

The architecture of global banking: from international to multinational?

The financial crisis has led to a reconsideration of banks' global business models. This special feature uses the BIS banking statistics to distinguish between "international" and "multinational" banks and their associated funding models. The crisis put these models to the test. In the event, banks' local positions were more stable, especially in emerging markets.

JEL classification: F34, F36, G21.

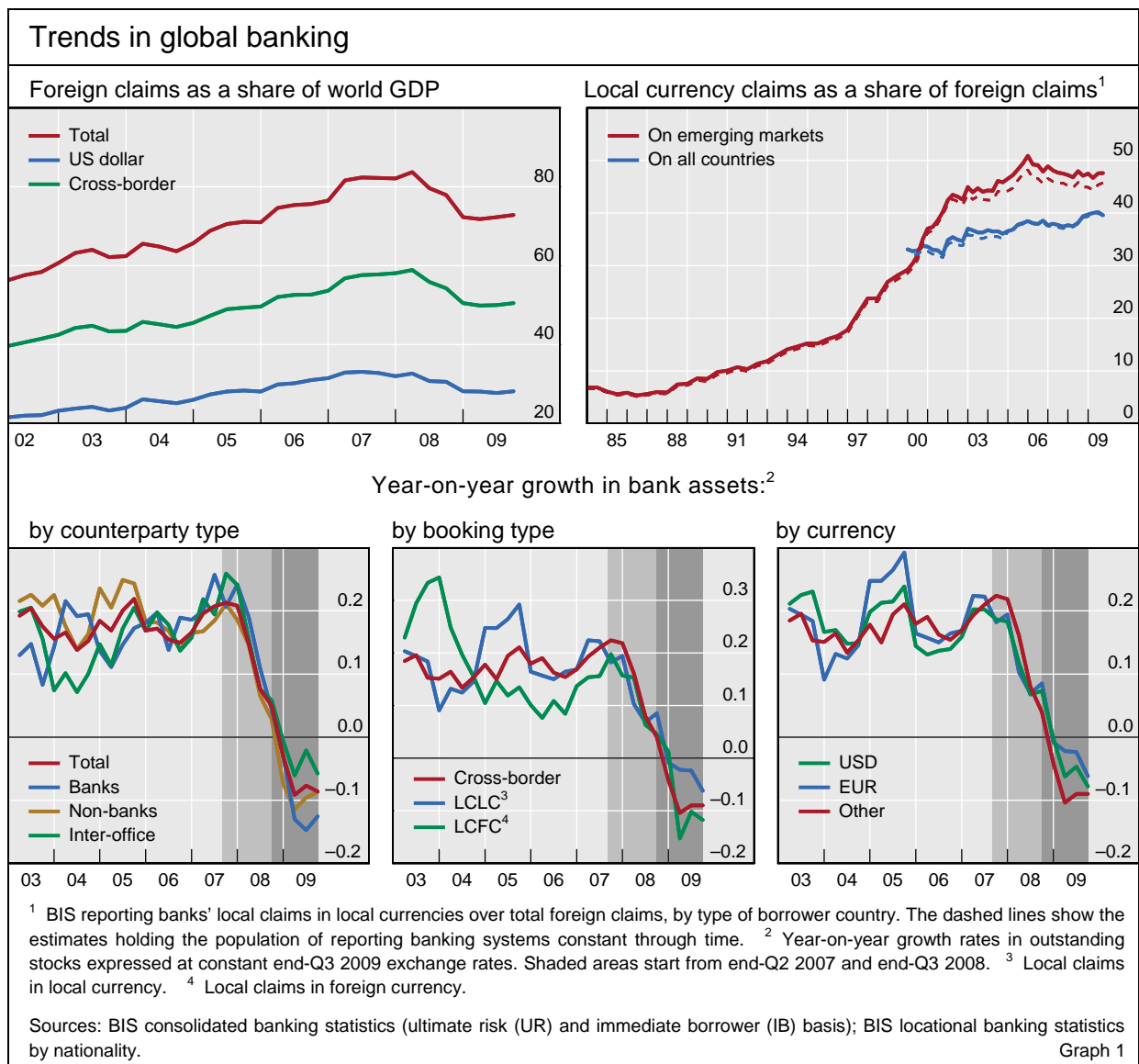
Banks run special risks in lending abroad. The term "country risk" covers the potential legal, political or economic sources of loss that are common to a jurisdiction. In particular, "transfer risk" arises when an otherwise sound borrower cannot buy the foreign currency needed for debt service. When big banks stepped up their lending to emerging market governments and firms in the 1970s, supervisors started to require systematic reporting of banks' country exposures. Consistent with its origins as a transfer agent, the BIS compiled such statistics. Until 1999, the BIS collated only exposures to countries *outside* the group of industrial reporting countries: implicitly, debtors posed risks to creditors that needed to be aggregated in order to be managed.

Recent events have reversed this perspective. While debtor countries pose risk to the creditor, creditors can also pose a risk to the debtor of a sudden withdrawal of credit. This risk depends on the creditor's business model. Loans may be extended in dollars or euros or in local currency. Funding may be sourced across currencies and borders, or locally. Operations may be wholesale or retail. Owing to such differences, some countries suffered a greater withdrawal of credit than others in 2008–09. Just as bank supervisors monitor (debtor) country risk, borrowers must attend to (creditor) source risk.

This special feature first characterises banks by the structure of their foreign operations. We identify a gradual long-term trend towards local banking, yet observe a persistent diversity in banks' underlying funding models that left some banks more vulnerable to the global funding disruptions during the crisis. We then analyse the stability of banks' exposures to borrowers in six host regions. We find that local positions proved to be more stable during the crisis than those funded across borders and currencies, especially in emerging markets.

Trends in the structure of global banking

For decades, the growth in banks' foreign claims has outpaced that in economic activity (Graph 1, top left-hand panel). Like other industries, banking has become more global. Banking stands out, however, in its legal form and reliance on cross-border positions. In other industries, as a firm expands from its home market, it sets up subsidiaries abroad that borrow locally to finance assets: this is the multinational model (Aliber (1993)). Accordingly, the *multinational bank* operates sizeable foreign branches and subsidiaries in multiple jurisdictions (Jones (1992)) and, in its extreme form, funds those positions locally in the host countries. In contrast, the *international bank* operates out of the home country or in a (major) financial centre and conducts mostly cross-border business.¹



¹ The multinational model may (but need not) be implemented through locally incorporated, independently capitalised subsidiaries (eg to qualify for local deposit insurance). The BIS banking statistics comprise 1,764 foreign branches and 1,874 foreign subsidiaries.

