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## Financial deglobalisation in banking?

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banking; consolidation; ownership

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# Financial deglobalisation in banking?

Robert N McCauley, Agustín S Bénétrix, Patrick M McGuire and Goetz von Peter<sup>1</sup>

## Abstract

This paper argues that the decline in cross-border banking since 2007 does not amount to a broad-based retreat in international lending (“financial deglobalisation”). We show that BIS international banking data organised by the nationality of ownership (“consolidated view”) provide a clearer picture of international financial integration than the traditional balance-of-payments measure. On the consolidated view, what appears to be a global shrinkage of international banking is confined to European banks, which uniquely responded to credit losses after 2007 by shedding assets abroad – in particular, reducing lending – to restore capital ratios. Other banking systems’ global footprint, notably those of Japanese, Canadian and even US banks, has expanded since 2007. Using a global dataset of banks’ affiliates (branches and subsidiaries), we demonstrate that *the who* (nationality) accounts for more of the peak-to-trough shrinkage of foreign claims than does *the where* (locational factors). These findings suggest that the contraction in global lending can be interpreted as cyclical deleveraging of European banks’ large overseas operations, rather than broad-based financial deglobalisation.

Keywords: Financial globalisation, international banking; consolidation; ownership

JEL classification: F36, F4, G21.

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# 1. Introduction

“Peak trade” denotes the hypothesis that international trade is no longer growing faster than global GDP, which may preclude the strategy of trade-led economic growth.<sup>2</sup> A parallel thesis, which Caruana (2017b) dubs “peak finance”, asserts that global finance has passed its high point and that financial deglobalisation has begun.<sup>3</sup> In particular, observers have interpreted the decline since 2007 in cross-border bank lending as evidence of financial deglobalisation.<sup>4</sup> In this paper, we show that this decline is driven by changes in only certain banks’ balance sheets, and is thus not evidence of a broad-based deglobalisation trend.

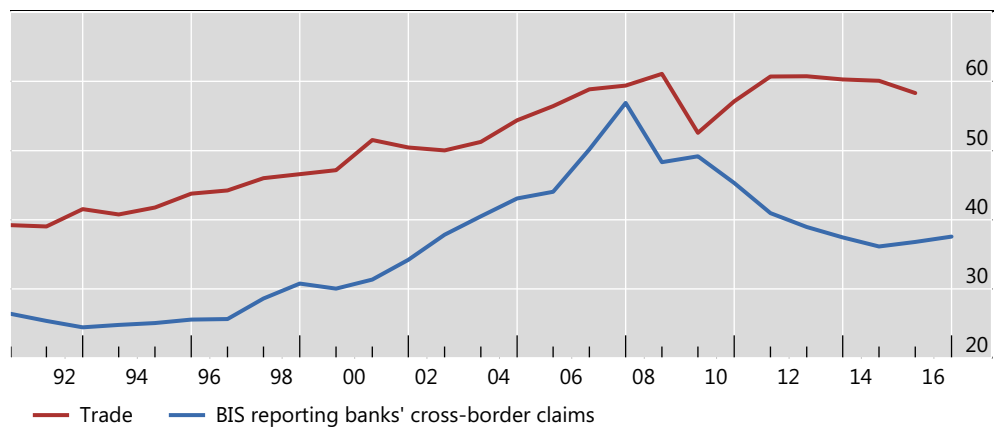
Taken at face value, the BIS international banking statistics make a stronger case for peak finance in banking than global trade data make for peak trade (Graph 1). After falling relative to economic activity in the Great Financial Crisis (GFC) of 2007-09, global trade has declined only marginally in the latest observation. By contrast, the amounts of cross-border claims of BIS reporting banks in relation to global GDP rose from the early 1990s, peaked during the GFC, and fell until recent quarters. These data are compiled on a balance of payments basis (ie on a locational basis), according to the location of the creditor bank. They show a decline of cross-border bank assets from a peak near 60% of global GDP in 2007 to less than 40% in recent quarters. Lane and Milesi-Ferretti (2001, 2007, 2017) have used such stocks, along with other external assets, to measure international financial integration.<sup>5</sup>

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## Peak global trade and banking?

As a percentage of world GDP

Graph 1



Sources: IMF; World Bank; BIS locational banking statistics; BIS calculations.

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<sup>2</sup> Whether trade deglobalisation is cyclical or secular remains to be established. See Tomb and Trivedi (2017); Timmer et al (2016); Saravelos and Winkler (2016); Hoekman (ed) (2015); Constantinescu et al (2015); Boz et al (2014); Shin (2016); BIS (2017).

<sup>3</sup> An early use of “financial deglobalisation” was by Broda et al (2009).

<sup>4</sup> Forbes (2014), Forbes et al (2016, 2017); but see Eichengreen (2016), Hooper et al (2016) and Verma (2016).

<sup>5</sup> Their work has given rise to a very productive line of research that has taken on countries’ net foreign asset positions, aggregate debt-equity ratios, and currency valuation effects (Gourinchas et al (2010), Lane and Shambaugh (2010a,b), Gourinchas and Rey (2014); and Bénétrix et al (2015)).

Such “locational” measures of external assets suffer from two limitations: double-counting some positions and ignoring other relevant ones. As a result, they do not best serve to assess globalisation trends in banking. To be sure, giving priority to *where* the banking business is conducted (not by whom), as the BIS locational statistics do, can be useful in analysing macroeconomic aggregates, such as employment and value added.<sup>6</sup> But cross-border claims double-count positions in which a bank’s headquarters funds its branch in a financial centre like London, before lending abroad. At the same time, a bank’s local positions booked in an affiliate abroad (eg a UK bank’s loan to a French resident through the bank’s Paris branch) are not captured in the external positions of either the bank’s home country or the affiliate’s host country. On a consolidated view, these *are* foreign positions – the bank has lent to a borrower outside the home country, even if it is booked and funded locally. And bank positions by location rather than by ownership cannot be related to the financial strength of particular banks or to the policies of the banks’ home government or supervisors. As a result, this perspective has little to say on the drivers of (de)globalisation.

In this paper, we take multinational banks aggregated by the country of headquarters as the unit of analysis. By analogy to work on multinational firms, we “draw borders around groups of firms classified by nationality rather than around geographical entities” (Baldwin et al (1998), Avdjiev et al (2016)). We examine the foreign claims of 29 banking systems that report the BIS consolidated banking statistics (CBS) for evidence of deglobalisation.<sup>7</sup>

We contribute to a growing body of work that puts the emphasis on banks’ consolidated balance sheets rather than on locational (cross-border) bank positions. Much of this literature focuses on the effect of *capital constraints* on banks’ foreign lending. In particular, McCauley and Yeaple (1994) and Peek and Rosengren (1997, 2000) analysed their effect on Japanese banks’ lending abroad. McGuire and Tarashev (2008) analysed their effect on lending to emerging markets. Avdjiev et al (2012) analysed their effect on European banks’ lending in central and eastern Europe. Forbes et al (2017) found that both higher required capital and monetary policy incentives for domestic lending led UK banks to cut loans abroad.<sup>8</sup>

In recent papers close to ours, Cerutti and Claessens (2017) found that equity market indicators of bank vulnerability drove the banks’ retrenchment after the crisis, though more through a contraction in cross-border than in local lending. In related work, Cerrutti and Zhou (2017) show that, in spite of the shrinkage of cross-border credit from core lenders, the network continued to proliferate linkages. They describe their findings as consistent with the speech that anticipated this paper (Caruana (2017b)), which regards financial deglobalisation as a regional (European) phenomenon. Bouvatier and Delatte (2015) use a traditional gravity model with a non-linear time trend to assess integration, and highlight the contraction of consolidated assets of banks headquartered in the euro area.

Our paper contributes to this body of work in three ways. First, in Section 2 we analyse step-by-step the differences in locational and consolidated measures of

<sup>6</sup> See Borio (2013) and Tissot (2016) on the complementary nature of measures based on ownership and geography.

<sup>7</sup> See Goodhart (2011, pp 100-103) on the origins of international cooperation in consolidated supervision in the late 1970s and Caruana (2017a) on the collection of consolidated data.

<sup>8</sup> By contrast, Cetorelli and Goldberg (2011) examined funding shocks.



deglobalisation. At the global level, these differences happen to cancel each other out. But a focus on ownership reveals which banks by nationality retrenched after the crisis.

Sections 3 and 4 show that the shrinkage of cross-border claims around the world originates in Europe. Banks headquartered in other advanced economies (eg Japan, Canada, Australia and even the United States) have continued to deepen their global financial integration. European banks uniquely restored their capital ratios through asset shrinkage, and *foreign* claims bore the brunt of it, pointing to home bias. A retreat to the home market when a bank has suffered losses can reflect lower expected returns abroad or increased risk aversion (Giannetti and Laeven (2012)). But it can also reflect policy choices in the context of government support for banks (Rose and Wieladek (2014) and unconventional monetary policy that targets domestic lending (Forbes et al (2017)). Though consolidated European banks have retrenched, they have slashed assets disproportionately outside of their home offices.

