



External dimension of monetary policy

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It is a pleasure to be back in Washington, and to share the floor with my fellow panellists. I am particularly pleased to be here with Lars Svensson. I have fond memories of our long, animated debates back in 2006 and 2007 when we were colleagues at Princeton on whether central banks should take account of financial stability in formulating their monetary policy. We did not manage to agree then, and I suspect that we will not manage to agree today, but let me say, Lars, that it's always a pleasure to debate these issues with you.

Today, I would like to speak about the external dimension of monetary policy. It is a cliché that the world has become more connected, but the external dimension of monetary policy has figured more prominently in central bankers' speeches lately. There is much talk of "headwinds" from emerging markets buffeting the advanced economies, but the tendency is to speak of these headwinds as if they had come out of the blue. But if we take a step back and take in the larger picture, we can see that these headwinds are the result of monetary policy actions taken some time ago, in the emerging market economies but also by precisely those advanced economies being buffeted by these headwinds.

Nor are these spillovers and "spillbacks" a recent phenomenon. They have always been there in the background. Even if monetary policy cooperation is limited by domestic central bank mandates, enlightened self-interest should be enough motivation to take account of such spillovers and spillbacks.

Let's go back to 2002. Graph 1 shows a snapshot of the cross-border banking claims at the time denominated in US dollars. Even then, there was quite an active two-way flow between Europe and the United States. The two-way flow resulted from the "round-tripping" of dollars intermediated by the large European banks who raised wholesale funds by using their US branches to borrow from US money market funds, ship the funds back to headquarters and then recycle the proceeds back to the United States by purchasing securities built on mortgages of US households. A large chunk of US subprime mortgages were financed this way.

In Graph 1, the size of the arrows represents the size of the claims. In 2002, the arrow from the United States to Europe was \$462 billion. This grew to \$1.54 trillion by 2007. The return leg of the round-tripping went from \$856 billion in 2002 to over \$2 trillion in 2007.

The outflows to Europe were matched by the inflows from Europe, and so the net flows were small compared to the gross flows. The current account between Europe and the United States remained broadly in balance, even though the gross capital flows from Europe into the United States grew enormously. Lending standards, though, are about the size of the balance sheet. So, gross flows are what counts for lending standards. Gross flows surged, easing lending standards and fuelling the rapid increase in credit to subprime borrowers. The discussion paper on ABS flows by Steve Kamin and his colleagues at the Fed (Bertaut et al (2011)) is a very good account of the details.



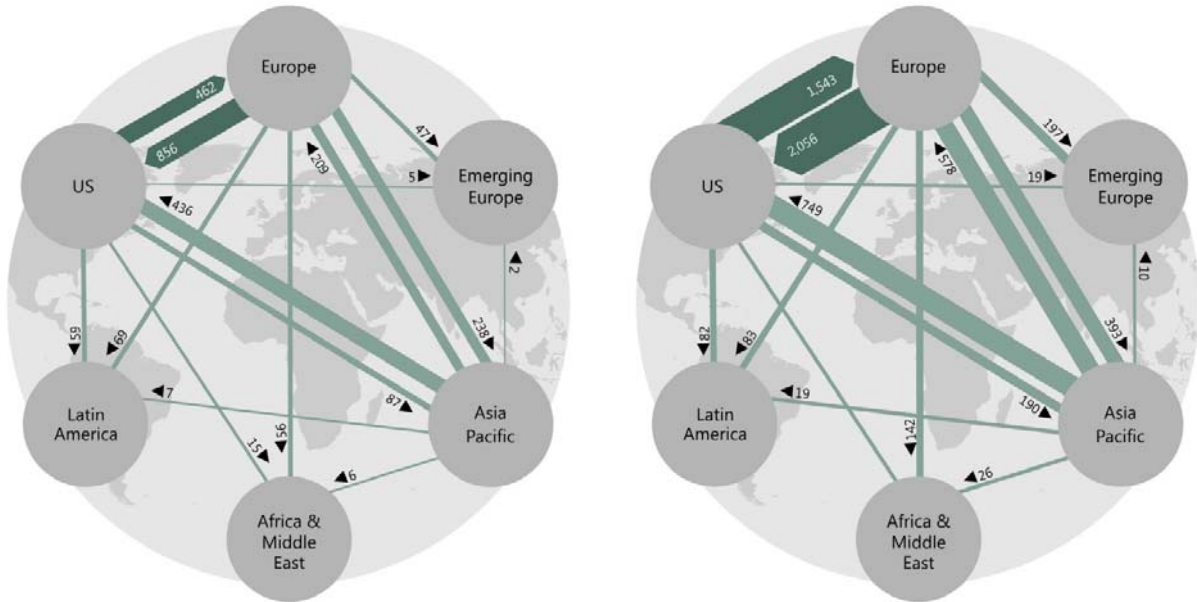
US dollar-denominated cross-border claims

In billions of US dollars

Graph 1

2002

2007



Source: BIS locational banking statistics.

