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**Enhancements to the BIS Debt Securities Statistics**

**Prepared by the  
Bank for International Settlements**



## Enhancements to the BIS debt securities statistics<sup>1</sup>

*The BIS has revised its debt securities statistics to enhance their comparability across different markets. International issues have been redefined as debt securities issued outside the market where the borrower resides, and statistics combining international and domestic issues are being released for the first time. The revised statistics highlight the growing size and internationalisation of bond markets.*

*JEL classification: F34, G15.*

The internationalisation of bond markets has made it increasingly difficult to distinguish between international and domestic debt securities. The BIS has thus revised its methodology for classifying international issues, focusing now on the market of issue instead of the targeted investor base. In addition, the BIS has harmonised classifications with those in the *Handbook on Securities Statistics* and released for the first time data on total debt securities. This special feature outlines the reasons for these changes and discusses their impact on the statistics.

## Conceptual challenges

The BIS has since the mid-1980s published statistics on borrowing activity in debt capital markets. Coverage has improved steadily over the years, expanding from the initial focus on international markets to cover more than 50 domestic markets as well. At the same time, changes in financial markets have challenged the usefulness of the statistics for financial stability analysis.<sup>2</sup> In particular, the growing size and diversity of debt securities markets have heightened the importance of comparable data across markets. Furthermore, the growing openness of local markets to foreign investors and issuers has blurred the distinction between international and domestic debt securities.

<sup>1</sup> Thanks are due to Claudio Borio, Stephen Cecchetti, Piet Clement, Christian Dembiermont, Liam Flynn, Patrick McGuire, Denis Pêtre, Christian Upper and Paul van den Bergh for useful comments. The views expressed are those of the authors and do not necessarily reflect those of the BIS.

<sup>2</sup> For a discussion of the impact of structural changes in financial markets on statistical needs, see eg Financial Stability Forum (2000) and CGFS (2007).

The comparability challenges stemmed in part from differences in data sources. The statistics on international debt securities (IDS) are compiled from a security-by-security database built by the BIS using information from commercial data providers. Security-level data enable the BIS to apply sector, maturity and other classifications consistently across data for different countries. By contrast, the statistics on domestic debt securities (DDS) are aggregated data previously retrieved by the BIS from publicly available sources, mainly central banks, national statistical offices and stock exchanges. Coverage and classifications frequently differ depending on the source.

The BIS's definition of an international debt security compounded the comparability challenges. The BIS had historically defined an international issue as a security placed with international investors, including debt securities issued in the local market by local residents but targeted at international investors (Pêtre (2009)). By extension, domestic issues were those in local currency placed with local investors.<sup>3</sup> Other compilers of securities data typically applied a different definition, which did not refer to the targeted investor base. The BIS adjusted the DDS statistics for possible double-counting of domestic issues targeted at international investors; nevertheless, the IDS and DDS statistics tended to overlap. Thus, the BIS did not publish totals combining the two data sets.

This historical definition reflected the origins of the IDS statistics as an alternative estimate for the external indebtedness of a country.<sup>4</sup> In the 1980s, data on issues placed with international investors were a reasonable and readily available proxy for foreign portfolio investment. At the time, few international investors would buy the debt of less creditworthy sovereigns unless it was issued abroad in a major currency. The sum of international debt securities and liabilities to BIS reporting banks was a key variable monitored by policymakers and creditors in the 1980s and 1990s, as these data frequently revealed greater external indebtedness – especially short-term indebtedness – than estimated by the national statistical offices of many developing countries at the time.<sup>5</sup>

Over the past two decades, the link between cross-border issuance and investment has weakened. Local financial systems have become increasingly integrated into the international financial system.<sup>6</sup> Not least, investors and issuers have taken advantage of the removal of capital controls. Consequently, today many international investors are active buyers of debt issued locally. Similarly, borrowers who previously faced difficulties raising funds in their local currency are now able to issue such debt abroad.

<sup>3</sup> Debt securities issued in the local market by local residents were regarded by the BIS as being targeted at international investors if they were either denominated in a foreign currency or underwritten by a syndicate that included at least one foreign bank.

<sup>4</sup> In response to the international debt crisis of the early 1980s, the Committee on the Global Financial System, then called the Euro-currency Standing Committee (ECSC), initiated improvements in statistics related to banks' foreign risk exposures. In addition to enhancing the BIS international banking statistics, the CGFS asked the BIS to supplement the banking statistics by collecting data on bonds and short-term debt securities, using where possible data available from private sector sources (ECSC (1986)).