Finally, in Section 5 we run a formal horserace between bank nationality and the effects of local economic conditions and policy measures in accounting for global bank retrenchment. This uses data that simultaneously capture bank nationality and bank location (eg German banks in Germany as separate from German banks in the United Kingdom). Nationality effects – again highlighting European banks – account for more of the decline in total foreign assets and in cross-border lending than do locational factors. Moreover, those global consolidated banking systems that suffered greater credit losses during and following the GFC tended to shrink their cross-border credit by more, in many locations around the world. European banks' problems thus reverberated globally.

In sum, European bank retrenchment is better interpreted as a cyclical deleveraging of unsustainably risky bank balance sheets than a secular deglobalisation trend. Specifically, those banking systems that relied on a strategy of asset shrinkage to cope with heavy credit losses during the crisis shed their foreign claims in the wake of the crisis. Crucially, these results do not come to light under the traditional locational perspective, but require consolidation.

## 2. The analytics and empirics of consolidation

Three reasons motivate building our discussion of deglobalisation on globally consolidated data. The first is that consolidated data include one dimension entirely absent from the residence-based (locational) perspective, namely banks' local positions in host countries around the world. Cross-border *ownership* is as much an expression of globalisation as cross-border *positions*. Second, consolidation removes intragroup positions, and thus avoids double-counting foreign claims that banks fund this way. And third, banking data organised by nationality of ownership provide a clearer picture of financial integration: the assignment of (arm's length) cross-border positions to bank nationalities leaves unchanged the global aggregate, but this step is essential for understanding how these positions respond to bank characteristics and the policies of the home government or supervisory authorities.

To illustrate these points, start from the locational perspective. A country's external bank assets include too much and too little from a nationality perspective. For the United States, when resident non-US banks' branches raise dollars from US

money market funds and lend them abroad (Baba et al (2009)), then the corresponding US external asset (a claim entering the US international investment position) is not held by a US-owned bank. From a nationality perspective, this is too much – the non-US bank branch should be consolidated with its foreign parent. Similarly, when a US bank books an intragroup claim on its London branch, it does not have a claim on a foreign entity, although US external assets rise. This, too, is too much from a nationality perspective. However, when a US-owned bank affiliate in London accepts a deposit from a central bank (ie of foreign exchange reserves) and lends it to an emerging market firm, this is not recorded as a US external asset. From a nationality perspective, this is too little.

Clearly, consolidation has two distinct aspects. The first is to boil down a complex array of balance sheets into a single balance sheet that nets out intragroup balances but also adds in positions booked in offices abroad. The second is the assignment of this unified balance sheet to a particular home country. We use the location of a bank’s headquarters. One can imagine other choices – for some purposes one might wish to drill down to the underlying equity holders, for instance.<sup>9</sup>

The reduction process nets out intragroup positions, the fluff of international finance, but adds in offshore positions against unaffiliated parties, the stuff of international finance. If a bank in A routes loans to B through C, perhaps an offshore financial centre, consolidation strikes A’s claim on C and C’s claim on B and reports just A’s claim on B (Table 1). Likewise, with B’s claims on A routed through C. From the perspective of risk exposure, the importance of consolidation is immediately apparent if one imagines something going wrong in B, leaving bankers and policymakers in A wondering what their exposure to the adverse event might be. Similarly, consolidation is useful to those in B, making clear that the ultimate lender and decision-maker is in A, not C.

External and consolidated bank positions: the case of the offshore centre

Alternative measures of international financial integration

Table 1

Positions	Country A (GDP = 100)			Country B (GDP = 100)			Offshore centre C (GDP = 10)			<b>Global total</b>
	Assets	Liabilities	Sum	Assets	Liabilities	Sum	Assets	Liabilities	Sum	
External	100 due from C	100 due to C	200	100 due from C	100 due to C	200	200 due from A,B	200 due to A,B	400	800
Consolidated	100 due from B	100 due to B	200	100 due from A	100 due to A	200	0	0	0	400
<i>Memo: LMF ratio</i>			200%			200%			4,000%	381%
<i>Consolidated ratio</i>			200%			200%			0	190%

Source: Authors.

Consolidation of positions in offshore centres not only redistributes positions, but can also reduce them in aggregate. For example, the global Lane-Milesi-Ferretti (LMF) ratio – total external positions divided by global GDP – in Table 1 is

<sup>9</sup> Particular cases can challenge this assignment by headquarters — think of BCCI, incorporated in Luxembourg but headquartered in the United Kingdom (Goodhart (2011); Borio and Filosa (1994)).

$(200+200+400)/(100+100+10) = 800/210$ , or almost 400%. But much of this is fluff and the consolidated aggregate openness is  $400/210$ , or just under 200%.

Intragroup positions are big money. Of the \$27 trillion in cross-border claims in the fourth quarter of 2016, about \$9 trillion was intragroup claims ([http://www.bis.org/statistics/a1\\_1.pdf](http://www.bis.org/statistics/a1_1.pdf)). In other words, a third of external bank claims (ie those compiled on a balance of payments basis) are consolidated away.

If a bank uses an offshore centre to raise deposits and lend to unaffiliated parties, then consolidation in effect relocates that activity to the home country. Recall the case of the US bank affiliate in London accepting a deposit of foreign exchange reserves and lending it abroad. In this case, consolidated accounts would show a smaller UK balance sheet and a larger US balance sheet, with no effect on the aggregate LMF ratio.

Finally, consolidation brings into view purely local positions that are not captured at all in external assets. On a consolidated view, these are foreign positions - the bank headquartered abroad has liabilities to a host depositor, and credits to host country borrowers. The simplest possible example is a two-country world of like-sized (GDP = 100) economies with similar external positions (Table 2). External assets of 100 plus external liabilities of 100 put gross external positions at 200% of GDP for each country and the world (first memo item, the LMF ratio).

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## External and consolidated bank positions with local positions

Alternative measures of international financial integration

Table 2

Positions	Country A (GDP = 100)			Country B (GDP = 100)			<b>Global total</b>
	Assets	Liabilities	Sum	Assets	Liabilities	Sum	
External	100 due from B	100 due to B	200	100 due from A	100 due to A	200	200
+ local branch	50 due from B	50 due to B	100	50 due from A	50 due to A	100	100
= Consolidated	150 due from B	150 due to B	300	150 due from A	150 due to A	300	300
<i>Memo: LMF ratio</i>	<i>200%</i>	<i>200%</i>					<i>200%</i>
<i>Consolidated ratio</i>	<i>300%</i>	<i>300%</i>					<i>300%</i>

Source: Authors.

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In addition, each country's banks have branches in the other country that attract local deposits and extend credit to the extent of 50. Thus, on a consolidated view, A's banks have 50 more in foreign assets and 50 more in foreign liabilities booked at their branches in B, *and* B's banks have 50 more in foreign liabilities and 50 more in foreign assets booked at their branches in A. A's banks have foreign assets plus foreign liabilities equal to 300; similarly, B's banks, 300. Consolidated openness is 300% of GDP for each country and the world.

Thus, in principle, consolidation has an ambivalent effect on measured international financial integration. If the multiplication of intragroup positions through offshore financial centres dominates, the locational measure could overstate

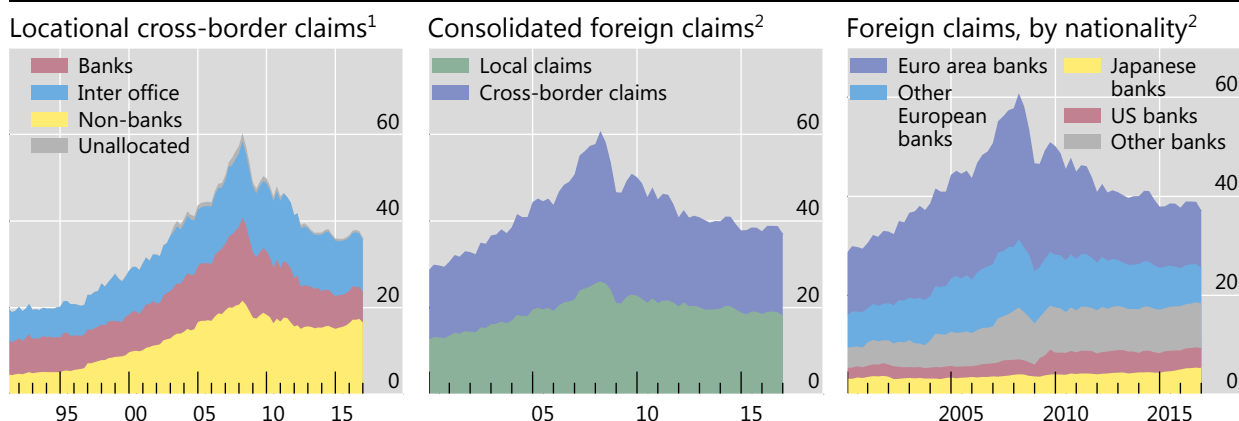
international financial integration.<sup>10</sup> If the effect of adding local positions dominates, then international financial integration is understated by external positions.

