

## Highlights of international banking and financial market activity<sup>1</sup>

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 2008. The discussion on over-the-counter derivatives refers to the first half of 2008, and that on international debt securities and exchange-traded derivatives draws on data for the third quarter of 2008.

### The international banking market

Outstanding claims in the international banking market contracted sharply during the second quarter of 2008. BIS reporting banks' international claims<sup>2</sup> fell by an unprecedented \$1.1 trillion (Graph 1, centre panel), with most currency segments registering sizeable declines. While a significant decrease in interbank claims (–\$812 billion) accounted for most of the overall decline (Graph 1, left-hand panel), international claims on non-banks also fell (for the first time since 1998), mainly vis-à-vis the United States, the United Kingdom and Japan. At the same time, residents of emerging markets and many central banks around the world reduced their placements of funds with BIS reporting banks (Graph 1, right-hand panel).

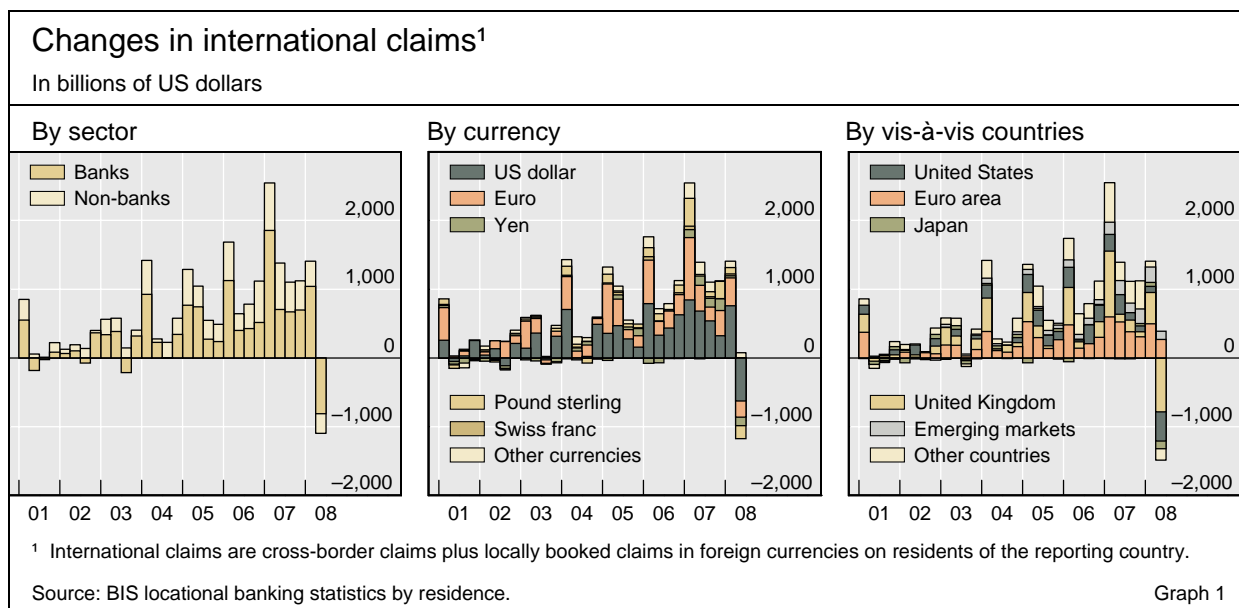
#### *Interbank activity contracts*

Banks throughout the reporting area continued to write down and unwind their international positions, with banks in the United Kingdom reporting the largest decline in outstanding claims (81% of the overall decline). Graph 2 plots UK

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<sup>1</sup> Queries concerning the banking statistics should be addressed to Patrick McGuire and Blaise Gadanecz, queries concerning over-the-counter derivatives statistics to Jacob Gyntelberg, and queries concerning international debt securities and exchange-traded derivatives statistics to Naohiko Baba. The authors gratefully acknowledge the research assistance provided by Carlos Mallo, Denis Pêtre and Swapan-Kumar Pradhan.

<sup>2</sup> In the BIS locational banking statistics by residence, international claims (liabilities) are cross-border claims (liabilities) plus locally booked claims (liabilities) in foreign currencies vis-à-vis residents of the reporting country.



resident banks' cumulative *net* (assets minus liabilities) change in international positions vis-à-vis banks (solid lines) and non-banks (dashed lines), broken down by currency (left-hand panel) and by residence of the counterparty (right-hand panel). Since 2000, these banks have built up large net claims on non-bank borrowers, financed by similarly large net liabilities vis-à-vis the banking sector (which include borrowing from central banks). These net positions have contracted since the start of the crisis in mid-2007, with particularly large movements in the second quarter of 2008. Net borrowing from other banks (including inter-office borrowing) shrank by \$352 billion (left-hand panel, solid red line), stemming from a \$545 billion decline in gross claims and an even larger one (–\$897 billion) in gross liabilities. At the same time, net claims on non-banks contracted by \$307 billion (left-hand panel, dashed red line), driven by a reduction of \$339 billion in gross claims, primarily vis-à-vis non-banks in the United States (right-hand panel, dashed green line).