After the 1980s Latin American debt crisis inflicted losses on cross-border loans, banks shifted towards the multinational model. Establishing or acquiring a local bank in order to borrow and lend locally avoided transfer risk, if not country risk. As a result, the share of local currency claims in foreign claims on emerging market economies rose from 7% in 1983 to 25–30% in the 1990s (Graph 1, top right-hand panel).² After the Asian financial crisis of 1997–98, the Committee on the Global Financial System widened the group of reporting jurisdictions and began to collect data on worldwide exposures. The new data showed that the local currency share of claims globally was even higher.

The shift to local banking slowed in the 2000s. In emerging markets, bank flows across borders resumed in the mid-2000s in response to higher yields and US dollar depreciation (Galati et al (2007), Gyntelberg and Remolona (2007), McCauley (2008), CGFS (2009)). Elsewhere, the introduction of the euro, spurring an area-wide interbank market, and European banks' heavy investment in US asset-backed securities had a similar effect. If these factors promoting cross-border lending prove to be transitory, then local claims as a share of foreign claims may rise from 40%, even in the absence of any regulatory changes that might favour multinational over international banking.

The global financial crisis reinforced the previous trend towards local and multinational banking, especially in emerging markets. With the drying-up of the international interbank market, claims on unaffiliated banks shrank (Graph 1, bottom left-hand panel). Cross-border claims and locally booked foreign currency claims (often funded cross-border) dropped more abruptly than local currency claims (centre panel).³ The same pattern on the liabilities side suggests that local funding proved more resilient during the crisis. Developments by currency (right-hand panel) differed slightly, reflecting the greater dislocation in dollar funding markets and the high cost of dollars in foreign exchange swap markets (Baba and Packer (2009)).

Characterising banking systems

Despite the general trend just discussed, banking business models differ across banking systems. In order to highlight these differences, we next characterise banking systems in two dimensions.⁴ In the first, we demonstrate that some banking systems approximate the *multinational* model while others

² There was also a secular rise in the share of local claims in *all* currencies. Local claims refer to claims booked by foreign offices vis-à-vis *residents* of the host country. Foreign claims sum all cross-border claims and local claims booked by offices outside the home country.

³ These series have been expressed at constant exchange rates to remove valuation effects. For example, with the appreciation of the US dollar in late 2008, stocks in other currencies translate into smaller dollar amounts, creating a spurious contraction of local positions.

⁴ This analysis requires the consolidated entity to be broken down into the balance sheets of the bank offices in individual countries and jurisdictions ("locations"). To construct this dataset, we match banks' assets and liabilities in the BIS locational banking statistics (reported on a residency basis) with the consolidated banking statistics, to obtain the geographical office information separately for each banking system (ie the set of banks headquartered in a particular country). The main banking systems in the sample are shown in Table 1.

lie closer to the *international* model. In the second, we characterise banking systems by the degree of (de)centralisation. A *centralised* bank pools funds at major offices and redistributes them around the banking group; a *decentralised* bank lets affiliates raise funds autonomously to finance assets in each location. Multinational banks can stand at either end of this spectrum. By contrast, international banks by their nature tend to be more centralised.

Banks headquartered in different countries have adopted a broad range of business models (Table 1 and Graph 2).⁵ When banking systems are ranked according to the share of cross-border versus local positions, the international model of Japanese banks and, to a lesser extent, German banks stands out (Graph 2, top left-hand panel). Japanese banks not only book 80% of foreign claims as cross-border transactions, they do so predominantly out of their home offices in Tokyo. Two thirds of their foreign claims are also funded in Japan, in large measure through local deposits (bottom left-hand panel). German banks show a similar profile, though with domestic deposits used to fund claims booked in London.

At the other end of this spectrum, Spanish banks stand out with the largest share of local activity among the major banking systems. At 60% of foreign

From international banks with cross-border activity ...

... to multinational banks with local operations

Size and structure of banks' foreign operations												
Positions at end-2007												
		BE	CA	CH	DE	ES	FR	IT	JP	NL	UK	US
Number of banks ¹		18	17	23	1,801	96	135	724	106	49	17	33
Total assets (\$bn) ²		2,218	2,437	3,810	10,585	4,541	8,359	4,180	9,845	4,649	10,008	9,904
Foreign claims (\$bn) ³		1,608	912	3,390	5,177	1,416	4,456	1,543	2,571	2,962	4,378	2,285
Over total assets (%)		72	37	89	49	31	53	37	26	64	44	23
US dollar share (%)		23	70	60	33	36	31	10	48	31	42	52
Foreign claims, by office location (%) ⁴	Home country ⁵	42	23	18	44	27	51	39	75	27	44	22
	United Kingdom	6	18	30	22	28	6	5	6	20	.	25
	United States	6	41	23	6	9	12	3	9	12	16	.
	Euro area	37	2	4	16	10	15	35	2	23	11	7
	Offshore centres	3	9	21	7	2	6	2	6	6	14	24
	Other	6	7	4	4	24	10	17	3	13	15	22
Foreign offices (%) ⁶		42	26	80	27	22	27	19	7	47	29	21

¹ Number of banking groups (headquartered in the country shown in the columns) that report in the BIS consolidated banking statistics. ² Total assets (including "strictly domestic assets") aggregated across BIS reporting banks. For reporting jurisdictions which do not provide this aggregate (DE, ES, FR, IT, JP), total assets are estimated by aggregating the worldwide consolidated balance sheets for a similar set of large banks headquartered in the country, using BankScope. ³ Foreign claims as reported in the BIS consolidated banking statistics (IB basis) plus foreign currency claims vis-à-vis residents of the home country booked by home offices (taken from the BIS locational banking statistics by nationality). ⁴ Total claims (cross-border claims plus claims on residents of the host country) booked by offices in each location over total worldwide consolidated foreign claims. ⁵ Excludes banks' "strictly domestic" claims, or their claims on residents of the home country in the domestic currency. ⁶ Share of total assets (row 2) booked by offices outside the home country.