In practice, these two effects of consolidation largely offset each other in aggregate, leaving the broad impression of deglobalisation in banking. The left-hand panel of Graph 2 shows the locational total from Graph 1 broken down into its constituent parts. Its juxtaposition to the consolidated data in the centre panel shows relatively subtle differences. The elimination of intergroup claims (the blue area in the left-hand panel), is roughly balanced by the addition of local claims (the green area in the centre panel). The subtle difference is that the consolidated claims only declined by about 20% of world GDP between 2007 and 2016, while locational claims declined by somewhat more than 20% of global GDP. Even without correcting for exchange rate valuation effects, it is evident that the local claims are more stable than cross-border positions (McGuire and von Peter (2016)).

### From locational to consolidated global claims

In per cent of world GDP

Graph 2



<sup>1</sup> Cross-border claims (including intragroup positions) reported by banks in all reporting locations on borrowers worldwide. <sup>2</sup> Consolidated foreign claims (excluding intragroup claims) of banks headquartered in all reporting countries on borrowers worldwide. Foreign claims include cross-border claims and the local claims of banks' overseas affiliates, but exclude claims on residents of banks' home countries. The split into local and cross-border claims is estimated by applying the share of local claims in foreign claims from the ultimate risk statistics to the foreign claims value in the immediate borrower statistics (split for 2000-2005 is based on 2005 share).

Source: IMF *World Economic Outlook*; BIS locational banking statistics, BIS consolidated banking statistics (immediate borrower and ultimate risk basis).

It is worth emphasising that it is coincidence that the two effects of consolidation offset each other in aggregate. If there is a trend over time towards the multinational business model, with its reliance on locally funded local claims (McCauley et al (2012)), then the consolidated measure will indicate over time a higher level of international financial integration than will the locational measure. In other words, the ascendancy of multinational banking over international banking means more risk-sharing in local positions that are not captured by balance-of-payments data.<sup>11</sup>

Even if the aggregate measures are similar, the breakdown by bank nationality informs the discussion below as the locational data cannot. The right-hand panel

<sup>10</sup> Exclusion of such centres is not a satisfactory solution, particularly for countries that are a mix of offshore financial centre and real economy, like the United Kingdom.

<sup>11</sup> Similarly, more jurisdictions reporting consolidated banking statistics to the BIS adds locally funded positions and raises the measure in the centre panel of Graph 2 relative to that in the left-hand panel.

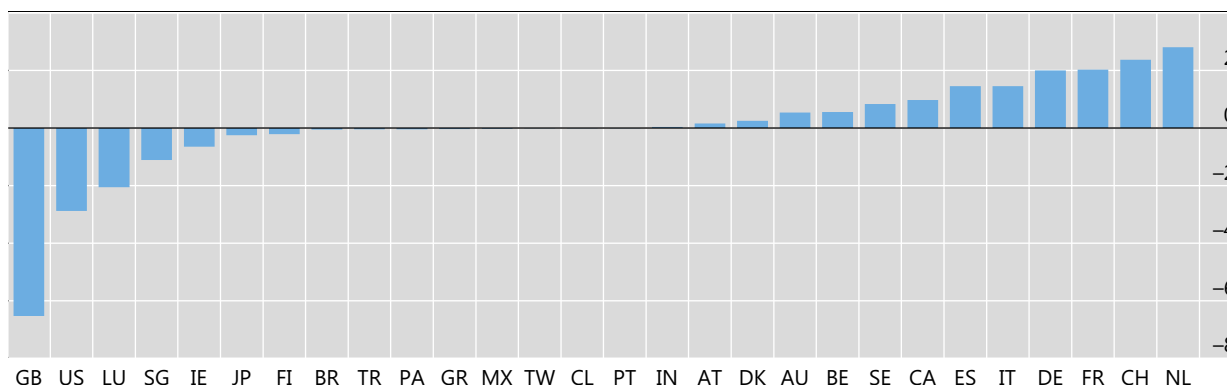
provides a preview: the decline in global banking integration is more than entirely due to the retrenchment of European banks.

In contrast to the globally aggregated positions (Graph 2), differences in the locational and consolidated bank stocks can be stark for individual countries, as Graph 3 shows. Differences in the outstanding stocks depend on both the overall banking activity in the country and on the structure of the global operations of the banks headquartered there. For example, at the far left, the United Kingdom's (GB) reading of -6.5% of combined GDP indicates the UK's locational bank aggregate is larger than the UK's consolidated aggregate. This reflects London's status as an international banking centre, host to some of the largest foreign affiliates of major banking systems. These foreign affiliates raise (mainly) cross-border deposit and wholesale funding which they in turn lend cross border to borrowers elsewhere. As a result, these foreign affiliates' cross-border positions in the UK's locational banking aggregate well exceed the positions of UK headquartered banks' affiliates abroad.

### Difference between consolidated foreign claims and locational cross-border claims

At end-2007, as a per cent of all 28 countries' combined GDP

Graph 3



<sup>1</sup> The bars show worldwide consolidated foreign claims (excluding intergroup positions) of banks headquartered in the country on the x-axis less the cross-border claims (including intergroup positions) reported by banks (of all nationalities) located in the country on the x-axis.

Source: IMF *World Economic Outlook*; BIS locational banking statistics, BIS consolidated banking statistics.

By contrast, the penultimate bar indicates that Swiss banks' consolidated claims exceed the locational claims in Switzerland by 2.4% of combined GDP. Neither domestic banks nor foreign bank affiliates in Switzerland have large cross-border claims positions. But, on a consolidated basis, Swiss banks have outsized global operations. McGuire and von Peter (2012) estimate that Swiss banks' foreign claims amounted to more than eight times Switzerland's GDP in 2007. Some 80% of these foreign claims were booked in offices located outside Switzerland.

Japan (Graph 3, sixth bar from the left) is an example where the consolidated and locational bank measures are very close. Foreign banks' affiliates in Japan have mainly local claims on residents of Japan, with relatively small cross-border positions. For their part, Japanese banks' foreign claims are amongst the largest of all national banking systems; but they book the bulk of these at home.

The differences across countries evident from Graph 3 make clear that a locational view for any particular country provides an unreliable guide to the evolution of any one banking system's balance sheet. Since internationally active banks have operations in multiple countries, banks headquartered in a given jurisdiction can respond to stresses by adjusting assets in locations abroad (see

Section 5). And, especially in financial centres, changes in foreign affiliates' positions can reflect decisions at their headquarters elsewhere. In other words, the advantage of consolidation is that it respects the perimeter within which operational decisions are made. A key message of this paper is that while locational banking measures do in fact accurately capture aggregate deglobalisation trends, they cannot, by construction, shed light on the drivers of balance sheet adjustments.

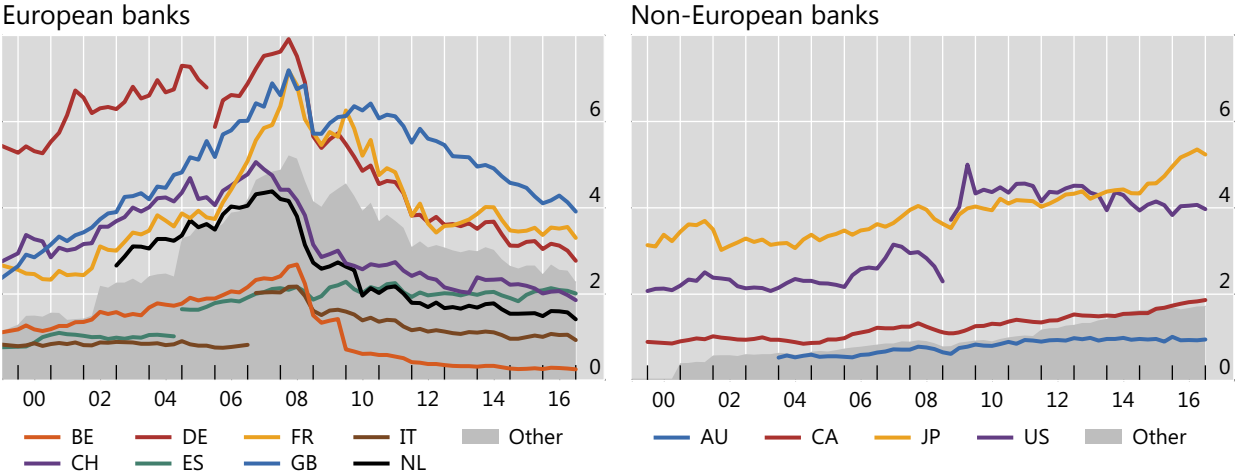
### 3. The view by bank nationality

In this section we demonstrate that the apparent deglobalisation in banking is more regional than global. Graph 4 builds on the country breakdown in Graph 2 (right-hand panel), but with a more disaggregated view of the evolution of banks' foreign claims (unadjusted). The left-hand panel shows that the post-crisis contraction in European banks' foreign claims was shared: most European banking systems reported lower foreign claims in 2017 than in 2007, with Spanish banks being the notable exception.