The contraction in interbank borrowing was especially pronounced in the US dollar segment of the market, although interbank borrowing in other currencies also fell sharply. Across all reporting countries, US dollar interbank liabilities dropped by \$693 billion. Banks in the United Kingdom registered a \$423 billion decline, roughly half of this vis-à-vis banks in the United States. Reduced liabilities to banks in offshore financial centres, Asia-Pacific, Africa and the Middle East and to other banks in the United Kingdom made up much of the difference. Banks in Switzerland and in many offshore financial centres also reported significant decreases in US dollar interbank liabilities. In contrast, banks in the euro area reported a \$76 billion increase, primarily vis-à-vis banks in the United States.

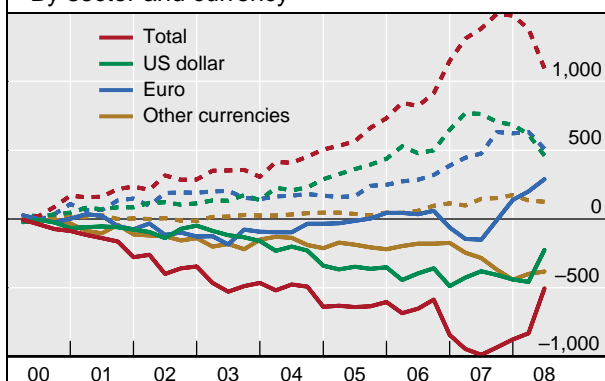
Lending to banks in the United Kingdom contracts ...

... particularly in US dollars

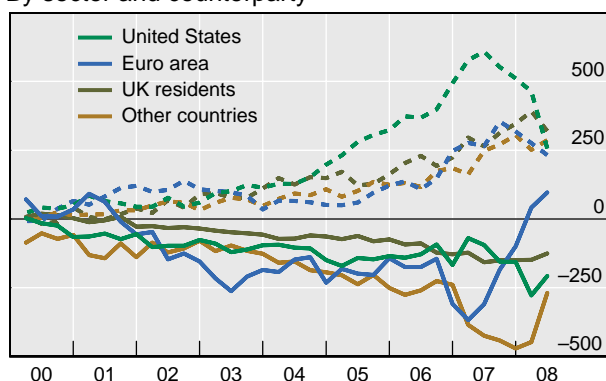
## Cumulative net claims of banks located in the United Kingdom<sup>1</sup>

In billions of US dollars

### By sector and currency



### By sector and counterparty



<sup>1</sup> Thick lines refer to cumulative net interbank claims and dashed lines to cumulative net claims on non-banks, booked by banks located in the United Kingdom. Net claims are claims minus liabilities, and include reporting banks' cross-border positions in all currencies plus local positions vis-à-vis UK residents in foreign currencies, expressed at constant end-Q2 2008 exchange rates. These flows are estimated by combining data from several reporting countries, which helps in identifying the residence of the holders of banks' debt security liabilities.

Source: BIS locational banking statistics by residence.

Graph 2

The BIS consolidated banking statistics,<sup>3</sup> which track reporting banks' foreign interbank exposures excluding inter-office activity, shed light on which banking systems experienced large moves during the second quarter of 2008 (Graph 3). Across all banking systems, (gross) consolidated interbank claims dropped by \$298 billion in that quarter, the first outright decrease since 2005. This was mainly caused by reduced interbank positions reported by UK banks (-\$171 billion) and French banks (-\$102 billion), especially vis-à-vis US, Dutch, German and UK banks. US banks, in contrast, reported reductions of only \$9 billion.

Over the past few quarters, these interbank exposures have declined relative to banks' capital bases (Graph 4, right-hand panel). While these reductions, most pronounced in the case of Dutch banks, primarily reflected the contraction in the interbank claims described above, they were also the result of increases in Tier 1 capital levels reported by most banking systems.

