

Highlights of international banking and financial market activity¹

The BIS, in cooperation with central banks and monetary authorities worldwide, compiles and disseminates several datasets on activity in international banking and financial markets. The latest available data on the international banking market refer to the *second* quarter of 2009. The discussion on international debt securities and exchange-traded derivatives draws on data for the *third* quarter of 2009. Data on the over-the-counter derivatives market are available for the end of June 2009. The analysis of the BIS statistics is complemented by two boxes. The first box discusses bank lending in China; the second compares BIS data on OTC derivatives with those produced by the Depository Trust & Clearing Corporation.

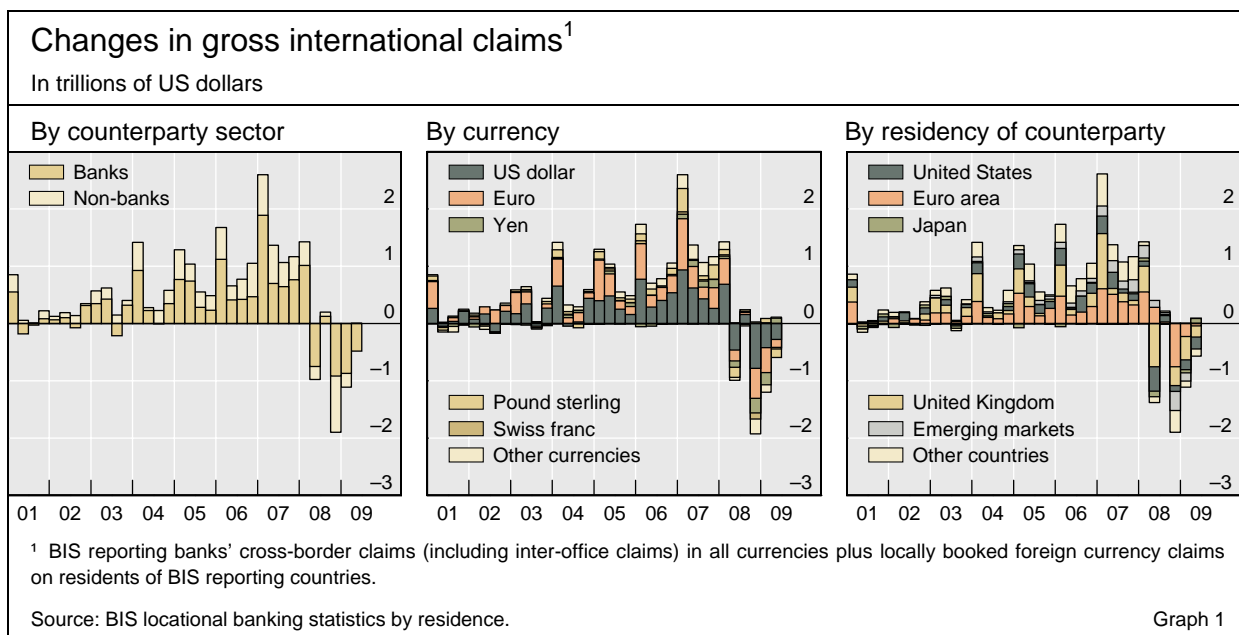
The international banking market

Banks' international balance sheets continued to contract during the second quarter of 2009, albeit at a much slower pace than in the preceding six months. The \$477 billion decline in the total gross international claims of BIS reporting banks was considerably smaller than the \$1.1 trillion and \$1.9 trillion reductions registered in the prior two quarters but it was still the fourth largest in the last decade (Graph 1, left-hand panel). The shrinkage in international balance sheets was entirely driven by a contraction in interbank claims (\$481 billion). By contrast, international claims on non-banks increased slightly (by \$4 billion). Reporting banks' cross-border claims on emerging market borrowers also showed signs of stabilising. Conversely, their local positions in local currencies in many countries contracted modestly for the first time since the onset of the crisis.

Shrinkage in international balance sheets slows down

A large part (58%) of the overall contraction in international claims was due to a decrease in US dollar-denominated positions (Graph 1, centre panel). That said, the \$278 billion decline in that segment of the market was significantly

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smaller than those registered in the previous two quarters. US dollar claims on banks continued to shrink, falling \$311 billion. In contrast, US dollar-denominated claims on non-banks increased slightly (\$34 billion) after two consecutive quarterly declines. Meanwhile, total yen-denominated claims rose (by \$92 billion) for the first time since the third quarter of 2008.

Claims on residents of the United States (down by \$211 billion) and the United Kingdom (\$195 billion lower) fell the most during the quarter (Graph 1, right-hand panel). Both these reductions were mostly driven by declines in claims on banks (\$219 billion and \$167 billion, respectively). In the meantime, claims on non-banks located in the United States increased modestly (by \$8 billion) for the first time since the third quarter of 2008. Conversely, claims on non-banks in the United Kingdom declined (by \$28 billion) for the fifth quarter in a row, albeit at a much slower pace than in the previous four quarters.

Claims on US and UK residents continue to shrink

Non-US banks' US dollar books

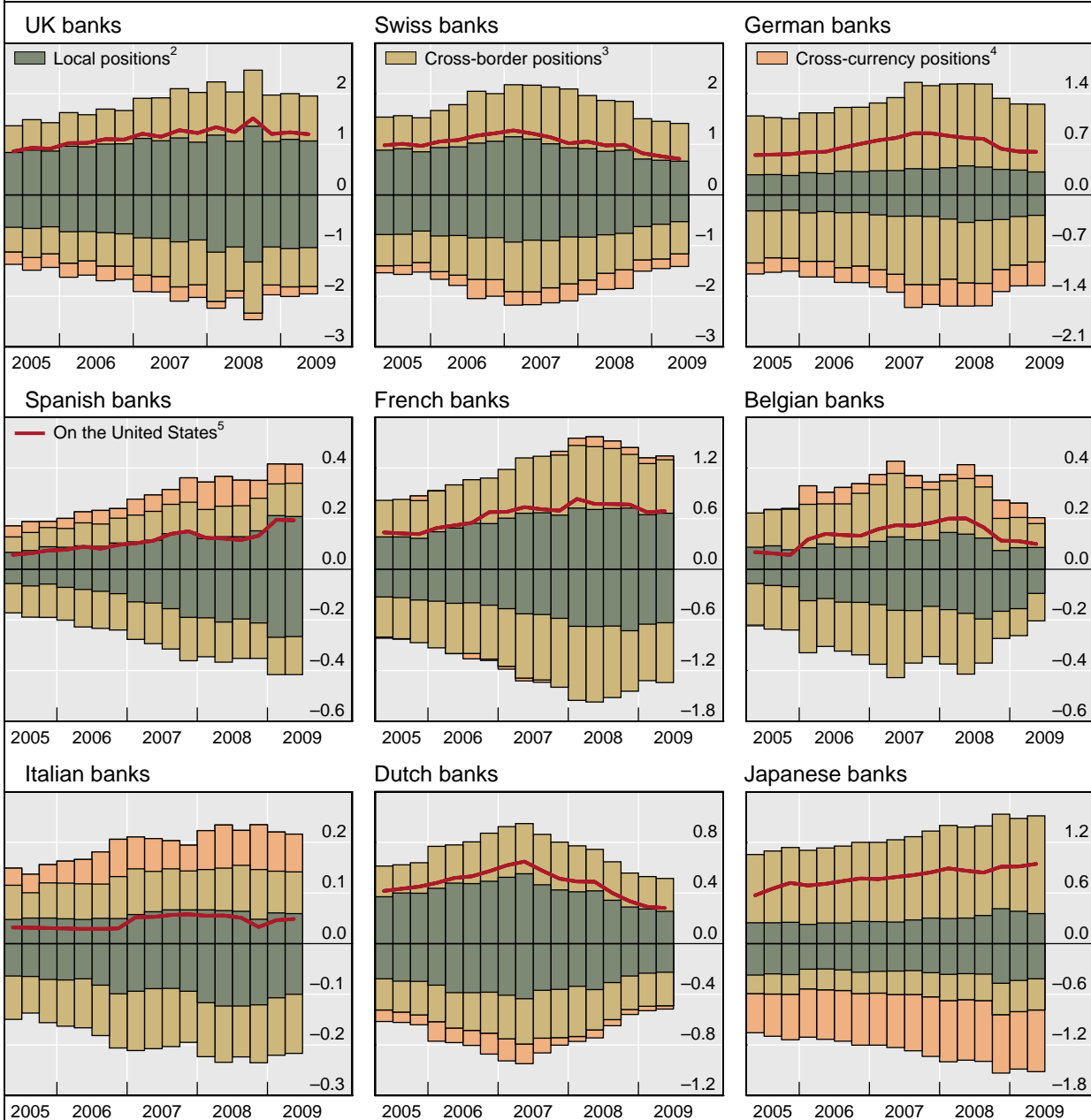
The US dollar portfolios of many banks have changed significantly since the start of the crisis (ie since the third quarter of 2007). Graph 2 provides information on the composition of the consolidated US dollar positions of nine large banking systems. The sum of the positive (negative) stacked bars is the estimated total US dollar-denominated asset (liability) position for each banking system.² In turn, each of these is broken down into local positions (green bars) and cross-border positions (brown bars).³ The difference between a banking