Sources: IMF, *International Financial Statistics*; BankScope; BIS consolidated banking statistics (IB basis); BIS locational banking statistics by nationality.

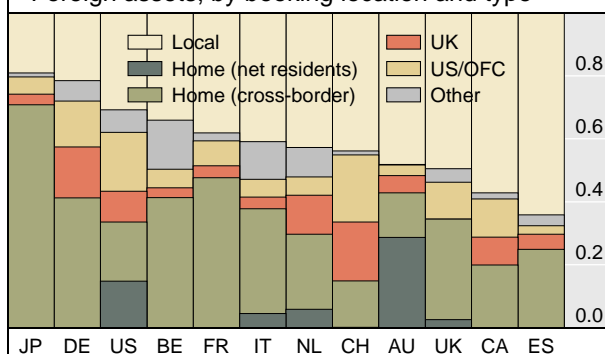
Table 1

⁵ This is in addition to the fact that smaller countries tend to have banks with a more international orientation (see foreign claims over total assets in Table 1).

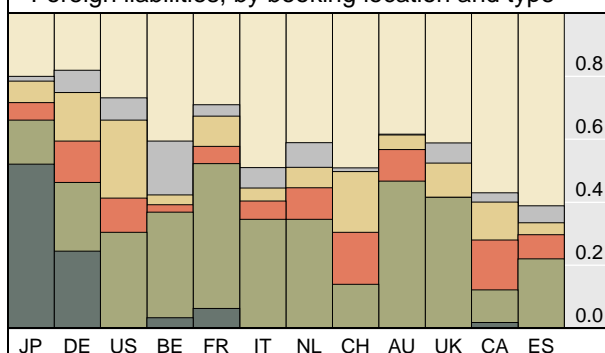
Multinational versus international banking

Positions at end-Q4 2007

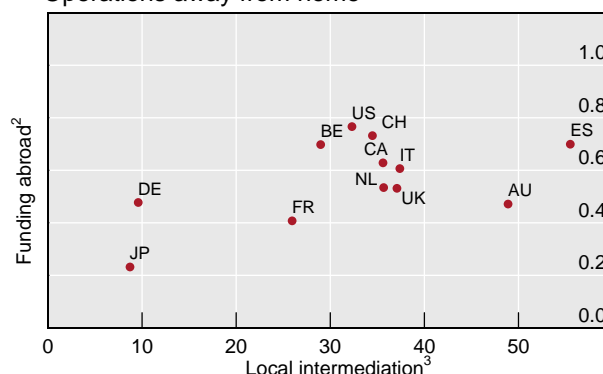
Foreign assets, by booking location and type¹



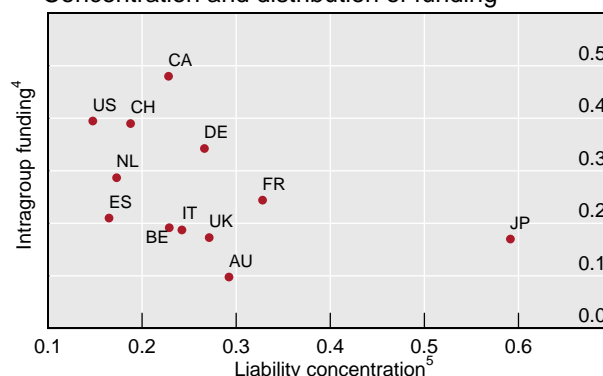
Foreign liabilities, by booking location and type¹



Operations away from home



Concentration and distribution of funding



¹ The panels divide total foreign positions into local and cross-border positions for those banking systems identified under the bars. Cross-border positions are further broken down into positions *booked by* offices in various countries. The size of the bars indicates the share of total foreign positions. “Local” = *local positions* (in all currencies), or positions vis-à-vis residents of the host country; “Home (cross-border)” = *cross-border positions* booked by the home office; “Home (net residents)” = *net positions* vis-à-vis residents of the home country (in home currency) which equate total foreign assets and liabilities of the home office. This is positive on the assets side for banking systems which borrow abroad to lend at home (eg Australian, Italian and US banks), and positive on the liabilities side for banking systems which borrow at home to lend abroad (eg German and Japanese banks); “UK” = *cross-border positions* booked by offices in the United Kingdom plus positions booked by offices in the United Kingdom which are unallocated by residency (ie unclear whether cross-border position or not); “US/OFC” = *cross-border positions* booked by offices in the United States and offshore centres; “Other” = *cross-border positions* booked by other offices. ² Share of total foreign liabilities booked by offices outside the home country. ³ Defined as in footnote 6 in the main text. ⁴ Share of inter-office liabilities in total foreign liabilities. ⁵ Herfindahl index of total foreign liabilities (both cross-border and local, including inter-office) by office location.

Sources: BIS consolidated banking statistics (UR and IB basis); BIS locational banking statistics by nationality.

Graph 2

assets and liabilities (Graph 2, left-hand panels), their local operations are large and increasing. This trend reflects the expansion of their operations in Latin America (and in the United Kingdom) and pressure from home and host supervisors to fund that expansion locally.

The share of foreign liabilities booked outside the home country also usefully distinguishes international from multinational banks. This identifies Japanese, German and French banks as more international, and US, Spanish and Swiss banks as multinational (Graph 2, top right-hand panel).

A more centralised approach ...

In our second dimension, centralised banks are distinguished from decentralised multinational banks by the extent to which local assets are locally funded. We compute the minimum of local claims and local liabilities across

office locations for each banking system (*local intermediation*).⁶ A high score in this dimension sets Spanish banks apart from their Swiss counterparts, which tap funds in multiple locations (global wealth management) to fund assets held in other jurisdictions (top right-hand panel). The Spanish banks are decentralised in that their foreign offices raise funds autonomously in each host country. Swiss banks are more centralised, using the home office or offices in financial centres to source liabilities and to redistribute the funds across the group (Table 1); foreign affiliates thus tend to rely more on cross-border *intragroup* funding (bottom right-hand panel).⁷ Extensive intragroup funding points to an even greater centralisation among Canadian and US banks. The global distribution of funding also sheds light on the degree of centralisation among banks closer to the international model. A high concentration of liabilities⁸ distinguishes Japanese banks, with their reliance on home country funding, from German or French banks, with a wider spread of liabilities.