### *First decline in claims on non-banks in a decade*

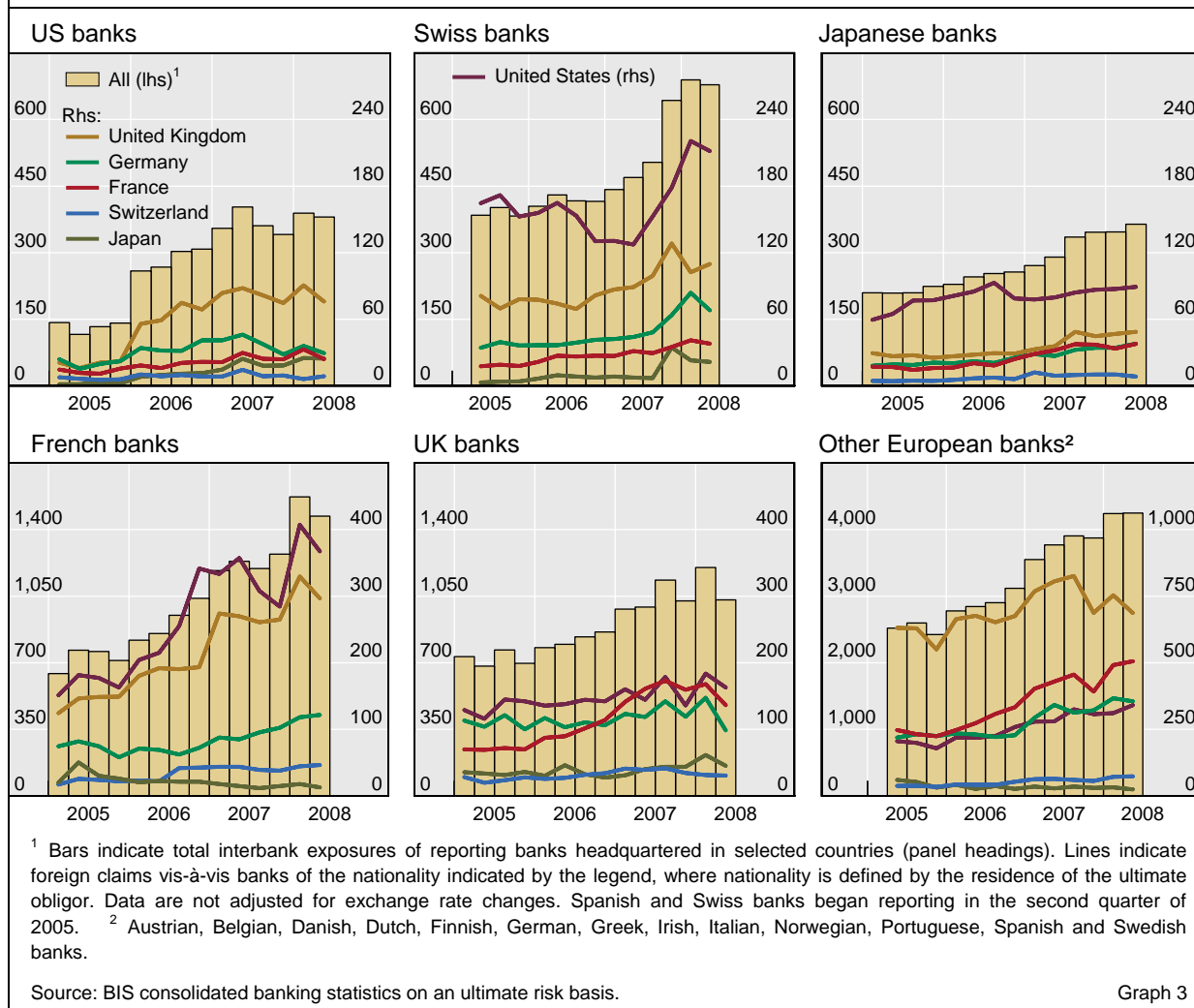
BIS reporting banks' international claims on non-banks contracted in the second quarter of 2008 for the first time since 1998.<sup>4</sup> While a decrease in

<sup>3</sup> The BIS consolidated banking statistics (ultimate risk basis) track individual banking systems' foreign claims (excluding inter-office claims). The ultimate risk reporting concept, combined with the sectoral breakdown, provides a rough estimate of bilateral interbank exposures of national banking systems. For example, on an ultimate risk basis, interbank claims reported by the United States vis-à-vis the United Kingdom provide an estimate of US banks' foreign claims on UK banks (as opposed to US banks' claims on banks located in the United Kingdom, as in the BIS consolidated statistics on an immediate borrower basis).

<sup>4</sup> Reductions, totalling \$286 billion, were reported mainly by banks located in the United Kingdom (-\$339 billion), the United States (-\$78 billion), Japan and the Cayman Islands (-\$36 billion each). Meanwhile, banks in the euro area registered a \$125 billion expansion of their cross-border claims on non-banks, primarily driven by intra-euro area activity.

## Interbank exposures of selected banking systems

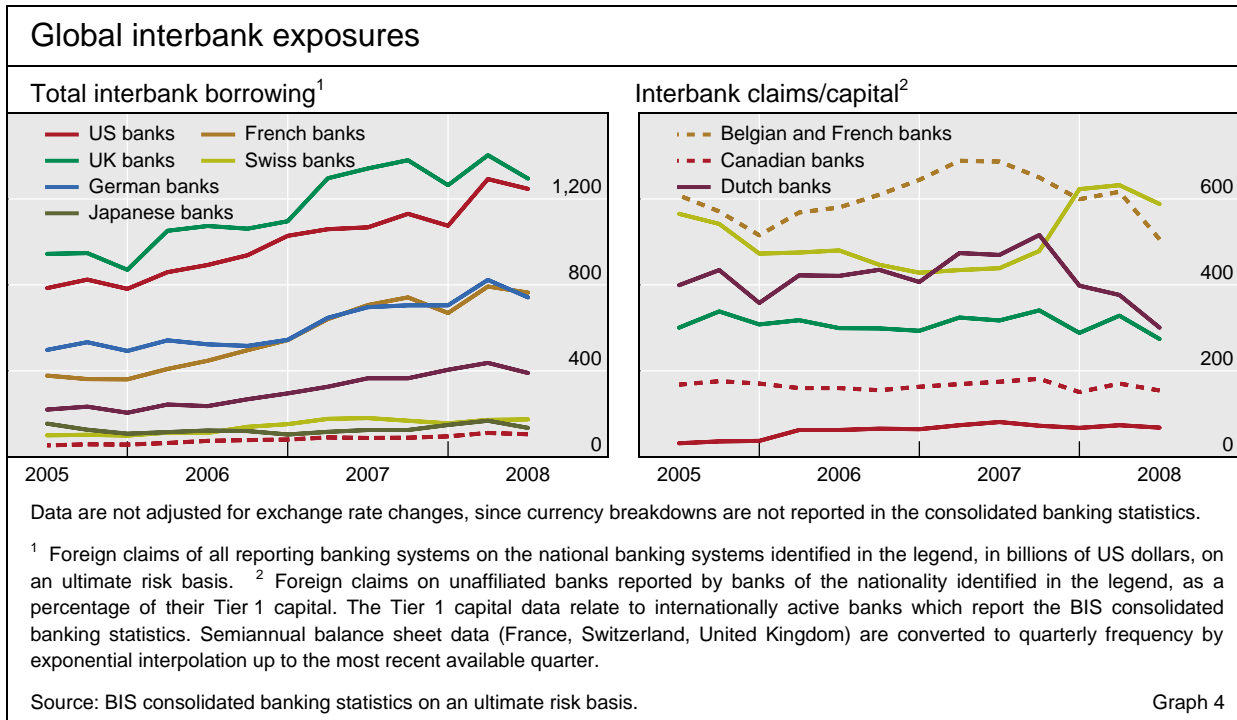
By nationality, in billions of US dollars