This is now history, and we can debate why it happened. No doubt lax financial regulation, both in Europe and the United States, is part of the story, and the lessons were incorporated in the post-crisis financial regulation agenda. But this kind of surge in credit does not happen in a vacuum, and I wonder whether we should exonerate monetary policy from blame in this episode.

It's true that interest rates were high by today's standards. But this was a period of forward guidance on the path of future policy rates, with an assurance that rates would increase at a measured pace and in a predictable manner. This is the kind of environment where leveraged players could safely borrow short-term and leverage up, secure in the knowledge that they would not have the rug pulled out from under their feet.

But let me not dwell on that aspect today. Instead, let me ask a more basic question. Why did policymakers miss the surge in subprime funding coming from Europe?

For once, we cannot blame the lack of data. Graph 1 is from the BIS locational banking statistics, but the BIS simply aggregates the data supplied by central banks. In fact, the cross-border position data between Europe and United States actually comes from the central banks in those regions.

If it's not the lack of data, then why did we miss this?

I suspect that the blind spot is due to our accounting conventions in international finance. When we do international finance, we often buy into the "triple coincidence" where the GDP area, decision-making unit and currency area are one and the same.¹

¹ Avdjiev et al (2015).



This means, among other things, that textbooks assume that each GDP area has its own currency and the use of that currency is largely confined to that economic area. The textbook Mundell-Fleming model is a classic example of the triple coincidence, but even in sophisticated macroeconomic models, the triple coincidence is rarely questioned. Currency appreciation or depreciation then acts on the economy through changes in net exports. The idea that foreigners would be borrowing and lending in massive amounts in my currency does not figure in these macro models.

One reason why I suspect that it is triple coincidence reasoning that led us astray comes from another common error that economists were making before the crisis. You will remember that in the mid-2000s, the US dollar depreciated to new lows against major currencies while the US current account deficit grew to historically large levels. Many of us were concerned about the large US current account deficit, and wondered aloud whether there would be “sudden stop” that hit the United States, just as in previous emerging market crises.² Paul Krugman, another former Princeton colleague, wondered aloud about a possible “Wile E Coyote moment” for the dollar when the first signs of the global financial crisis appeared.³

In the event, the US dollar appreciated sharply with the onset of the global financial crisis. The dollar’s surge was associated with deleveraging of financial market participants outside the United States that had used short-term dollar funding to invest in risky long-term dollar assets, with the European banks mentioned above being the most prominent example. As the crisis erupted, these financial institutions found themselves short the dollar and overleveraged, and sought to reduce their dollar liabilities, bidding up the value of the dollar in the process.

The sharp rise in the dollar brings us back full circle to mechanisms at play today. But the protagonists have changed in the meanwhile. The dollar borrowers are not European banks, but emerging market corporates. And the borrowing is done through corporate bonds, rather than wholesale bank funding.

Borrowing in US dollars by non-banks outside the United States stands at \$9.7 trillion. Of this, dollar borrowing by emerging market borrowers stands at \$3.4 trillion, which is more than double what it was before the global financial crisis.⁴

As large as these numbers are, one might still argue that they are small compared to the total foreign exchange reserves of emerging market economies.

However, this line of argument falls foul of another shortcoming of triple coincidence reasoning. Even if the country as a whole has net foreign claims that are positive, the foreign exchange reserves are held by the official sector. Unless there is some automatic mechanism to transfer the capital gains on official reserves to distressed non-financial corporates, firms will need to adjust their spending and hiring, hitting the domestic economy directly. The capital gains seen on the central bank balance sheet will not help the corporate borrowers who are facing a credit crunch and a surge in the value of the dollar. This point is true even for those countries who run current account surpluses.

All of this brings us right up to date. This morning, I described in my presentation of the risk-taking channel of currency appreciation⁵ how currency depreciation against the funding currency –

² Summers (2004), Edwards (2005), Obstfeld and Rogoff (2005), Roubini and Setser (2005).

³ Krugman (2007).

⁴ McCauley et al (2015).

⁵ Hofmann et al (2015).



almost invariably the US dollar – is associated with tighter financial conditions and a dampening of economic activity.

This story is about international funding currencies in general, not just about the dollar. The euro, after a slow start, is showing signs of joining the dollar as an international funding currency. Borrowers outside the euro area are borrowing more in euros, taking advantage of very low long-term interest rates, just as borrowers outside the United States have been borrowing in US dollars for some time.