<sup>5</sup> Together with the BIS international banking statistics, the IDS statistics are a core part of the Joint External Debt Hub developed by the BIS, IMF, OECD and World Bank to bring together data from creditor, market and national sources ([www.jedh.org](http://www.jedh.org)). For a discussion of conceptual differences between creditor and debtor data, see BIS (2002).

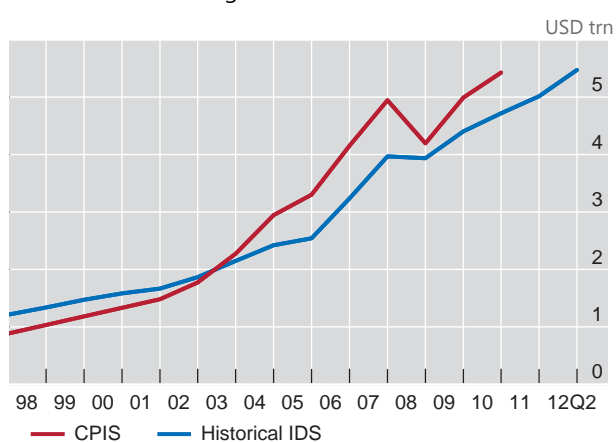
<sup>6</sup> The progress of financial integration is reviewed in eg BIS (2008a,b).

## International debt securities as a proxy for cross-border portfolio liabilities

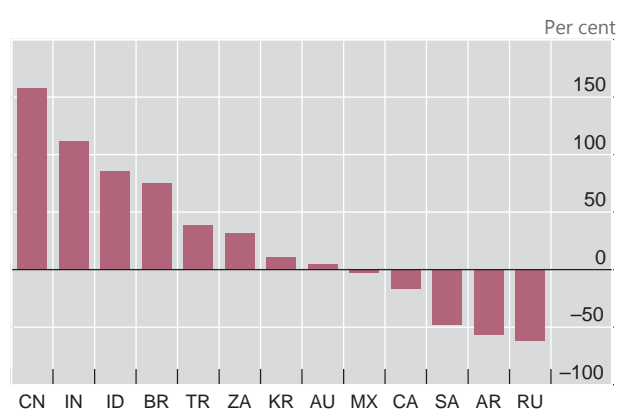
IDS statistics vs liabilities derived from the Coordinated Portfolio Investment Survey (CPIS)<sup>1</sup>

Graph 1

Amounts outstanding<sup>2</sup>



Difference between CPIS and IDS<sup>3</sup>



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CN = China; ID = Indonesia; IN = India; KR = Korea; MX = Mexico; RU = Russia; SA = Saudi Arabia; TR = Turkey; ZA = South Africa.

<sup>1</sup> IDS statistics based on the BIS's historical definition vs liabilities derived from cross-border holdings of debt securities reported by countries participating in the IMF's CPIS. <sup>2</sup> Sum of countries for which CPIS and IDS are available, excluding the euro area, Japan, the United Kingdom and the United States. For CPIS, extrapolated data over the 1998–2000 period; latest data refer to end-2010. <sup>3</sup> CPIS minus IDS, as a percentage of IDS; amounts outstanding at end-2010.

Sources: IMF; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS calculations.

Furthermore, data on non-resident holdings are now more readily available. Many countries have improved their external debt statistics, and comprehensive creditor statistics are collected through the Coordinated Portfolio Investment Survey (CPIS) organised each year by the IMF.

Graph 1 illustrates the divergence between international bond issues and cross-border bond holdings based, respectively, on the BIS's historical IDS statistics and the IMF's CPIS. At the aggregate level, outstanding stocks were similar until the early 2000s and have since decoupled (Graph 1, left-hand panel). To be sure, the use of market values for holdings, in contrast to face value for the IDS statistics, contributed to this decoupling. That said, cross-border purchases of debt securities traded mainly in local bond markets and denominated in the currency of that market were also a factor. This is evident at the level of individual countries: for example, at end-2010 foreign holdings of debt securities issued by residents of Brazil, China, India and Indonesia were, according to the CPIS, at least 50% larger than in the BIS's historical IDS statistics (Graph 1, right-hand panel). Holdings of government bills and bonds are likely to account for much of the difference, as any such issues denominated in the local currency are not captured by the IDS statistics.

