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Highlights of international banking and financial market activity

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 2010. The discussion on international debt securities and exchange-traded derivatives draws on data for the third quarter of 2010. OTC derivatives market statistics are available up to mid-2010.

The international banking market¹

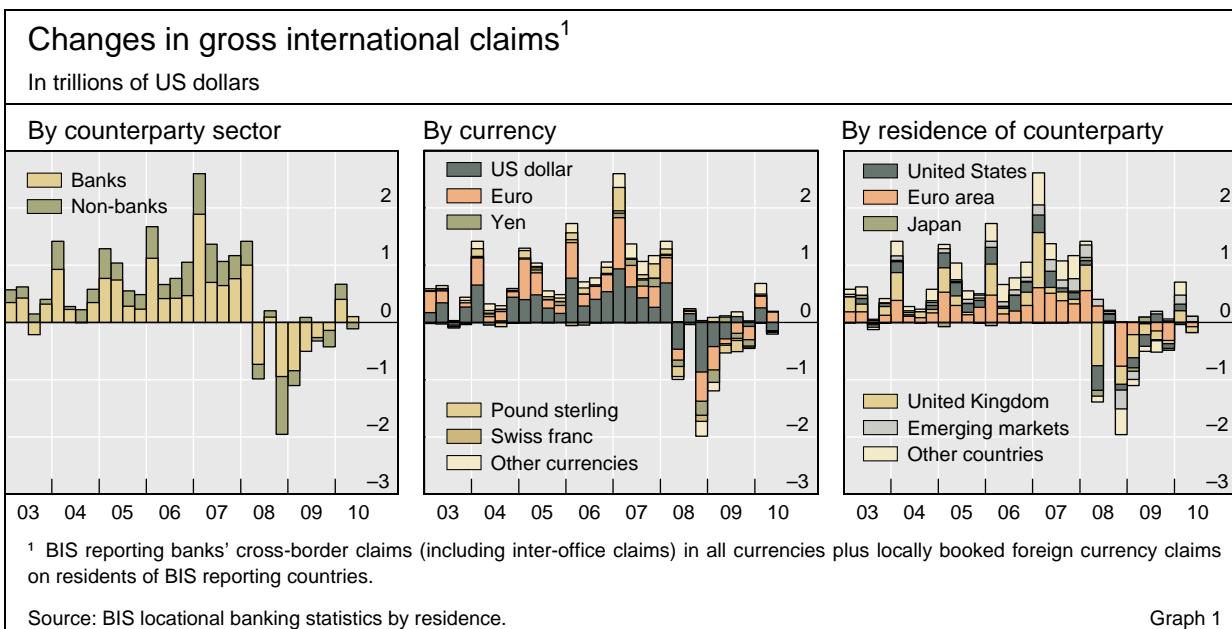
The international balance sheets of BIS reporting banks, which in the first three months of this year had expanded for the first time since the start of the crisis, ceased to grow during the *second quarter of 2010*. That said, at a more disaggregated level, several trends that had characterised international bank lending over the past few quarters remained in place. Banks continued to direct funds towards the faster-growing emerging markets at the expense of slower-growing mature economies. Just as in the previous couple of quarters, lending patterns diverged considerably across the four emerging market regions. In particular, banks continued to increase their exposures to the buoyant economies of Asia-Pacific and Latin America-Caribbean, but cut cross-border lending to residents of the slower-growing emerging Europe and Africa-Middle East regions. Amidst the turmoil in global financial markets triggered by concerns about the fiscal situation in Greece, Ireland, Portugal and Spain, foreign claims on these four countries decreased during the second quarter.

Growth in international lending comes to a halt²

The size of the aggregate international balance sheet of BIS reporting banks remained virtually unchanged during the second quarter of 2010. The marginal \$7 billion (0.02%) shrinkage in overall claims, which followed a \$670 billion expansion in the first three months of the year, was the net result of a

¹ Queries concerning the banking statistics should be addressed to Stefan Avdjiev.

² The analysis in this and the following subsection is based on the BIS locational banking statistics by residence. All reported flows in international claims have been adjusted for exchange rate fluctuation and breaks in series.



\$109 billion (0.9%) decline in claims on non-banks and a \$102 billion (0.5%) increase in interbank claims (Graph 1, left-hand panel).

Internationally active banks continued to direct funds towards the faster-growing emerging market economies (Graph 1, right-hand panel). International claims on the residents of that group of countries expanded by \$93 billion (3.1%). By contrast, claims on US residents remained virtually unchanged and those on residents of the euro area declined slightly (by \$74 billion or 0.7%), a contraction largely driven by a \$100 billion fall in the claims of euro zone banks. Claims on residents of the United Kingdom also shrank (by \$101 billion or 1.6%).

International claims on fast-growing economies increase

Claims denominated in euros and in US dollars moved in opposite directions for the first time since the third quarter of 2009 (Graph 1, centre panel). Even though, as just mentioned, overall claims on the euro area declined during the period, euro-denominated claims on its residents actually rose by \$89 billion (1.3%), contributing to a \$180 billion (1.5%) increase in aggregate euro-denominated claims. Yen-denominated claims also increased, by \$15 billion (1.2%). Conversely, claims denominated in US dollars declined by \$142 billion (1.0%). Claims denominated in Swiss francs and in pounds sterling also contracted, falling by \$19 billion (2.9%) and \$13 billion (0.7%), respectively.