loans accounted for almost 80% of the \$286 billion overall decline, decreases in debt security claims also contributed (-\$23 billion), reflecting both writedowns and outright sales of securities.<sup>5</sup> Claims on non-banks in the United States fell the most (-\$191 billion), followed by the United Kingdom (-\$144 billion), the Cayman Islands (-\$62 billion) and Japan (-\$55 billion). Much of this was US dollar-denominated (\$229 billion), although euro- and yen-denominated credit declined as well.<sup>6</sup>

<sup>5</sup> Reductions in outstanding claim stocks may reflect a combination of factors, including writedowns, the extension or drawing-down of credit lines, the movement of affiliated structured investment vehicles onto the balance sheet, and outright cutbacks in lending.

<sup>6</sup> Data from Dealogic on signings of international syndicated loans also suggest a slowdown in lending to non-banks in the major economies. New signings of loan facilities granted to non-banks fell to \$462 billion in the second quarter of 2008, and to \$401 billion in the third quarter, compared with a peak of \$768 billion in the second quarter of 2007. The slowdown in new signings was especially pronounced for residents of the United States, the United Kingdom and the euro area. The non-bank financial sector as well as industries exhibiting a strong sensitivity to the economic cycle were particularly affected. The ratio of uncompleted (announced but unsigned) facilities to completed ones for non-bank borrowers worldwide rose



The BIS consolidated banking statistics, which track the exposure of national banking systems and have a finer counterparty sectoral breakdown, shed some more light on these moves. Reporting banks' foreign claims on US non-banks fell by \$259 billion in the second quarter of 2008, with the Swiss and UK banking systems registering the largest decreases (–\$72 billion and –\$66 billion, respectively). Across all reporting banks, foreign claims on the US non-bank *public* sector remained stable in absolute terms in the second quarter, at \$666 billion, while foreign claims on the *non-bank private* sector fell by \$253 billion to \$4.3 trillion. As a result, foreign claims on the US non-bank private sector declined to 69% of total foreign claims on the United States, down from a peak of 72% at end-2007.

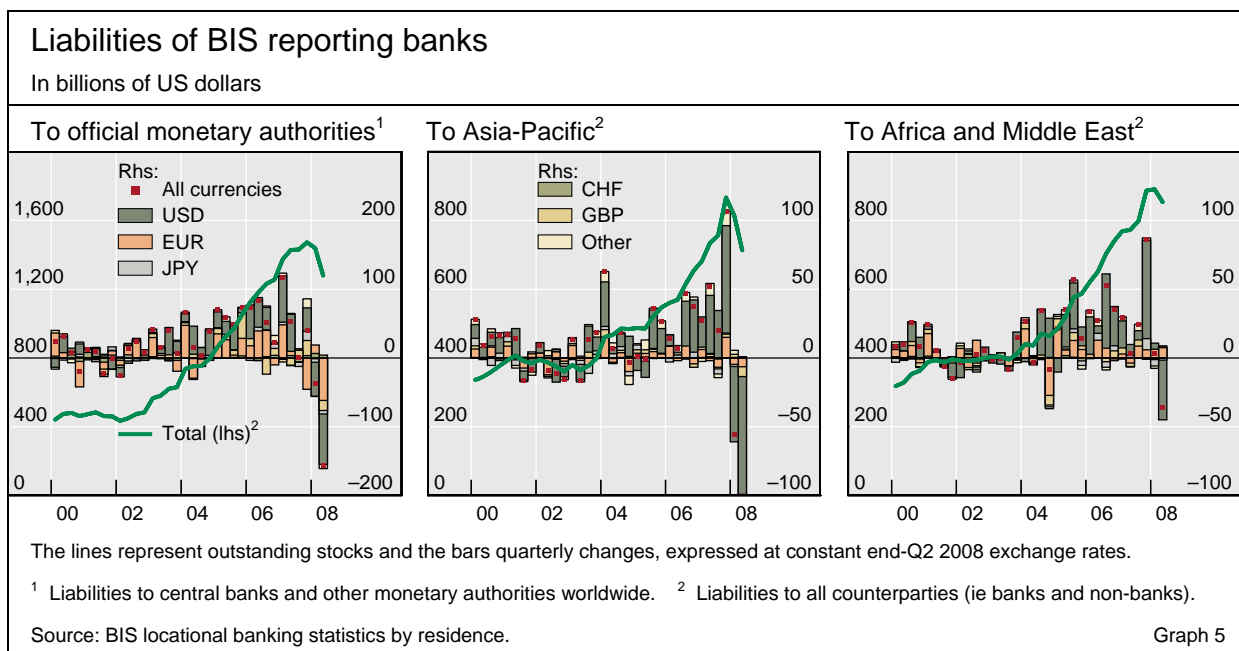
#### *Banks' liabilities come under pressure*