Interestingly, in some countries CPIS data are lower than the historical IDS statistics. This might be because bonds targeted at international investors are in fact purchased by investors residing in the same country as the issuer: for example, Russian banks might buy international bonds issued by the Russian government.

Alternatively, the CPIS might not capture some purchases, such as those by investment funds in financial centres.<sup>7</sup>

## Distinguishing international from domestic issues

Although the growing integration of formerly segmented markets has weakened the link between the targeted investor base and foreign portfolio investment, it is still useful to distinguish between international and domestic debt securities for other purposes. Markets are not fully integrated across borders, and international and domestic issues differ in ways that can have implications for financial stability. Potential differences include: currency of issue; location of the primary or secondary market; and governing law. Deciding which among these differences is the most appropriate way to distinguish international from domestic issues depends on the question of interest.

The currency of denomination is one possible way. Debt securities denominated in a foreign currency may be considered international, and those in the local currency of the borrower as domestic. Monitoring the currency composition of debt is critical to understanding a borrower's vulnerability to currency mismatches: when assets and liabilities are denominated in different currencies, net worth becomes sensitive to changes in the exchange rate. The financial crises of the late 1990s highlighted the contribution that local currency bond markets can make to reducing currency mismatches and lengthening the duration of debt.

The locations of the primary and secondary markets are other possible ways to distinguish between international and domestic debt securities. Location of the market is useful for analysing the development of local capital markets, including the impact of currency and capital controls. Bonds registered or traded outside the country where the borrower resides may be considered international, and those registered or traded locally as domestic. To identify the primary market, the International Securities Identification Number (ISIN) is a reliable indicator of where an issue is registered. To identify the secondary market, the exchange where an issue is listed could be referenced, although bonds are often traded in over-the-counter markets, which are not necessarily in the same country as the listing place.

A fourth possible way to distinguish international from domestic issues is by the governing law. Bonds issued under a foreign law may be considered international, and those under the laws of the country where the issuer resides as domestic. Governing law is relevant to analyses of the risks associated with policy measures that have a territorial impact, such as capital controls and payments moratoriums. Governments might use their legislative power to modify the terms of bonds issued under domestic law, thus legalising actions that might otherwise constitute a breach of contract for bonds issued under a foreign law. This distinction

<sup>7</sup> The holdings of investment funds domiciled in financial centres may not be fully captured or allocated. For example, in 2010 countries participating in the CPIS reported portfolio investments in Cayman Islands entities totalling \$1.6 trillion. Most of this amount was probably invested in investment funds, which then reinvested outside the Cayman Islands. Yet the Cayman Islands reported portfolio investment in the rest of the world of only \$57 billion.

## Box 1: Governing law and the Greek debt restructuring

The importance of governing law as a way to distinguish international from domestic bonds was illustrated by the Greek government's restructuring in March 2012 of its outstanding bonds. Whereas private sector holders of bonds governed by Greek law agreed to a substantial reduction in the value of their claims, holders of a bond governed by English law were repaid in full upon maturity in May 2012.

A key component of Greece's economic reform programme is a reduction in the country's debt-to-GDP ratio. In February 2012, the Greek government launched an offer to exchange €206 billion of bonds held by private sector investors for new bonds with a face value of about €100 billion. When the offer closed, bondholders had tendered almost 97% of the amount eligible to be exchanged.

While the terms of the exchange offer were substantially identical for all bondholders, the participation rate was higher among holders of Greek-law bonds than among holders of foreign-law bonds. Indeed, for holders of Greek-law bonds, one of the attractions of the exchange was that the new bonds would be governed by English law. The Greek government facilitated the restructuring of the outstanding Greek-law bonds by passing new legislation in February 2012 that introduced collective action clauses (CACs) into Greek-law bonds that did not originally include such clauses. The clauses allowed the government to change the bonds' terms if two thirds of the bondholders participating in the exchange agreed. In the event, bondholders representing about 85% of the outstanding amount accepted the exchange, and their decision to participate in the exchange offer then permitted its terms to become binding on all holders of Greek-law bonds.

