Banking de-globalisation: a consequence of monetary and regulatory policies?[1]

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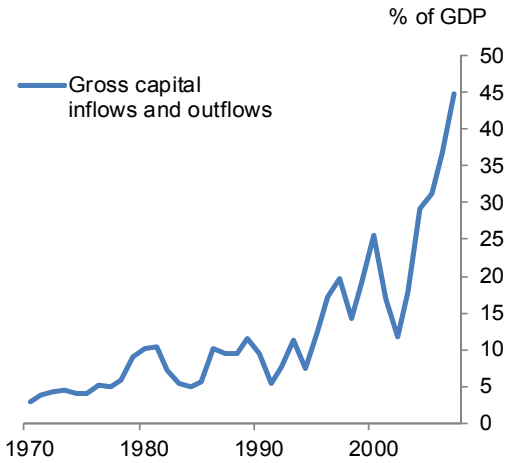
Introduction: financial globalisation – or banking de-globalisation?

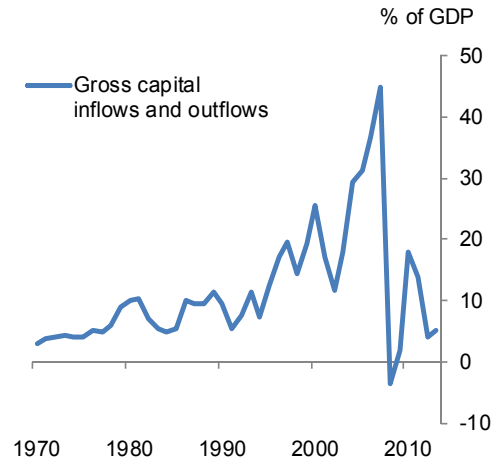
Countries around the world have tended to become more closely linked through the movement of goods, capital and people over time. It is often argued that this globalisation is a seemingly irreversible trend that can only move in one direction, especially in international finance. For example, Figure 1a shows one measure of cross-border financial integration – the sum of capital flowing in and out of a country

Figure 1a: Gross capital inflows and outflows for selected advanced economies[(a)] 1970-2007



(a) Sample of countries: Australia, Austria, France, Israel, Italy, Netherlands, Sweden, United Kingdom, United States.
Source: IMF International Financial Statistics, OECD

Figure 1b: Gross capital inflows and outflows for selected advanced economies[(a)] 1970-2013



(a) Sample of countries: Australia, Austria, France, Israel, Italy, Netherlands, Sweden, United Kingdom, United States.
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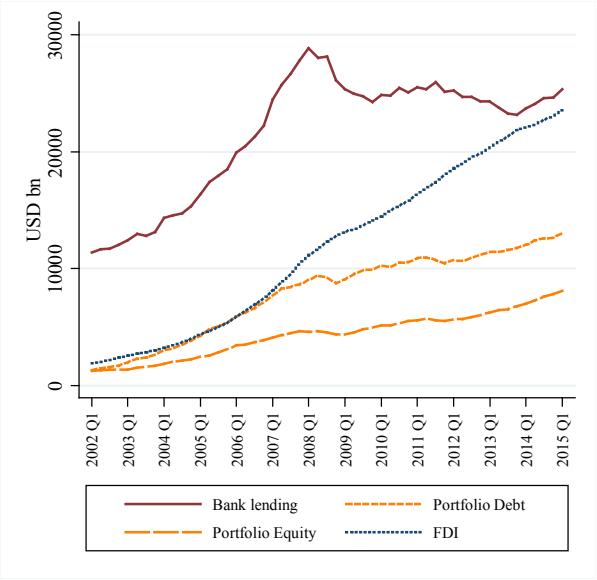
by foreigners and domestic residents each year (scaled as a share of global GDP) for a group of advanced economies with data back to 1970.[5] These capital flows increased sharply over the 15 year window starting in 1990 – a trend which many believed would continue (albeit with some ups and downs around this longer term trend as had traditionally occurred).

During the global financial crisis, however, this trend of ever increasing cross-border financial flows reversed. Figure 1b extends Figure 1a with post-crisis data and shows the subsequent sharp decline in international capital flows.