² These estimates are constructed by combining information from the BIS consolidated banking statistics (immediate borrower basis) and the BIS locational banking statistics by nationality. See *BIS Working Papers* no 291 for details on the methods used.

³ Local positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of that jurisdiction, while cross-border positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of other jurisdictions. Note that while the

Reporting banks' US dollar foreign positions by counterparty location¹

By banking system, in trillions of US dollars



¹ Positive stacked bars denote assets; negative stacked bars denote liabilities. ² Local positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of that jurisdiction. ³ Cross-border positions are positions that are booked by a bank office in a given jurisdiction vis-à-vis residents of other jurisdictions. ⁴ Cross-currency funding positions implied by the balance sheet identity. See *BIS Working Papers* no 291 for details on the estimating procedure. ⁵ Reporting banks' foreign claims on the United States (obtained from the BIS consolidated banking statistics, ultimate risk basis). It is implicitly assumed that these foreign claims, for which there is no currency breakdown, are US dollar-denominated.

Sources: BIS consolidated banking statistics (immediate borrower basis and ultimate risk basis); BIS locational banking statistics by nationality; BIS calculations. Graph 2

system's gross assets and gross liabilities in a given currency can be used as a proxy for its net FX swap positions in that currency (orange bars), under the

residence of the counterparties to banks' local positions is known by construction, there is no breakdown available for the residence of counterparties to banks' cross-border positions.

assumption that its open on-balance sheet currency positions are small.⁴ Note that, while not an on-balance sheet position, the imputed net FX swap position can be thought of as a US dollar asset or liability, depending on whether the banking system has provided dollars to or borrowed dollars from the FX swap market.

Since the start of the crisis, European banking systems have registered the largest shrinkages in their US dollar books. In several cases (eg Dutch, German, Swiss and UK banks), these banking systems had net long US dollar positions before the crisis. In general, non-US banks' US dollar claims were primarily on residents of the United States (red lines in Graph 2), and these were typically skewed towards the US non-bank private sector.⁵ Taken together, the claims of the above-mentioned banking systems on the US non-bank private sector have fallen by no less than \$968 billion (or 15.2% of their total US dollar assets) since the start of the crisis, reflecting writedowns of assets, sales of securities and reduced lending. Meanwhile, their US dollar claims on non-US residents have dropped by only \$241 billion (or 3.8% of their total US dollar assets). In contrast, the banking systems which had net short on-balance sheet US dollar positions before the start of the crisis (eg Belgian, Italian and Spanish banks) had, as a group, invested relatively small proportions of their US dollar portfolios in the US non-bank private sector.⁶ Their total US dollar-denominated claims have held relatively stable during the crisis, and even expanded in the case of Spanish banks.

European banks' US dollar claims have declined since the start of the crisis

Graph 2 also highlights the different degrees to which various banking systems rely on cross-border claims and liabilities versus locally booked positions. For example, UK and Spanish banks book more than half of their US dollar-denominated claims locally. Conversely, German, Italian and Japanese banks book only about a quarter of their US dollar claims in host countries. Spanish and UK banks are also the ones that have the highest proportions of locally booked liabilities (64% and 53%, respectively), while German banks (23%) and Japanese banks (27%) rely on local liabilities the least.

Cross-border claims on emerging markets stabilise

After declining sharply in the previous two quarters, reporting banks' cross-border claims on emerging markets stabilised in the second quarter of 2009 (Graph 3). The modest overall increase in these claims (\$5.3 billion) was the

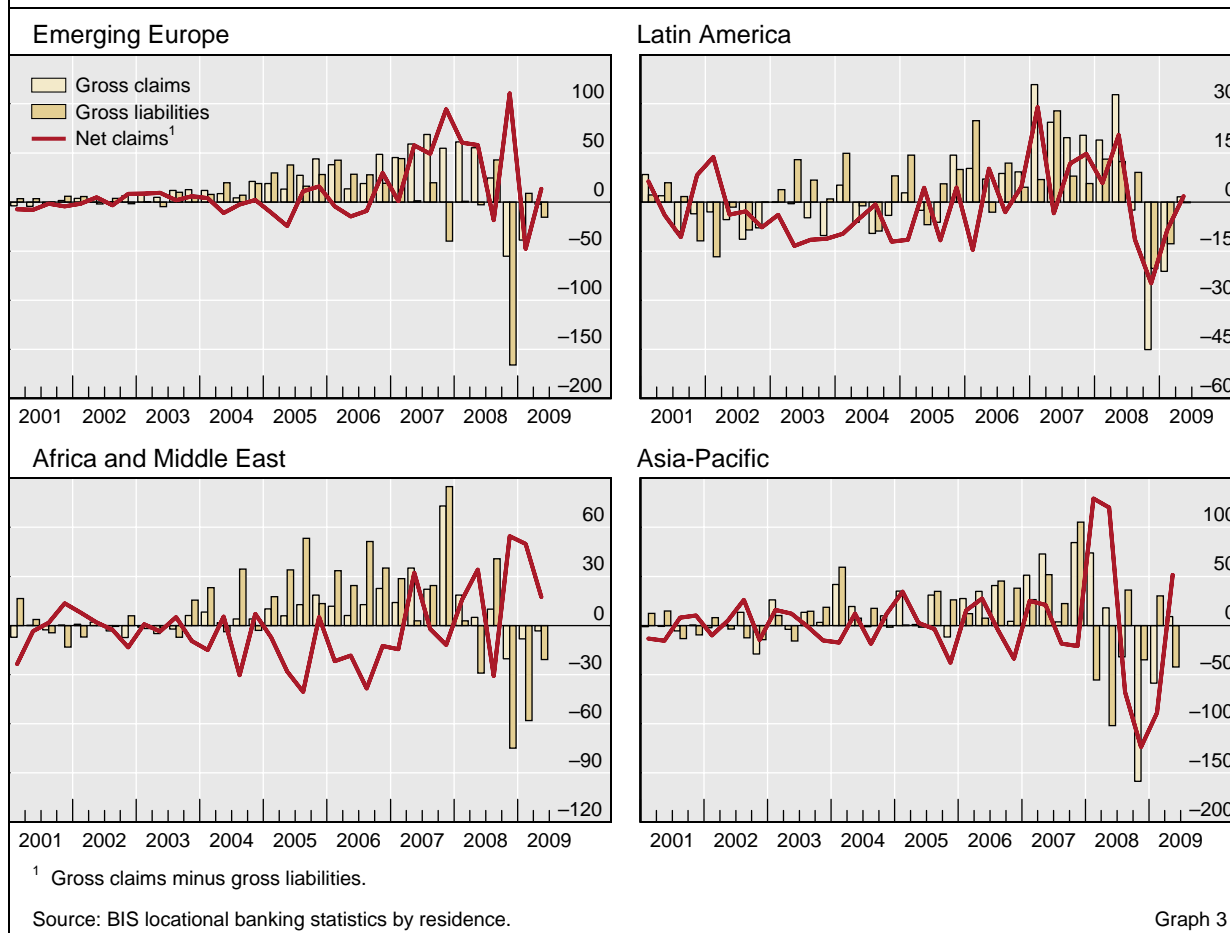
⁴ Note that a banking system which has a net long on-balance sheet US dollar position (ie its gross US dollar assets exceed its gross US dollar liabilities) would swap into US dollars and a banking system which has a net short on-balance sheet US dollar position (ie its gross US dollar liabilities exceed its gross US dollar assets) would swap out of US dollars.