Cross-border claims on residents of emerging markets continue to expand

BIS reporting banks increased their cross-border claims on residents of emerging market economies for a fifth consecutive quarter (Graph 2). Almost all of the \$53 billion (2.1%) expansion was due to a 4.3% increase in interbank claims. Claims on non-banks also expanded, but at a very modest pace (\$0.6 billion or 0.1%). As in the previous couple of quarters, there was a clear divergence in lending patterns across the four regions. Banks continued to increase their exposures to the more dynamic economies of Asia-Pacific and

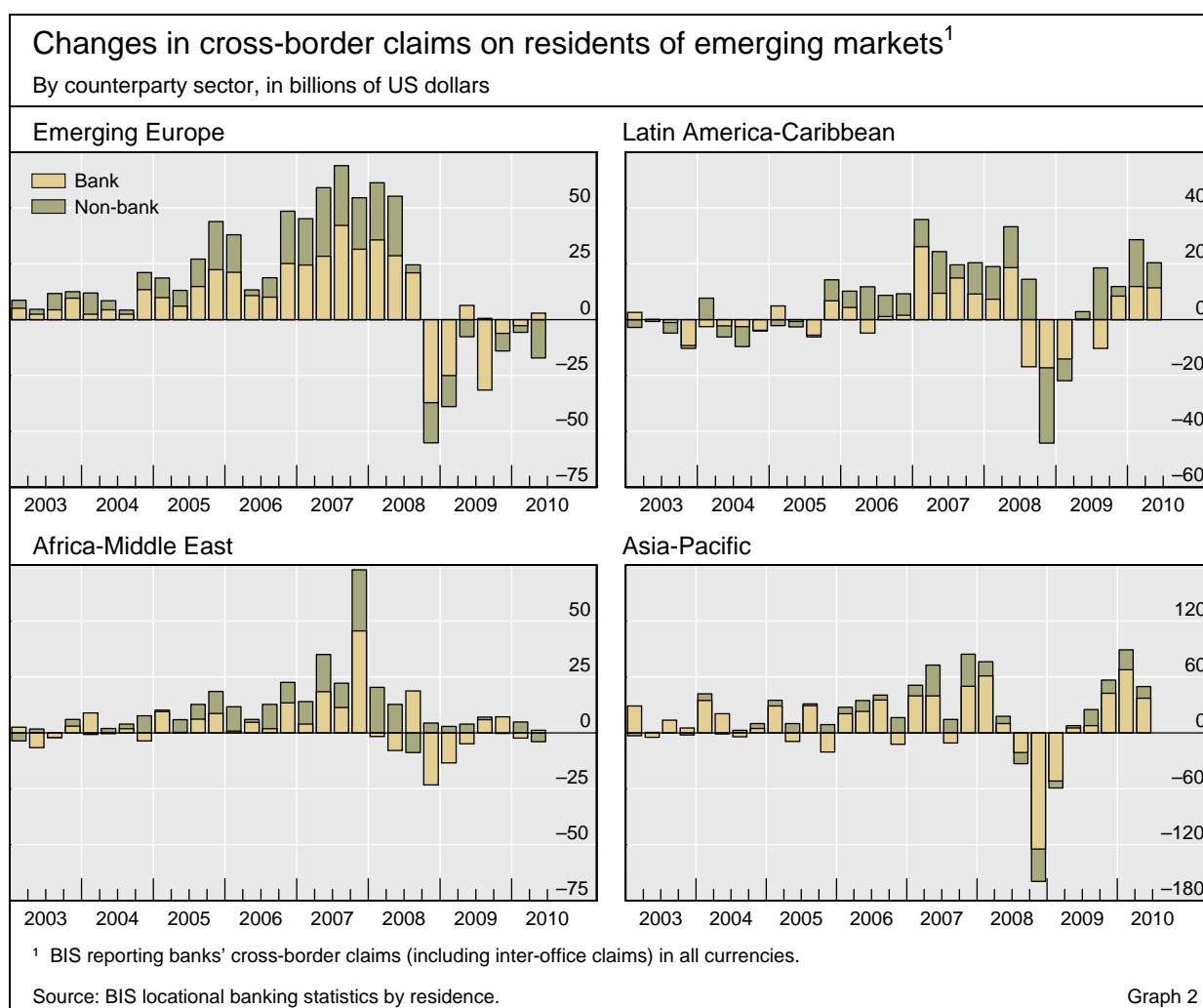
Claims on Asia-Pacific expand

Latin America-Caribbean, but reduced cross-border lending to residents of the slower-growing emerging Europe and Africa-Middle East regions.

Once again, Asia-Pacific was the region that saw the largest increase in cross-border lending to its residents. The \$50 billion (5.8%) overall expansion in cross-border claims reflected a \$37 billion (6.8%) increase in interbank claims and a \$13 billion (4.0%) rise in claims on non-banks. Cross-border claims on China rose by \$28 billion (13%), the largest absolute increase at the individual country level in the region. Claims on India (\$9.5 billion or 6.3%), Chinese Taipei (\$8.2 billion or 14%) and Korea (\$5.8 billion or 2.8%) also went up significantly. India was the only one of the above countries for which claims on non-banks increased (\$7.8 billion or 12%) by more than those on banks (\$1.7 billion or 2.0%). Meanwhile, cross-border claims on Thailand grew by \$2.2 billion (8.0%) despite political unrest in the country during the quarter.

Cross-border lending to Brazil leads growth in claims on Latin America-Caribbean

Cross-border claims on Latin America and the Caribbean expanded for a fifth consecutive quarter. The growth in claims on the region, unlike that in Asia-Pacific, which was largely driven by interbank claims, was fairly balanced across sectors. The \$20 billion (4.7%) overall increase was roughly evenly split between an \$11 billion (8.8%) rise in interbank claims and a \$9.0 billion (3.0%) increase in claims on non-banks. Most of the new funds went to residents of Brazil, which recorded a \$22 billion (12%) inflow. Claims on banks in that



country grew by \$8.7 billion (12%) and those on non-banks by \$13 billion (12%). By contrast, claims on non-banks in Mexico shrank by \$4.0 billion (4.8%), while cross-border lending to residents of Argentina contracted for the seventh time in the last eight quarters (by \$0.2 billion or 1.1%).