Over time, the trend from international to multinational banking is more evident in some banking systems than in others. Several banking systems have increased the extent of local intermediation abroad, including Spanish, French and UK banks (Graph 3).⁹ Belgian banks also show a mild uptrend from low levels of multinationalisation. For most banking systems, the tendency to extend local credit is more pronounced in emerging market countries (dotted lines). Therefore, the overall trend towards multinational banking in part reflects the compositional effects of rising emerging market portfolio shares and faster growth among the decentralised multinational banks, rather than a universal evolution in business models. The contraction of cross-border lending in the crisis has given this trend a fillip (Graphs 1 and 6).

This leads to the question of how the different funding models map onto vulnerability to funding disruptions. In seeking an answer, the analysis must further examine the structure of banks' assets and liabilities in individual *currencies*. Only this step allows us to measure banks' cross-currency funding and their reliance on foreign exchange swaps. For non-US banks, US dollar positions typically exceed US dollar funding, and large foreign exchange swap

... exposes a bank to global market disruptions

⁶ Formally, $\sum_i \min\{LC_{ni}, LL_{ni}\} / FC_n$, where LC_{ni} stands for local claims in country i booked by banks headquartered in country n , and LL_{ni} likewise stands for local liabilities. This indicator remains close to zero if banks from n are mostly in the business of sourcing liabilities in one country with the aim of transferring them to another.

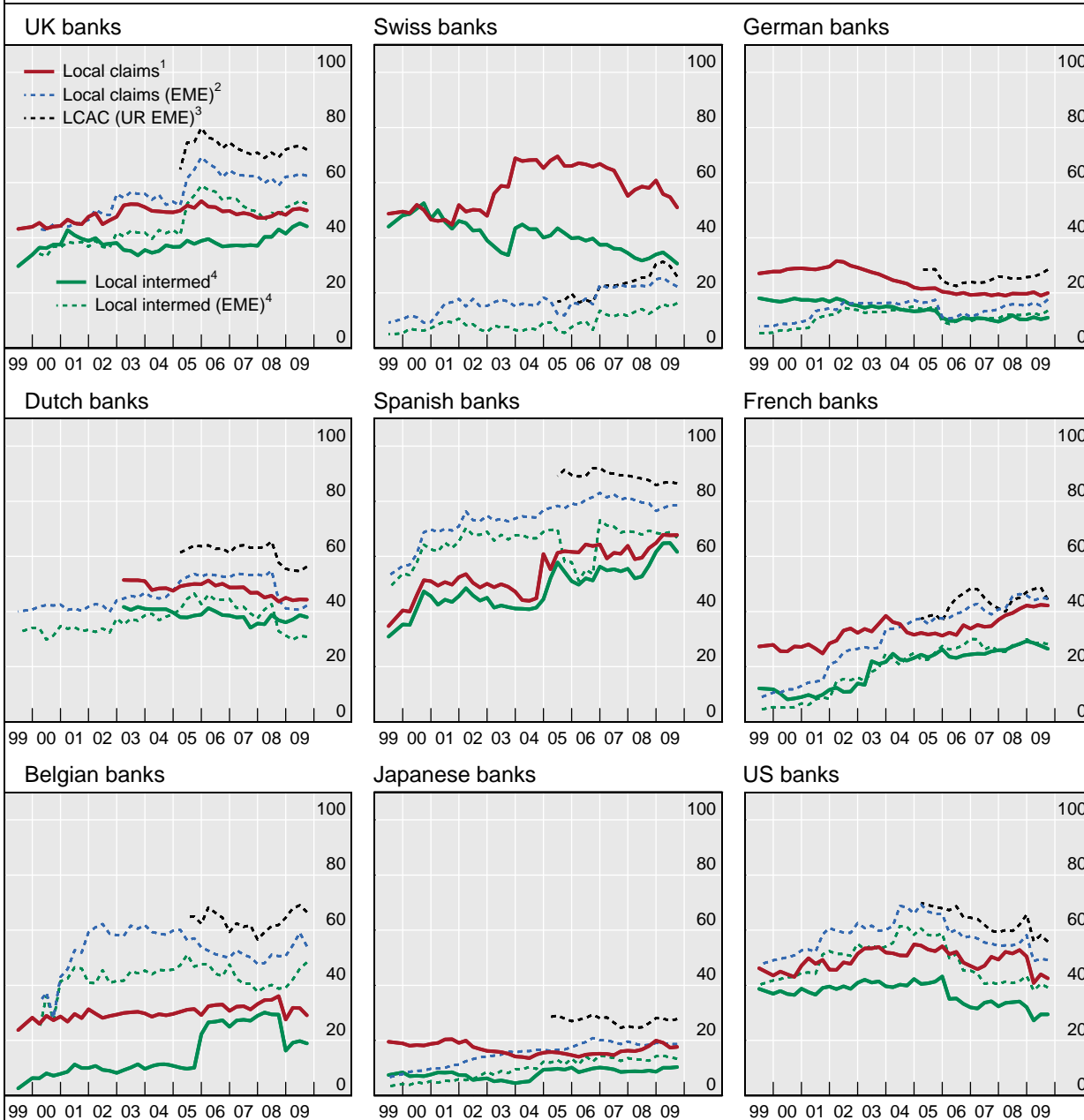
⁷ Using bank-level data, de Haas and van Lelyveld (2010) find evidence of internal capital markets in multinational banks whereby parent banks manage the credit growth of their subsidiaries.

⁸ This can be measured with the Herfindahl index on booking office liabilities, $\sum_i (FL_{ni} / FL_n)^2$, where FL_{ni} represents foreign liabilities in country i booked by banks headquartered in country n . The index approaches unity as all funding is concentrated in one office location.

⁹ An admitted data limitation is that aggregation across countries in the BIS statistics obscures differences among individual banks. In the case of UK banks, the "colonial" banks HSBC and Standard Chartered differ from Barclays in terms of funding models and organisational forms.