⁵ Claims on the US non-bank private sector include corporate loans, loans to hedge funds in the United States and holdings of structured products issued by US non-bank financials. Japanese banks had invested a significant portion (29%, the highest of all reporting countries) of their US dollar portfolio in holdings of US government debt.

⁶ For the banking systems which had net short US dollar positions, the average proportion of US dollar assets that were invested in the US non-bank private sector was roughly a quarter. In contrast, this ratio averaged close to a half for the banking systems which had net long US dollar positions.

Changes in cross-border positions vis-à-vis emerging markets

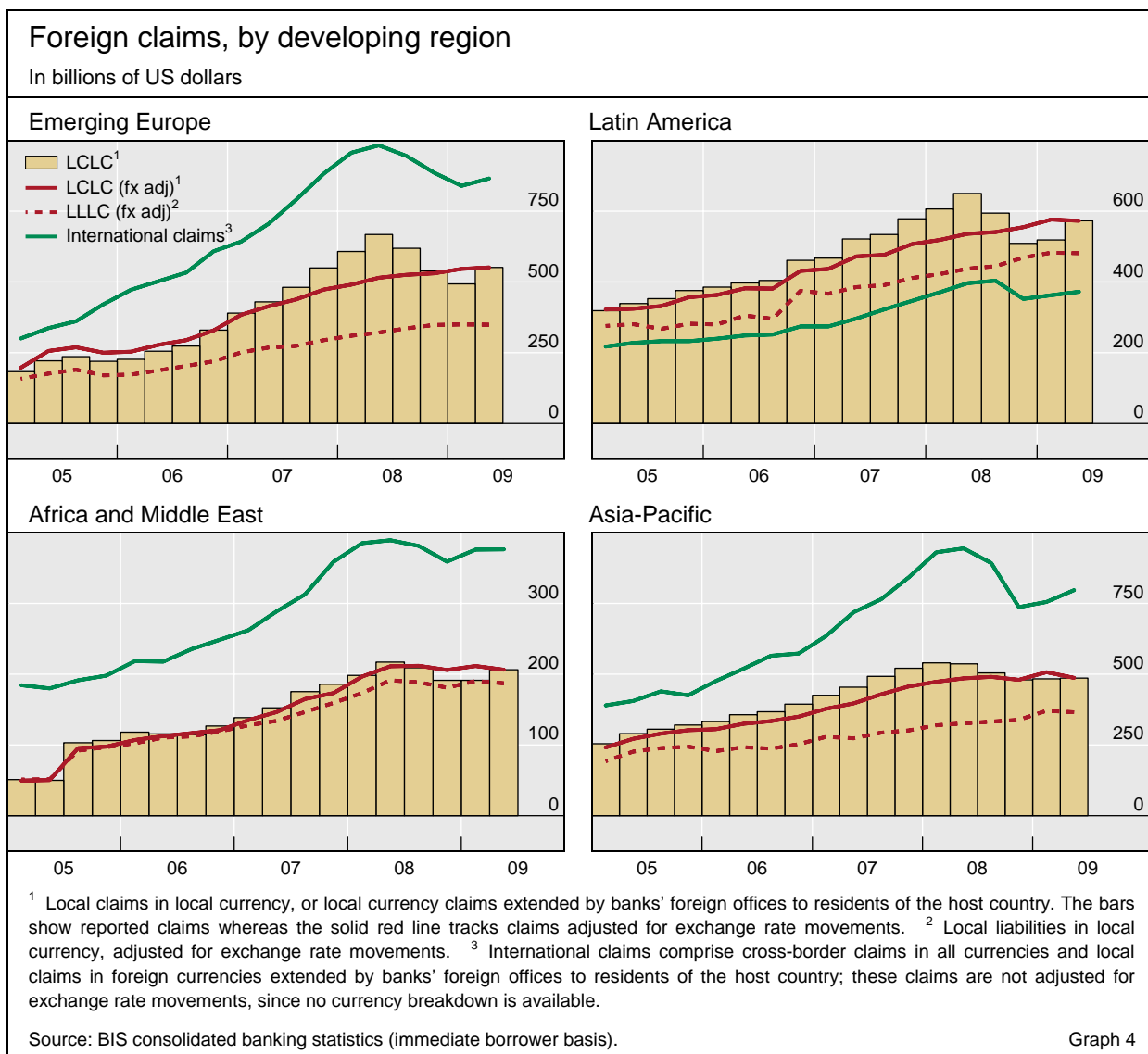
In billions of US dollars



first overall increase since the third quarter of 2008. Claims on borrowers in Asia-Pacific and Latin America and the Caribbean expanded (by \$9.2 billion and \$1.6 billion, respectively). In contrast, those on emerging Europe and Africa and the Middle East contracted slightly (by \$2.2 billion and \$3.4 billion, respectively). Nevertheless, these declines were significantly smaller than in the previous two quarters.

At the level of individual economies, China (\$49.2 billion), Hong Kong SAR (\$46.8 billion) and Brazil (\$15.3 billion) received the largest net inflows of cross-border funds. Whereas most of the net inflows to Brazil were due to an expansion in claims (\$8.5 billion), those on China and Hong Kong SAR were almost entirely driven by declines in reporting banks' liabilities to residents of these economies (-\$41.6 billion and -\$49.3 billion, respectively). In the case of China, capital inflows to the country went hand in hand with a sharp expansion of domestic credit, as discussed in Box 1 on page 20.

Consistent with the locational statistics, the BIS consolidated banking statistics also point to a recovery in international lending to emerging markets (Graph 4). In the second quarter of 2009, consolidated international claims on emerging markets, which include cross-border positions and locally extended credit in foreign currencies, rose (by \$77 billion, 3.3%) for the first time in four



quarters.⁷ Claims on all four emerging market regions expanded, with the largest increases being reported on residents of Asia-Pacific (\$41 billion, 5.5%) and emerging Europe (\$26 billion, 3.0%).⁸

At the same time, reporting banks' local positions in emerging markets decreased for the first time since the beginning of the crisis. Local claims in local currencies and local liabilities in local currencies, adjusted for exchange rate movements, declined by 0.1% and 0.6%, respectively. Banks' local-in-local