Against the background of continuing sluggish economic activity in emerging Europe, claims on the region shrank for the seventh quarter in a row. Although claims on banks located in the area grew by \$2.9 billion (0.8%), that increase was more than offset by a \$17 billion (4.5%) drop in claims on non-banks. At the individual country level, lending to Russia declined the most (\$7.3 billion or 5.4%). Claims on Poland, which had increased steadily for the past four quarters notwithstanding the overall decline in international lending to the region, fell by \$3.8 billion (3.2%). Claims on Estonia also declined (by \$0.7 billion or 4.4%), despite the fact that during the quarter the ECB granted the country approval to join the euro area starting in January 2011. Meanwhile, cross-border claims on Hungary increased by \$0.5 billion (0.5%) in the second quarter of 2010, despite statements by officials from the newly elected government that the country's fiscal situation was worse than previously believed.

Claims on emerging Europe contract further

BIS reporting banks' foreign exposures to Greece, Ireland, Portugal and Spain³

As of the end of the second quarter of 2010, the total consolidated foreign exposures⁴ (on an ultimate risk basis) of BIS reporting banks to Greece, Ireland, Portugal and Spain stood at \$2,281 billion (Table 1). At \$1,613 billion, *foreign claims* represented slightly over 70% of that amount. The remaining \$668 billion was accounted for by the positive market value of derivative contracts, guarantees extended and credit commitments (ie other exposures).

For each of the four countries, cross-border claims substantially exceeded local claims. The weighted average share of cross-border claims in total foreign claims on the above group of countries was 70%, with local claims accounting for the remaining 30%. The proportion of cross-border claims ranged from 60% for Portugal to 76% for Ireland. The corresponding shares for Greece and Spain were 64% and 69%, respectively.

US dollar appreciation overstates actual decline in claims

How did foreign claims on Greece, Ireland, Portugal and Spain change during the second quarter? As the consolidated banking statistics do not include a currency breakdown, it is not possible to produce precise estimates. Nevertheless, on the (admittedly imperfect) assumption that all foreign claims on these countries are denominated in euros, the quarter saw a combined decline of \$107 billion (Graph 3). This amount is considerably smaller than the \$276 billion contraction that would be obtained by simply taking the difference

³ The analysis in this subsection is based on the BIS *consolidated* international banking statistics on an *ultimate risk* basis. Since this dataset does not contain a currency breakdown, we adjust all flow variables for exchange rate fluctuations by assuming that all exposures to residents of Greece, Ireland, Portugal and Spain are denominated in euros.

⁴ Total foreign exposures consist of two main components: *foreign claims* and *other exposures*. In turn, *foreign claims* consist of cross-border claims and local claims in all currencies; *other exposures* consist of the positive market value of derivative contracts, guarantees extended and credit commitments.

between the outstanding stocks (measured in US dollars) at the respective ends of the first two quarters of 2010. This suggests that most of the latter

Foreign exposures to Greece, Ireland, Portugal and Spain, by bank nationality											
	Type of exposures	Bank nationality									
		DE ¹	ES ²	FR ³	IT	OEA ²	GB	JP	US	ROW	
Greece	Public sector	22.6	0.6	17.8	2.7	15.0	2.9	1.0	1.5	1.0	65.0
	+ Banks	4.7	0.0	0.8	0.9	1.3	1.6	0.5	1.2	1.2	12.3
	+ Non-bank private	9.6	0.2	38.7	1.7	12.4	7.6	0.7	4.5	3.8	79.2
	+ Unallocated sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	= Foreign claims	36.8	0.9	57.3	5.3	28.8	12.1	2.2	7.2	6.1	156.6
	+ Other exposures ⁴	28.6	0.5	25.7	1.6	2.8	4.8	0.1	29.0	2.4	95.5
	= Total exposures	65.4	1.3	83.1	6.8	31.6	17.0	2.3	36.2	8.5	252.1
Ireland	Public sector	3.4	0.2	6.1	0.8	3.2	3.5	1.6	1.5	1.8	22.2
	+ Banks	47.5	3.3	18.9	2.9	8.8	31.1	1.6	19.8	11.7	145.7
	+ Non-bank private	87.7	10.5	18.5	10.7	44.7	97.0	17.6	35.9	26.1	348.5
	+ Unallocated sector	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	1.0	1.5
	= Foreign claims	138.6	14.0	43.6	14.6	56.9	131.6	20.8	57.2	40.5	517.9
	+ Other exposures ⁴	47.9	3.7	33.7	10.0	7.3	55.9	1.2	51.0	18.2	228.9
	= Total exposures	186.4	17.7	77.3	24.7	64.2	187.5	22.0	108.3	58.8	746.8
Portugal	Public sector	7.4	8.1	14.2	0.8	7.5	2.3	1.2	0.8	1.6	44.0
	+ Banks	17.1	7.0	13.8	2.5	5.0	5.6	0.3	1.1	0.8	53.2
	+ Non-bank private	12.7	62.7	13.3	1.3	6.6	14.4	0.8	1.4	1.5	114.6
	+ Unallocated sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	= Foreign claims	37.2	77.8	41.3	4.6	19.1	22.2	2.2	3.3	4.0	211.8
	+ Other exposures ⁴	7.0	20.6	7.2	3.0	2.1	6.8	0.4	32.3	1.5	80.8
	= Total exposures	44.3	98.3	48.5	7.6	21.2	29.0	2.6	35.6	5.5	292.6
Spain	Public sector	26.2	...	40.4	2.5	16.2	9.2	8.8	4.5	3.4	111.2
	+ Banks	81.1	...	50.2	9.2	48.2	28.8	4.4	23.8	9.6	255.3
	+ Non-bank private	74.4	...	74.0	13.9	87.2	66.7	8.7	24.2	10.5	359.5
	+ Unallocated sector	0.0	...	0.0	0.2	0.1	0.0	0.0	0.0	0.4	0.7
	= Foreign claims	181.6	...	164.6	25.9	151.7	104.7	21.9	52.5	23.9	726.7
	+ Other exposures ⁴	34.9	...	36.7	11.4	12.4	31.8	3.2	120.4	12.3	263.0
	= Total exposures	216.6	...	201.3	37.2	164.1	136.5	25.1	172.8	36.2	989.8

DE = Germany; ES = Spain; FR = France; IT = Italy; OEA = other euro area; GB = United Kingdom; JP = Japan; US = United States; ROW = rest of the world.

