Patrick McGuire
+41 61 280 8921
patrick.mcguire@bis.org

Nikola Tarashev
+41 61 280 9213
nikola.tarashev@bis.org

2. The international banking market

BIS reporting banks' cross-border claims continued to expand in the fourth quarter of 2005. The expansion largely took the form of greater intra-euro area lending, although new credit to borrowers in the United States and Japan also contributed. Yen-denominated claims rose noticeably, in line with a trend evident since mid-2004. The increase in yen borrowing by residents of the United Kingdom and offshore centres suggests a growing volume of yen-funded carry trades.

Bank lending to emerging economies was quite strong in the fourth quarter, reflected in a net *inflow* of funds to emerging Europe and Latin America. More generally, international credit to emerging markets has picked up in recent years and has been channelled mainly to emerging Europe and the Asia-Pacific area. There is some evidence that this new credit has been extended to borrowers with a lower average credit rating and on terms that are increasingly advantageous to fund-raisers.

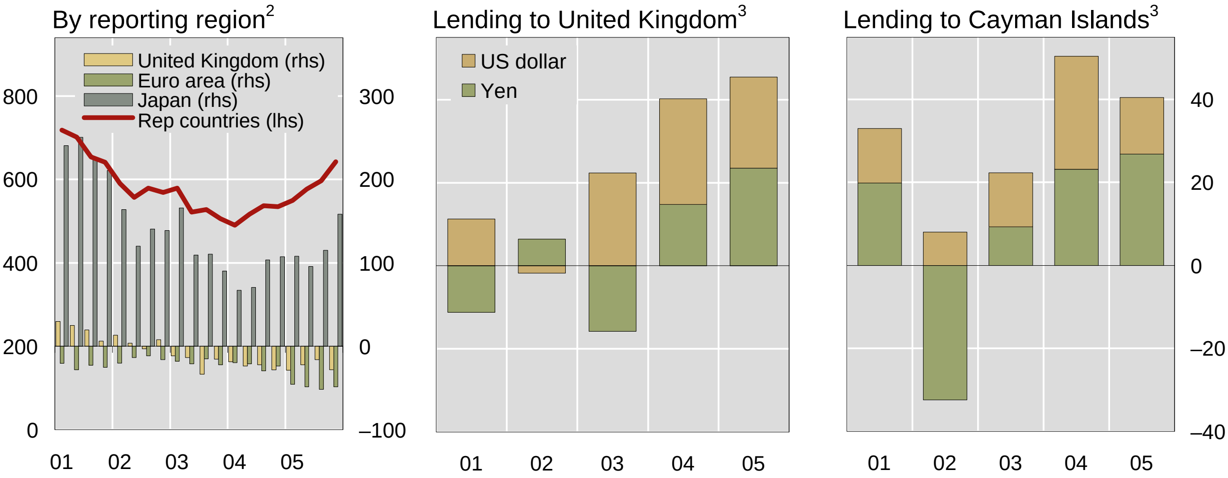
In contrast to emerging Europe and Latin America, large deposit placements in BIS reporting banks were behind a record net *outflow* from Asia-Pacific in the fourth quarter of 2005. Such placements have become more common in recent years, as a portion of Asia's external surpluses is channelled through the international banking system. Asia's deposits are an important source of funds for BIS reporting banks, but represent only a small share of Asia's total invested funds.

A pickup in yen-denominated claims

The total cross-border claims of BIS reporting banks continued to expand in the fourth quarter of 2005, by roughly the same amount as in the third quarter. This rise, of $567 billion, was primarily the result of new claims on the euro area and the United States, and pushed total cross-border claims of BIS reporting banks to $21.1 trillion. Year-on-year, total claims rose by 17%, a slightly lower rate than that recorded in the previous quarter.

Claims on euro area borrowers rose the most. Roughly half of the new credit, or $135 billion, flowed to non-banks, mainly in France, Germany and the Netherlands, while much of the remainder was due to interbank lending from banks in France, the United Kingdom and offshore centres. Almost three quarters of the overall growth in claims on the euro area represented credit

Bank lending in yen[1]



[1] Based on stocks outstanding adjusted for valuation effects using a constant 2005 Q4 exchange rate. [2] Net claims (for reporting countries total, gross claims), in billions of US dollars. Excludes claims on and liabilities to residents of Japan. [3] Year-on-year growth, in per cent.

Graph 2.1

granted by banks located in the euro area. Over the longer term, intra-euro area claims have accounted for an increasingly large share of the total claims on the region (up from 48% at end-2001 to 55% in the most recent quarter).

A pickup in yen borrowing ...

The stock of outstanding yen-denominated claims rose noticeably in the fourth quarter of 2005, in line with a trend evident since mid-2004. On the lenders' side, this has largely been driven by banks in Japan. Over the last seven quarters, claims of these banks accounted for three quarters of the $161 billion increase in reporting banks' yen-denominated claims (Graph 2.1, left-hand panel).[1] Roughly $120 billion of this increase was channelled to borrowers in international financial centres, most notably banks in the United Kingdom and Singapore and non-banks in the Cayman Islands.

... suggests carry trade positions

This pickup in yen borrowing provides some evidence, albeit incomplete, of a rise in yen-funded carry trade positions. A carry trade is the combination of a short position in a low-yielding currency and a long position in a higher-yielding currency, and is profitable to the extent that exchange rate adjustments do not counterbalance the nominal yield differential. Thus, an increase in carry trade activity is a potential factor behind the recent growth in yen borrowing by financial centres, and the parallel slowdown in the growth of US dollar borrowing (Graph 2.1, centre and right-hand panel). Similarly, banks in the euro area might also have been engaged in carry trades, as they reported a steady decline in their yen-denominated *net* claims together with a recent increase in US dollar-denominated net claims (Graph 2.1, left-hand panel).

[1] The analysis of yen-denominated lending incorporates data only from reporting countries that provide a currency breakdown of bank credit. In addition, in order to abstract from issues related to domestic demand for a particular currency, yen claims on and liabilities to Japanese residents have been filtered out from the data underlying Graph 2.1 and the statistics reported in this paragraph.