Local positions as a share of foreign positions

In per cent



¹ Local claims as a percentage of total foreign claims, where local claims are claims (in all currencies) booked by foreign offices vis-à-vis residents of the host country (ie excluding cross-border positions). ² Local claims in local currencies (LCLC) on emerging markets over total foreign claims (IB basis) on emerging markets. ³ Local claims in all currencies (LCAC) on emerging markets over total foreign claims (UR basis) on emerging markets. ⁴ Measure of the amount of business that is locally intermediated, calculated as described in footnote 6 in the main text. The dashed green line is the measure for offices in emerging markets only.

Sources: BIS consolidated statistics (IB and UR basis); BIS locational statistics by nationality.

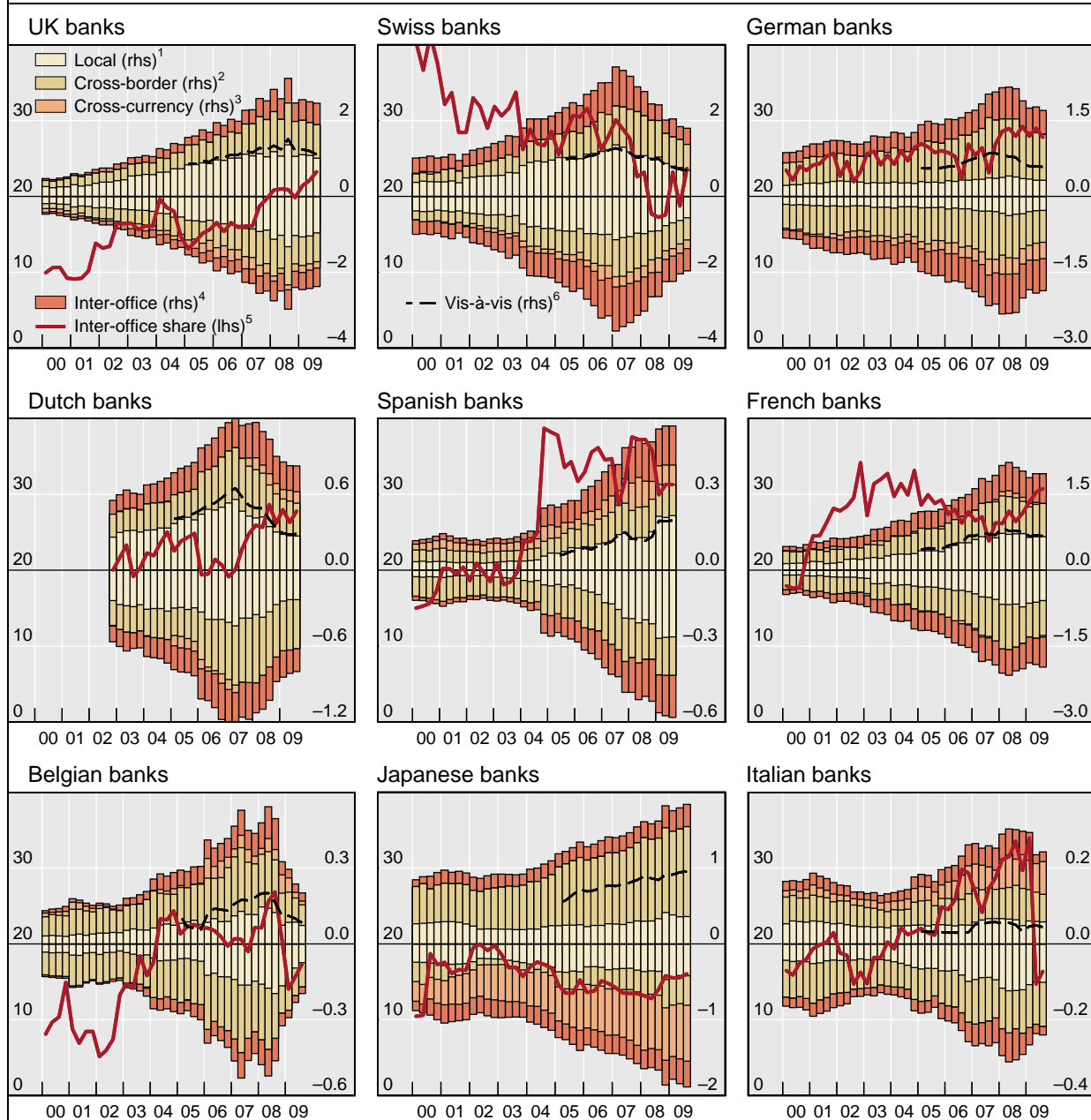
Graph 3

positions are taken to convert funding in other currencies into US dollars (Graph 4).¹⁰ Such hedging exposed Japanese, German, Swiss and (some) UK

¹⁰ Claims on US entities make up little more than half of the US dollar business across all banking systems shown, illustrating the leading role of the US currency for denominating financial instruments. Non-US banks' consolidated foreign claims (IB basis) on the United States have fallen by roughly \$1 trillion since end-Q3 2008, reflecting asset writedowns,

Reporting banks' US dollar foreign claims, by type

In trillions of US dollars



¹ Local positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of that jurisdiction. ² Cross-border positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of other jurisdictions. ³ Cross-currency funding position implied by the balance sheet identity. ⁴ Cross-border positions vis-à-vis offices within the same banking group. ⁵ Share of gross US dollar inter-office assets in total US dollar assets. ⁶ Foreign claims (UR basis) on US residents.

Sources: BIS consolidated banking statistics (UR and IB basis); BIS locational banking statistics by residency.

Graph 4

banks, in particular, to swap market dislocations (McGuire and von Peter (2009)). Banks pursuing a more decentralised multinational model were somewhat less exposed to disruptions in wholesale funding and swap markets.

reductions in lending and sales of securities. Roughly \$600 billion of this total is the result of a contraction in banks' local claims booked in the United States.