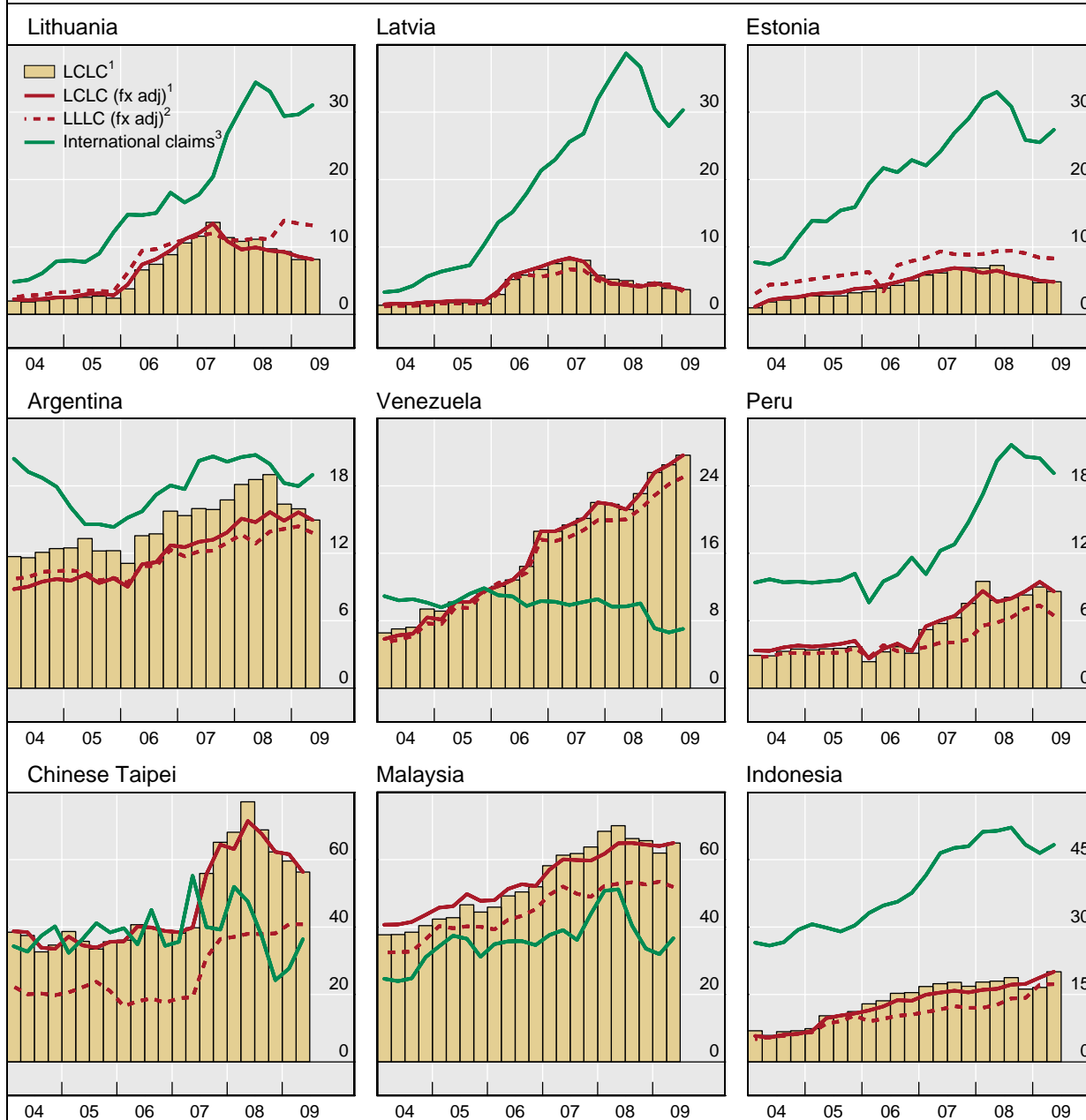
Local positions in emerging markets decline ...

⁷ Unlike local claims in local currencies (for which the currency in each observation is known by definition), international claims cannot be adjusted for exchange rate fluctuations given that a currency breakdown is not available for them.

⁸ While the bulk of the international claims on Asia-Pacific and Latin America and the Caribbean tend to be denominated in US dollars and, therefore, are not subject to large exchange rate adjustments, claims on emerging Europe are mostly euro-denominated, and are affected by exchange rate fluctuations. If it is assumed that all international claims on emerging Europe are denominated in euros, an FX adjustment would indicate that international claims on the region actually declined by 3.0%.

Foreign claims, by borrower country

In billions of US dollars



¹ Local claims in local currency, or local currency claims extended by banks' foreign offices to residents of the host country. The bars show reported claims whereas the solid red line tracks claims adjusted for exchange rate movements. ² Local liabilities in local currency, adjusted for exchange rate movements. ³ International claims comprise cross-border claims in all currencies and local claims in foreign currencies extended by banks' foreign offices to residents of the host country; these claims are not adjusted for exchange rate movements, since no currency breakdown is available.

Source: BIS consolidated banking statistics (immediate borrower basis).

Graph 5

claims, which tend to be funded locally and are thus usually more stable than the other types of foreign claims, contracted in three out of the four emerging market regions (Asia-Pacific, Latin America and the Caribbean, Africa and the

Box 1: Analysing bank lending data in China

Eric Chan and Haibin Zhu

Credit growth has either slowed markedly or turned negative in most economies since the inception of the international crisis. A noticeable exception is China, where credit growth has accelerated remarkably since late 2008. Here we investigate the dynamics of Chinese banks' lending activity and its implications for the real economy.

Under the Chinese government's stimulus plan, credit expanded at an extraordinary rate in the first half of 2009. Chinese banks extended CNY 7.4 trillion worth of new loans, far more than the full-year total of CNY 4.2 trillion in 2008. The credit expansion contributed to the strong recovery of China's economy, but also raised concerns about excessively loose credit conditions. A significant portion of bank loans might have flowed into the equity and real estate markets, leading to asset price booms. In the first seven months of the year, the Shanghai Stock Exchange index rose by 87%, with the price/earnings ratio almost doubling from 15 to 29. Housing markets also regained momentum, registering increases in sales and investments as well as prices.

Against this backdrop, the Chinese government took prudential measures to curb lending to sectors with overcapacity as well as to improve the soundness of the banking system. The bank regulator issued a series of guidelines on lending practices to make sure that loans were not used for other purposes. Moreover, in order to strengthen the banking system's loss absorption capacity, the regulator also raised loan loss provisioning requirements for banks and tightened rules on the calculation of bank capital. In response, net lending eased notably in the third quarter, to CNY 1.3 trillion, and declined further in October to a year-low of CNY 253 billion.

The levelling-off of the lending expansion has so far had little adverse impact on the real economy. Indeed, GDP growth rose to 8.9% in the third quarter, and is expected to remain strong in the coming quarters. There are several possible reasons for this apparent disconnect.

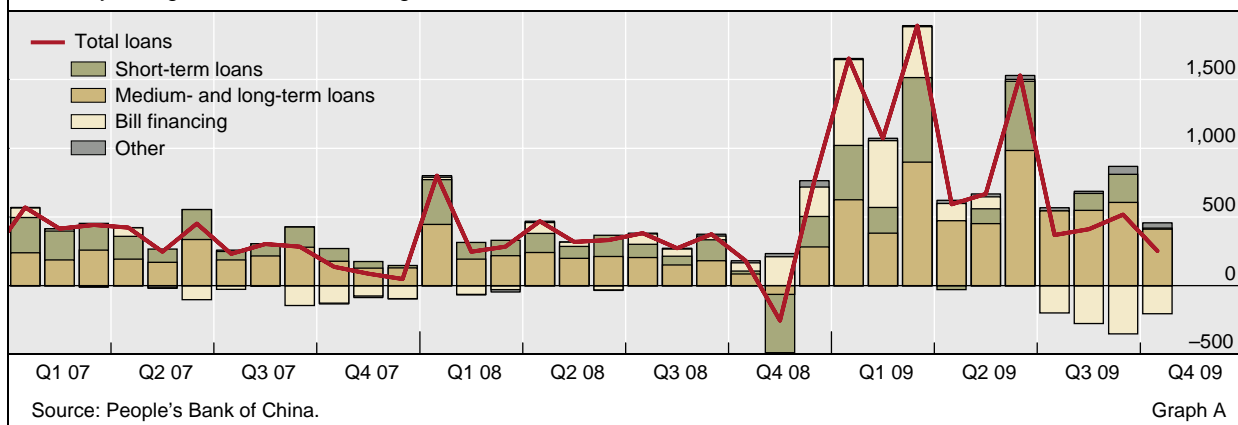
First, the full impact of monetary stimulus on the real economy generally takes some time to be felt. In the case of China, strong economic growth in the third quarter may be the consequence of the rapid loan growth during the first half of the year.