Cross-border claims of BIS reporting banks

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars[1]

	2003	2004	2004	2005				Stocks at end-Dec 2005
	Year	Year	Q4	Q1	Q2	Q3	Q4	
Total cross-border claims	1,061.2	2,269.2	573.6	1,028.3	1,079.3	534.8	566.7	21,109.6
on banks	519.7	1,351.9	346.9	590.9	767.4	279.2	343.5	13,376.0
on non-banks	541.5	917.2	226.7	437.4	311.9	255.7	223.2	7,733.5
of which Loans: banks	443.6	1,122.6	284.3	480.1	697.0	219.9	221.9	11,339.2
non-banks	274.3	344.8	124.7	292.8	97.4	141.8	1.8	3,844.3
of which Securities: banks	74.5	154.1	36.6	110.1	45.1	54.8	78.2	1,485.8
non-banks	207.6	456.7	58.3	81.7	235.4	77.3	162.4	3,347.9
Total claims by currency								
US dollar	578.4	1,125.3	435.4	253.0	517.6	245.2	216.6	9,289.1
Euro	499.5	807.9	124.7	589.0	382.9	169.2	175.4	8,008.4
Yen	–127.6	89.6	23.7	–33.1	68.6	24.4	92.7	1,145.9
Other currencies[2]	110.9	246.4	–10.1	219.4	110.2	96.0	81.9	2,666.2
By residency of non-bank borrower								
Advanced economies	448.0	673.7	150.8	373.6	224.5	186.1	167.8	5,956.7
Euro area	156.4	239.2	43.8	110.5	152.0	58.7	134.5	2,661.5
Japan	38.4	73.3	36.2	–31.5	10.1	–11.0	6.1	223.3
United States	172.1	164.7	45.8	207.2	33.7	110.6	30.8	2,026.0
Offshore centres	99.8	239.8	57.9	56.5	64.8	45.4	8.5	1,024.8
Emerging economies	6.0	50.2	22.4	13.6	21.3	22.2	50.9	713.3
Unallocated[3]	–13.5	–41.5	–4.7	–6.6	0.0	–1.6	–1.8	9.9
Memo: Local claims[4]	*408.6*	*219.9*	*–6.1*	*233.5*	*–4.6*	*26.6*	*–54.9*	*2,782.3*

[1] Not adjusted for seasonal effects. [2] Including unallocated currencies. [3] Including claims on international organisations. [4] Foreign currency claims on residents of the country in which the reporting bank is domiciled. Table 2.1

Strong growth in lending to emerging markets

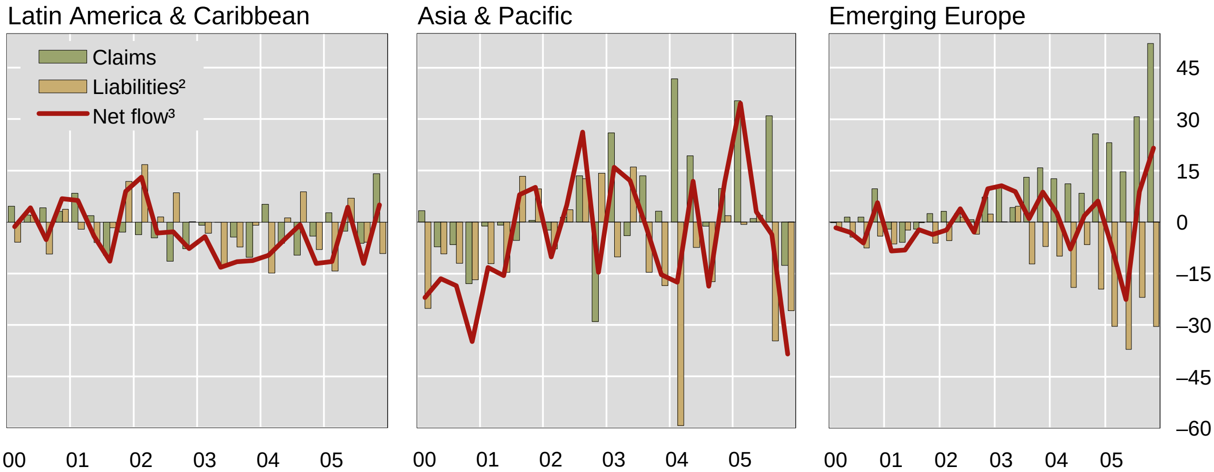
Claims on emerging market economies expanded strongly in the fourth quarter of 2005, continuing the trend evident since end-2002. At the same time, fund-raising by emerging markets has evolved in two respects. The available data suggest that the risk profile of credit to some emerging markets has recently deteriorated, while the terms of this credit have become more advantageous to borrowers. In addition, securities have gained in importance as a substitute for bank-based financing.

Lending to emerging Europe …

In the most recent quarter, the growth of cross-border bank claims on emerging markets was driven primarily by lending to emerging Europe, while claims on Asia-Pacific fell for the first time in five quarters (Graph 2.2). Across all emerging market regions, the stock of total claims reached $1.4 trillion at end-2005, up by $230 billion since end-2004. Roughly three quarters of the $72 billion rise in claims in the most recent quarter was extended to emerging Europe, while claims on Africa-Middle East and Latin America rose more modestly (by $18 billion and $14 billion respectively). For Latin America, this

Bank flows to emerging economies[1]

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars



[1] A positive value represents an inflow to emerging economies from banks in the BIS reporting area, and a negative value an outflow from emerging economies. [2] A positive value indicates a decrease in BIS reporting banks' liabilities vis-à-vis emerging economies, and a negative value an increase. [3] Changes in claims minus changes in liabilities. Graph 2.2

was the largest increase in claims since the first quarter of 1998. Conversely, lending by reporting banks to Asia-Pacific fell by $13 billion, the result of a decline in claims on banks in China, Malaysia, Taiwan (China),[3] Korea and Thailand.

... and Asia-Pacific drives long-term growth in claims ...

Over the longer term, increased borrowing by emerging Europe and Asia-Pacific has underpinned the steady growth in international credit to emerging markets. In contrast, international credit to Latin America has still not recovered fully from its drop in the aftermath of the Argentine default. Using both the BIS banking and securities statistics, Graph 2.3 provides estimates of total international credit (ie bank and bond financing) to emerging markets.[4,5] The stock of such credit extended to Asia-Pacific and emerging Europe has increased by 74% and 130% respectively since the beginning of 2002, reflecting a surge in new issuance of debt securities and signings of syndicated

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[3] Hereinafter Taiwan.

[4] The graph uses data on cross-border bank claims and international debt securities. Cross-border bank claims are obtained from the BIS locational statistics and include inter-office claims. International debt securities comprise all foreign currency issues by residents and non-residents in a given country and all domestic currency issues launched in the domestic market by non-residents. In addition, domestic currency issues launched in the domestic market by residents are also considered as international issues if they are specifically targeted at non-resident investors.

[5] Total international credit is measured as the sum of the outstanding stocks of international debt securities and cross-border bank claims. Cross-border holdings of debt securities by BIS reporting banks are netted out in order to avoid double-counting. This measure of total international credit overstates the true total to the extent that international debt issues are purchased by domestic investors. It may understate the total if BIS reporting banks' cross-border investment includes debt securities that are classified as domestic.

