weighted assets**




*Source: Bruno and Shin (2012), data from Bankscope*

[8] This pattern is confirmed in the econometric results reported by Milesi-Ferretti and Tille (2011), who find that the sudden stop in capital flows during the crisis was primarily concentrated in bank-related flows. Cowan et al. (2008) show that sudden stops are as frequent in emerging markets as in developed countries. The difference traditionally has been that in developed countries these sudden stops of inflows are offset by a reversal of outflows. During the European crisis, however, there have not been offsetting stoppages of outflows to the sudden stop of inflows. Indeed, crisis-hit countries have experienced a "sudden start" of outflows.

[9] Procyclicality of banking is a familiar theme in financial economics and has generated an extensive recent literature. See Brunnermeier and Sannikov (2011) for a recent formal exposition.