Decreases in liabilities to official monetary authorities ...

BIS reporting banks' liabilities vis-à-vis official monetary authorities continued to decline in the second quarter (Graph 5, left-hand panel). Total liabilities to these counterparties fell by a record \$157 billion, with the UK, French and Swiss banking systems registering the largest decreases. US dollar-denominated liabilities dropped by \$73 billion and euro-denominated by \$62 billion. The BIS statistics do not include information on which countries' official monetary authorities accounted for these moves.<sup>7</sup> However, data on

to 7% in the second quarter (slightly more for facilities related to mergers and acquisitions and to leveraged buyouts), after averaging 5% between 2004 and 2007.

<sup>7</sup> Banks' positions vis-à-vis official monetary authorities are reported as a memo item in the BIS statistics, and thus are not broken down by the country of residence. Reported liabilities will include deposits placed in reporting banks as part of central bank reserve management, reverse repo positions vis-à-vis reporting banks, and any loans which have arisen in the context of central banks' liquidity enhancement operations. There are some differences in the definition of official monetary authorities across reporting countries. For example, positions



reserve holdings reported by 63 monetary authorities to the IMF provide some information on which central banks were involved. As in the first quarter of 2008, central banks in emerging economies, in particular Russia (−\$42 billion), and some Asian countries (−\$96 billion) reported relatively large reductions in deposits placed in commercial banks in the second quarter.<sup>8</sup>

BIS reporting banks' also registered large declines in liabilities to some emerging market regions in the second quarter of 2008 (Graph 5, centre and right-hand panels).<sup>9</sup> Liabilities to all sectors in Asia fell by \$100 billion, mainly vis-à-vis China (−\$56 billion), Hong Kong SAR (−\$22 billion), Singapore (−\$21 billion), Chinese Taipei (−\$18 billion) and Korea (−\$14 billion). Most of this was in US dollars, driving down the share of US dollar liabilities to 68% of total liabilities vis-à-vis the region, from 70% in the previous quarter. Banks' liabilities to Africa and the Middle East fell by a record \$36 billion, bringing down the share of US dollar liabilities vis-à-vis that region to 63%, from 65% in the first quarter.

... and to emerging markets

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vis-à-vis central governments and other international organisations are included in this sector in the data reported by the United States.

<sup>8</sup> The largest declines were observed for Hong Kong SAR (−\$18 billion), Japan (−\$17 billion), Korea (−\$16 billion), Malaysia (−\$15 billion) and the Philippines (−\$10 billion). These reductions may also reflect a switch by central banks from unsecured to secured lending (ie reverse repos), which is not included in the SDDS figures used here. Note, in addition, that large reserve-accumulating countries such as China and some Middle East oil producers do not report the SDDS data.

<sup>9</sup> These may in part reflect the changes in liabilities vis-à-vis official monetary authorities discussed above.

## Derivatives markets

### Exchange-traded derivatives

Turnover of futures and options decreases ...

The third quarter of 2008 saw a retreat in activity on the international derivatives exchanges. Total turnover based on notional amounts decreased to \$542 trillion from \$600 trillion in the second quarter. Most of the contraction took place in derivatives on short-term interest rates. Turnover declined slightly in derivatives on long-term interest rates. By contrast, it increased in derivatives on stock indices and foreign exchange. Turnover in derivatives on commodities, observable only in terms of the numbers of contracts, dropped for the second consecutive quarter.