Second, the slowdown in net bank lending since July may in part reflect seasonality in banks' lending practices. Loan growth in China is typically stronger in the first half of a year as banks tend to front-load their lending. We estimate that seasonal effects accounted for 14 percentage points of the 68% drop in monthly net lending from the first to the second half of the year. In fact, net lending between July and October was 28% higher compared with the same period one year ago.

Finally, and most importantly, the composition of credit has changed notably in recent months (Graph A). The drop in net bank lending was mainly driven by the sharp decline in the volume of discounted corporate bills and lower short-term lending. By contrast, the volume of medium- and long-term loans, which arguably provide more direct support for investment and real economic activity, continued to expand at a brisk pace.

Bank lending in China

Monthly changes in loans outstanding, in billions of renminbi



Bill financing totalled CNY 1.7 trillion in the first half of the year, the highest level on record. This probably reflected a strategy on the part of banks to increase total lending in response to the stimulus plan, while at the same time maintaining flexibility in their asset portfolios. Borrowers had traditionally used bills as a source of low-cost funding to meet their working capital needs. Arguably, a significant portion of those funds may have flowed into the asset markets. As from July, banks have started to reduce the supply of discounted bills, answering the regulator's call for more moderate credit growth. Meanwhile, the persistently strong issuance of medium- to long-term loans means that support for economic growth would be maintained. Given that outstanding bill financing amounted to CNY 2.6 billion at the end of October, there is still room for banks to adjust loan composition in the same direction.

While strong loan growth in China has fuelled the current economic recovery, it is not without risks. For one, the rapid credit growth in the first half of the year was unavoidably associated with an easing in credit standards, which could reduce the quality of banks' balance sheets in the future. In addition, the big increase in investment driven by credit expansion may imply additional demand for loans in the future, to complete the underlying projects. A tightening of monetary policy, therefore, may leave projects incomplete and lead to a build-up of bad loans in the banking sector. Together with the intensified pressure from the influx of international capital flows, Chinese policymakers may face significant constraints on their monetary and credit policy in the years ahead.

Middle East).⁹ The only region in which they increased was emerging Europe (by 0.9%). In most countries, the shrinkage in local currency denominated claims was accompanied by a fall in real economic activity (eg in Chinese Taipei, Korea, Turkey, Argentina, Chile and Mexico). However, this was not the case everywhere. For example, local claims in local currencies on the residents of China, India and the Philippines all shrank, even though real output increased.

... especially vis-à-vis the Baltic states

A closer look at the Baltic countries reveals that BIS reporting banks' local claims in local currencies there contracted significantly during the second quarter of 2009 (Graph 5, top row). In Latvia, they decreased by 10.0% to \$3.7 billion.¹⁰ Most of the above reduction was recorded by Swedish banks, which, at the end of the quarter, accounted for approximately 88% of the outstanding local currency denominated claims of BIS reporting banks in the country. Local claims in local currencies also decreased in the other two Baltic states, Lithuania (-4.9%) and Estonia (-3.0%). Once again, the bulk of each of those declines was due to Swedish banks.

The picture in Latin America and the Caribbean (Graph 5, middle row) and Asia-Pacific (Graph 5, bottom row) was mixed. In Latin America, BIS reporting banks reduced their local claims in local currencies (adjusted for exchange rate fluctuations) on Peru (by 9.0%) and Argentina (by 4.3%) while simultaneously recording declines in their local liabilities in local currencies in these two countries (by 12.4% and 3.8%, respectively). In contrast, the local currency denominated claims of BIS reporting banks on Venezuela increased (by 4.3%)

⁹ Matching the overall reduction in local claims, exchange rate adjusted local liabilities in local currencies recorded modest decreases in all four emerging market regions. Note that Austria, whose banks have a substantial presence in emerging Europe, does not report local liabilities in local currencies.

¹⁰ In addition, residents of Latvia sharply decreased their local currency deposits in local offices of BIS reporting banks (by \$1.0 billion, 23.4%). Reductions in local liabilities in local currencies were also reported in Lithuania (-2.3%) and Estonia (-1.2%).

for the fourth quarter in a row. In the Asia-Pacific region, local-in-local claims on Indonesia and Malaysia expanded by 7.6% and 1.3%, respectively. Meanwhile, in Chinese Taipei, they registered their fourth consecutive contraction (-8.5%).

Derivatives markets

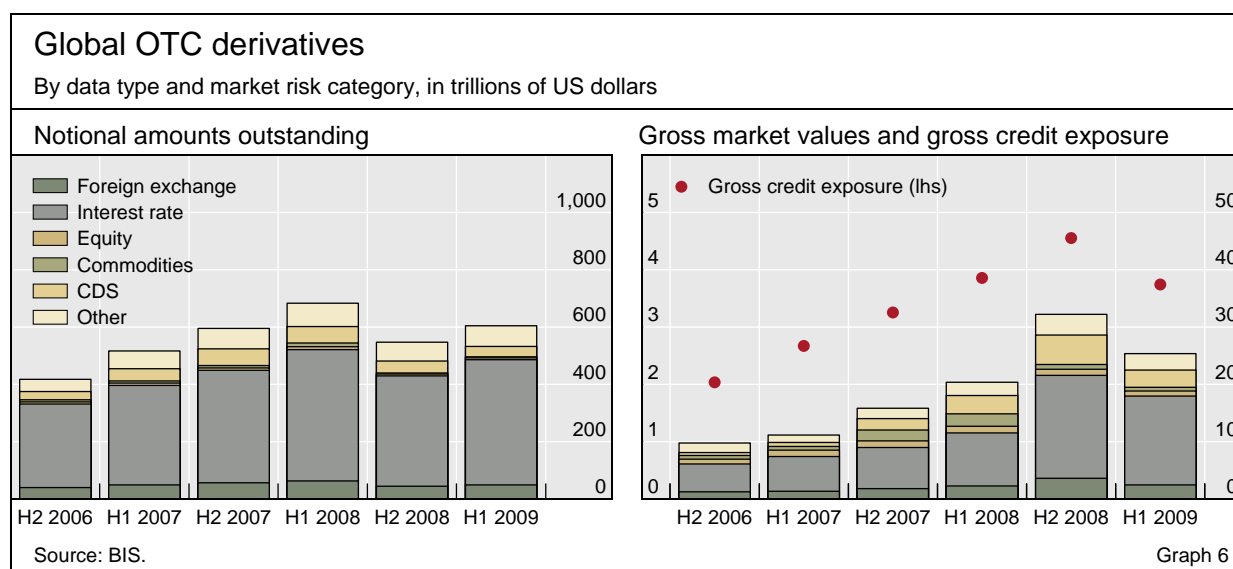
OTC derivatives

In the first half of 2009, notional amounts of all types of over-the-counter (OTC) contracts rebounded somewhat to stand at \$605 trillion at the end of June, 10% higher than six months before (Graph 6, left-hand panel).¹¹ In contrast, gross credit exposures fell by 18% from an end-2008 peak to \$3.7 trillion. Gross credit exposures take into account bilateral netting agreements but not collateral and provide a measure of counterparty exposures.¹² Gross market values also decreased, by 21% to \$25 trillion (Graph 6, right-hand panel).¹³

The increase in outstanding amounts was due in large part to interest rate derivatives, which at the end of June 2009 stood at \$438 trillion, 13% above the end-2008 level (Graph 7, left-hand panel). Gross market values fell by 14% to \$15 trillion, with interest rate swaps accounting for most of the decline. The increase in outstanding volumes was concentrated in the US dollar, sterling and euro (Graph 7, centre panel). The amounts of outstanding forward rate

Notional volumes rebound while market values decline

Interest rate derivatives volumes increase ...