To better understand what has caused this decline, Figure 2a breaks these capital flows into four broad categories: banking flows, portfolio equity and debt flows and foreign direct investment. This figure shows that although portfolio equity and bond flows slowed slightly during the crisis, these types of capital flows have since stabilised and continued to increase. Capital flows in the form of FDI have continued to increase – both during and after the crisis. Figure 2b divides these international banking flows further into international bank-to-bank lending and bank-to-nonbank lending. The main decline in cross-border bank flows – especially since 2012 – was caused by a decline in international bank-to-bank (but not bank-to-nonbank) lending.

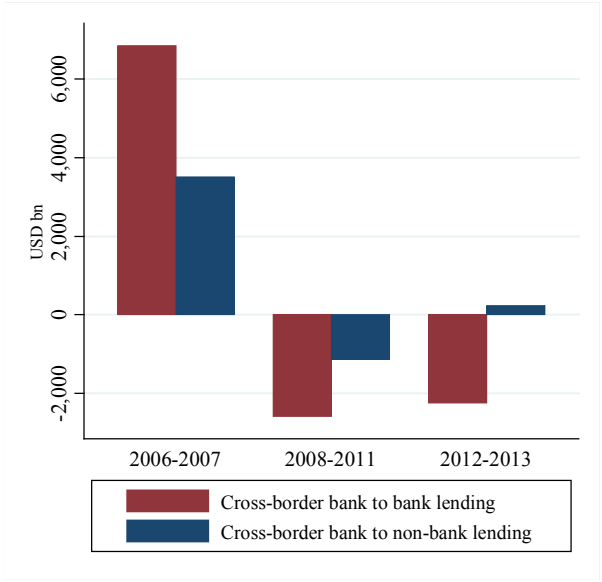
Figure 2a: Gross capital flows disaggregated



Notes: Gross lending in different types of assets is the cumulated USD bn flow in cross-border lending since 2002 Q1 summed across the BIS reporters for which data was available and then added to 2001 Q4 stocks. Flows in the BIS data refer to estimated exchange-rate adjusted changes in stocks.

Sources: IMF *International Financial Statistics*; BIS international banking statistics.

Figure 2b: Bank-to-bank and bank-to-non-bank flows



Note: The chart shows, over the specified time period, the cumulated (exchange-rate adjusted) cross-border bank-to-bank and bank-to-non-bank lending summed across the BIS reporters for which data was available.

Sources: IMF *International Financial Statistics*; BIS international banking statistics.

This persistent contraction in cross-border bank lending has been described with terms such as "financial de-globalisation" (Forbes, 2014) and "the great cross-border bank deleveraging" (Cerutti and Claessens, 2014). A number of papers have proposed

[5] This is gross capital flows into each country, expressed as a percent of the total GDP of all countries in the sample. "Gross" capital inflows is asset purchases by foreigners – capital flows from foreigners into the country – net of their sales (outflows). Gross capital outflows is defined symmetrically for domestics.

and tested explanations for this contraction. For example, Rose and Wieladek (2014) explore the role of government intervention in the banking system, while Giannetti and Laeven (2012) consider the impact of increased home bias. Cerutti and Claessens (2014) and Forbes (2014) weigh a wide set of factors, including the above as well as a reduced demand for loans, and reduced availability of wholesale funding for banks.

A closer inspection of Figures 2a and 2b suggests that the recent evolution of international bank lending can be divided into two stages: the sharp initial contraction that occurred during the crisis, and a more recent decline that began in 2012 – what we refer to as the "second phase of banking de-globalisation". This most recent decline in international lending is in stark contrast to greater stability in other types of capital flows and domestic bank lending. Indeed, at a time of substantial monetary easing in most advanced economies, one would expect at least part of the intermediation to take place via the global banking system. The academic literature has not yet focused on this second phase of banking deglobalisation, or whether regulatory and/or unconventional monetary policy could be behind these trends in global banking. The paper summarised in this article, Forbes, Reinhardt and Wieladek (2016), attempts to fill these gaps.

An unexplored explanation: bank regulation combined with unconventional monetary policy?

Many countries meaningfully adjusted their economic policies during and since the global financial crisis in ways that could affect international bank lending. For example, bank regulations were significantly tightened to strengthen the resilience of financial systems. Typically this would lead banks to reduce domestic and international lending to the same degree – as shown in several studies.[6] At the same time, many central banks pursued unconventional monetary policies (such as quantitative easing and targeted lending policies) aimed at stimulating aggregate demand. Even though these policies were not directly aimed at international bank intermediation, they may have had substantive effects by changing the relative risk weights attached to international relative to domestic lending. More specifically, assume unconventional monetary policy lowers interest rates at home or improves the domestic economic outlook. This will reduce the associated risk weight, thereby skewing an individual bank's incentive to reduce international lending significantly more than domestic lending in response to higher capital requirements. Conceptually, this is how policies such as quantitative easing or other programs aimed to support economic activity at home may interact with changes in microprudential requirements to generate a large contraction in international lending.