... particularly in derivatives on short-term interest rates

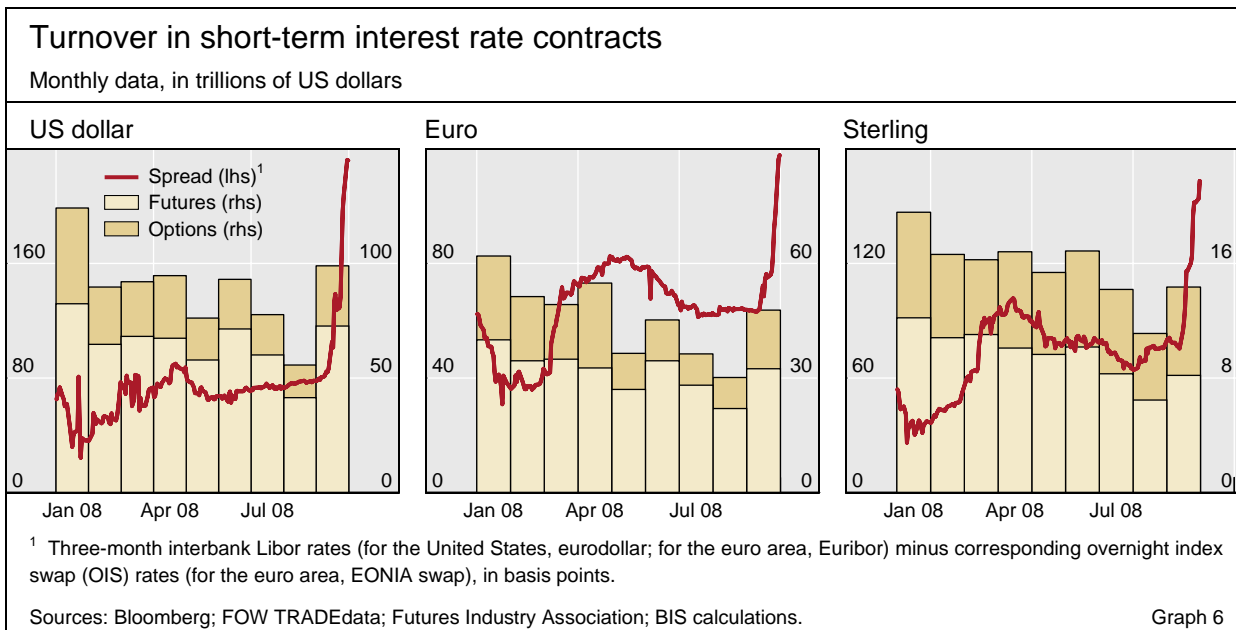
Turnover in derivatives on short-term interest rates decreased to \$407 trillion from \$473 trillion in the previous quarter. The most significant fall was observed in the US dollar segment, followed by the euro and sterling segments (Graph 6). In particular, turnover in futures and options on both three-month eurodollar rates and federal funds rates declined in the third quarter, although monthly data show that turnover in both contracts rebounded in September, amid the increased tensions in financial markets.

Activity in equity derivatives recovered to \$76 trillion from \$67 trillion. By currency of denomination, the largest increase came from US dollar-denominated contracts, followed by Korean won contracts. Conversely, activity in Indian rupee and yen contracts declined slightly.

Turnover in derivatives on foreign exchange rates increased marginally, to \$7.9 trillion from \$7.5 trillion. The increase was attributed mostly to euro-denominated contracts and offset a decline in trading in currencies such as the US dollar and Swiss franc.

Trading in commodity derivatives declines

Trading in commodity derivatives declined in the third quarter. Global turnover in commodity derivatives measured by number of contracts (notional amounts are not available) decreased from 425 million to 410 million. Most of the fall was attributed to agricultural derivatives, occurring largely on the US



exchanges. Turnover in oil-related derivatives went down from 98 million to 92 million contracts amid the significant drop in oil prices, though turnover in the broader category of energy derivatives remained at a high level of 140 million.

### *OTC derivatives*

In November, the BIS released the latest statistics based on positions as at end-June 2008 in the global over-the-counter (OTC) derivatives markets.<sup>10</sup> The notional amounts outstanding of OTC derivatives continued to expand in the first half of 2008. Notional amounts of all types of OTC contracts stood at \$683.7 trillion at the end of June, 15% higher than six months before. While, by volume, credit default swap (CDS) contracts registered their first ever decline, markets for interest rate and FX derivatives, as well equity and commodity derivatives, recorded significant growth.

CDS volumes decline in wake of turmoil

For the first period ever since publication of the statistics began in December 2004, the notional amounts outstanding of CDS contracts saw a 1% decline compared with the notional amounts outstanding at the end of 2007. This compares with an average six-month growth rate for outstanding CDS contracts over the last three years of 45%. The fall was due largely to significantly higher numbers of multilateral terminations of CDS contracts, as a result of the financial turbulence (see box). Despite the decline in outstanding volumes, gross market values, which measure the cost of replacing all existing contracts and are thus a better gauge of market risk than notional amounts, of CDS contracts increased by 58% in the wake of increases in credit and counterparty risk during the turmoil. Gross market values rose for both single- and multi-name contracts.

Growth in the notional amounts outstanding of interest rate derivatives increased in the first half of 2008 after an average rate of growth in the second half of 2007. Notional amounts outstanding of these instruments reached \$458.3 trillion at the end of June 2008, 17% higher than six months previously. Gross market values of OTC interest rate derivatives grew by 29% to \$9.3 trillion, driven primarily by interest rate swaps, which constitute by far the largest market segment. The first half of 2008 also saw robust activity in foreign exchange derivatives, as notional amounts increased by 12% to \$63.0 trillion, while gross market values rose by 25% to \$2.3 trillion.

Robust activity in foreign exchange derivatives ...

Notional amounts outstanding of equity derivatives went up by 20% in the first half of 2008, reversing a 1% decline in the second half of 2007. Notional amounts of OTC equity contracts stood at \$10.2 trillion at the end of June 2008, more than half of which was accounted for by contracts written on European stocks.