Consolidated foreign claims, by banking system

As a percentage of world GDP

Graph 4



Gaps in the plotted series indicate breaks in series reflecting, for example, bank mergers or changes in the reporting population. Country codes denote the nationality of banks.

AU = Australia; BE = Belgium; CA = Canada; CH = Switzerland; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; IT = Italy; JP = Japan; NL = Netherlands; US = United States.

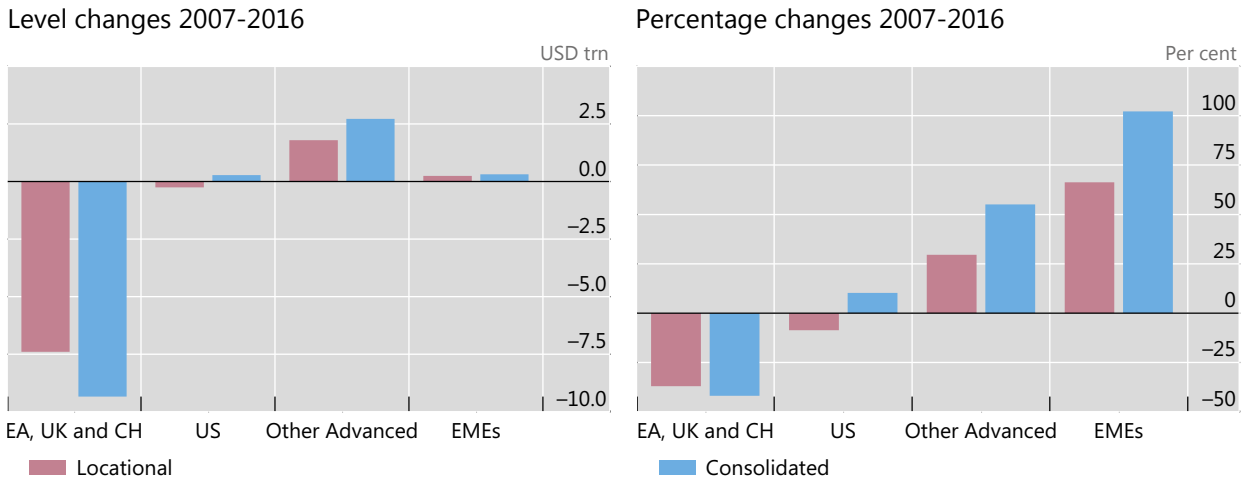
Source: IMF *World Economic Outlook*; BIS locational banking statistics, BIS consolidated banking statistics.

Banks from the rest of the world, however, continued down the path of international financial integration (Graph 4, right-hand panel). Japanese, US, Canadian, Australian and emerging market banks expanded their foreign claims around the world, partly substituting for the retreat of European banks. In that sense, the trend towards deglobalisation is not broad-based.

Graph 5 contrasts the locational and consolidated views of deglobalisation. Here, banks are grouped into European (euro area, UK and Swiss) banks, US banks, other advanced banks and emerging market banks. The left-hand panel shows changes in trillions of US dollars and the right-hand panel percentage changes since 2007. The regional nature of the decline in bank claims is evident when the data are grouped

by ownership (blue bars) rather than location (red bars). In particular, three observations stand out.

Banks' external claims by location and consolidated foreign claims by nationality Graph 5



Note: The groupings include countries reporting both the locational and consolidated banking statistics over the entire period of 2007-2016. EA, UK and CH = AT, BE, CH, DE, ES, FI, FR, GB, GR, IE, IT, NL and PT; Other Advanced = AU, CA, DK, HK, JP, LU, NO, SE and SG; EMEs = BR, CL, IN, MX, PA, TR and TW. US numbers correct for breaks in series.

Sources: BIS locational and consolidated banking statistics; authors' calculations.

First, euro area, UK and Swiss banks accounted for more than all of the global decline. Foreign claims of banks headquartered there declined by \$9.5 trillion, while those of the United States, other advanced and emerging market economies grew. On this view, banking deglobalisation is more a regional than global phenomenon.

Second, compared to the locational data, the consolidated data sharpen the contrast between the regional decline and the rest of the world's continued integration. Comparing the first red and blue bars in the left-hand panel, the decline in European banks' foreign claims is much sharper when claims are organised by ownership. The external claims of banks in the euro area, United Kingdom and Switzerland fell by only \$7.9 trillion (37%), well less than the \$9.5 trillion (42%) decline in foreign claims. For the United States, other advanced and emerging economies, consolidated foreign bank claims have grown faster than locational claims.

And third, the consolidated perspective is necessary to get the sign right for the United States. US banks' consolidated foreign claims rose over the period, while banks in the United States reported a decline in cross-border claims. One key reason is that, since the implementation of Dodd Frank's change in the FDIC assessment base, foreign banks' US branches have ceased to serve as a source of dollar funding for the parent bank.<sup>12</sup> Banking deglobalisation may characterise the post-crisis activity of European banks in the United States, but not that of US banks.

Banking deglobalisation is even more of a regional story if we take into account the fact that mainland China only started reporting locational statistics recently and

<sup>12</sup> After Dodd Frank, foreign bank branches in the United States switched from advancing dollars to their affiliates abroad to borrowing from their affiliates abroad in order to fund holdings of excess reserves at the Federal Reserve. See Kreicher et al (2014) and McCauley and McGuire (2014).

therefore is not included in the consolidated data shown in Graphs 2-4 (Goh and Pradhan (2016)). Banks *in China* reported \$778 billion in cross-border claims in June 2016. Moreover, *Chinese banks' affiliates outside the mainland* were estimated to have \$1 trillion in assets offshore at the end of 2014 (McCauley and Ma (2015)).<sup>13</sup> The latter in particular has grown rapidly (McGuire and van Rixtel (2012)). Chinese banks are very much integrating into global banking markets.

Thus, the evidence suggests that the appearance of peak finance is more a feature of European banking than of global banking. The next section considers the hypothesis that the disengagement of European banks should be understood in relation to their cycle of leveraging and deleveraging and the hypothesis that the deleveraging both depended on asset reductions and showed a home bias.

#### 4. European bank deleveraging with home bias

We interpret the decline of European banks' foreign claims as a consequence of cyclical deleveraging of unsustainably risky bank balance sheets, rather than a secular deglobalisation trend. European banks uniquely shrank assets in order to strengthen their balance sheets in 2007-16. And, Spanish banks apart, the deleveraging of European banks displayed a home bias – which may reflect to some extent policy – further contributing to the shrinking of foreign claims on the rest of the world. The implication is that the proximate cause of the decline in European banks' foreign claims was a management decision on *how* to deleverage.

European banks adopted a unique deleveraging strategy: shrinking assets. Big banks headquartered in many countries raised the ratio of capital to risk-weighted assets after the 2007-09 crisis (Graph 6, left-hand panel, black dots). However, a decomposition of these increases (updating Cohen and Scatigna (2016)) reveals that European banks alone increased their capital strength in part through reducing total assets (a positive violet bar). By contrast, non-European big banks raised enough equity through retained earnings and equity issuance to strengthen their capital while expanding total assets. Put differently, European banks did not raise enough capital to achieve the 5-percentage point improvement in their weighted capital ratio without shedding assets.

However, the asset shedding by European banks was not a blind process, but one that protected the home market at the expense of foreign claims. Our evidence for this home bias is unfortunately limited to recent years. In the wake of the GFC, the countries reporting consolidated statistics to the BIS agreed to report the domestic claims of the same reporting banks, giving an advantage of consistency in reporting population. However, the reporting only began in the fourth quarter of 2013, yielding a late sample for testing for home bias. In Graph 7, right-hand panel, observations to the right of the 45 degree line can be interpreted as showing a trajectory of domestic

<sup>13</sup> Improvements in the BIS locational data allow us to measure the growth of a reasonably complete proxy for Chinese consolidated foreign claims for the recent quarters Q4 2015 through Q3 2016 (<http://stats.bis.org/statx/srs/table/A7?c=CN&p=20163>). Twenty-two reporting countries identify Chinese banks and most report a full breakdown by counterparty. These showed cross-border claims net of intragroup positions rising from \$1,049 billion to \$1,141 billion, this is robust growth of over 12% per annum, well above China's nominal GDP growth in dollars. The amounts would be larger with domestic positions.