While these policies could play an important role in explaining the contraction in cross-border bank lending, it has been difficult to evaluate their effects empirically for several reasons. First, distinguishing between cross-border loan supply and

[6] For example, after a 100 basis point increase in capital requirements, Aiyar, Calomiris and Wieladek (2014) find a contraction of 5.6% in domestic private non-financial corporate (PNFC) lending, while Aiyar, Calomiris, Hooley, Korniyenko and Wieladek (2014) find a contraction of about 5.4% in cross-border loan supply. Bridges et al (2014) also find a quantitatively similar impact on domestic lending.

demand is difficult. Second, the temporal clustering of these different policies, in direct response to the financial crisis in most countries, makes disentangling their individual effects challenging. Finally, it is difficult (if not impossible) to obtain the necessary data on all the relevant policies in most countries.

The United Kingdom as an ideal case study with global implications

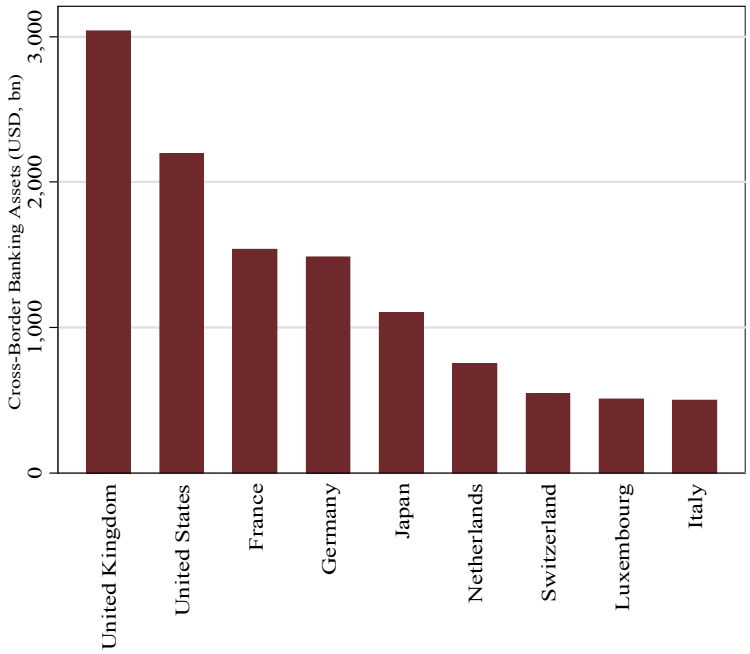
A unique UK data set, combined with the policy decisions and structure of the British banking system, however, allows us to address these challenges and provide the first evaluation of whether changes in regulatory and monetary policy were a significant factor in the second phase of banking de-globalisation. Our dataset includes external bank lending by country, which we have merged with detailed regulatory data on microprudential capital requirements (merged across three regulatory forms), as well as with information on bank balance sheets and different forms of unconventional monetary policy. The resulting bank-country-time panel allows us to separate country-specific loan demand from supply via country-time effects (as in Aiyar et al, 2014).

The United Kingdom is also an ideal case study to test how regulatory and unconventional monetary policy may have affected international bank lending due to its structure and recent policy actions. UK-resident banks are at the heart of the global financial system and have played a major role in the de-globalisation of bank flows. As shown in Figure 3, UK banks provide more international loans (bank-to-bank assets) than any other country in the world, with around 15% of international interbank activity booked in the United Kingdom and the average UK bank lending to 53 countries. The United Kingdom actively used different regulatory and unconventional monetary policies after the peak of the financial crisis: UK quantitative easing was conducted from 2009 onwards; microprudential regulatory requirements were adjusted throughout; and the Funding for Lending Scheme (FLS), a policy designed to stimulate domestic lending, was introduced in July 2012.