Robust activity was also observed in the market for OTC commodity derivatives, with notional amounts outstanding increasing by 56% to reach \$13 trillion at the end of June. This was largely due to strong growth in non-gold contracts, which rose to \$12.6 trillion. Forwards and swaps in these

... and strong increase in commodity derivatives

<sup>10</sup> For a discussion of the methodology of the survey, see the November 2008 Statistical Release, available at [www.bis.org/publ/otc\\_hy0811.htm](http://www.bis.org/publ/otc_hy0811.htm).



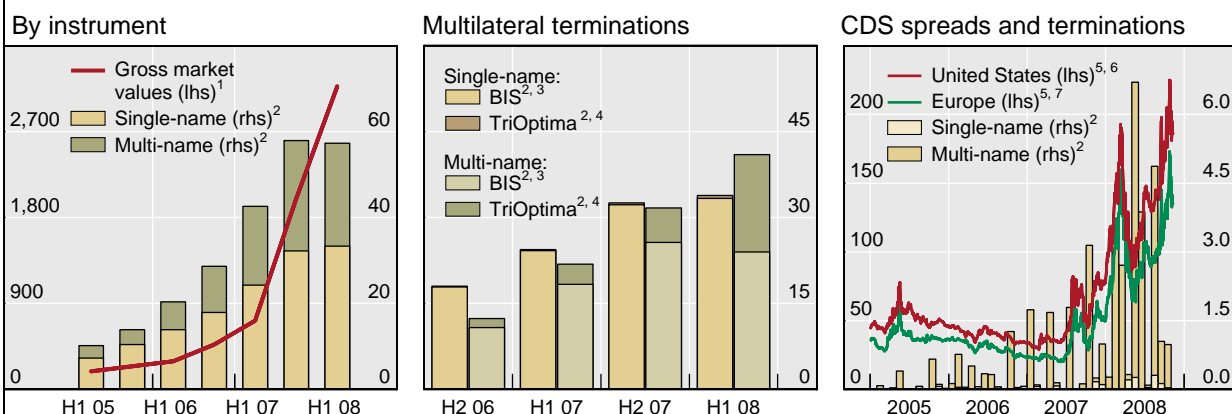
## Voluntary terminations of credit default swap contracts

*Jacob Gyntelberg and Carlos Mallo*

Turmoil in credit markets and money markets in the first half of 2008 led market participants to engage in a significantly higher number of multilateral terminations of credit default swap (CDS) contracts. As a result, notional amounts outstanding of CDS contracts saw a decline, for the first period ever since publication of the statistics began in December 2004, of 1% compared with the notional amounts outstanding at the end of 2007 (Graph A, left-hand panel).

The decline to a large extent reflects unusually large volumes of voluntary multilateral terminations, or “tear-ups”, of outstanding CDS contracts, which totalled \$17.4 trillion, mainly in the multi-name segment (centre panel). Without these terminations, the outstanding notional amounts would have increased by nearly 30%. Terminations were mainly in CDS indices (right-hand panel) and were more pronounced after credit spreads widened. Although most outstanding CDS contracts continued to be between reporting dealers, this segment remained unchanged in terms of outstanding size. In contrast, the outstanding contracts between dealers and other financial institutions declined by 7%. The decrease for insurance companies was 21%, while that for securities firms, the largest segment, was 2%.

### Credit default swaps



<sup>1</sup> In billions of US dollars. <sup>2</sup> In trillions of US dollars. <sup>3</sup> Notional amounts outstanding at end of period reported to BIS. <sup>4</sup> Notional amounts outstanding terminated by TriOptima during period. <sup>5</sup> Five-year on-the-run CDS mid-spread on index contracts of investment grade quality, in basis points. <sup>6</sup> DJ CDX IG. <sup>7</sup> iTraxx Europe.

Sources: JPMorgan Chase; TriOptima; BIS.

Graph A

Since 2003, the private firm TriOptima has been offering multilateral termination services to OTC derivatives dealers, initially for interest rate swaps and subsequently for CDS. A termination cycle consists of two steps. Dealers first provide contract-by-contract information on their derivatives positions, and the firm then checks whether each individual contract is reported by both counterparties with identical terms. In a second step, TriOptima computes a set of bilateral contracts between participants that provides the same net exposures but lowers gross exposures.

More recently, Markit, a specialised CDS data manager, and Creditex, a CDS broker, initiated so-called “compression runs” for single-name CDS contracts. The first compression run ended on 27 August 2008. By end-November, 26 compression runs, 14 in Europe and 12 in the United States, had resulted in a total gross reduction in notional amounts outstanding of single-name CDS contracts in excess of \$1.1 trillion.

contracts expanded by 49% to \$7.6 trillion, and option volume by 81% to \$5 trillion. Growth in gold contracts slowed to 9% (after rising to 40% in the second half of 2007). Gross market values of commodity contracts in total increased by 16% to \$2.2 trillion.

## The international debt securities market

Borrowing in the international debt securities market retreated sharply in the third quarter of 2008 amid the continued turmoil in financial markets. Net issuance of bonds and notes decreased to \$247 billion, down substantially from \$1,086 billion in the second quarter. The decline was well beyond normal seasonal patterns, and resulted in the lowest level of net issuance since the third quarter of 2005.<sup>11</sup> Money market borrowing also stagnated, with net issuance falling into negative territory in the third quarter.