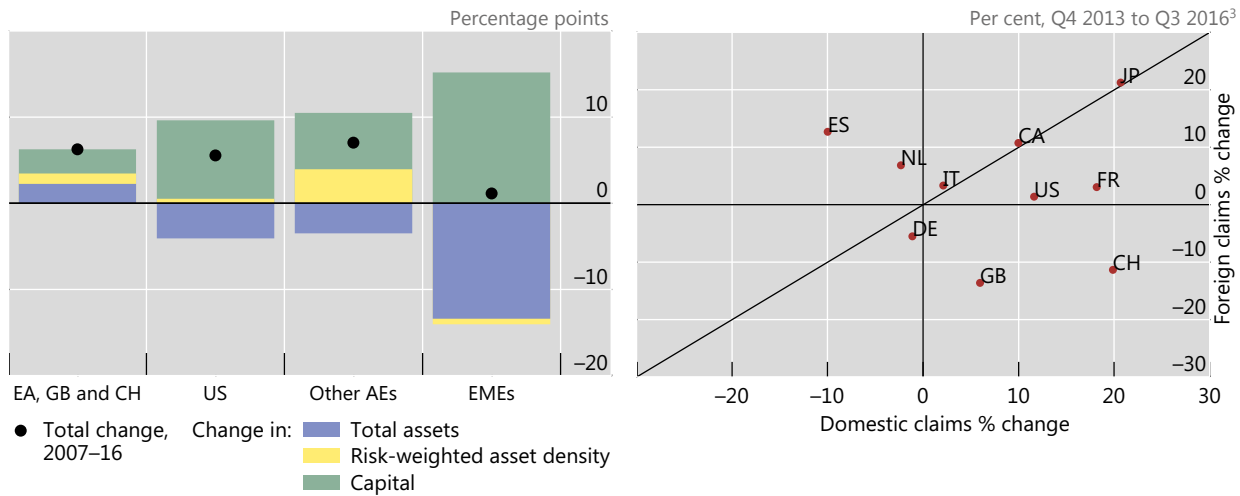
and foreign claims that implies a home bias. UK and Swiss banks' foreign claims fell even as their domestic claims grew; this is a strong form of home bias. German banks' foreign claims contracted more than their domestic claims, while French and US banks' domestic claims grew faster than their foreign claims; all three cases illustrate a weaker form of home bias. By contrast, Spanish and Dutch banks' foreign claims expanded even as their domestic claims contracted, showing a foreign bias. Canadian, Italian and Japanese banks showed balance in their domestic and foreign growth strategies.

European banks shed foreign assets to strengthen their capitalisation

Graph 6

Capital to risk-weighted asset change, 2007–16<sup>1</sup>

Domestic and foreign claims, by bank nationality<sup>2</sup>



<sup>1</sup> Sample of more than 100 banks with at least \$100 billion of total assets in 2014. EA, GB and CH = AT, BE, CH, DE, ES, FR, GB, GR, IE and IT; Other AEs = AU, CA, DK, HK, NO, SE and SG; EMEs = CN, IN, KR, MY, TR and TW. The graph decomposes the change in the Common Equity Tier 1 (CET1) capital ratio into additive components. The total change in the ratios is indicated by dots. The contribution of a particular component is denoted by the height of the corresponding segment. A negative contribution indicates that the component had a capital ratio-reducing effect. All figures are weighted averages using end-2016 total assets as weights. RWA density denotes ratio of risk weighted assets to total assets. <sup>2</sup> Shows the estimated change in claims, after adjusting for movements in exchange rates, over Q4 2013 to Q3 2016, except for UK and US banks (from Q1 2014) and CA and ES banks (from Q4 2014). The diagonal line represents the 45 degree line along which x=y. Sources: Cohen and Scatigna (2016); SNL; BIS locational banking statistics; BIS consolidated banking statistics (Table B1); BIS calculations.

The reasons that have been offered for such home bias vary. Giannetti and Laeven (2012) interpret the return to the home market after a financial crisis as a matter of higher risk aversion that results from losses that lowered bank wealth.<sup>14</sup> More political reasons have been offered as well. Analysing a panel of UK-resident banks, Rose and Wieladek (2014) find that nationalised foreign banks reduced their fraction of British loans by about 11%. Using more recent data, Forbes et al (2017) find that UK bank capital requirements and the Funding for Lending Scheme, which gave banks an incentive to increase domestic loans, together induced UK banks to cut back on credit to non-residents. Policy choices also played a role in other European countries, where government rescue packages often came with additional lending requirements typically favouring domestic lending (Borio et al, 2010, Table 3).

<sup>14</sup> They also suggest that returns may be lower on foreign claims, although corporate bond pricing suggests lower yields for the same rating in Europe and Japan relative to the United States. See Borio et al (2016).

In sum, the financial deglobalisation that *seems* to characterise international banking looks different in a consolidated perspective. It seems more a regional phenomenon, limited to European banks. And it can be seen as reversing an earlier banking glut that afflicted Europe and that was based on very high leverage.<sup>15</sup> In recent years, European banks shed foreign assets as part of their efforts to strengthen their capitalisation. Given their extensive overseas operations, this retrenchment was felt around the globe.

This distinction between deglobalisation and deleveraging is important. Both could reduce the stocks of international claims, but the motivations and implications are different. Deleveraging is a prerequisite for restoring sustainable growth after a financial credit boom. It has proven prolonged, but it should come to an end.

## 5. Deglobalisation and the nationality effect

In this section, we run a horserace between nationality effects and locational effects as drivers of the contraction in international banking in the wake of the crisis. This allows us to draw concrete inferences about how shedding of claims by particular consolidated banking systems affected the locational deglobalisation measures for host countries in which they operate. In the next subsection, we first describe a more granular version of the BIS international banking statistics that track how consolidated banks organise their global activity across host country locations. We then show the extent to which the contraction in European banks' balance sheets shrank external bank assets *outside* their home countries. In the following sub-section, we use these granular data in panel regressions to quantify the extent to which bank nationality accounts for the contraction in foreign claims booked across all locations. We also relate our bank nationality effects to bank losses.

### 5.1 The interplay between bank nationality and location

A common image of international banking is that of a bank operating out of its headquarters at home, extending credit to domestic borrowers, and cross-border credit to borrowers abroad. On this view, problems in banks from a particular country would register primarily as a contraction in local credit in, and cross-border credit from, the home country. In that case, the locational view and the consolidated view would tell the same story about (de)globalisation. A more accurate picture of international banking is of *multinational* banking groups with offices in *many* countries, each of which extends credit to borrowers in the country in which it is located and cross-border credit to borrowers elsewhere (McCauley et al (2012)). Problems in banks of a particular nationality could result in coordinated contraction of cross-border credit from, and local credit in, *many* locations. The locational view would pick up the cross-border part in the many locations, but only the consolidated view would identify the common cause.

So far, we have documented that it was primarily (consolidated) European banks' foreign claims that contracted in the aftermath of the crisis. Yet, the consequences were felt around the world. Was this because European banks scaled back their

<sup>15</sup> See Shin (2012).

activity in a single (or select few) locations in which they operate? This could arise, for example, if all European banks had large local positions in a single large country experiencing macroeconomic difficulty (eg the United States), or because all European banks have large holdings of cross-border exposures to a similar asset class booked in a single financial centre (eg the United Kingdom). In either case, the locational perspective may give an adequate picture of deglobalisation.

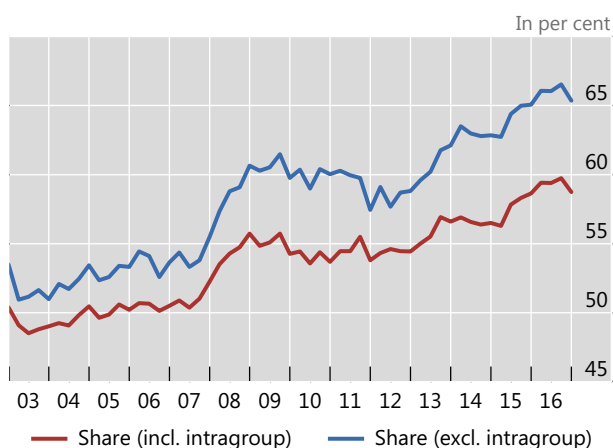
But if bank nationality played an independent role, in the sense that European banks scaled back activity in all (or many) locations in a coordinated way, then deglobalisation is neither broad-based nor a trend, necessarily. A coordinated change in claims for a particular bank nationality across all locations in which it operates – ie a bank nationality effect – points to balance sheet strains across the banks' entire consolidated structure, for example crisis-related losses and funding strains at the level of the parent bank.

The BIS international banking statistics have the granularity to show the assets of banks of a particular nationality in a particular location (eg German banks in the United Kingdom).<sup>16</sup> For banks' home offices (eg German banks in Germany), we see banks' cross-border positions only. This disaggregation of a consolidated banking system's global positions reveals the extent to which that banking system sheds assets at different rates in the different host countries in which it operates.