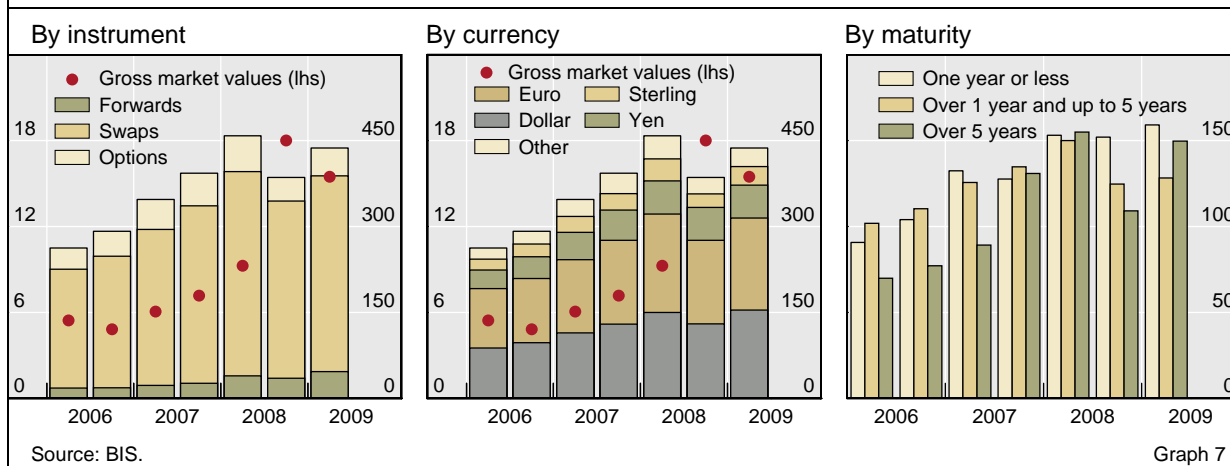
¹¹ Notional amounts outstanding at end-December 2008 were revised downwards by almost 8%. Gross market values were revised downwards by 5%. For details, see the BIS press release on *OTC derivatives market activity in the first half of 2009*, 12 November 2009.

¹² Gross credit exposure is the difference (taking into account legally enforceable bilateral netting agreements) between the gross value of contracts that have a positive market value and the gross value of contracts that have a negative market value. Credit default swap (CDS) contracts are excluded from this calculation for all countries except the United States.

¹³ Gross market values measure the cost of replacing all outstanding contracts.

OTC interest rate derivatives

Notional amounts outstanding and gross market values, in trillions of US dollars



... driven by higher long-run swap volumes

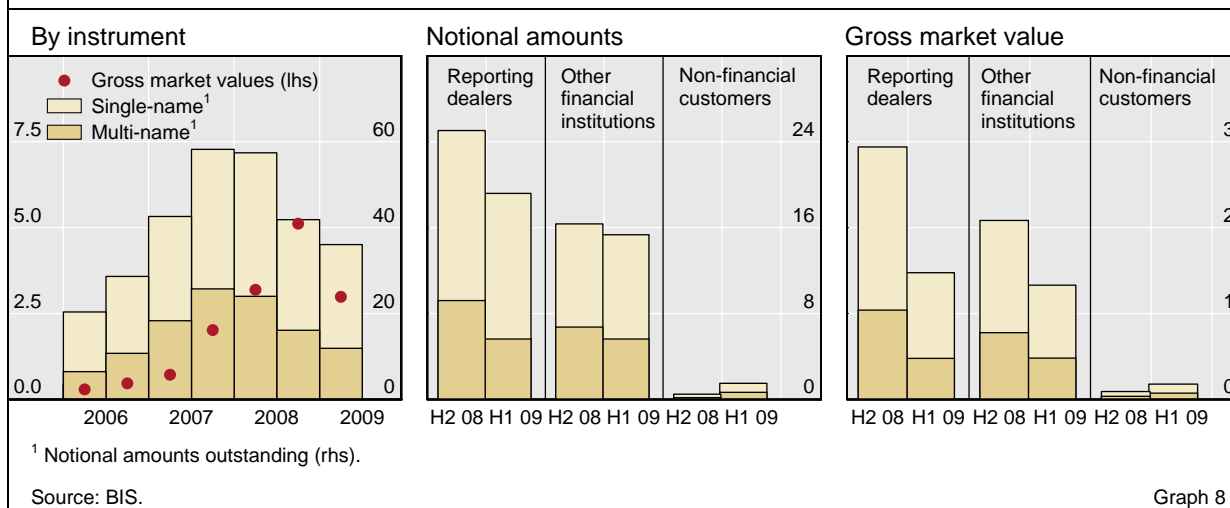
CDS volumes continue to decline

agreements (FRAs) went up 34% to \$47 trillion, while option volumes grew by 18% to \$49 trillion. Consistent with increased hedging activity, the growth in outstanding volumes was concentrated in longer-dated swap and option contracts, with the latter increasing by over 70% (Graph 7, right-hand panel).

Continuing a trend which had begun in the first half of 2008, outstanding notional amounts of CDS contracts fell to \$36 trillion at the end of June 2009 (Graph 8, left-hand panel). One factor was lower activity in the first half of the period, when credit markets were still strained (see Box 2). Activity did, however, increase subsequently. A second important driver was the expansion in the netting of offsetting positions by market participants, in particular the major dealers (Graph 8, centre and right-hand panels; see also Box 2). In contrast to the declining notional amounts between financial institutions, outstanding contracts between dealers and non-financial customers more than doubled.

Credit default swaps

In trillions of US dollars



Box 2: The size of the global CDS market – BIS and DTCC data

Jacob Gyntelberg, Karsten von Kleist and Carlos Mallo

Recent developments in CDS markets have led to the availability of additional CDS data sources. In conjunction with the well known ISDA market survey and the BIS semiannual central bank survey on OTC derivatives markets, these new sources can be used to monitor global market trends more closely. One source that has attracted much attention is the Depository Trust & Clearing Corporation (DTCC) data on CDS. DTCC stores OTC credit derivatives data in a global repository called the Trade Information Warehouse (TIW). It then performs post-trade processing functions such as automated calculation, netting and central settlement of payment obligations, as well as settlement of credit events such as bankruptcies. Below we examine the DTCC data and briefly compare them with the data from the BIS semiannual central bank survey on outstanding CDS.

In early November 2008, DTCC started weekly publication of aggregated data as part of efforts to address market concerns about the lack of transparency in CDS markets. Initially, the data included outstanding gross and net notional values of CDS contracts for the top 1,000 underlying single-name reference entities as well as all CDS indices. Over time, more information has been published, but as yet no information is provided on market values or exposures. The DTCC data are based on CDS records registered in the warehouse, while the BIS data rely on dealers' reports to national central banks.