Borrowing retreats sharply ...

By currency of denomination, the largest decrease in bond and note issuance came from the euro-denominated segment, closely followed by the dollar-denominated segment (Graph 7, left-hand panel). Net issuance of euro-denominated bonds and notes plummeted from \$466 billion in the second quarter to \$28 billion in the third quarter. Net issuance of dollar-denominated bonds and notes also fell sharply, from \$396 billion to \$40 billion. By contrast, net issuance of sterling-denominated bonds and notes remained at a high level of \$153 billion, up from \$144 billion. Strong sterling issuance was attributable chiefly to active issuance of mortgage-backed bonds. Yen issuance decreased from \$16 billion to \$8 billion, although the decline would have been even more pronounced without robust issuance of yen-denominated bonds in Japan by non-Japanese issuers (samurai bonds) of \$7 billion on a net basis.

... particularly in euro-denominated bonds and notes

The breakdown by nationality of issuer indicates that the largest contraction in net issuance came from US borrowers, down from \$308 billion in the second quarter to \$46 billion in the third quarter. A large fall was also seen in the issuance by Belgian, French and UK borrowers.

By sector, financial institutions recorded the largest decline, where net issuance of bonds and notes decreased from \$888 billion to \$246 billion in the third quarter. Corporate issuance also dropped sharply, albeit to a somewhat lesser extent: net issuance decreased from \$133 billion to \$47 billion.

Issuance of international mortgage-backed bonds (for which only gross figures are available) remained relatively active in the third quarter. Gross issuance of mortgage-backed bonds declined from the record level of \$188 billion in the second quarter, but still stood at \$139 billion. Notable decreases were posted by Belgian, Irish and Spanish borrowers, as well as by the US government-sponsored agencies, Fannie Mae and Freddie Mac in particular. By contrast, there was an increase from UK borrowers, up further from \$90 billion to \$98 billion, due possibly to the Bank of England's Special Liquidity Scheme that enables UK banks to swap illiquid assets such as mortgage-backed securities for UK Treasury bills.

Issuance of mortgage-backed bonds remains relatively active

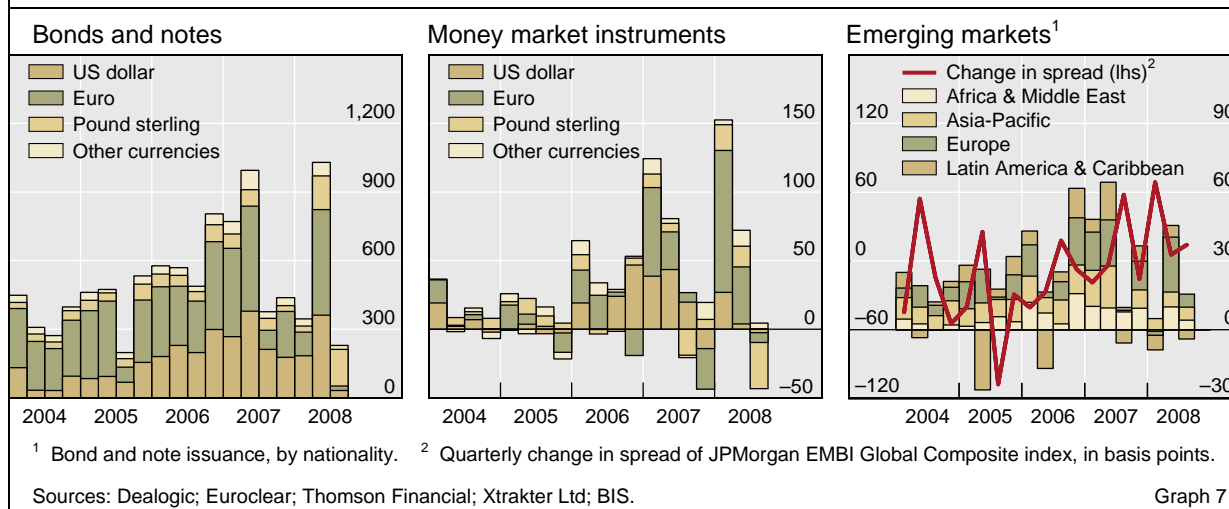
In the emerging economies, net issuance of bonds and notes declined from \$45 billion in the second quarter to \$11 billion in the third quarter (Graph 7, right-hand panel). The decrease was most marked in emerging Europe (where net issuance by Russian borrowers fell from \$13 billion to \$3 billion), followed

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<sup>11</sup> For seasonal patterns in international bond and note issuance, see J Amato and J Sobrun, "Seasonality in international bond and note issuance", *BIS Quarterly Review*, September 2005.

## International debt securities issuance

Net issuance, in billions of US dollars



by Latin America and Africa and the Middle East. By currency of denomination, the largest decrease occurred in the dollar-denominated segment, followed by the euro-denominated segment.

Money market instruments stagnate

Borrowing through international money markets also stagnated. Net issuance of money market instruments entered negative territory, decreasing from \$69 billion to -\$30 billion in the third quarter, the lowest level since the third quarter of 2003 (Graph 7, centre panel). The largest decline was observed in the sterling-denominated segment, followed by the euro-denominated segment.