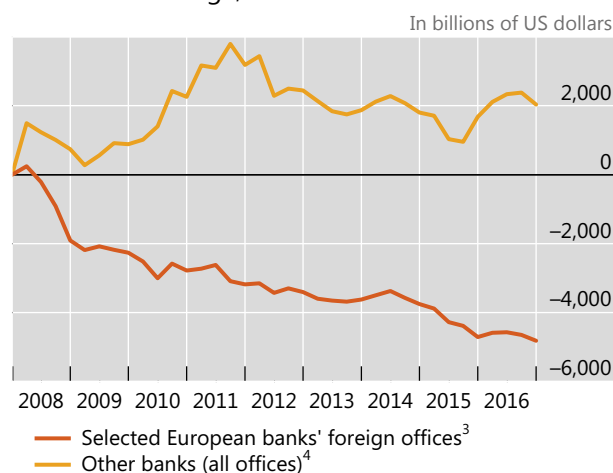
We use these data in panel regressions where the dependent variable is the change in outstanding foreign claims booked by each bank-location pair. We include in each regression full sets of bank nationality and bank location dummies, as well as other controls, to test which set of dummies accounts for more of the overall cross-sectional variation. Note that, in a world where all banks have similar organisational structures (eg large offices in the United Kingdom) with similar portfolios, it would not be possible to identify separate location and nationality effects. In the real world, banking systems' structures and the countries in which they operate differ, according to the nature of the exposures on their balance sheets. This heterogeneity across locations and nationalities allows us to identify separately the importance of each effect.

As a prelude to our regression results, Graph 7 provides an indication of the extent to which the retrenchment of European banks affected external assets in many countries, not just in these banks' home countries. Cross-border claims of European banks' offices outside the home country shrank faster after the crisis than those booked in their home offices, driving up the share of their globally consolidated cross-border claims booked at home (Graph 7, left-hand panel). As we demonstrate below, the contractions in these banks' positions were clearly related to problems on these banks' global balance sheets (ie a nationality effect), but the effect of these problems was most pronounced in locations outside the home country.

<sup>16</sup> The dataset aligns the positions booked by banks of a given nationality in a particular host country at the level of affiliate groups. As before, "nationality" is the country of a bank's headquarters, and the host country is the location where their foreign affiliates operate. The data are constructed by splicing together the BIS locational banking statistics by nationality (LBSN), which track the cross-border and local positions in foreign currencies for banks of different nationalities in BIS reporting host countries; and the BIS consolidated banking statistics (CBS), which contain the local positions (claims and liabilities) in local currencies of these foreign affiliates in each host country (see McGuire and von Peter (2009) and Fender and McGuire (2010) for discussion).

Share booked in offices at home<sup>2</sup>

Cumulative change, relative to other banks



<sup>1</sup> The selected European banks are banks headquartered in Austria, Belgium, Denmark, France, Germany, Italy the Netherlands and Switzerland. <sup>2</sup> The lines show the share of selected European banks' total cross-border claims that are booked by banks' offices in home countries, both including intragroup positions (red line) and excluding these positions (blue line). <sup>3</sup> Cumulative change in cross-border claims booked by the selected European banks' offices outside the home country. <sup>4</sup> Cumulative change in cross-border claims booked by all banks other than the selected European banks; includes claims booked in home offices and offices abroad.

Source: BIS locational banking statistics.

And, as shown in the right-hand panel, understanding the changes in many countries' external bank assets requires understanding the problems in European banks. Their foreign affiliates' cross-border claims (blue line) contracted by roughly \$5 trillion between end-2007 and end-2016. Banks of other nationalities increased their cross-border claims by about \$2 trillion over the same period (gold line). What this reveals is that changes in these European banks' foreign affiliates' balance sheets had a larger effect on the external bank asset positions in other countries than did changes in the balance sheets of all the other banks located in these countries (including banks' home offices). This makes it clear that balance sheet stresses that affect banks' globally consolidated balance sheets have a significant impact on the locational measures of financial integration in not only the home country, but in all the other countries in which they have operations. We explore this issue more formally in the empirical analysis.

## 5.2 Identifying the nationality effect

The full granular data set captures quarterly positions, from 1999 onwards, of the home offices and foreign affiliates of 26 bank nationalities operating in more than 40 host countries.<sup>17</sup> From an initial sample of 650 bank nationality-location pairs, we filter out observations with data shortcomings to create a sample of 280 affiliate groups spanning 18 parent countries and 38 different host jurisdictions, including major

<sup>17</sup> The data set is internally consistent in the sense that the sum of the balance sheets across all 40 host jurisdictions (including the home country) for any one bank nationality yields an aggregate (net of intragroup positions) value of foreign claims close to the value reported in the BIS consolidated banking statistics.

offshore centres.<sup>18</sup> The combined peak assets among affiliates in the sample equals \$36 trillion at end-2007, or 93% of total reported affiliate assets and total foreign claims too. The sample is unbalanced in the sense that not all bank nationalities have operations in all host countries.

We use a peak-to-trough approach to measure the contraction in the balance sheets of banks' foreign affiliates in the wake of the financial crisis. For each group of affiliates, the percentage contraction is calculated by comparing the peak value of total assets between Q1 2006 and Q1 2009 with the minimum asset value from Q2 2009 to Q1 2015. This approach takes into account that banks' assets peaked in different quarters, with most peaks occurring in Q4 2008 or Q1 2009; banks also shed assets at different rates and in different periods, eg due to the uneven effect across bank nationalities of the 2010–12 European sovereign debt crisis or other forces. The sample average of peak-to-trough contractions is 36% (weighted average), 39% (median) and 42% (average), respectively, with slightly larger contractions for the peak-to-trough decline in cross-border assets.<sup>19</sup>

Our cross-sectional regression relates the rate of contraction to bank nationality, the location of operations, and to characteristics of each affiliate. The dependent variable,  $-\Delta A_{in}/A_{in}$ , is the percentage contraction of total assets (both cross-border and local) booked by bank affiliates of nationality  $n$  in host country  $i$ , indexed by  $in$ . The minus sign means that positive values are contractions (negative values are expansions). These growth rates are regressed on three groups of explanatory variables:<sup>20</sup>

$$-\Delta A_{in}/A_{in} = \lambda_i + \sigma_n + [\sum_r (\beta^r * R_{in}^r) + \alpha \log(A_{in}) + \delta \log(d_{in})] + \varepsilon_{i,n}.$$

Location and nationality are captured through fixed effects at the country level:  $\sigma_n$  captures factors common to banks of a specific *nationality*  $n$ , such as their group-wide business model or home country regulation. Likewise,  $\lambda_i$  is a set of dummy variables that absorb common factors affecting all affiliates operating in *host country*  $i$ , including local demand conditions and sovereign risk. The fixed effects  $\lambda_i$  and  $\sigma_n$  are of interest in their own right, but in most empirical work they are merely included for consistency.<sup>21</sup> We take location fixed effects as the baseline, and express nationality fixed effects as deviations that add or subtract from the contraction characteristic of any particular location.

We would like to obtain nationality and location effects that are robust to outliers, such as small offices or affiliates that relied on a vulnerable funding mix on

<sup>18</sup> We drop pairs where the matched LBSN and CBS data yield an incoherent picture of the affiliate groups' balance sheets (eg where total claims and total liabilities differ significantly), pairs where the affiliate groups' total claims (at the peak) were less than \$1 billion and those with large jumps due to mergers and acquisitions.

<sup>19</sup> Peak-to-trough growth rates are calculated at constant quarterly exchange rates, to remove the effect of exchange rate movements on outstanding stock of claims. Shortening the trough window produces smaller contractions. Our window includes the European sovereign debt crisis, where local business also declined as countries sank deeper into recession.

<sup>20</sup> This equation is estimated with clustered standard errors allowing for correlation within the 18 bank nationalities in the sample.

<sup>21</sup> For instance, the gravity models in international trade and finance (eg Okawa and van Wincoop (2012)) require fixed effects for each origin and destination country every period for consistent estimation of the coefficients on bilateral variables (such as distance). See also Galstyan and Lane (2013).

the eve of the crisis. To this end, we include various controls (in square brackets in the equation) at the level of affiliates. They include *balance sheet size* of affiliates, measured as the logarithm of total assets ( $A_{in}$ ), the (log of) *geographical distance* to the affiliates' home country ( $d_{in}$ ), as well as pre-crisis ratios describing the structure of affiliates' assets and liabilities,  $R_{in}^r$ .<sup>22</sup> The coefficients  $\alpha$ ,  $\delta$  and  $\beta^r$  thus measure separately the extent to which a particular control variable accelerated (or mitigated if negative) the shedding of assets by the affiliates of nationality  $n$  in host country  $i$ . In related work, we focused on banks' funding mix and their reliance on non-core funding (McGuire and von Peter (2016)), and the results lent some support to the notion that these forms of funding were more fragile (Hahm et al (2013)).