The English-law bonds issued or guaranteed by the Greek government included CACs on initial issuance. However, whereas the threshold to activate the CACs introduced into the Greek-law bonds was based on an aggregate overall acceptance rate, that in the English-law bonds was for an individual bond. Consequently, creditors who opted not to participate in the exchange offer could more easily block a restructuring of an individual English-law bond than of the Greek-law bonds as a whole (Zettelmeyer and Gulati (2012)). Foreign-law bonds with a face value of €6 billion did not participate in the exchange, and in May 2012 the Greek government opted to repay in full €435 million of maturing English-law bonds. The next foreign-law bond to mature is a CHF 650 million issue governed by Swiss law due in July 2013.

proved relevant once again, for instance, in the recent restructuring of the Greek government's debt (see Box 1).

Historically, there was a close relationship between these four possible ways of identifying an international bond. Bonds registered and traded outside the country where the issuer resided tended to be governed by a foreign law and denominated in a foreign currency. As late as 1998, about 70% of bonds issued in international markets were denominated in foreign currencies, ie in a currency different from that of the country where the borrower resides (Graph 2, left-hand panel). The majority of these were US dollar bonds, typically issued and traded in London and governed by English law.

This relationship has weakened over the past decade. In particular, borrowers from many countries are now able to borrow offshore in their own currency. Bonds denominated in the domestic currency of the borrower have since the mid-2000s accounted for about 50% of outstanding IDS (Graph 2, left-hand panel). The introduction of the euro was clearly important, as it enabled borrowers in the euro area to switch from foreign currency to domestic currency funding. Such a switch was evident outside the euro area too. Among the countries where residents now issue abroad in their own currency are Brazil, China and Russia (Graph 2, right-hand panel). Moreover, bonds denominated in emerging market currencies are increasingly being issued by non-residents as well.

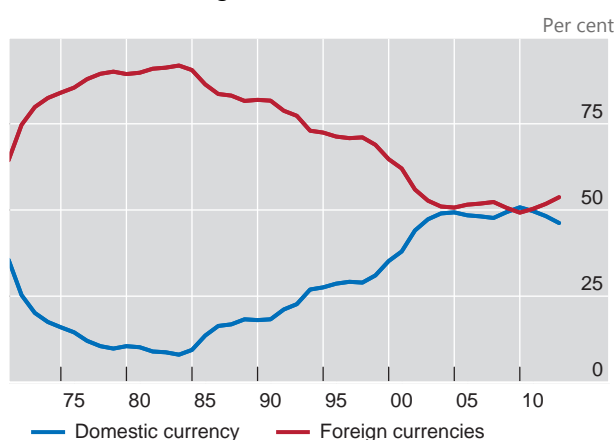
That said, there remains a close relationship between the primary market and other ways of distinguishing an international bond. The primary market is usually a

## Currency composition of international debt securities

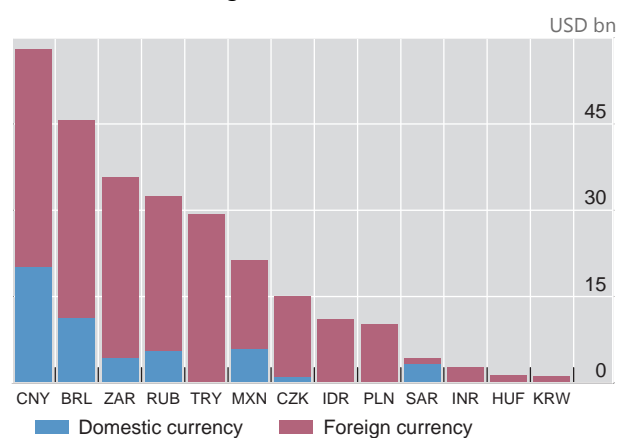
Based on whether the security is denominated in the domestic currency of the borrower<sup>1</sup>

Graph 2

Share of outstanding international debt securities



Amounts outstanding in selected currencies<sup>2</sup>



BRL = Brazilian real; CNY = Chinese yuan; CZK = Czech koruna; HUF = Hungarian forint; IDR = Indonesian rupiah; INR = Indian rupee; KRW = Korean won; MXN = Mexican peso; PLN = Polish zloty; RUB = Russian rouble; SAR = Saudi riyal; TRY = Turkish lira; ZAR = South African rand.