The dollar book mirrors many regularities noted earlier. German and Japanese banks conduct their dollar business cross-border, while Spanish and UK banks lend and fund more locally even in this global currency.¹¹ German banks rely more on inter-office activity to redistribute US dollars (red bars), while Japanese banks convert yen to fund cross-border dollar claims (vis-à-vis unaffiliated entities). Banks' global euro books admit similar conclusions, though the contraction during the financial crisis was less pronounced. This points to currency-specific effects, whereby adverse funding conditions in the US dollar wholesale markets (and dysfunctional swap markets) have driven the contraction of dollar-denominated positions (among Swiss and German banks, for example).

The host country perspective and credit stability

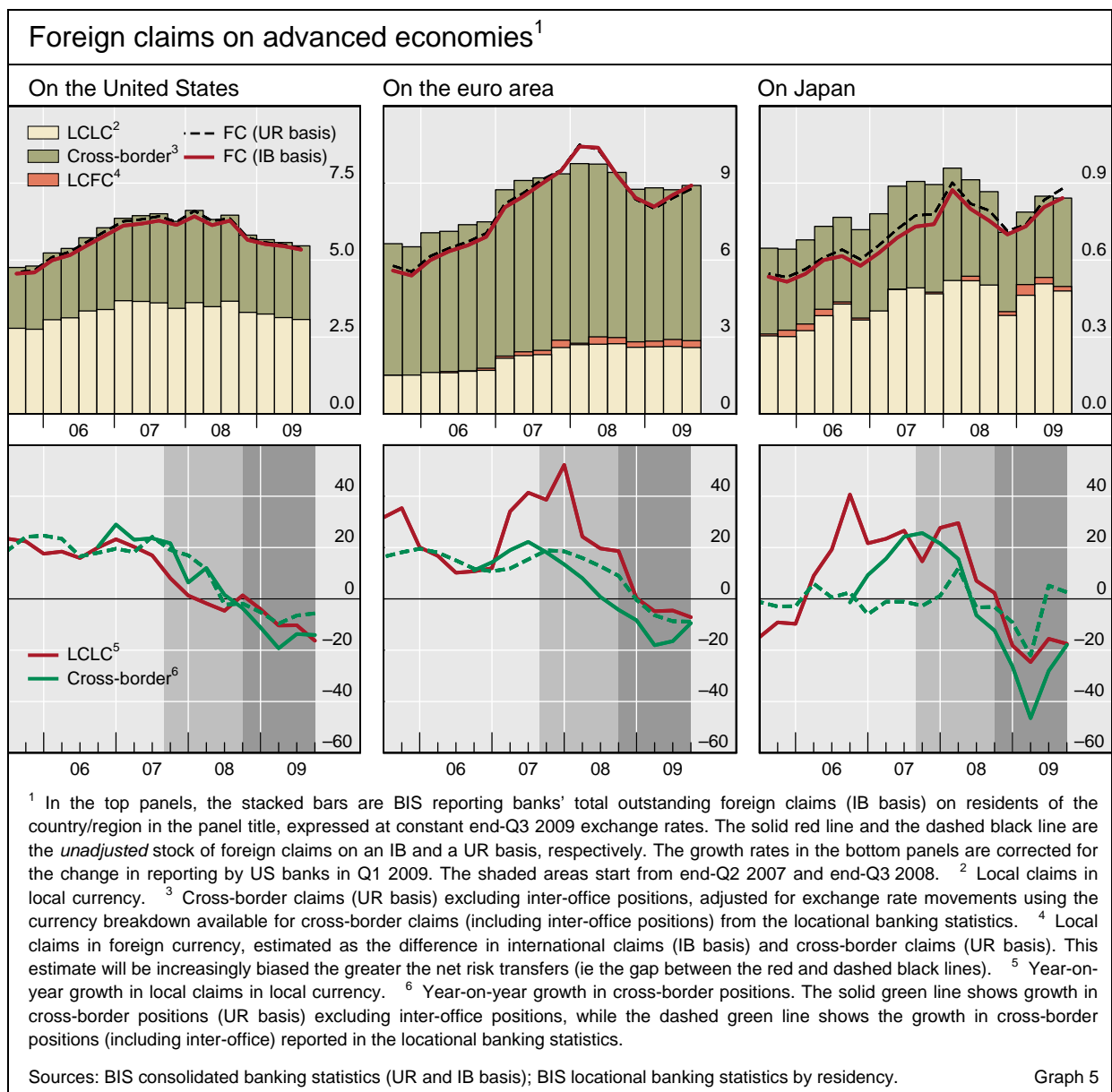
The stability of cross-border lending matters because cross-border borrowing can be substantial in relation to a country's international balance sheet (Table 2). In the case of Belgium, Switzerland and the United Kingdom, banks' cross-border positions accounted for 40–60% of each country's external liabilities at end-2007, and for a quarter or more in the case of France, Italy and

Bank liabilities as a share of total external liabilities											
Positions at end-2007											
	BE	CA	CH	DE	ES	FR	IT	JP	NL	UK ⁴	US
Gross external liabilities (\$bn) ¹	2,266	1,340	2,596	6,418	3,206	7,383	2,946	3,160	3,781	13,357	20,419
Net external assets (\$bn)	141	-127	635	949	-1,081	375	-119	2,195	14	-586	-2,442
Cross-border bank liabilities (in billions of US dollars) ²											
All banks	970	263	1,393	1,993	704	2,810	942	712	1,436	8,118	3,716
Domestic banks	721	218	1,118	1,614	405	2,375	608	546	1,169	2,366	1,928
Foreign banks	249	45	275	379	299	435	334	166	267	5,752	1,788
Cross-border bank liabilities as a share of external liabilities (in per cent) ³											
All banks	43	20	54	31	22	38	32	23	38	61	18
Domestic banks	32	16	43	25	13	32	21	17	31	18	9
Foreign banks	11	3	11	6	9	6	11	5	7	43	9
¹ Stock of international liabilities held by residents (banks and non-banks) of the country listed in the column heading. ² Cross-border liabilities (including inter-office liabilities) booked by banks' offices located in the country in the column heading. ³ Ratio of cross-border bank liabilities to gross external liabilities (row 1). ⁴ Banks located in the United Kingdom reported roughly \$800 billion in liabilities for which the residency of the counterparty is unknown. The figures in the table assume that these "unallocated" liabilities are held by <i>non-residents</i> . Were we to assume that they were held by residents, then the cross-border liabilities of domestic (foreign) banks would change from \$2,366 billion (\$5,752 billion) to \$2,014 billion (\$5,291 billion). The figures on banks' cross-border liabilities should therefore be interpreted with caution.											
Sources: IMF, <i>International Financial Statistics</i> ; BIS locational banking statistics by nationality.										Table 2	