¹ Foreign claims of German banks on the four countries are on an immediate borrower basis. ² Exposures of banks headquartered in the respective country are not included, as these are not foreign exposures. ³ Exposures of French banks to the four countries are currently under review and are subject to revisions. ⁴ Positive market value of derivative contracts, guarantees extended and credit commitments.

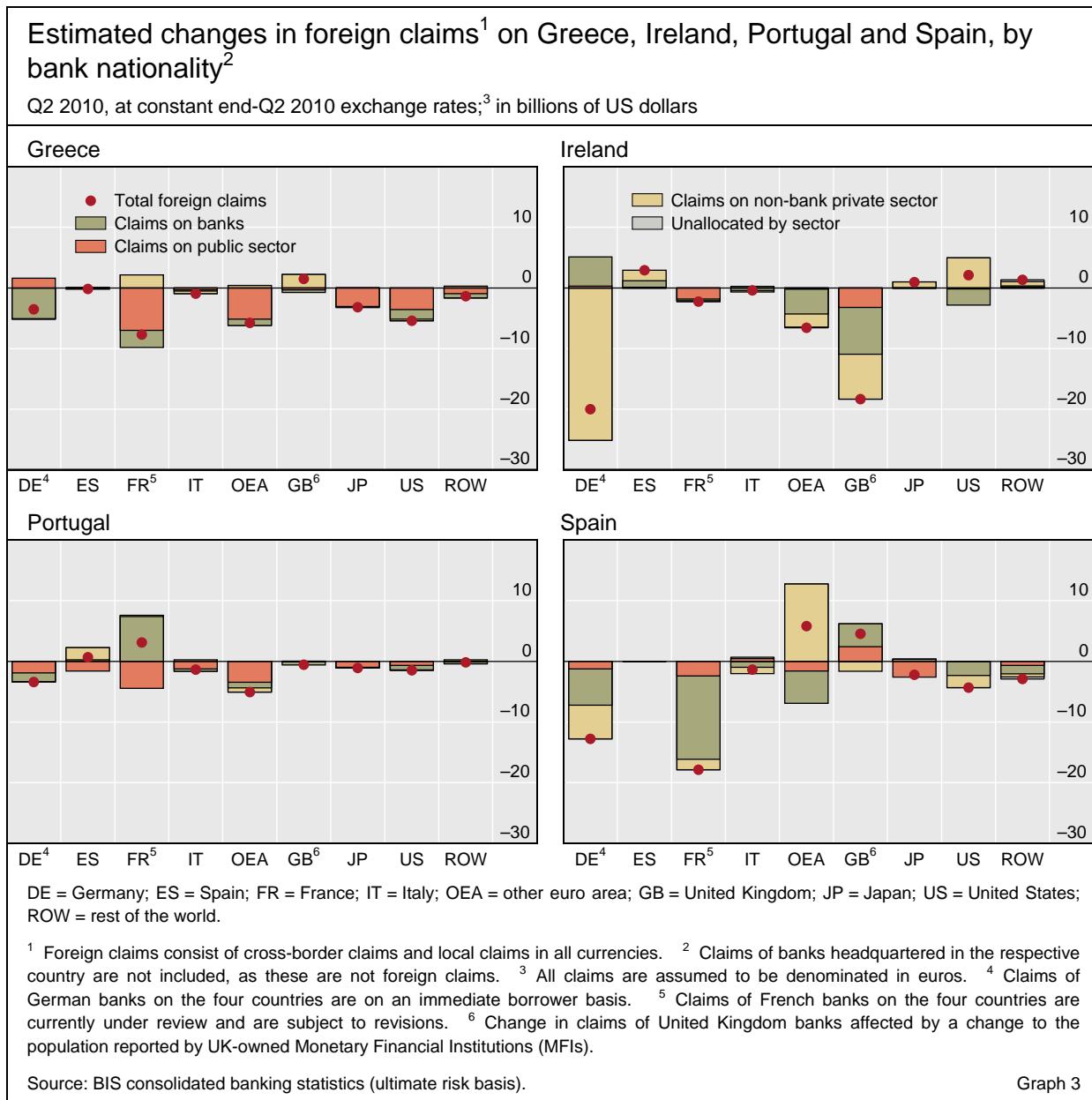
Source: BIS consolidated banking statistics (ultimate risk basis). Table 1

decline reflects the significant appreciation of the US currency versus the euro during the period.

The exchange rate adjusted fall in foreign claims on these four countries affected all sectors, although to differing degrees. Claims on the public sector shrank the most, in both absolute (\$44 billion) and relative (14%) terms.⁵ Foreign lending to banks also contracted considerably (by \$43 billion or 7.6%). Finally, claims on the non-bank private sector recorded the smallest decline (\$20 billion or 2.1%), despite accounting for the largest share of the stock of foreign claims.

The most significant exchange rate adjusted declines occurred in BIS reporting banks' exposures to Greece. Total foreign claims fell by \$27 billion.

Foreign claims on
Greece contract



⁵ The box on page 19 outlines the main sources of discrepancies between the BIS data on public sector foreign claims and the CEBS data on sovereign exposures.

Why do the BIS data on public sector foreign claims differ from the CEBS data on sovereign exposures?

In July 2010, as part of the EU-wide stress testing exercise, the Committee of European Banking Supervisors (CEBS) asked the 91 participating banks to disclose their sovereign exposures to EEA countries. Since then several media outlets have attempted to compare the CEBS stress testing numbers with the figures on public sector foreign claims obtained from the BIS consolidated banking statistics (on an ultimate risk basis). As noted in the *CEBS Statement on the disclosure of sovereign exposures in the context of the 2010 EU-wide stress testing exercise*,^① the data obtained from these two sources are not directly comparable.