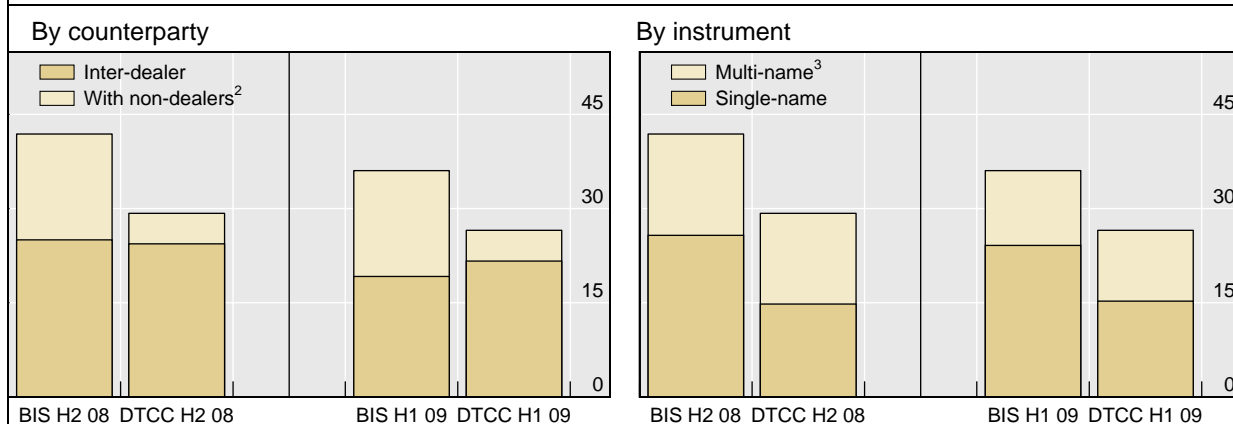
One indicator of the size of global CDS markets is the gross notional amounts outstanding, available in both the BIS and DTCC datasets. By counterparty, the BIS data distinguish between reporting dealers, other financial institutions and non-financial customers. By contrast, the DTCC data identify as counterparties only dealers and non-dealers (customers). To facilitate comparison, we combine the two non-reporting counterparty groups in the BIS survey in a single aggregate non-dealer category (Graph A, left-hand panel). In addition, for the DTCC data we include direct trades between non-dealers, which amount to only 0.1% of the total.

At first glance, the DTCC and BIS subsample data for the total gross amounts outstanding between dealers as of end-2008 match perfectly. This is, however, not the case for the mid-2009 data, where DTCC reports 12% higher volume of outstanding contracts than the BIS. The likely explanation for this difference is that DTCC covers more dealers.

The amounts outstanding of dealer/non-dealer contracts in the BIS survey are considerably larger than those reported by DTCC. The probable reason is that CDS providing protection on less standardised contracts such as collateralised debt obligations (CDOs) and asset-backed securities (ABS) are typically not confirmed electronically, so that CDS are less well covered by DTCC. In the future, CDOs and ABS might be included in the DTCC data.

Comparison of BIS and DTCC CDS data¹

Outstanding notional amounts, in trillions of US dollars



¹ The BIS sample includes banks whose head office is located in the G10 countries. ² The DTCC non-dealers category includes some inter-customer contracts. ³ Multi-name contracts include credit default tranches.

Sources: DTCC; BIS.

Graph A

By instrument, the BIS-compiled data distinguish between single- and multi-name CDS contracts. The DTCC data, on the other hand, distinguish three categories of instrument: contracts on single names; contracts on credit default indices; and contracts on credit default tranches. Here we treat credit default indices and credit default tranches as multi-name contracts. For both periods, the BIS data report around 60% higher amounts outstanding in single-name instruments, while the amounts for multi-name instruments appear broadly comparable (Graph A, right-hand panel).

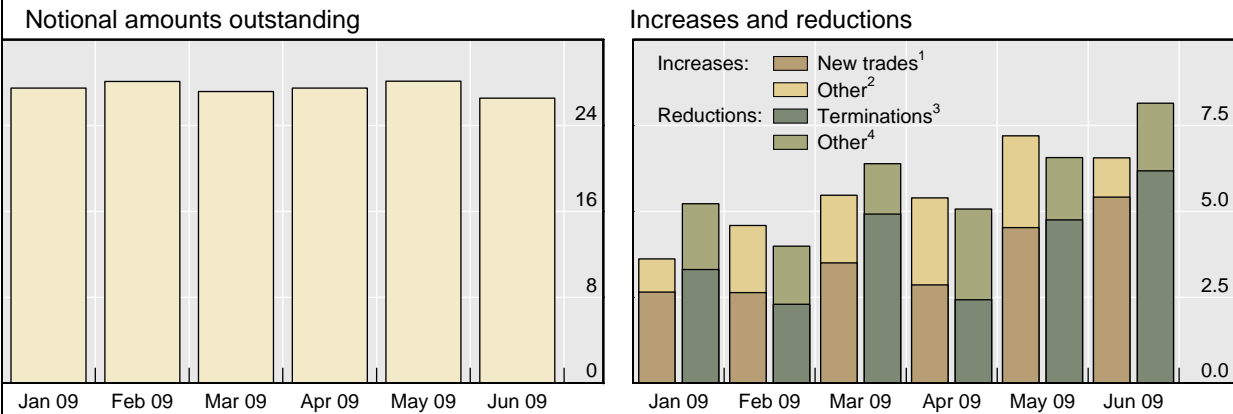
The combined pattern across counterparties and instrument types suggests that a main reason for the differences between the two datasets may be that outstanding single-name contracts used in the more customised transactions between dealers and non-dealers (including other financial institutions) are covered by the BIS but not yet by DTCC.

From the perspective of understanding developments in the CDS market, an important advantage of the DTCC data is that, while the BIS survey is semiannual, they are published weekly. This permits higher-frequency assessment of market size (Graph B, left-hand panel). DTCC also provides more information on the factors driving changes in the outstanding amounts. Increases due to relatively new trades and the inclusion of legacy transactions (“backloading”) are identified separately, while reductions are broken down into those reflecting contracts that are fully or partially terminated because of netting and those reflecting contracts that mature or exit due to a credit event (Graph B, right-hand panel). The data for the first half of 2009 indicate that, on a monthly basis, new trades together with backloading added \$3–7 trillion each month, while reductions were slightly larger, mainly owing to terminations of offsetting contracts.

The BIS and DTCC data combined with information provided by TriOptima and Markit, both of which offer multilateral termination services to OTC derivatives dealers, indicate that around 85% of all terminations take place in the more liquid CDS indices. All portfolio compression / tear-up activity occurs between dealers using these services. The DTCC data also suggest that there may be more tear-ups towards the end of each quarter, which may reflect the fact that CDS contract maturity dates are standardised on a quarterly cycle (20 March, 20 June, 20 September and 20 December) to match the International Monetary Market Cycle.

DTCC Trade Information Warehouse

Summary of transaction activity, in trillions of US dollars



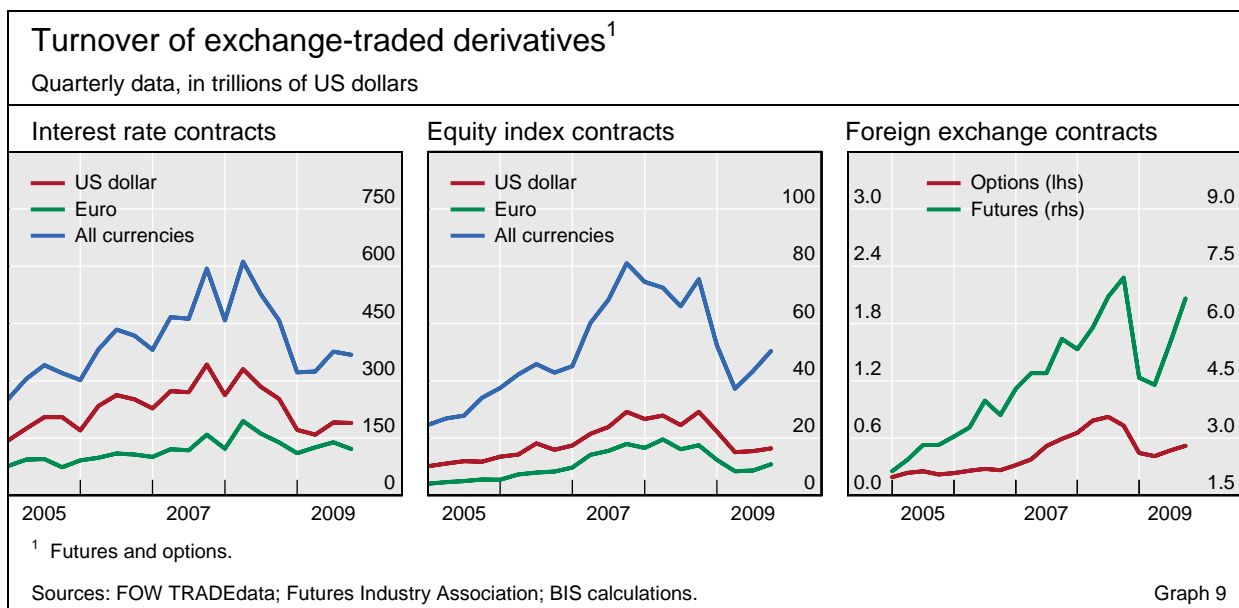
¹ Newly traded contracts. ² Backloads, ie contracts previously executed and confirmed non-electronically. ³ Partial and full unwinding of contracts in the warehouse. ⁴ Matured contracts and contracts removed due to credit events.