Cross-border bank flows to emerging economies

Exchange rate adjusted changes in amounts outstanding, in billions of US dollars

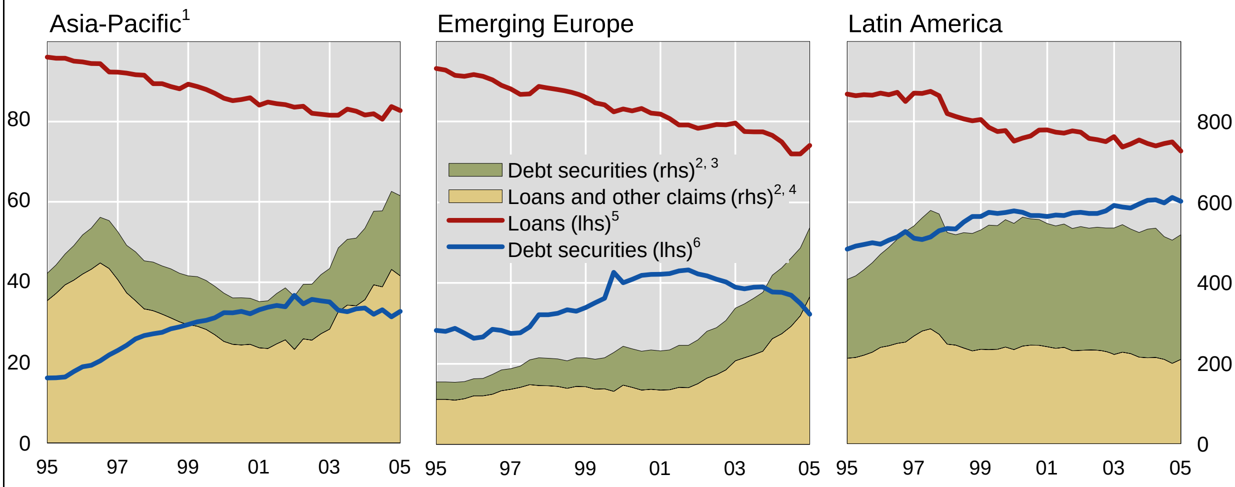
	Banks' positions[1]	2003	2004	2004	2005				Stocks at end-Dec 2005
		Year	Year	Q4	Q1	Q2	Q3	Q4	
Total[2]	Claims	65.1	131.3	36.1	70.4	19.0	68.2	71.9	1,410.7
	Liabilities	71.7	201.8	23.6	61.8	62.6	115.4	78.9	1,721.7
Argentina	Claims	–8.5	–5.3	–0.7	–1.3	–2.4	0.4	–0.2	14.8
	Liabilities	–0.8	–0.4	–0.5	–0.1	0.6	–1.9	0.5	23.1
Brazil	Claims	–7.2	–7.4	–3.1	2.9	1.4	0.8	4.1	85.0
	Liabilities	14.2	–4.8	1.3	13.3	–9.4	–0.5	–5.3	49.2
China	Claims	13.5	24.0	3.2	10.0	–2.8	13.1	–4.7	105.5
	Liabilities	–6.6	25.8	–13.7	–3.0	6.7	5.2	13.0	137.7
Czech Rep	Claims	3.7	2.8	3.2	0.6	–0.3	2.3	3.4	28.5
	Liabilities	–2.4	0.8	1.3	–0.9	2.3	0.3	4.7	16.9
Indonesia	Claims	–4.7	0.3	0.7	–0.7	1.8	–0.1	1.5	33.5
	Liabilities	0.2	–2.3	–0.6	0.1	0.6	1.4	0.9	13.1
Korea	Claims	–1.0	12.6	6.1	8.8	–2.7	4.0	–1.9	100.7
	Liabilities	7.3	13.8	–5.9	–4.5	–8.9	7.6	–0.7	48.2
Mexico	Claims	–0.7	–0.9	–1.0	0.5	–3.2	–7.6	5.7	60.4
	Liabilities	6.2	–4.7	–1.6	–1.5	2.1	4.2	–1.2	60.0
Poland	Claims	3.2	5.8	–0.2	5.6	2.4	4.2	0.9	55.6
	Liabilities	–0.1	11.0	4.2	2.0	1.3	0.9	0.2	34.1
Russia	Claims	12.1	8.9	7.6	3.3	1.9	6.4	17.0	91.3
	Liabilities	16.5	24.7	5.9	29.2	28.8	2.7	13.7	153.3
South Africa	Claims	–1.2	0.4	0.3	–0.2	3.5	–2.3	0.9	20.4
	Liabilities	9.5	6.8	0.1	0.7	1.8	4.1	–3.6	40.9
Thailand	Claims	–1.7	0.2	–0.1	0.5	4.2	3.0	–2.3	25.3
	Liabilities	5.8	2.4	1.1	2.4	1.3	5.0	1.1	29.5
Turkey	Claims	5.3	9.0	1.5	3.0	3.0	5.4	10.6	75.6
	Liabilities	–0.4	6.9	2.0	–1.5	3.4	5.4	3.7	37.5
Memo:									
New EU	*Claims*	*20.9*	*30.4*	*11.6*	*15.0*	*8.0*	*14.6*	*16.1*	*217.5*
countries[3]	*Liabilities*	*–0.5*	*17.5*	*8.9*	*0.8*	*1.8*	*8.2*	*9.7*	*101.4*
OPEC	*Claims*	*–6.5*	*21.4*	*5.5*	*5.4*	*6.3*	*13.0*	*12.9*	*189.7*
members	*Liabilities*	*–14.7*	*34.5*	*–4.2*	*8.2*	*28.1*	*47.8*	*18.4*	*383.4*

[1] External on-balance sheet positions of banks in the BIS reporting area. Liabilities mainly comprise deposits. An increase in claims represents an inflow to emerging economies; an increase in liabilities represents an outflow from emerging economies. [2] All emerging economies. For details on additional countries, see Tables 6 and 7 in the Statistical Annex. [3] Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Table 2.2

loans (Graph 2.4).[6] By contrast, the outstanding stock of international securities claims on residents of Latin America has remained roughly constant

[6] International syndicated loans are, in principle, a subset of international bank claims, which are compiled on a consolidated basis and comprise cross-border claims and local claims in foreign currencies. See B Gadanecz and K von Kleist, "Do syndicated credits anticipate BIS

Loan and securities claims on emerging markets



[1] Excluding Hong Kong SAR and Singapore. [2] Stocks outstanding, in billions of US dollars. [3] International debt securities held by banks and other investors. [4] Cross-border loans and equity holdings by BIS reporting banks. [5] Outstanding stocks of loans as a percentage of total cross-border claims of BIS reporting banks on the respective region. [6] Outstanding stocks of international debt securities as a percentage of the sum of international debt securities and BIS reporting banks' cross-border claims, excluding these banks' debt securities claims.

Sources: IMF; Dealogic; Euroclear; ISMA; Thomson Financial Securities Data; BIS. Graph 2.3

since the beginning of 2000, and cross-border loan claims have declined by 15% since mid-2001.[7] This has been a result of new international credit to the region (Graph 2.4, right-hand panels) coinciding with large repayment or writedown activity.

… extended on better terms for borrowers

The credit risk of emerging market debt and the compensation that investors require for it also seem to have evolved over time. Data on new issuance of international securities and signings of syndicated loans indicate that, as credit to emerging markets has grown, its risk profile has deteriorated (Graph 2.4). This is seen most clearly in the case of securities issued by residents of Asia-Pacific and Latin America, which have exhibited a worsening in their average credit rating together with a substantial lengthening of maturity since 2002. In parallel, spreads have narrowed across all emerging market regions since 2001, for debt securities issues, and 2003, for syndicated loan signings. In combination with worsening or stable credit ratings and lengthening debt maturities, the narrowing of spreads is an indication that international credit has been extended on increasingly advantageous terms for emerging market borrowers (see the box on page 24 and 25 for further analysis of the pricing of syndicated lending to and bond issuance by emerging market borrowers).