There are several potential sources of variation in the numbers derived from the two datasets. First, the two reporting populations are not the same, as more banks report to the BIS consolidated banking statistics than took part in the CEBS stress testing exercise. Second, in their individual disclosures accompanying the publication of the stress test results, banks were allowed to deduct offsetting short positions (where the immediate counterparty was the same sovereign) from the gross exposures recorded on their trading book. This is generally not the case when banks report their positions for the BIS consolidated banking statistics. Third, the numbers disclosed as part of the CEBS stress testing exercise are on an immediate borrower basis. The BIS consolidated banking statistics contain data on both an immediate borrower basis and an ultimate risk basis, but the figures that are most often referred to in the context of sovereign debt exposures, including all of the public sector foreign claims numbers in this section of the *BIS Quarterly Review*, are on an ultimate risk basis.^② Fourth, the two datasets also differ in the levels of consolidation that they use in order to assign the holdings of various banking units across national jurisdictions.

^① The CEBS statement is available at [www.c-ebs.org/documents/News---Communications/2010/CEBS-2010-194-rev2-\(Statement-on-disclosures-of-so.aspx](http://www.c-ebs.org/documents/News---Communications/2010/CEBS-2010-194-rev2-(Statement-on-disclosures-of-so.aspx). ^② For a discussion of the reasons for using the BIS consolidated banking statistics on an ultimate risk basis (as opposed to those on an immediate borrower basis) when measuring banking systems' exposures to specific public sectors, see Box 1 ("Measuring banking systems' exposures to particular countries") in the highlights section of the June 2010 *BIS Quarterly Review*, page 20.

Claims on banks in the country shrank by \$12 billion, while those on the public sector fell by \$19 billion. These declines were partially offset by a \$4.2 billion increase in claims on the non-bank private sector.

Virtually all the major banking systems included in Graph 3 reported exchange rate adjusted declines in their foreign claims on Greece during the second quarter of 2010.^⑥ The foreign claims of French banks on residents of Greece decreased the most (by \$7.7 billion). The declines recorded by US (\$5.4 billion), German (\$3.5 billion) and Japanese banks (\$3.2 billion) also contributed significantly to the overall contraction in foreign claims on the country.

The international debt securities market⁷

Net issuance bounces back ...

Activity in the primary market for international debt securities rebounded in the third quarter of 2010, reversing most of the sharp drop that occurred during the

^⑥ The relatively small increase in the foreign claims of UK banks on Greece was more than accounted for by a change to the population reported by UK-owned Monetary Financial Institutions (MFIs).

⁷ Queries concerning the international debt securities statistics should be directed to Christian Upper.

European sovereign debt turbulence in the second quarter. Completed gross issuance increased to \$1,934 billion in the third quarter, 15% higher than in the previous three months but short of the \$2,175 billion recorded in the first quarter (Graph 4, left-hand panel). With repayments down 7%, net issuance rose to \$475 billion, from \$111 billion in the second quarter. Between January and March, issuers had raised \$603 billion in the international debt securities market.

The key factor behind the rebound in issuance was the return to the market of borrowers resident in the developed economies as confidence recovered from the lows reached in early May. European issuers, whose net redemptions had mainly driven the sharp drop in activity in the second quarter, began to tap the market again in August and September. Over the quarter as a whole, they issued \$215 billion worth of international debt securities, after net repayments of \$60 billion in the previous three months (Graph 4, centre panel). Issuance also rose in most other advanced economies.

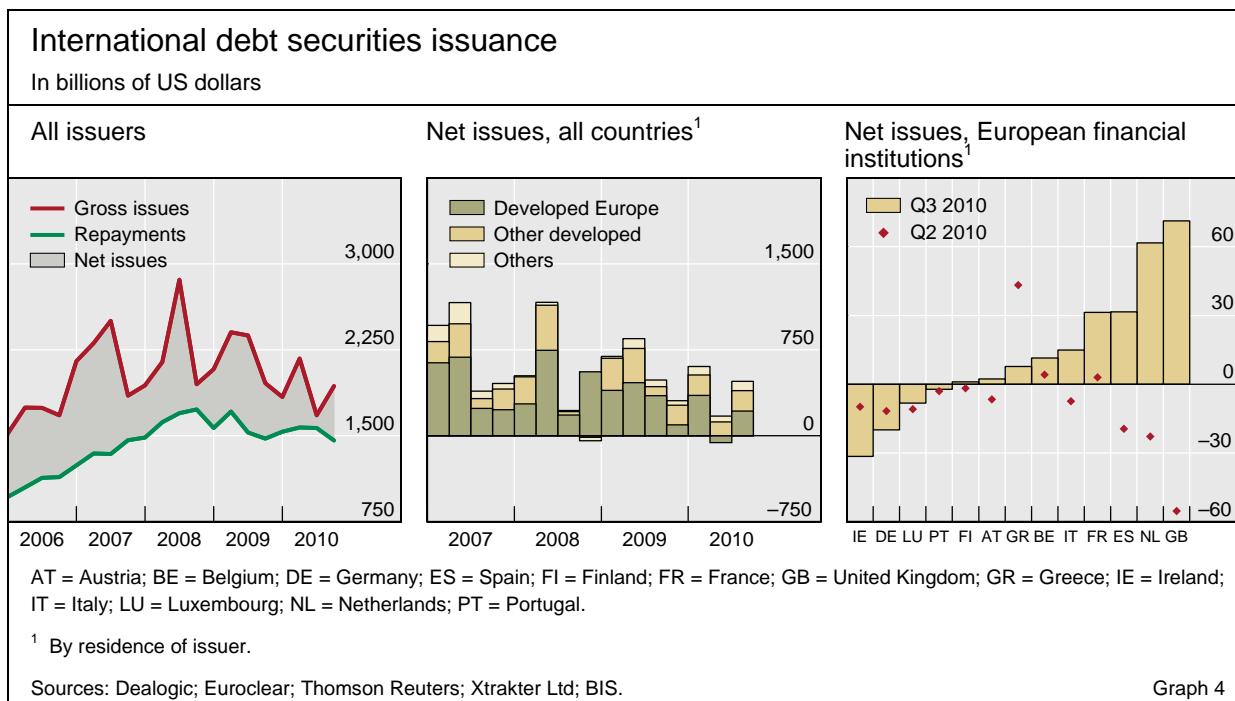
The recovery of issuance by residents in European developed economies was largely driven by financial institutions. At \$159 billion, financial institutions accounted for almost three quarters of total issuance in the region. UK, Dutch and Spanish financial institutions, which had seen net redemptions in the second quarter, raised \$71 billion, \$62 billion and \$32 billion, respectively (Graph 4, right-hand panel). Financial institutions in France borrowed \$31 billion, 10 times more than between April and June. By contrast, net repayments by financial institutions resident in Germany increased to \$20 billion, after \$12 billion in the previous period. Finally, issuance by Greek banks fell by 82% to \$8 billion.