Source: DTCC Deriv/SERV.

Graph B

Exchange-traded derivatives

In the third quarter of 2009 overall activity on the international derivatives exchanges stabilised, although trading volumes were still only around 60% of the high levels seen before the crisis. Total turnover based on notional amounts was unchanged from the previous quarter, at \$425 trillion (Graph 9).



Reflecting very low and stable policy rates in many of the largest economies, total activity in derivatives on interest rates declined slightly, to \$368 trillion in the third quarter from \$376 trillion in the second (Graph 9, left-hand panel). This decline was driven by a reduction in options turnover, with the decrease being more visible in the euro segment.

Interest rate derivatives trading declines

Against a backdrop of higher equity prices, turnover in equity index derivatives went up from \$43 trillion to \$50 trillion in the third quarter (Graph 9, centre panel). This increase was due to rising equity valuations, since turnover in terms of the number of contracts fell slightly, from 1.65 billion to 1.63 billion. The improvement reflected developments in the Korean and other Asian markets, where trading rose significantly, from \$16.2 trillion to \$19.3 trillion, in the third quarter.

Equity index turnover rises on the back of firmer Asian markets

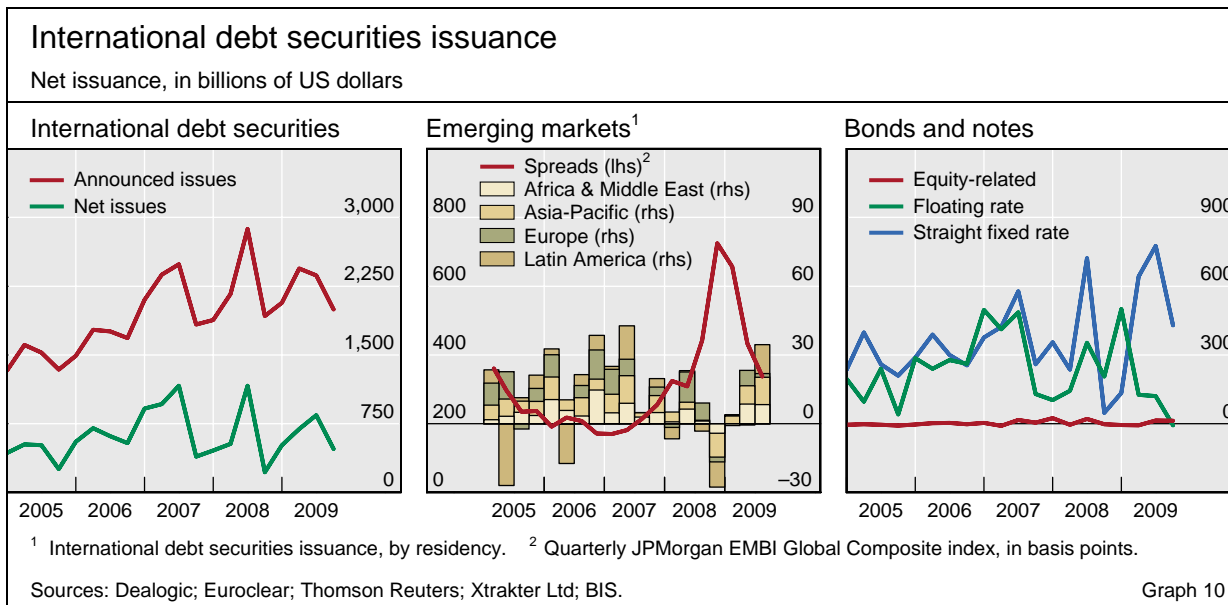
Activity in foreign exchange derivatives also continued to grow in the third quarter (Graph 9, right-hand panel). This may in part reflect greater FX carry trade activity driven by interest differentials and higher investor confidence. Turnover climbed to \$7.2 trillion from \$5.9 trillion in the previous quarter. Activity rose in all the main currencies, with a smaller increase for the euro. Turnover also expanded significantly in the New Zealand dollar and the Australian dollar relative to the previous quarter.

Higher FX turnover suggests increased carry trade activity

The international debt securities market

Seasonal factors weighed on activity in the primary market for international debt securities in the third quarter of 2009, which includes the main holiday period in the northern hemisphere. Announced gross issuance declined by 16% quarter on quarter to \$1,998 billion during the three months under review (Graph 10, left-hand panel). With roughly stable repayments, net issuance almost halved to \$475 billion, the lowest level since the third quarter of 2008. Depending on the method used, seasonally adjusted issuance either remained stable at a high level or went up slightly. The strength of the underlying market

Seasonal drop in net issuance ...



is also confirmed by reports from commercial data providers of strong issuance in October.

... in developed economies

The decline in activity was mainly driven by lower net issuance by borrowers resident in developed economies (–45%), which account for the bulk of borrowing on the international debt securities market. The drop was evenly distributed across sectors.

Strong issuance by UK ...

One country that bucked the trend towards lower issuance was the United Kingdom. After relatively weak issuance in the first half of the year, UK residents tapped the international markets to raise \$91 billion, 147% more than in the previous three months. Most of the issuance by UK residents was by financial institutions (\$79 billion, after \$18 billion in the second quarter). The share of bonds issued under a state guarantee fell from 27% in the second quarter to 8% in the third. Other developed economies with increased issuance were Ireland (up 75% to \$41 billion) and Italy (up 98% to \$36 billion).

... and emerging market borrowers

Residents in emerging market economies took advantage of the improved financing conditions and placed \$34 billion of international debt securities (Graph 10, centre panel). This was 52% more than in the second quarter and well above the quarterly average for 2006 and early 2007, prior to the crisis. Issuance in Latin America and the Caribbean recovered from close to zero in the first half of the year to \$13 billion between July and September. The rise in issuance was evenly spread across the region, with increases in all of the larger countries save Argentina. Economies in developing Asia and the Pacific raised \$12 billion on the international market, 50% more than in the second quarter. Net issuance by residents in Africa and the Middle East remained virtually unchanged at \$8 billion, \$5 billion of which was accounted for by residents of the United Arab Emirates. Net issuance by borrowers in developing Europe fell to \$2 billion (second quarter: \$7 billion) amidst reports that issuers resident in some lower-rated countries had difficulties in placing their securities.

The sectoral composition of issuance varied considerably across these regions. Non-financial corporations dominated issuance in Latin America and

the Caribbean and in Africa and the Middle East, where they accounted for over 71% and 77%, respectively, of regional issuance. By contrast, financial institutions were the main borrowers in developing Asia (78% of net issuance in the region). Lastly, issuance in developing Europe was due entirely to governments (\$4 billion), predominantly those of the larger and better-rated economies of the region. The financial and non-financial sectors recorded net redemptions of \$2 billion and \$1 billion, respectively.

Issuance of variable rate bonds became negative for the first time since 1991 (Graph 10, right-hand panel), as borrowers retired dollar-denominated floaters for \$74 billion (net). This was only partly offset by a rise in issuance of sterling-denominated variable rate bonds (\$33 billion, after \$7 billion in the second quarter), resulting in total net redemptions of \$7 billion.

Floaters become
less attractive