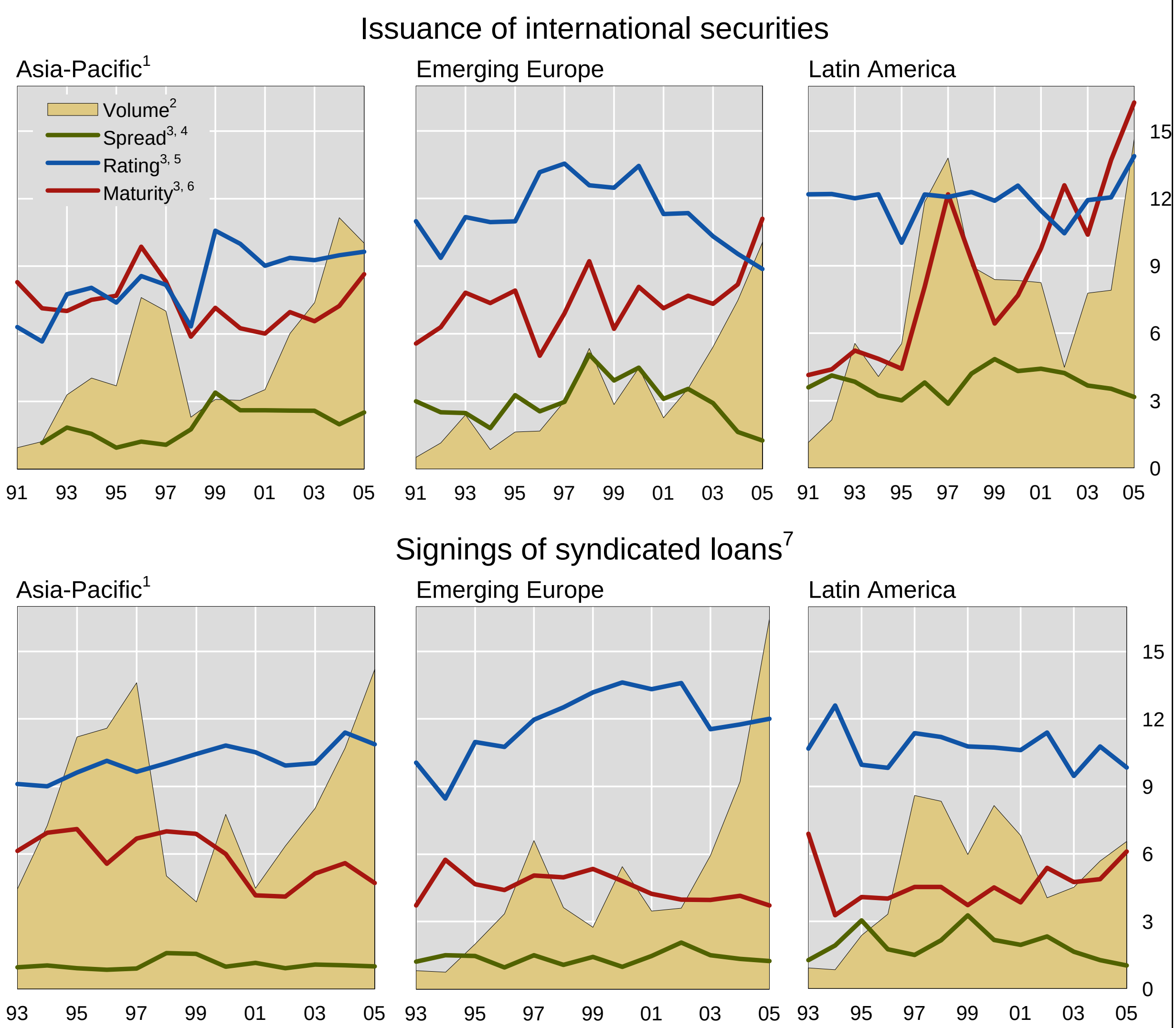
consolidated banking data?", *BIS Quarterly Review*, March 2002, for an analysis of syndicated loans and how they compare to data on international bank claims.

[7] BIS reporting banks located in Latin America have increased substantially their local currency claims on residents of this region since the first quarter of 2003. To the extent possible, the analysis abstracts from locally transacted claims because: (i) the BIS banking statistics provide an instrument breakdown of such claims only for 2005; without a breakdown into bank loans and securities holdings, combining the banking and securities data would involve substantial double-counting of securities; and (ii) it is impossible to establish what fraction of local securities claims is held by locally as opposed to foreign-headquartered investors.

Bonds are an increasingly important source of financing

In parallel with these developments, bonds have been replacing loans as a source of borrowing. This shift is most pronounced in Asia-Pacific, where the ratio of debt securities to total international credit doubled from 16% at end-1995 to 32% at end-2005 (Graph 2.3).[8] Over the same period, this ratio increased by 12 percentage points, to 60%, in Latin America, where bond financing has been dominant since at least 1995. In emerging Europe, the same ratio surged from 28% at end-1995 to 42% at end-2002 but then declined and stood at 32% in the last quarter of 2005.

Securities and loan financing in emerging markets



[1] Excluding Hong Kong SAR and Singapore. [2] In billions of US dollars. [3] Weighted averages; issue-specific weights based on announcement volumes. [4] In percentage points. [5] An increase signifies a rating deterioration. Based on a synthetic rating of Moody's, Standard & Poor's and Fitch ratings: AAA = 1, AA+ = 2, …, BBB = 9, … , C = 21, D = 22. [6] In years. [7] International facilities only.

Sources: Dealogic Bondware and Loanware; BIS. Graph 2.4

[8] This ratio may either under- or overstate the true share of debt securities in total international credit, depending on errors in the measure of debt securities. See footnote 5.

The mix of BIS reporting banks' claims has reflected this broader shift towards bond financing. The share of loans in all cross-border claims of BIS reporting banks has been on a downward path in all three regions, decreasing the most in emerging Europe, from 92% at end-1995 to 73% at end-2005 (Graph 2.3).