The large Irish banks found it increasingly difficult to raise funding in the international debt securities market during the third quarter of 2010. Allied Irish

... as European
borrowers return to
the market

European financials
raise large amounts

Large net
repayments by Irish
banks



Surge in non-financial issuance, particularly in the United States

Developing economies continue to borrow ...

... in US dollars and local currency

Asset price moves and counterparty risk concerns drive OTC derivatives markets ...

Bank, Anglo-Irish Bank and Bank of Ireland issued new debt in the amount of \$9 billion (gross), but large repayments resulted in net redemptions of \$35 billion for these three institutions. The Irish “bad bank”, the National Asset Management Agency, raised \$5 billion on net, and other financial institutions resident in Ireland saw net redemptions of \$2 billion.

Non-financial corporations in the United States and other advanced economies took advantage of the low yields and issued the highest amount (\$140 billion) in the international market since the second quarter of 2009. Net issuance by the US non-financial corporate sector rose by 68% to \$111 billion, almost entirely straight fixed rate bonds. Canadian issuance also surged, to \$8 billion, from \$1.4 billion in the second quarter. European firms raised \$17 billion through the issuance of international debt securities, 22% more than in the previous quarter. As in previous quarters, approximately one third of gross US non-financial issuance was rated below investment grade, compared to less than one fifth in Europe.

Issuance by residents in developing economies continued to grow, by 26% to \$39 billion, just short of the high in the final quarter of 2009 (\$42 billion). Issuance increased in all regions except Latin America and the Caribbean, where it fell by 8% on the back of sharply lower issuance by non-financial corporations in Mexico.

The US dollar remained the main choice of currency for emerging market issuers, but the third quarter also saw some notable issues in local currency. The share of the dollar remained stable at 83% of developing economy issuance, whereas that of the euro halved to 9%. Ten per cent of international issuance was denominated in an emerging market currency, the highest in a year. That said, volumes remained relatively small compared to US dollar issuance.

Over-the-counter derivatives⁸

Sharp movements in asset prices and ongoing efforts to mitigate counterparty risk both had a strong influence on over-the-counter (OTC) derivatives markets in the first half of 2010. The notional amount of outstanding OTC derivatives fell by 3% in dollar terms during this period.⁹ However, substantial movements in asset prices, partly related to growing concerns about sovereign risks, drove up the gross market value of these contracts by 15% and the gross credit exposures associated with them by 2% (Graph 5). The smaller rise in gross credit exposures than in gross market values reflects increased netting, which is consistent with greater use of central counterparties (CCPs) in some segments of the market.¹⁰ The ratio of gross credit exposures to gross market

⁸ Queries concerning the OTC derivatives markets should be addressed to Nicholas Vause.

⁹ Note that the US dollar appreciated against several other major currencies during the first half of 2010. It rose by 17% against the euro, for example, reducing the value of euro-denominated derivatives when reported in dollar terms.

¹⁰ Gross credit exposures are equal to gross market values less any contributions from offsetting positions between counterparties that are governed by legally enforceable netting

values consequently fell to 14.5% at the end of the first half of 2010, down from 16.3% at the end of 2009 and 24.0% at the end of the first half of 2007 (Graph 5, right-hand panel).

There was considerable variation in changes in notional amounts and market values across segments of the OTC derivatives market. Outstanding notional amounts increased for foreign exchange (8%) and equity (5%) derivatives, declined for credit (7%) and commodity (3%) derivatives and were broadly unchanged for interest rate contracts. Gross market values increased for foreign exchange (22%) and interest rate (25%) derivatives, declined for credit (7%) and commodity (16%) contracts and remained stable for equity derivatives.

In the OTC foreign exchange derivatives market, growth in the notional amount of outstanding contracts was supported by particularly strong increases in the volume of contracts linked to the Canadian dollar (20%) and the Swiss franc (23%). The gross market value of outstanding contracts linked to the Swiss franc more than doubled as the currency appreciated by 12% against the euro over the period.

In the interest rate derivatives market, the sharp increase in gross market values was associated with falls in major currency swap rates. The gross market value of derivatives linked to US dollar rates increased particularly strongly (42%), as long-term swap rates declined by more for the US dollar than for several other major currencies.

There were signs of efforts to reduce counterparty risk in the interest rate derivatives market. For example, the notional amount of outstanding inter-dealer positions decreased by 5% while those between dealers and other

... within which
there is much
variation by asset
class

Exchange rate
moves sharply
boost the value of
Swiss franc FX
contracts ...