Table 3 shows the results from various regression models based on equation (1). A consistent result is that there are systematic differences across nationalities and locations in the way bank affiliates contracted their positions since the crisis. A regression with no affiliate-specific variables (Model (1)) shows that the fixed effects jointly account for as much as 53% of the variance in balance sheet contractions. In this simple specification, the predicted contraction of bank affiliates in country  $i$  of nationality  $n$  simply equals the sum of the two respective fixed effects,  $\lambda_i + \sigma_n$ .

### Nationality and location as drivers of post-crisis contraction

Dependent variable: peak-to-trough percentage contractions in total assets<sup>1</sup>

Table 3

	Model (1) Fixed effects only	Model (2) Weighted version <sup>2</sup>	Model (3) Adding controls	Model (4) Cross-border version <sup>3</sup>
Location fixed effect <sup>4</sup> ( $\lambda_i$ )	2.5***	18.0***	2.4***	1.4*
Nationality fixed effect <sup>4</sup> ( $\sigma_n$ )	9.3***	23.7***	12.1***	6.1***
Local intermediation share <sup>5</sup>			-0.31*** (0.09)	-0.16 (0.11)
Log balance sheet size <sup>6</sup>			-2.91* (1.65)	-3.44 (2.22)
Log distance to home <sup>7</sup>			4.16 (2.54)	3.07 (2.87)
Number of observations	280	280	280	238
Measure of fit ( $R^2$ )	0.53	0.75	0.59	0.50
Location FE contribution <sup>8</sup>	0.19	0.20	0.16	0.14
Nationality FE contribution <sup>8</sup>	0.33	0.46	0.38	0.29

All columns include two sets of estimated fixed effects representing nationality and location; the shaded rows show their significance and contribution to the overall fit of the regressions in each column. Other estimation coefficients are shown with standard errors in parentheses. Standard errors cluster-robust allowing for correlation within bank nationalities. Significance levels: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

<sup>1</sup> Percentage contraction in total balance sheet assets of affiliate groups (branches and subsidiaries) of banks of a given nationality located in a particular host jurisdiction (eg US banks in the United Kingdom), including banks' home offices (eg UK banks in the United Kingdom). Peak asset values are taken between Q1 2006 and Q1 2009, and trough values between Q2 2009 and Q1 2015. <sup>2</sup> Weighted regression, using sampling weights proportional to the peak size of affiliate groups. <sup>3</sup> Model (4) repeats Model (3), using peak-to-trough contractions of *cross-border* assets instead of total assets. <sup>4</sup> The shaded rows report the F-statistic from a Wald test of joint significance of the respective set of fixed effects; individual coefficients appear in Graph 8. <sup>5</sup> *Local intermediation* as a share of an affiliate group's total balance sheet; in per cent (see footnote 24 in the main text). <sup>6</sup> Natural log of total assets (in USD millions). <sup>7</sup> Natural log of distance (in kilometres) between host country and the affiliates' country of headquarters. <sup>8</sup> Variation explained by each set of fixed effects, from comparing the fits ( $R^2$ ) of the regressions with and without that set of fixed effects; contributions need not add to 1 due to correlation between variables.

Sources: BIS consolidated banking statistics; BIS locational banking statistics; CEPII; authors' calculations.

<sup>22</sup> For home offices, the funding mix controls are not reliable since the IBS do not contain the full balance sheet of banks' home offices (they miss the "strictly domestic" positions).

The *location (host country) effect* explains 19% of variation. It estimates the decline in international banking activity in a particular country while taking out the influence of the nationality mix of the banks operating there. The magnitudes  $\lambda_i$  show that the average contraction specific to a given location was larger in troubled economies and some offshore centres serving as conduits (Graph 8). Affiliates in Greece, Spain, Korea and in several offshore centres (Panama, Cayman Islands, the Bahamas, Jersey and Guernsey) shed more than 40% of their assets. Claims booked by offices in the United Kingdom contracted at a rate close to the world average (42%). Many banks held structured finance products that lost value in the crisis in their affiliates located in London and in other financial centres.

For its part, the *nationality effect* alone accounts for 33% of variation in the credit contractions across affiliates. This captures the commonality among affiliates with the same parent country across all host countries. For example, Fortis and ABN AMRO were broken up during the crisis, and so the aggregate balance sheets of Belgian and Dutch banks' affiliates contracted in many host locations. The nationality effect implies that Austrian, Belgian and Dutch banks on average shed, respectively, 31% and 27% and 24% *more* of their assets than banks of other nationalities (after controlling for where their affiliates operate). Similarly, being an affiliate of a German bank added 18 percentage points to the average contraction in any given host country. By contrast, having a Japanese or Australian parent *mitigated* the contraction characteristic of a particular location by some 20 percentage points since these banking groups emerged from the crisis largely unscathed.

Note that there is no contradiction in finding two opposing fixed effects for the same country: they relate to distinct concepts. Spain, as an economy in crisis, saw a strong average contraction among affiliates located there, be they Spanish or foreign banks (Graph 8, left-hand panel). But Spanish banks, with a formidable presence across Latin America, saw an offsetting nationality effect pointing to continued expansion in spite of the difficulties at home (Graph 8, right-hand panel).

A weighted regression gives qualitatively similar results (Table 3, Model (2)). Giving larger affiliates more weight proportional to their total assets leads to an outsize regression fit, as the fixed effects are now determined to closely match the contractions at larger banking systems and host countries, respectively. Although the estimated fixed effects differ, the ranking of locations and nationalities remains similar. Again, the shaded rows in Table 3 underscore the significance of fixed effects and how much they contribute to explaining the contraction of bank affiliates.

The two sets of fixed effects absorb all factors common to host countries or to bank nationalities. This includes the extent to which funding structures were systematically more fragile among bank affiliates of the same nationality, or among bank offices in certain locations (such as financial centres). That said, to prevent outliers from influencing the fixed effects, we add basic controls at the affiliate level, measured at the pre-crisis peak. Many statistical commands calculate fixed effects before running the regression on demeaned variables; doing so delivers more significant coefficients on the affiliate-level regressors than the results shown here. In Table 3, we estimated both sets of fixed effects along with their standard errors, which allows for more sample variability (see McCaffrey et al (2012) for a review of methods).

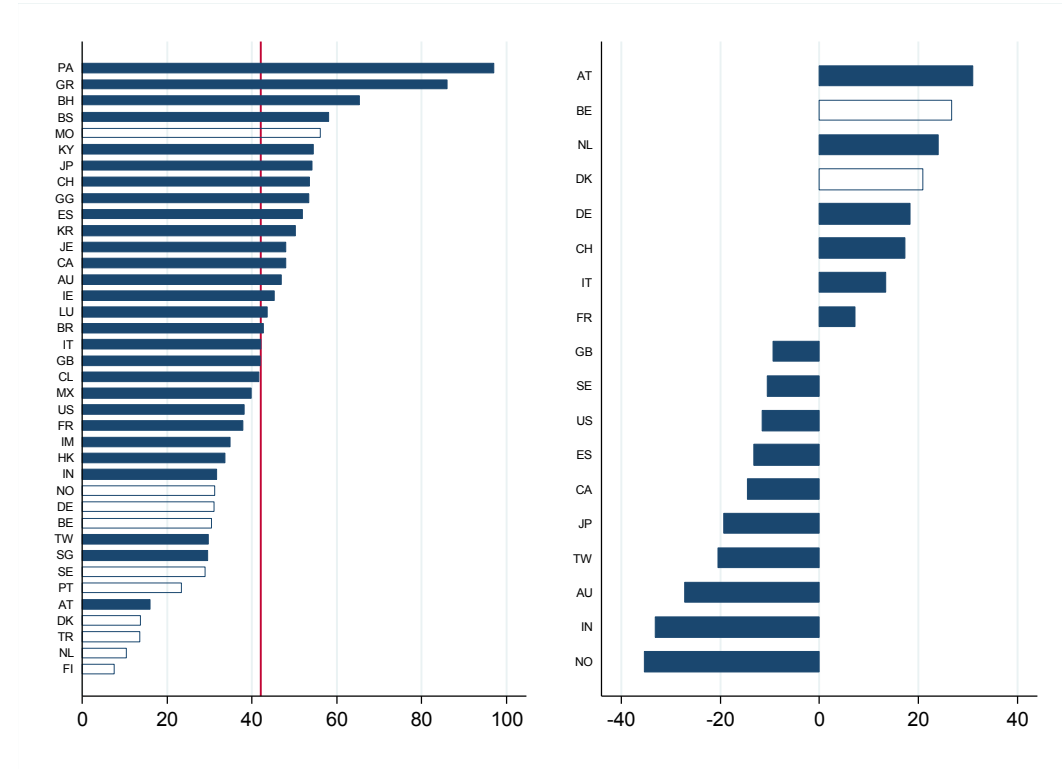
## Separating location and nationality factors in global bank retrenchment

In per cent

Graph 8

Location fixed effects<sup>1</sup>

Nationality fixed effects<sup>2</sup>



The red vertical line (left-hand panel) shows the average contraction across all bank affiliate location-nationality pairs. Country names are abbreviated to their two-letter iso codes (see also Graph 9). Location fixed effects serve as baseline, and nationality fixed effects add or subtract from the contraction characteristic of any particular location. Bars without colour lack significance at the 10% level.