Asian surpluses and the international banking market

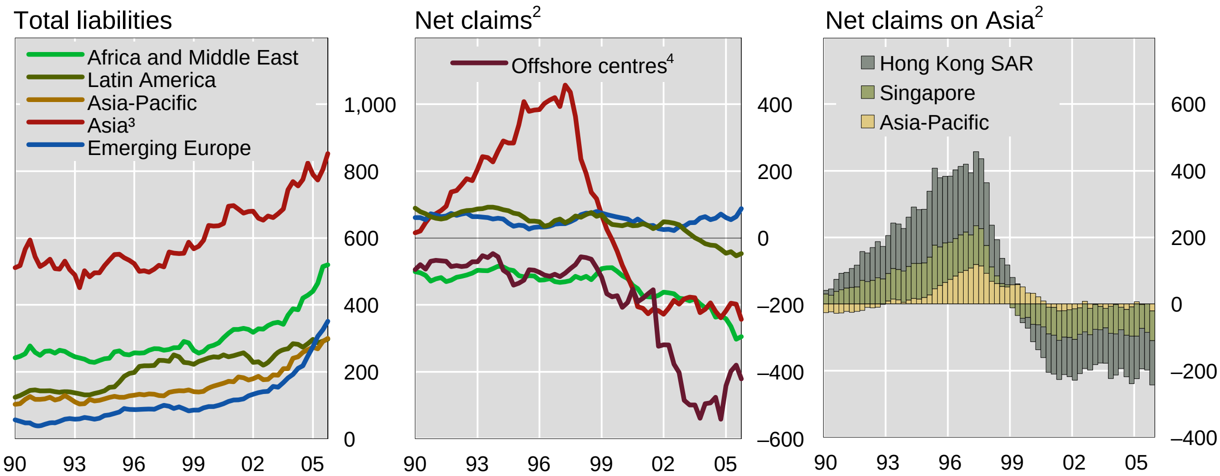
The growth in bank credit to some emerging markets in the fourth quarter of 2005 was more than offset by greater deposits placed in BIS reporting banks by residents of Asia-Pacific (Graph 2.2). This was behind an overall net outflow from emerging economies. BIS reporting banks' total liabilities to Asia-Pacific grew by $26 billion (to $521 billion) in the fourth quarter of 2005, on the back of an even larger rise of $35 billion in the third. Residents of China, primarily banks, deposited $13 billion in the fourth quarter of 2005, following deposits of roughly $5 billion in each of the previous two quarters. Residents of Taiwan, primarily non-banks, deposited $9 billion in the fourth quarter, while those of India deposited an additional $4 billion.

A source of funds for BIS reporting banks

Large placements of deposits by residents of Asia have become more common in recent years, as capital inflows and current account surpluses in the region have in part been recycled through the international banking system. At more than $800 billion, the stock of BIS reporting banks' liabilities to residents of Asia-Pacific and the offshore centres Hong Kong and Singapore is considerably larger than that to residents of other emerging market regions

BIS reporting banks'[1] positions vis-à-vis emerging markets

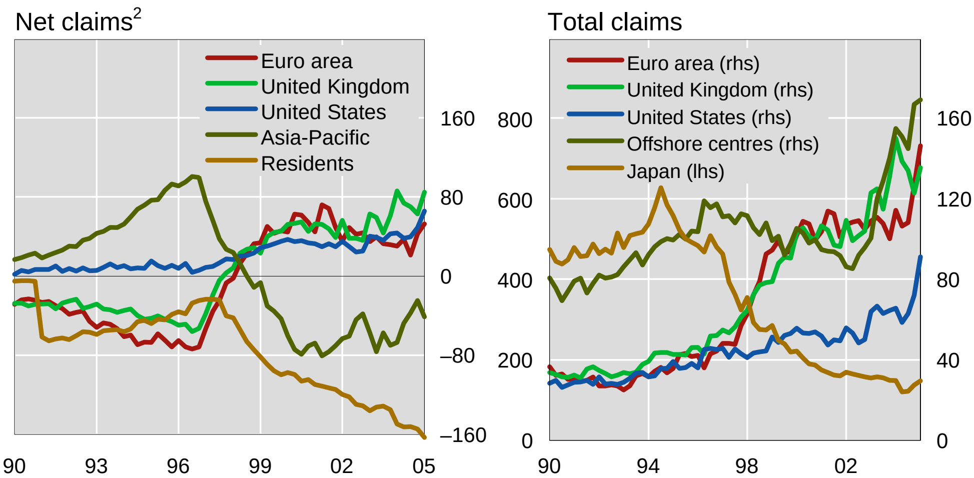
In billions of US dollars



[1] Excluding banks in Hong Kong SAR, India, Korea, Singapore and Taiwan (China). [2] Total assets minus total liabilities. [3] Asia-Pacific and the offshore centres Hong Kong SAR and Singapore. [4] Excluding Hong Kong SAR and Singapore. Graph 2.5

Positions of banks in Hong Kong and Singapore[1]

By vis-à-vis region, in billions of US dollars



[1] Aggregated positions of banks located in Hong Kong SAR and Singapore. [2] Stock of total claims minus stock of total liabilities.

Source: BIS. Graph 2.6

(Graph 2.5, left-hand panel).[9] Moreover, it has grown by more than 40%, or $239 billion, since end-1998.

Net claims on Asia-Pacific flat since 2000

However, the *net* position of BIS reporting banks vis-à-vis residents of Asia has remained relatively flat in recent years, as deposits are channelled back into the region in the form of loans (see the previous section). The stock of net claims on Asia has stabilised since end-2000, as gross claims on the region have risen along with gross liabilities. As of the fourth quarter of 2005, residents of Asia-Pacific, Hong Kong and Singapore contributed a net $243 billion in funds to BIS reporting banks outside the region (Graph 2.5, centre panel). Although this amount is significant, residents of other offshore centres (primarily in the Caribbean) and oil-exporting countries in Africa and the Middle East are larger net contributors of funds to BIS reporting banks.

Asia's surplus channelled by banks in Hong Kong and Singapore

Banks in Hong Kong and Singapore play an important role in the channelling of funds to and from Asia-Pacific. Prior to the Asian crisis, banks in these financial centres were a conduit through which residents of the developed economies transferred funds to the emerging economies in Asia-Pacific (Graph 2.6, left-hand panel). This net flow has reversed since the crisis; banks in these centres have routed funds from residents of Asia-Pacific, Hong Kong and Singapore to residents of the United States, the United Kingdom and the euro area. Total claims on borrowers in these areas grew to $373 billion by end-2005, more than double the level at end-1998. At the same time, their claims on residents of Japan fell from over $600 billion in mid-1995 to roughly $148 billion at end-2005.

[9] This calculation excludes liabilities to the region reported by banks in Hong Kong, India, Korea, Singapore and Taiwan.

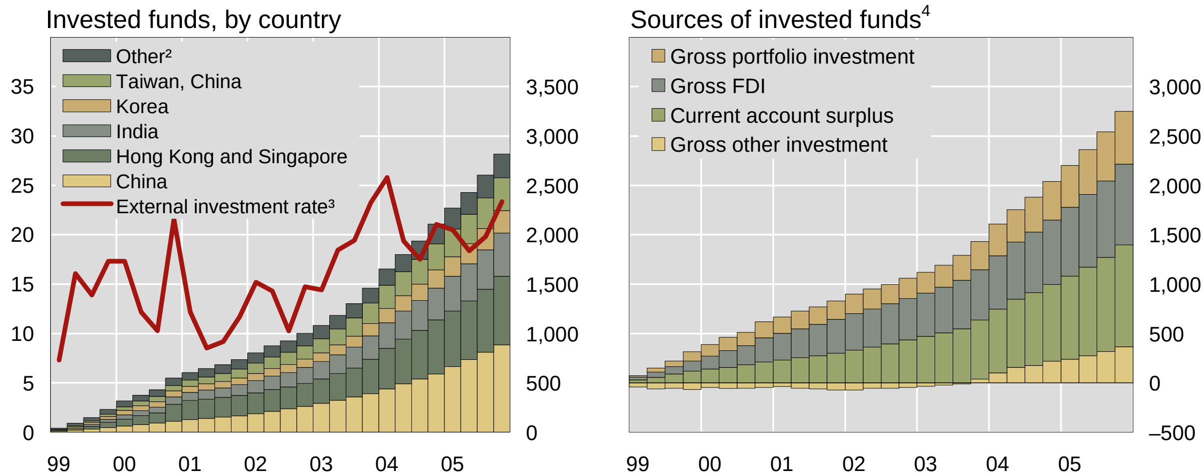
Tracking Asia's foreign investment

What appear to be large changes in BIS reporting banks' deposit liabilities actually account for a rather small share of Asia's total investment abroad. One measure of a country's total foreign financial investment – or "invested funds" – is the change in its total reserves plus gross financial outflows (ie foreign direct investment (FDI) abroad and gross portfolio and other investment).[10] Total invested funds, cumulated over 1999–2005 and across the major Asian countries,[11] are estimated to have been roughly \$2.8 trillion (Graph 2.7, left-hand panel). At the same time, Asia's external financial investment rate, measured as the ratio of invested funds to total gross funds received,[12] has risen in recent years, to almost 20% from 10–15% in 2002, indicating that gross financial inflows to the region have outpaced spending on imports.[13]