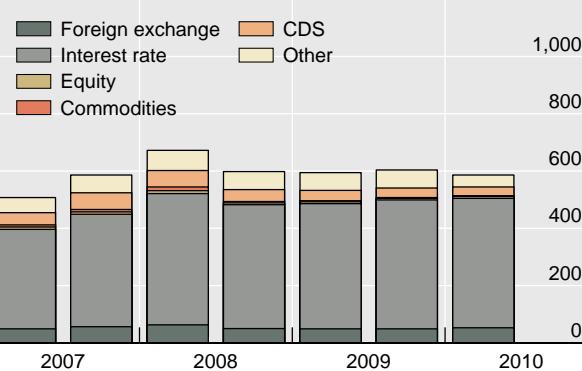
... and moves in
swaps rates boost
the value of interest
rate contracts

Efforts to reduce
counterparty risk
evident in interest
rate ...

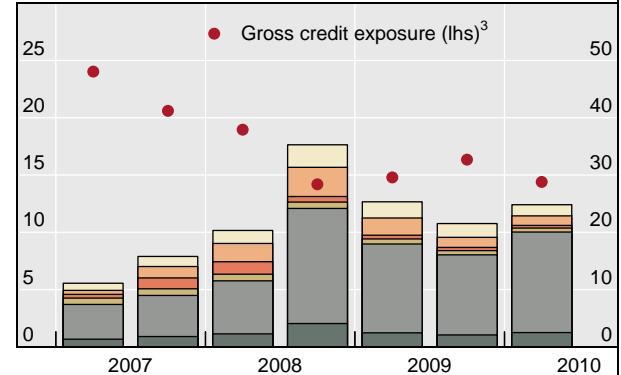
Global OTC derivatives

By data type and market risk category, in trillions of US dollars and per cent

Notional amounts outstanding¹



Gross market values²



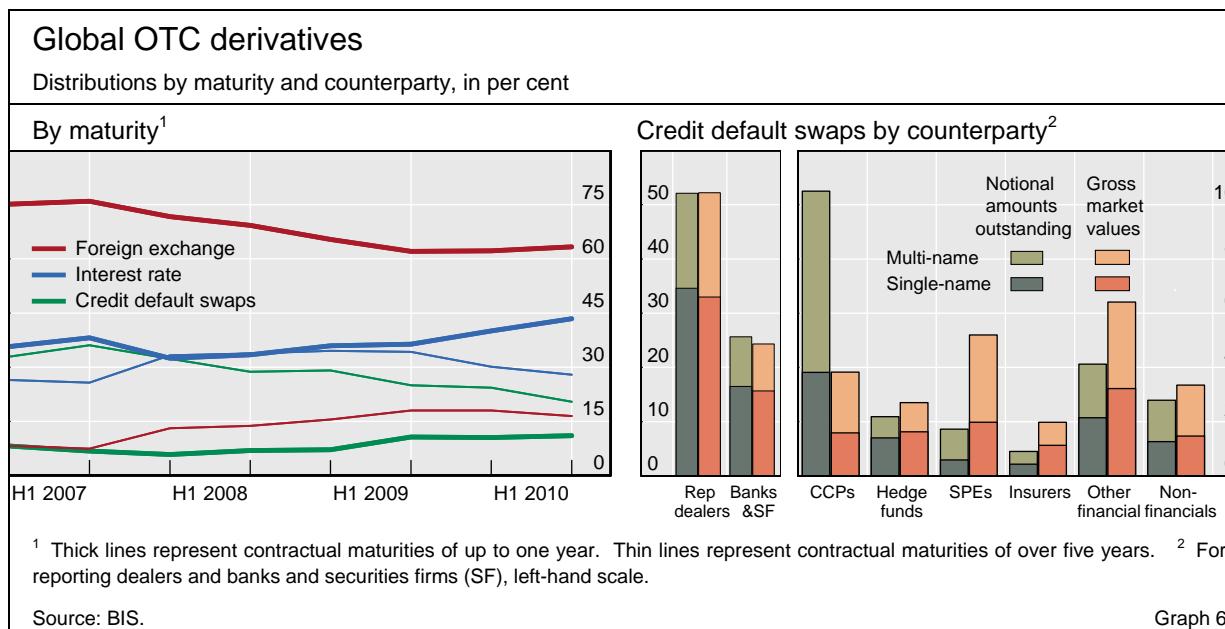
¹ Notional amounts outstanding are the total values of assets referenced by outstanding derivatives. ² Gross market values are the costs of replacing outstanding derivatives at current market prices from the point of view of counterparties with positive market values.

³ Gross credit exposures are equal to gross market values less any contributions from offsetting positions between counterparties that are governed by legally enforceable netting agreements. Expressed as a percentage of gross market values.

Source: BIS.

Graph 5

agreements. As such, they approximate more closely to counterparty risk exposures than gross market values. Gross credit exposures do not, however, reflect any collateral that may be held against positions to further reduce counterparty risk exposures.



financial institutions grew by 2%. This is consistent with positions being shifted to CCPs. In addition, there was a further shortening of the maturity profile of interest rate derivatives (Graph 6, left-hand panel).

... and credit derivatives markets

There were also signs of further efforts to reduce counterparty risk in the credit derivatives market. For example, the 7% fall in the notional amount of outstanding OTC credit derivatives in the first half of 2010 reflected ongoing use of portfolio compression services by market participants as well as increased usage of CCPs.¹¹ It brought the total decline since the peak in this volume at the end of 2007 to 48%. In addition, the notional amount of outstanding long-term credit derivatives with maturities in excess of five years fell particularly sharply, declining by 22% in the first half of 2010 and by a total of 67% since the end of 2007 (Graph 6, left-hand panel). This may reflect reduced willingness to commit to counterparties for long periods of time.

New counterparty breakdowns are available for credit derivatives

The semiannual OTC derivatives statistics for the first half of 2010 have introduced a more detailed counterparty breakdown for credit derivatives. This reveals for the first time reporting dealers' positions with CCPs, special purpose entities (SPEs) and hedge funds (Graph 6, right-hand panel). The new data on CCPs are discussed in more detail in a special feature article in this issue.¹²

¹¹ Portfolio compression services replicate the risk exposures of outstanding derivatives with fewer contracts and hence less counterparty risk. CCPs reduce counterparty risk by terminating offsetting positions with clearing members. Both mechanisms are described in more detail in the special feature article referenced in footnote 12.