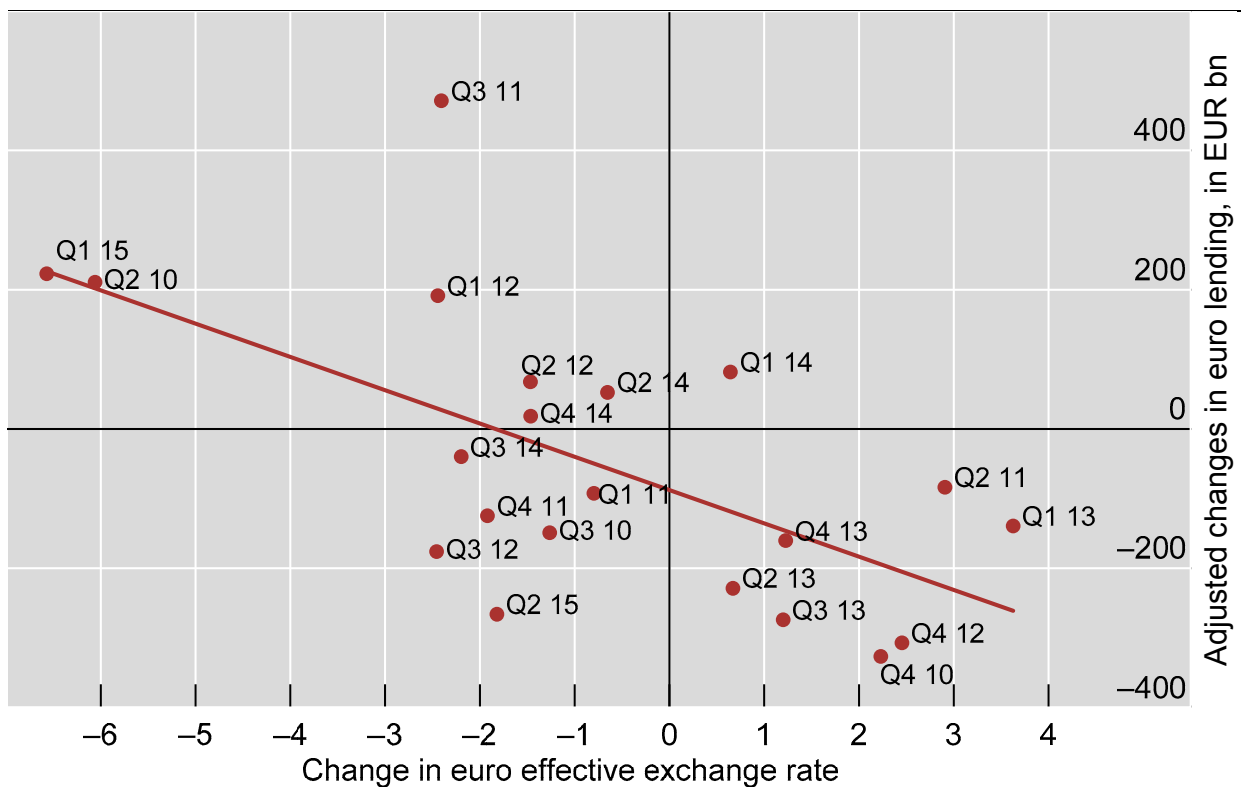
To be sure, the sums are still small for the euro. The stock of euro-denominated debt of non-banks outside the euro area is only around a quarter of the equivalent US dollar amount. But the trajectory is steep. US companies have been particularly active in borrowing in euros. This type of borrowing is common enough to have its own name. It's called "reverse yankee" borrowing.

The scatter chart shown in Graph 2 for euro-denominated cross-border lending reveals the tell-tale pattern whereby a depreciating currency is associated with a faster growth of cross-border lending denominated in that currency.

Change in euro-denominated cross-border lending to banks¹

Relationship between quarterly change in euro-denominated cross-border lending to banks and changes in euro effective exchange rate

Graph 2



¹ The line is a fitted regression line. Positive changes in FX rate denote a euro appreciation.

Source: BIS locational banking statistics.



Pursuing the parallels between the US dollar and the euro further, a possible question facing euro area policymakers in a few years' time may well be about interest rate lift-off in the euro area and appreciation pressures on the euro amid weaker global demand, just as US policymakers are now facing difficult choices, confronted by an appreciating dollar and weaker global demand.

Even if domestic central bank mandates constrain policymakers to consider only domestic economic interests, enlightened self-interest would surely take these longer-term factors into account.

Even if your primary interest is to keep your own house in order, enlightened self-interest would entail giving some thought to keeping the neighbourhood in order, too.

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