¹¹ Note that the share of local activity also serves as a proxy of how much is known about the location of the counterparties of a particular banking system. Since the counterparties of cross-border liabilities are not reported, the ultimate funding sources remain unknown for this part of banks' consolidated balance sheets. This makes it impossible to ascertain how far banks that rely extensively on cross-border funding (eg German banks) depend on particular sources such as petrodollars.

the Netherlands. The offices of *foreign* banks alone accounted for about a tenth of the external liabilities of Belgium, Italy, Spain, Switzerland and the United States.¹² A similar ratio was evident in Korea and Chinese Taipei, while Brazil, Chile and Mexico showed ratios of about half that level.

For emerging market economies, foreign bank positions on such a scale have raised policy questions. For instance, whereas *domestic* banks in Korea had run up large short-term external liabilities just before the outbreak of the Asian financial crisis, *foreign* banks in Korea had run up the bulk of such liabilities in 2007 (McCauley and Zukunft (2008)). Reporting banks, primarily continental European banks, had swapped an estimated \$67 billion of these (mostly) dollar liabilities into Korean won to help finance won assets of



¹² In contrast, positions booked by the home offices of domestic banks were much larger in the case of Belgium, Germany, Japan and Switzerland.

\$165 billion at end-2007. Were concerns over the stability of such cross-border liabilities justified by subsequent events?

Local positions
contract less than
cross-border
positions ...

The evidence speaks for the greater stability of the decentralised multinational model, especially outside the major currency areas. As observed above, local assets, in particular local claims in *local currency*, proved to be more stable in aggregate in the recent financial crisis than did cross-border claims.¹³ Here we assess the consistency of this finding across six countries/regions: the United States, the euro area, Japan, Latin America, emerging Asia and emerging Europe. The finding does not hold for the epicentre of the crisis, the United States, where foreign banks' asset-backed securities holdings fell through sales, writedowns or rebookings. It holds most strongly for emerging markets.

With regard to obligors in the United States, non-US banks' local claims contracted at roughly the same rate as their cross-border claims (Graph 5). Much of these banks' local US claims comprised holdings of asset-backed securities that lost value. The simultaneous contraction in non-US banks' local US dollar *liabilities* suggests that these local assets were funded by short-term wholesale liabilities rather than by stable retail deposits.

In the euro area, cross-border lending decelerated and started to shrink earlier than local euro lending. While the most recent data seem to show little difference in rates of growth, mergers and acquisitions among European banks muddy the interpretation of the observations.

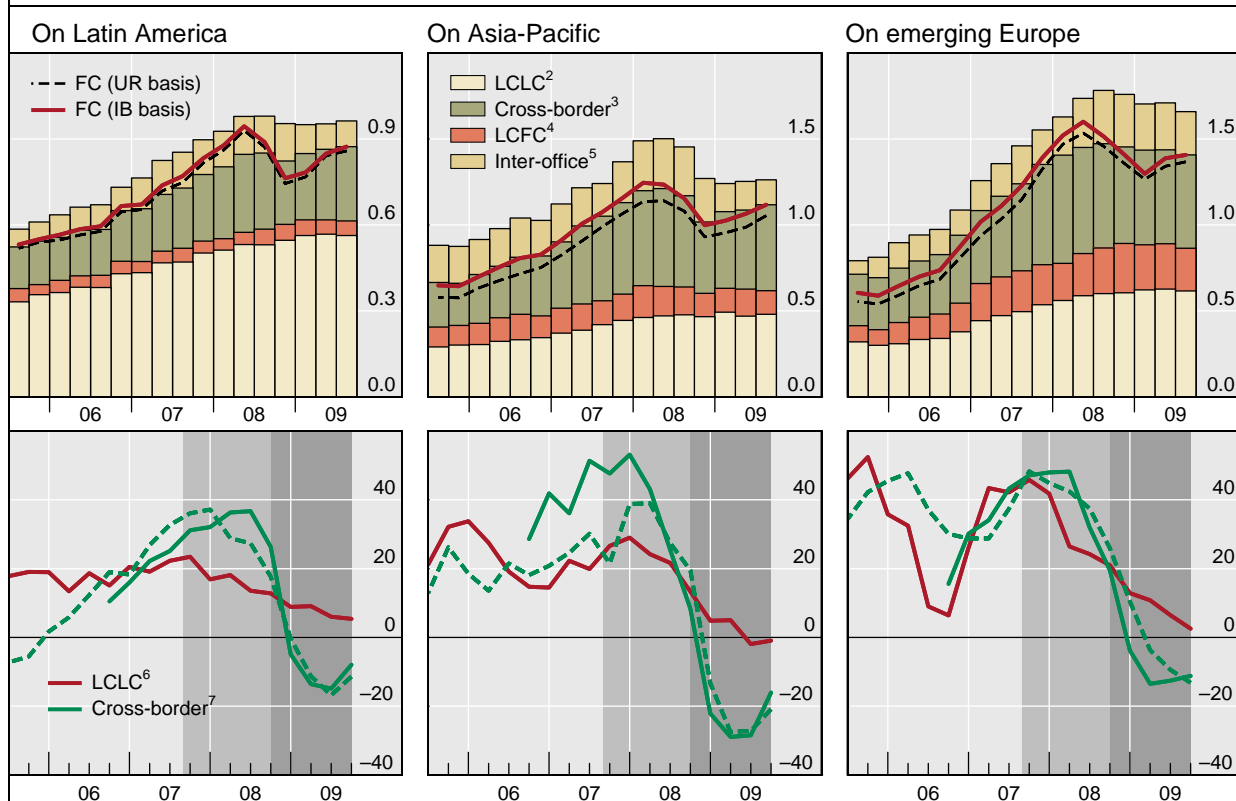
... particularly in
emerging markets

In emerging markets, however, banks' local currency claims proved more stable than cross-border claims (Graph 6). Unlike elsewhere, the bulk of banks' local currency operations in emerging markets is usually retail and corporate lending on the assets side, funded by deposits on the liabilities side.¹⁴ As shown in Graph 6, the year-on-year growth in cross-border lending (excluding inter-office) plunged from more than 30% in each region to –15% or less in the wake of the collapse of Lehman Brothers. In contrast, the growth in banks' local currency claims slowed much less and actually remained positive up to end-Q3 2009 in Latin America and emerging Europe.