Reserve accumulation drives invested funds …

Invested funds, by definition, show up as claims on the rest of the world, through purchases of foreign securities (debt and equity), FDI abroad or deposits in foreign banks. The left-hand panel of Graph 2.8 decomposes Asia's

Asia's invested funds[1]



[1] Change in reserves plus gross portfolio investment, FDI and other investment, cumulated since end-1998; in billions of US dollars. [2] Indonesia, Malaysia, the Philippines and Thailand. [3] Calculated as the ratio of invested funds to total gross external funds received, comprising total export and other foreign income plus gross financial inflows; aggregate for all Asian countries. [4] Breakdown of financial flows to Asia.

Sources: IMF; BIS calculations. Graph 2.7

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[10] Alternatively, the balance of payments identity implies that invested funds is the sum of current account surpluses and gross financial inflows. Some items in the balance of payments data for some countries are not available, and are estimated by extrapolating from earlier periods. This analysis does not include derivative assets and liabilities.

[11] For the purposes of this exercise, the major Asian countries are taken to be China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand.

[12] Total funds received is the sum of gross income on the current account (gross exports of goods and services, gross income on investment abroad and gross current transfers from abroad) and gross financial liability flows on the financial account (inward FDI and gross portfolio and other investment liabilities).

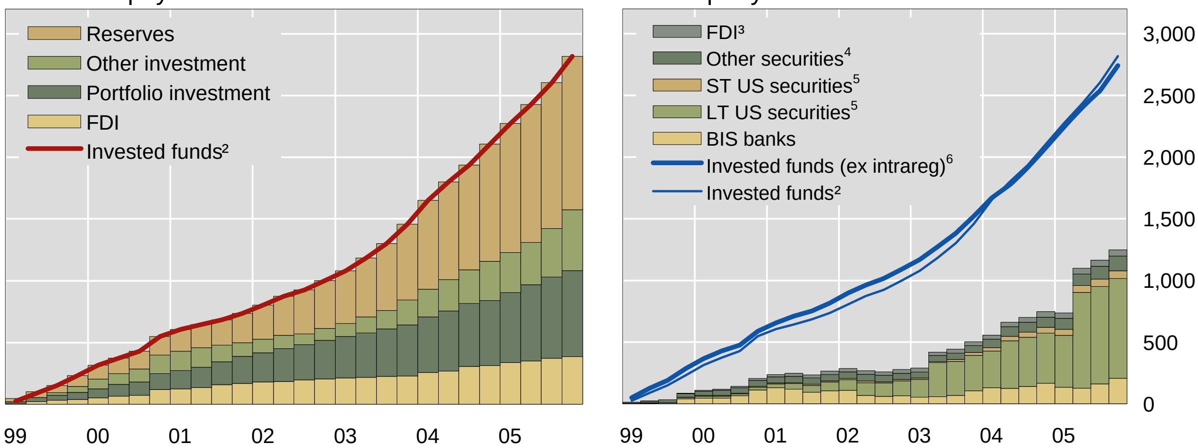
[13] There is considerable heterogeneity across countries. Korea's external investment rate has averaged 13% since end-1998, while China's and India's have been higher at 22% and 43% respectively.

Tracking Asia's invested funds[1]

Cumulative flows since 1998 Q1

Balance of payments data

Counterparty data



[1] From China, Hong Kong SAR, India, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand. [2] Defined as the sum of the changes in reserves, FDI abroad and gross portfolio and other investment. [3] Cumulative FDI into Australia, France, Germany, Japan, New Zealand, Switzerland, the Netherlands, the United Kingdom and the United States. Data for 2004 and 2005 are partly estimated. [4] Cumulative portfolio investment in Germany and Japan. [5] Estimated from US TIC data. [6] Invested funds excluding intraregional flows through banks in Hong Kong SAR, India, Korea, Singapore and Taiwan (China).

Sources: Bank of Japan; US Treasury; IMF; UNCTAD; BIS. Graph 2.8

estimated invested funds into the change in foreign exchange reserves and the various components of the financial account, as dictated by the balance of payments identity. By far, official investment has been the major component of these countries' invested funds. Reserve accumulation has accounted for 44% of the total cumulative invested funds since end-1998. This is primarily accounted for by China, although reserve accumulation has been the major factor behind the rise in Korea's and Taiwan's invested funds as well.

Ideally, intraregional investment should be removed from the estimate of invested funds for the region as a whole, so as to better approximate gross financial investment elsewhere in the world. Unfortunately, comprehensive data on intraregional portfolio and FDI flows are not available. However, the BIS banking statistics can be used to identify the portion of intraregional invested funds which flows through the region's banking system. The thick blue line in the right-hand panel of Graph 2.8 gives the estimate of invested funds from the region after stripping out intraregional flows reported by banks in Hong Kong, India, Korea, Singapore and Taiwan.[14] Intraregional banking flows, cumulated between end-1998 and the first quarter of 2004, were actually negative, reflecting reduced lending to the region from banks in Hong Kong and Singapore in the wake of the Asian crisis. Since mid-2004, this figure has turned positive as lending to the region resumed. Thus, invested funds *net of intraregional banking flows* cumulated up to early 2004 were actually somewhat larger – by about $90 billion in 2002 – than the estimate implied by the balance of payments statistics alone.

[14] For banks located in these five reporting countries, cumulative claim flows to the rest of the region are subtracted from these countries' invested funds. Similarly, these banks' cumulative liability flows from other countries in the region are also removed.

The remainder of the right-hand panel of Graph 2.8, which splices various sources of *counterparty* data, provides some indication of where Asia's invested funds have gone. These counterparty data comprise estimated portfolio investment in Japan and the United States, FDI in the United States and other developed countries, and deposits placed in BIS reporting banks worldwide.[15] Combined, these data can account for almost 46%, or $1.25 trillion, of Asia's invested funds (net of intraregional banking flows) cumulated since end-1998.