¹² See "Counterparty risk and contract volumes in the credit default swap market" by Nicholas Vause (this issue).

Exchange-traded derivatives¹³

Trading activity on the international derivatives exchanges declined in the *third quarter of 2010*. Turnover measured by notional amounts fell by 21% to \$438 trillion between July and September. The decline in volumes affected all major risk categories. Trading in interest rate contracts receded by 23% to \$371 trillion, primarily as a result of lower activity in contracts on short-term interest rates (-24%, to \$328 trillion). Turnover in futures and options on stock indices fell by 12% to \$57 trillion, and that in contracts on exchange rates by 22% to \$9 trillion.

... Weaker turnover ...

Open positions turned out to be more stable than turnover. Open interest in all financial contracts rose by 4% to \$78 trillion, although this hides some variation across risk categories. Traders increased their derivatives exposures to stock indices (by 16%, to \$6 trillion) and decreased that to exchange rates (by 5%, to \$0.4 trillion). Open interest in interest rate contracts remained roughly stable at \$71 trillion.

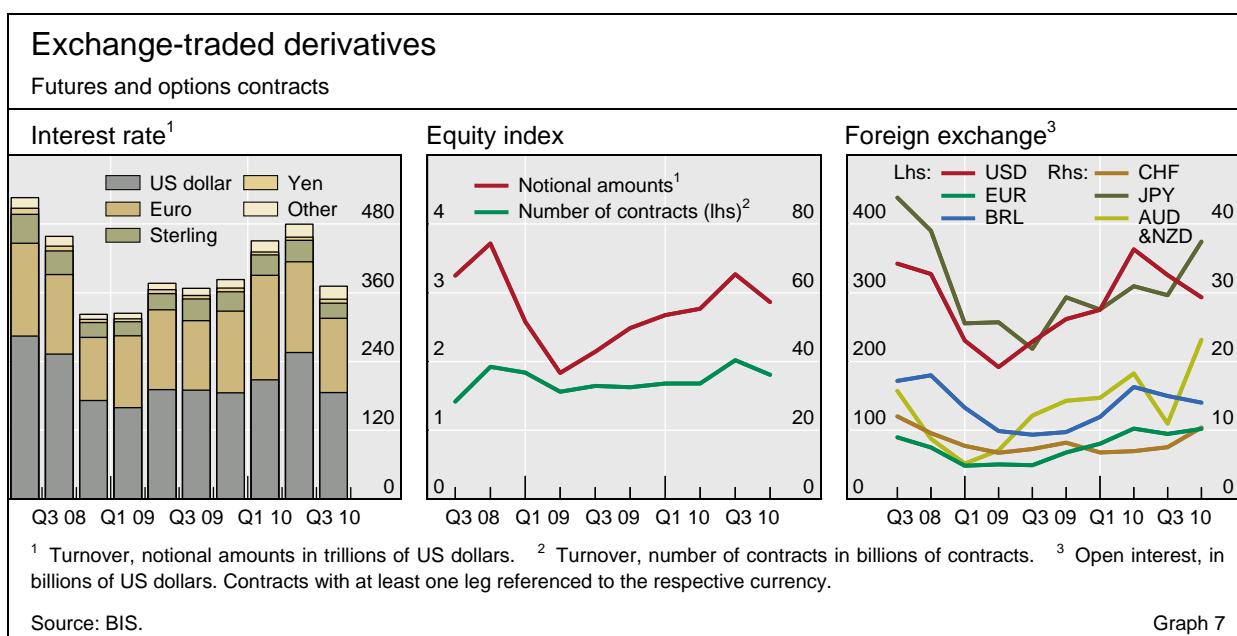
... but stable positions

The decline in trading in interest rate contracts affected all major currencies except the yen. Trading volumes of yen-denominated contracts went up by 25% to \$7 trillion, with little difference in terms of growth rates between derivatives on short and on long-term rates (Graph 7, left-hand panel). By contrast, turnover in futures and options on US dollar interest rates fell by 27% to \$185 trillion, mainly owing to lower activity in money market contracts. Trading volumes of interest rate derivatives denominated in the euro and pound sterling dropped by 18% and 29%, respectively, to \$130 trillion and \$27 trillion.

Yen interest rate contracts buck decline

The decline in turnover in futures and options on stock indices was similarly broad-based as that in the interest rate segment. In most markets,

Lower activity in stock index contracts ...



¹³ Queries concerning the exchange-traded derivatives statistics should be addressed to Christian Upper.

... except in China
and India

turnover dropped in terms of both notional amounts and the number of contracts traded, suggesting a true reduction in activity and not just valuation effects (Graph 7, centre panel). China and India were notable exceptions to the decline in trade volumes. Turnover in futures on the Chinese CSI 300 index reached \$2.4 trillion, after \$1.5 trillion in the second quarter. This makes it the world's fifth most traded stock index contract – only a few months after the contract was first traded in April this year. Turnover in contracts on Indian equities increased by 10% to \$1 trillion.

Possible signs of
carry trade
positions

Market participants increased their positions in some of the classical "carry trade" currencies. Open interest in futures and options on the Australian and New Zealand dollars rose to \$21 trillion and \$2.1 trillion, respectively (Graph 7, right-hand panel). Similarly, open interest in two important funding currencies, the Swiss franc and Japanese yen, increased by 38% and 26%, respectively, to \$10 trillion and \$37 trillion. That said, information on the motivation of trades is not available, so amounts connected with carry trades cannot be identified.

High turnover in
agricultural
contracts and
precious metals lifts
commodities activity

Activity on the international commodities exchanges continued to expand. Turnover measured by the number of contracts traded (notional amounts are not available) rose by 8%, the same rate as in the previous quarter. Rapid growth in contracts on agricultural commodities (19%) and precious metals (23%) contrasted with a decline in activity in contracts on energy (-7%) and non-precious metals (-3%).