¹³ Determining the size of the change in consolidated foreign positions at the global (or even regional) level is complicated by (i) changes in the reporting population, (ii) mergers and bankruptcies of banks and (iii) large exchange rate movements since the start of the crisis. On (i), the former investment banks were included as reporting institutions in the US consolidated statistics for the first time in the first quarter of 2009, which led to a large jump in US banks' outstanding positions vis-à-vis borrowers in most countries. The growth rates in the bottom panels of Graphs 5 and 6 have been adjusted for this break in series, whereas the stock figures in the top panels have not. On (ii), the break-up of ABN AMRO and Fortis banks has led to large declines in the outstanding stock of foreign claims of Belgian and Dutch banks. Some of the assets of these institutions were purchased by entities which are non-reporters, thus biasing downwards the stock of outstanding claims and the rate of contraction vis-à-vis some borrowers. The growth rates shown in Graphs 5 and 6 are similar if Belgian and Dutch banks are dropped from the sample. On (iii), see footnote 5 in Graphs 5 and 6.

¹⁴ The relative size of local versus cross-border credit differs significantly by emerging market region. Cross-border claims accounted for roughly 40% of banks' total foreign claims on eastern Europe, and local lending in *foreign* currency (particularly important in the Baltic states) for an additional (estimated) 15%. In contrast, banks' claims on Latin American borrowers are primarily in the form of local claims in local currency, reflecting operational requirements imposed by host countries (eg Brazil, Chile and Mexico) as well as the predominance of US and Spanish banks in the region (see previous section).

Foreign claims on emerging markets¹



Latin America = Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay and Venezuela; Asia-Pacific = China, Chinese Taipei, India, Indonesia, Korea, Malaysia, the Philippines and Thailand; emerging Europe = Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Slovenia and Turkey.

¹ In the top panels, the stacked bars are BIS reporting banks' total outstanding foreign claims (IB basis) on residents of the country/region in the panel title, expressed at constant end-Q3 2009 exchange rates. The solid red line and the dashed black line are the *unadjusted* stock of foreign claims on an IB and a UR basis, respectively. The year-on-year growth rates in the bottom panels are based on exchange rate adjusted data, and are corrected for the change in reporting by US banks in Q1 2009. The shaded areas start from end-Q2 2007 and end-Q3 2008. ² Local claims in local currency. ³ Cross-border claims (UR basis) excluding inter-office positions, adjusted for exchange rate movements using the currency breakdown available for cross-border claims (including inter-office positions) from the locational banking statistics. ⁴ Local claims in foreign currency, estimated as the difference in international claims (IB basis) and cross-border claims (UR basis). This estimate will be increasingly biased the greater the net risk transfers (ie the gap between the red and dashed black lines). ⁵ Inter-office claims on subs in the borrower country/region; estimated as the difference between cross-border claims from the consolidated statistics (UR basis) and cross-border claims from the locational statistics, and adjusted for currency movements using the currency breakdown available for total cross-border positions in the locational banking statistics. ⁶ Year-on-year growth in local claims in local currency. ⁷ Year-on-year growth in cross-border positions. The solid green line shows growth in cross-border positions (UR basis) excluding inter-office positions, while the dashed green line shows the growth in cross-border positions (including inter-office) reported in the locational banking statistics.

Sources: BIS consolidated banking statistics (UR and IB basis); BIS locational banking statistics by residency.

Graph 6

Conclusion

This feature has highlighted an underlying trend towards multinational banking. If this is accepted, then it follows that banks are becoming more like manufacturing and other service firms in their global operations. This trend was obscured for much of the 2000s by European banks' build-up of positions in US asset-backed securities funded or held outside the United States. The writedown and sale of these positions have allowed the trend towards more multinational banking to reassert itself.

We have shown that some banking systems are international in their organisation while others are multinational, and that the multinational model can be operated with a greater or lesser degree of centralisation. While much work remains to be done in assessing the performance of various banking models during the crisis, it does appear that local assets proved more stable under stress. Cross-border claims and liabilities proved less stable. These findings hold even if account is taken of the series break represented by US securities firms becoming reporting banks, exchange rate changes and distortions from mergers and acquisitions, some of which resulted from the crisis itself.

References

- Aliber, R (1993): *The multinational paradigm*, Cambridge: MIT Press.
- Baba, N and F Packer (2009): "From turmoil to crisis: dislocation in the FX swap market before and after the failure of Lehman Brothers", *Journal of International Money and Finance*, no 28(8), pp 1350–74.
- Committee on the Global Financial System (2009): "Capital flows and emerging market economies", *CGFS Publications*, no 33, January.
- De Haas, R and I van Lelyveld (2010): "Internal capital markets and lending by multinational bank subsidiaries", *Journal of Financial Intermediation*, no 19, pp 1–25.
- Galati, G, A Heath and P McGuire (2007): "Evidence of carry trade activity", *BIS Quarterly Review*, September, pp 27–41.
- Gyntelberg, J and E Remolona (2007): "Risk in carry trades: a look at target currencies in Asia and the Pacific", *BIS Quarterly Review*, December, pp 73–82.
- Jones, G (ed) (1992): *Multinational and international banking*, Edward Elgar Publishing Ltd.
- McCauley, R (2008): "Managing recent hot money inflows in Asia", *Asian Development Bank Institute Working Paper*, no 99, March, in M Kawai and M Lamberte (eds), *Managing capital flows in Asia: search for a framework*, Edward Elgar Publishing Ltd.
- McCauley, R and J Zukunft (2008): "Asian banks and the international interbank market", *BIS Quarterly Review*, June, pp 67–79.
- McGuire, P and G von Peter (2009): "The US dollar shortage in global banking and the international policy response", *BIS Working Papers*, no 291.