… which are channelled into US securities …

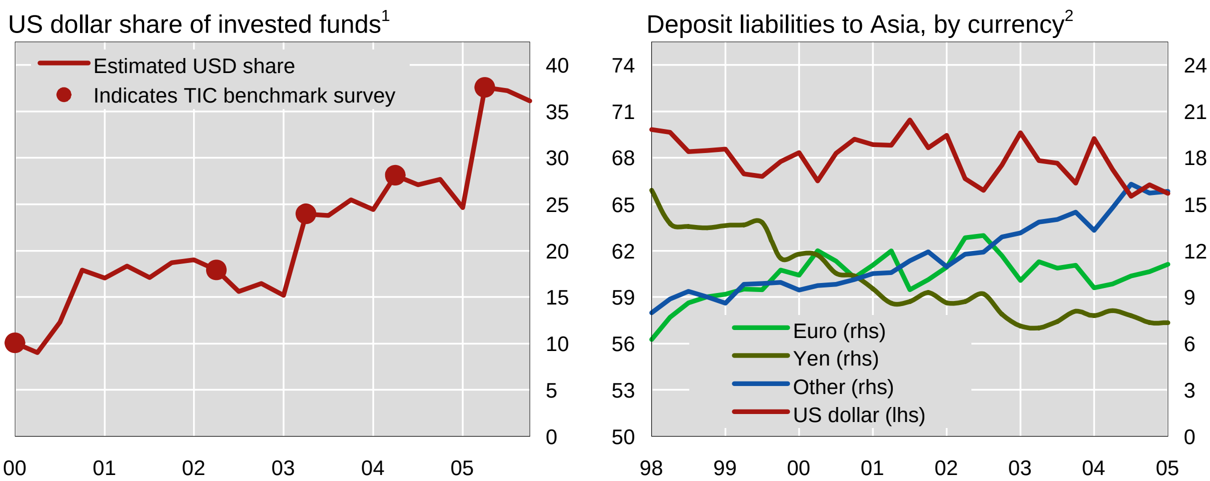
The bulk of Asia's *identified* invested funds have been channelled into US securities. Accumulation of US short-term and long-term securities by residents of these countries since end-1998 totalled an estimated $871 billion, or 32% of their invested funds. In contrast, a relatively small share of their invested funds has been channelled into BIS reporting banks. Deposits placed in these banks had accounted for as much as 20% of invested funds cumulated between end-1998 and the first quarter of 2001, but this ratio fell to less than 10% by end-2005.

… pushing up the estimated US dollar share of cumulative investment

The BIS banking statistics combined with the US TIC data and FDI data provide an estimate of the US dollar share of Asia's cumulative invested funds. This estimate is, at best, a lower bound since Asian investors can acquire US dollar-denominated securities that are not picked up in these data. As shown in

Currency composition of Asia's foreign investment

In per cent



[1] Sum of Asia's cumulative investment (since end-1998) in long-term and short-term US securities, FDI into the United States and US dollar-denominated deposits placed in BIS reporting banks outside the region, as a percentage of total invested funds. [2] Currency share of BIS reporting banks' total deposit liabilities to Asia at constant end-2005 exchange rates.

Graph 2.9

[15] The estimate of investment in US securities is constructed by using the TIC transactions data and the total holdings of long-term and short-term securities reported in the benchmark surveys. For long-term securities, the total stock of holdings by the major Asian countries is first estimated by taking the holdings as of the benchmark surveys, and tracking changes through time using the cumulative net purchases from the transactions data. Cumulative investment is then generated by subtracting the stock of holdings of long-term securities at end-1998. The stock of holdings of short-term securities is estimated assuming a value of 0 for 1985 and then interpolating between the benchmark survey dates. Cumulative investment in short-term securities since 1998 is then generated by subtracting the estimated holdings at end-1998.

the left-hand panel of Graph 2.9, by end-2005 almost 40% of Asia's invested funds cumulated since end-1998 had been invested in US dollar assets, up from around 20% in 2002.[16] Over this same period, the US dollar share of the stock of Asia's deposits placed in BIS reporting banks has remained fairly constant, fluctuating between 65 and 70% since end-1998 (Graph 2.9, right-hand panel). In contrast, the share of yen-denominated deposits fell from around 15% at end-1998 to 7% at end-2005.

16 The dots in the left-hand panel of Graph 2.9 indicate the dates of benchmark TIC surveys. These surveys attempt to reallocate holdings of US securities purchased via third-party accounts back to the residence of the original purchaser, and thus lead to discrete changes in the estimated holdings of US securities.

Searching for yield in emerging markets: evidence from the issuance spreads of loans and bonds

Blaise Gadanecz

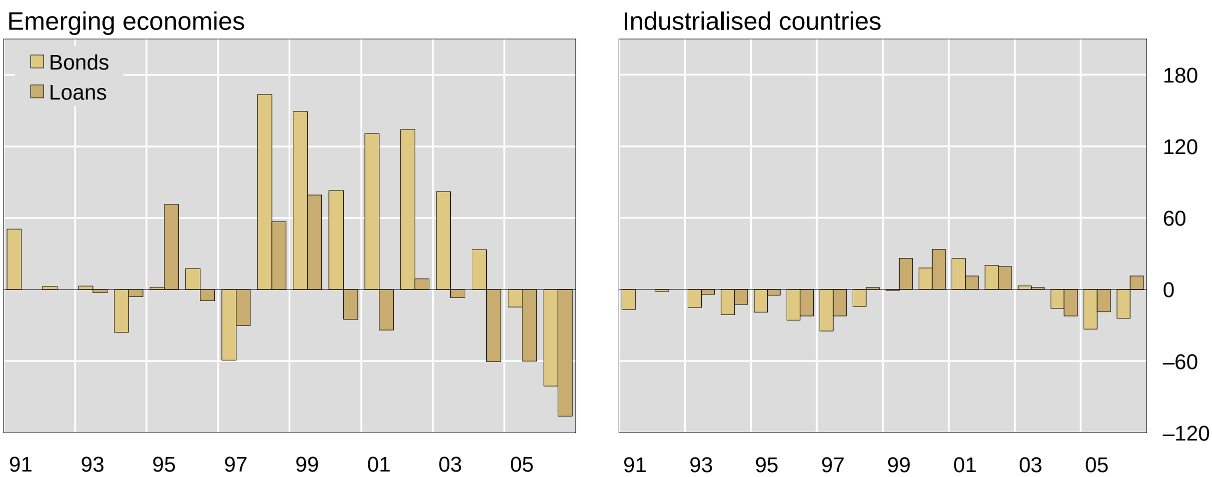
During periods of low yields and interest rates, investors have often lent to non-investment grade borrowers and to emerging markets in search of higher returns. Syndicated lending to and bond issuance by emerging markets reached record highs in 2005 ($200 billion and $231 billion, respectively). Has increased risk appetite on the part of investors lowered spreads more than improving fundamentals would have suggested? This box offers an empirical framework for analysing the pricing of loans and bonds at issuance, and concludes that primary market issuance spreads of emerging market borrowers have moved well below the levels that would have been predicted by fundamental factors, consistent with an increased appetite for risk.