<sup>1</sup> Contribution of bank location to the average contraction of affiliates' balance sheets, from the location fixed effects of Model (1) in Table 3. <sup>2</sup> Contribution of bank nationality to the average contraction of affiliates' balance sheets, from the nationality fixed effects of the same model.

Sources: BIS international banking statistics, authors' calculations.

The location and nationality effects barely weaken as these controls are added (Table 3, Models 3-4). Balance sheet size generally limits the subsequent contraction, perhaps because larger affiliates had better access to funding markets, and ultimately to the lender of last resort. By contrast, the distance between bank affiliates and their home-country headquarters tends to add to the predicted contractions, implying that affiliates active in host countries further from home tended to shed more assets.<sup>23</sup> The distance effect hints at international banks' post-crisis drive to refocus on their core business closer to home.

The most robust funding variable at the affiliate level is *local intermediation (LIM)*. It measures the attachment of bank affiliates to the host country in which they operate, matching their local lending to their local funding, and expresses the

<sup>23</sup> For example, being 10,000 km away from home was associated with 4% more balance sheet contraction than being located 3,700 km from headquarters ( $\ln(10,000) - \ln(3,700) \approx 1$ ).



minimum as a share of their balance sheet.<sup>24</sup> LIM explains 3% of the variance in balance sheet contractions across affiliates, given the fixed effects. The estimated coefficient (-0.3) suggests that banks doing 10% more business locally shrank by 3 percentage points less on average. The *pairing* of local assets with local funding apparently provided resilience, presumably because it is indicative of retail business.<sup>25</sup>

To close the circle, the final column in Table 3 runs the peak-to-trough analysis on affiliates' *cross-border* assets with which our discussion of deglobalisation began. Results mirror those for total assets (Model (3)), with slightly lower explanatory power and sample size. As before, there are systematic patterns in the way banks shed assets depending on their nationality and location. Locational factors, however, are less significant now, presumably because affiliates' lending goes exclusively to borrowers in other countries. Even so, the contraction of bank affiliates moves the external positions of countries they operate in – going well beyond their home countries. The nationality effect remains potent in explaining credit contractions, pointing to a strong commonality among banks from the same home country, regardless of where they operate. Clearly, European banks shrank their operations in many locations, responding to financial distress at the group level.

Returning to the theme of deleveraging, we explore how the nationality effect relates to the credit losses banks suffered during the crisis. Credit losses in the financial crisis are known to have decimated the capital base of many internationally active banks. That this in turn led banks to cut credit can be gleaned from Graph 9: banking systems recording greater credit losses tended to shrink their balance sheets by more – and do so in many locations around the world.

These results underscore the importance of bank health at the group level. Banks with larger credit losses spread credit contractions across many host countries. That this effect plays an outsize role for European banks provides a perspective on the decomposition above of the change in bank capitalisation by nationality of bank. European banks' credit losses in 2007-16 left them hard choices to strengthen their capital. The "lessons from the Nordics" of the benefits of prompt resolution of bank credit problems were not fully taken on board in Europe (Borio et al (2010)). Unlike in the United States, there was generally no broad programme of government equity purchase, as under the US TARP, nor checks on dividends and other distributions (as under the stress tests). Shedding of foreign claims allowed management not to issue new equity when market prices languished below book values.

<sup>24</sup> The share of local intermediation equals  $LIM_{in} = 100 * \min\{LC_{in}, LL_{in}\} / TB_{in}$ , where  $LC_{in}$  is local claims in all currencies and  $LL_{in}$  is local liabilities in all currencies in country  $i$  booked by bank affiliates from country  $n$ , expressed as a percentage of total balance sheet size  $TB_{in}$ . The measure increases when affiliates both lend locally *and* fund these positions locally. It is close to zero, however, for affiliates specialised in fund-raising (borrowing funds to send them abroad), or those intermediating capital inflows (borrowing abroad to fund local credit). At 20%, the median of local intermediation is fairly low, since the sample consists of foreign branches and subsidiaries. The extent of local intermediation also helps to identify banking groups that run a decentralised, multinational business model (McCauley et al (2012)).

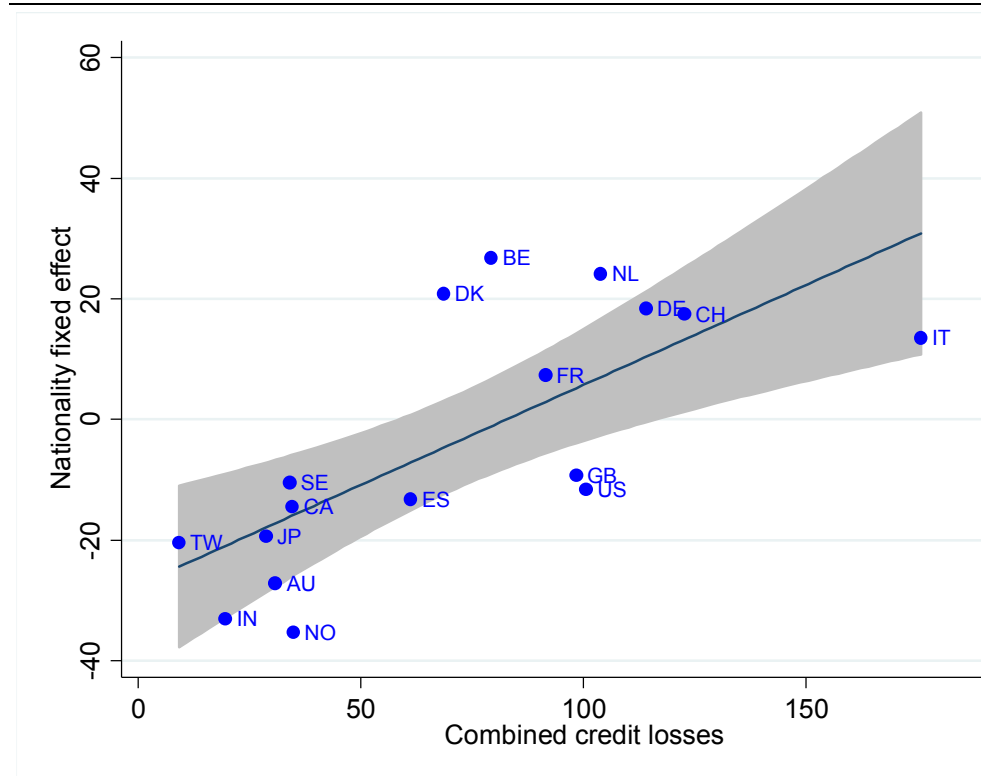
<sup>25</sup> We also tested three types of non-core funding: the shares of cross-border funding, foreign currency funding, and the share of liabilities borrowed from unaffiliated banks excluding intragroup funding. In Table 3, they also add some explanatory power but are not always significant across specifications.

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## Credit losses drive the nationality effect<sup>1</sup>

In per cent

Graph 9



AU = Australia; BE = Belgium; CA = Canada; CH = Switzerland; DE = Germany; DK = Denmark; ES = Spain; FR = France; GB = United Kingdom; IN = India; IT = Italy; JP = Japan; NL = Netherlands; NO = Norway; SE = Sweden; TW = Chinese Taipei; US = United States.

<sup>1</sup> The nationality fixed effect (y-axis) measures the contribution of bank nationality to the average contraction of affiliates' balance sheets, from Model 1 in Table 3. Combined credit losses (x-axis) reported between 2008 and 2010 by major banks headquartered in the countries shown, as a share of the same banks' combined Tier 1 capital as of end-2008. For each bank entering these country aggregates, total credit losses are taken to be the larger value from two different sources: the maximum of non-performing loans reported in 2008–10 (SNL Financial), and reported credit losses on loans and securities (Bloomberg). The black line represents the simple linear projection of nationality fixed effects on combined credit losses, with the shaded area indicating the 95% confidence interval.

Sources: Bloomberg; SNL Financial; authors' calculations.

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## 6. Conclusions

In sum, the financial deglobalisation that appears to characterise global banking looks different from a consolidated perspective. It is better interpreted as a regional phenomenon that reflects an earlier banking glut that afflicted Europe. European banks responded to losses by shedding assets around the world.

If it is accepted that the decline of cross-border and foreign banking claims is a symptom of a particular form of European bank deleveraging, what are the policy implications? One implication is that the authorities are well advised to insist on the strengthening of banks' balance sheets, rather than let losses fester.

Another is that there is a risk of mistaking bank deleveraging for a deglobalisation trend in banking. Doing so could influence the response to policies that tend to further banking fragmentation. If observers judge that the global banking market is already headed in the direction of deglobalisation, they may underestimate the cost of such policies. In other words, a misapprehension regarding the source of the contraction in global banking as secular rather than cyclical could actually prove self-fulfilling.

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