The FLS plays a key role in our analysis, so merits a brief explanation. The program was announced in June 2012, and coordinated between the Bank of England and Her Majesty's Treasury (HMT). It was designed to increase bank lending by ensuring that high bank funding costs and capital constraints within the British banking system did not impede lending to the United Kingdom's real economy. This scheme consisted of several components. First, it provided funding to participating institutions for an extended period at below market rates. This likely led to lower interbank funding costs and hence lower effective interest rates on mortgage and private non-financial corporate (PNFC) loans in the United Kingdom. Second, it provided preferential capital treatment for specific FLS-eligible lending in order to stimulate domestic lending. The program was also modified on 1 January 2014, when support for household lending was removed (due to the improvement in household credit conditions and renewed momentum in house price inflation), while the subsidy for non-financial corporate lending remained.

The largest cross-border banking centres at the onset of the 2nd phase of banking de-globalisation

Figure 3



Note: Data refer to 2012 Q2 and cross-border bank-to-bank lending.

Source: BIS international banking statistics.

Key results

The results from our analysis suggest that changes in capital requirements, and their interactions with certain types of monetary policy, have led to significant reductions in international bank lending. We find that an increase in a bank's capital requirement of 100 basis points leads to a contraction in external lending growth of about 3.4%. For banks which specialised in FLS-eligible lending (before the introduction of this policy), the effects of increased capital requirements were amplified by a significant amount. In particular, the same increase in a bank's capital requirement led to a larger contraction in external lending under the FLS – with estimates suggesting this amplification effect was substantial for the average bank. The main findings are robust to different data cleaning techniques and the inclusion of various control variables in our econometric model. These results are also robust to an alternative estimation framework aimed at addressing any potential endogeneity between capital requirements and international bank lending.

While these results suggest that certain forms of unconventional monetary policy – namely the FLS – can have important effects on international bank lending when combined with changes in bank regulations, other types of unconventional monetary policy may or may not have the same impact. Indeed, a similar analysis for quantitative easing suggests that while this policy may also have magnified the impact of increased capital regulations on external lending, any such amplification

effects were insignificant, smaller in magnitude, and not robust to perturbations of our baseline empirical model.

A more detailed analysis of the different components of the FLS program supports these main findings and provides additional details on precisely how this form of unconventional monetary policy interacted with and amplified the impact of capital regulations. This significant interaction between the FLS and increased capital regulations only occurred when the full FLS program – aimed at supporting both household and PNFC lending – was in place. The interactions are less powerful during the second phase of the FLS – aimed at supporting only the much smaller component of PNFC lending. This is not surprising, since household mortgage lending is a much larger fraction of overall UK bank lending than PNFC lending.[7] Moreover, we document that this effect is only present for international bank-to-bank (but not bank-to-nonbank) lending, which is the type of lending behind the recent decline in cross-border banking flows since 2012 (as shown in Figure 2b). These results support the thesis that the interaction of increased capital requirements with the FLS (which began in 2012) may have played a significant role in the 'second phase of banking de-globalisation'.

To assess if the regression estimates based on UK microeconomic data can explain a meaningful amount of the aggregate data, we assess the overall impact based on a number of conservative assumptions. More specifically, we calculate how cross-border bank-to-bank lending would have evolved in the absence of increased capital requirements and their interaction with the FLS. This counterfactual exercise suggests that external bank-to-bank lending would have been higher in the absence of tighter capital requirements, and substantially higher in the absence of their interaction with the FLS. A simple back-of-the-envelope calculation suggests that the level of external UK (global) bank-to-bank lending at the end of the first phase of the FLS in 2013 was approximately 30% (10%) lower as a result of these policies. The size of this effect is striking, since our calculation is only based on the estimated effects of these policies in one country. Yet many other countries were simultaneously increasing bank regulations and adopting various programmes aimed at supporting domestic lending and the real economy. The combined effects of these policies and their interactions across countries could explain a significantly larger share of the reduction in international lending that occurred not only in the United Kingdom, but also in many other countries.

Conclusions

This series of results suggests that certain types of unconventional monetary policy, and their interactions with regulatory policy, can have important global spillovers. Policies designed to support domestic lending, such as the UK's Funding for Lending scheme, might have the unintended consequence of amplifying the impact of microprudential capital requirements on external lending. We do not explicitly test for the domestic effects of these policies, but instead focus on the spillover effects to other countries. Nor do we consider the welfare implications of these effects. But we do find that the magnitude of these types of spillovers can be substantial – even for

[7] Bridges et al (2014) note that mortgages make up 65% of total UK domestic real sector lending, with PNFC lending making up the remaining 35%.

a single country that is a relatively small share of global GDP. This suggests that the global implications could be substantially bigger – especially as many countries undertook similar policies to the United Kingdom over this period.

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