We gauge the role of risk appetite by comparing actual primary loan and bond spreads with those predicted by a regression model[①] which expresses spreads as a function of the level of short-term interest rates at the time of signing, the borrower's credit rating, and micro-characteristics of the individual facilities.[②]

The graph shows yearly average differences (weighed by facility sizes) between observed and predicted loan and bond spreads. Spreads were below predicted levels in both emerging markets and industrial economies in 2004 and 2005.[③] In the first quarter of 2006, while actual spreads moved above predicted spreads in industrialised countries, perhaps an indicator of a turning of the credit cycle there, emerging market spreads moved further below predicted ones on average by about 100 basis points. The negative residuals observed in emerging markets in the latest quarter, most pronounced for Asia and eastern Europe,[④] are more sizeable than those experienced at the time of the previous strongest compression of spreads in 1997.

Pricing of risk in syndicated loan and bond markets

Average pricing differences[1]



[1] Facility size-weighted averages of differences (in basis points) between actual (bond or loan) spreads and those implied by the regression model. A negative number indicates that market spreads are lower than model-implied spreads. For 2006, Q1 data only.

Sources: Dealogic Loanware; BIS.

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① See *BIS Annual Report*, 2005, page 132, for a discussion of the methodology and an analysis of the worldwide results up to the first quarter of 2005. For a discussion of the various determinants of emerging market syndicated loan spreads, see, for example, Y Altunbaş and B Gadanecz, "Developing country economic structure and the pricing of syndicated credits", *BIS Working Papers*, no 132, Basel, July 2003. ② The predictions are in-sample, based on regressions estimated over the period 1991–2006 for bonds and 1993–2006 for loans. A number of factors, discussed in the literature, have been controlled for in the regression analysis: facility size, maturity, guarantees and collateral, currency risk (currency of the facility different from the borrower's home currency), borrower rating, and short-term interest rates at the time of signing. The adjusted R^2 values obtained for bonds and loans are 0.60 and 0.53, respectively. ③ Deviations of the actual from the predicted spreads have been significantly (about five times) higher for emerging market borrowers than for industrialised country borrowers since 1991. Residuals for emerging markets are also higher if normalised by the means and standard deviations of the observed spreads, to control for spread volatilities that differ between industrialised and emerging economies. ④ The negative deviation is more pronounced for loans, possibly because of the greater potential of market discipline to bring spreads closer in line with fundamentals in the case of bonds.

Developments in the syndicated loan market in the first quarter of 2006

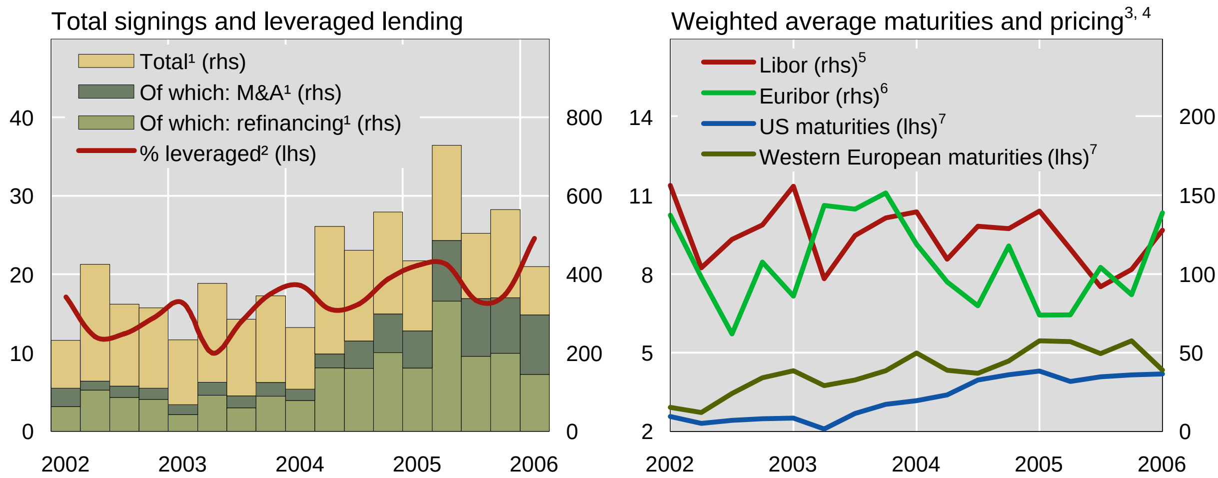
Activity in the international market for syndicated credits was subdued in the first quarter of 2006. Signings of new facilities totalled $418 billion, representing a 26% drop from the previous quarter but roughly in line with activity in the first quarter of 2005 (–3%). Volumes are usually low in the first quarter of each year; on a seasonally adjusted basis, signings in fact rose by 3%. The first quarter of 2006 was marked by an increase in primary spreads in Europe and the United States, and buoyant activity in the leveraged loan and M&A segments.

In industrialised countries, there was a widening of spreads across the credit quality spectrum for both European and US borrowers, as well as a reduction in European maturities. This might have reflected the first signals of a possible turn in the credit cycle. Meanwhile, there was record activity in the leveraged and merger-related segments, arguably boosted by demand for leveraged loans from investors in collateralised loan obligations. The share in global lending of leveraged and highly leveraged[①] facilities, often bearing no covenants or guarantees, rose to a record high of 25% (see graph). Average Libor spreads on such facilities signed by US borrowers were relatively low compared to previous quarters, at 230 basis points, but Euribor spreads on European leveraged/highly leveraged facilities peaked at 350 basis points. There was an exceptionally high percentage of LBO- and merger-related loans (9% and 36% of the total, respectively, based on the facility amounts), with the health care and telecoms[②] sectors especially active. Meanwhile, the share of refinancing deals fell to 34%. Average Libor spreads on M&A-related deals secured by industrialised country entities fell to 129 basis points.

Signings by Japanese entities reached a new high, possibly boosted by increased turnover on the secondary market. New facilities totalling $18 billion were concluded, although close to $9 billion of that went to a US subsidiary of Toyota and was arranged on the US market.

Lending to emerging market borrowers was consistent with previous first quarter volumes. The pricing of these loans was low, even after controlling for their riskiness (see the empirical analysis above). Signings totalled $27 billion and activity was concentrated in Asia and eastern Europe. Russian and Indian banks, and Russian and Korean gas and oil firms, were especially active. Taiwanese LCD manufacturers obtained $1.8 billion to build factories. Lukoil of Russia rolled over $2.1 billion. Lending to Latin American borrowers was low, at $1.7 billion.

Signings of international syndicated credit facilities



[1] In billions of US dollars. [2] Including highly leveraged. [3] Weighted by facility size. [4] Spreads plus fees. [5] US dollar-denominated facilities with Libor pricing granted to US borrowers, in basis points. [6] Euro-denominated facilities with Euribor pricing granted to western European borrowers, in basis points. [7] In years.

Sources: Dealogic Loanware; BIS.

[①] Granted to borrowers with high debt/equity ratios – typically above 1 – or resulting in high ratios for them. [②] Only two tranches, worth $8 billion in total, of the $21 billion merger-related loan arranged for Time Warner Inc were included in the statistics compiled by the BIS, as the rest was a 100% vote amendment (a restatement of an existing facility on new conditions, not covered by the methodology). Not yet incorporated into the BIS data was the unsigned €32 billion facility for E.ON, the German energy utility, to finance the purchase of Endesa.