<sup>1</sup> Domestic currency refers to the local currency of the country where the borrower resides. Foreign currencies refer to currencies other than the local currency of the country where the borrower resides. International debt securities refer to issues outside the market where the borrower resides, ie according to the new BIS definition of IDS. <sup>2</sup> At end-September 2012.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS.

reliable indicator of the currency of denomination and governing law, even though the currency is no longer a good indicator of the market. This asymmetry is explained by the concentrated nature of international financial activity. In most countries, bonds issued in the local market are typically issued in the local currency under the local law. The exceptions are international financial centres, as well as dollarised or euroised economies.

## Revisions implemented in December 2012

To address the conceptual challenges to its debt securities statistics, the BIS has made three changes to their compilation: international debt securities have been redefined, classifications have been harmonised, and greater use has been made of statistics reported by central banks. These changes are based on the recommendations in the *Handbook on Securities Statistics* (HSS), which sets out an internationally agreed framework for classifying securities.<sup>8</sup> Table 1 summarises the differences between the old and new statistics.

<sup>8</sup> Development of the HSS was sponsored by the BIS, ECB and IMF to promote harmonisation. Part 1 focuses on debt securities issues, Part 2 on debt securities holdings, and Part 3 on equity securities. Implementation of the HSS's recommendations was endorsed in the report to the G20 Ministers and Governors on data gaps highlighted by the 2007–09 global financial crisis (FSB and IMF (2009)). The HSS is available at [www.imf.org/external/np/sta/wgsd/hbook.htm](http://www.imf.org/external/np/sta/wgsd/hbook.htm).



## BIS debt securities statistics

Old (before December 2012) definitions in parentheses<sup>1</sup>

Table 1

	<b>International debt securities</b>	<b>Domestic debt securities</b>	<b>Total debt securities</b>
Definition	Issued by non-residents in all markets (old: targeted at international investors)	Issued by residents in their local market (old: targeted at local investors)	Issued by residents in all markets
Data source	Security-by-security database populated from commercial sources	Central banks <sup>2</sup> (old: public sources)	Central banks
First year of data availability	1966	Varies by country (old: 1989)	Varies by country
Frequency	Quarterly	Quarterly (old: annual prior to 1994)	Quarterly
Valuation	Face value	Face or nominal value <sup>3</sup>	Face or nominal value <sup>3</sup>
Classifications	HSS (old: BIS)	HSS (old: national)	HSS
Sector	Financial corporations, including central banks; non-financial corporations; general government (old: financial institutions, excluding central banks; corporate issuers; governments, including central banks)	Financial corporations, including central banks; non-financial corporations; general government (old: financial institutions, excluding central banks; corporate issuers; governments, including central banks)	Financial corporations, including central banks; non-financial corporations; general government
Subsector	Banks (old: .)	.	.
Currency	>90	Partial <sup>4</sup> (old: n/a <sup>5</sup> )	.
Maturity	Short-term by original and remaining maturity	Short-term by original maturity (old: by remaining maturity <sup>6</sup> )	.
Type of instrument (interest rate)	Fixed rate, floating rate, equity-linked	Partial <sup>4</sup>	.

<sup>1</sup> Changes implemented in December 2012 were applied retroactively and, therefore, impact the full history of the statistics. <sup>2</sup> Where central bank data are not available, public sources. Details of countries' reporting practices are available on the BIS website at [www.bis.org/statistics/secstats.htm](http://www.bis.org/statistics/secstats.htm). <sup>3</sup> Nominal value equals face value plus accrued interest; where neither nominal nor face value is available, market value. <sup>4</sup> Incomplete information is published. <sup>5</sup> Previously assumed to be denominated in local currency. <sup>6</sup> Previously original maturity where remaining maturity was not available.

### Definition of an international debt security

The first change is to the definition of an international debt security. The BIS no longer refers to the targeted investor base and instead focuses on the primary market, ie the market where securities are issued for the first time. This way of distinguishing international from domestic issues has three advantages. First, as previously mentioned, it helps to answer questions about the functioning of local capital markets. Second, in the absence of complementary information on the currency of denomination or governing law, the market of issue can provide insights

into other financial stability questions as well. Indeed, owing to incomplete information on the characteristics of many individual securities, the BIS applies loose criteria to identify the market of issue, incorporating proxy information as well as the registration domain (see Box 2).

The third advantage of focusing on the primary market is that it complements the statistics compiled by many national agencies, which typically are also based on the market of issue regardless of currency. Finally, the market of issue is encapsulated within the BIS's historical definition of an international debt security, thus providing a degree of continuity.

The BIS continues to distinguish between different primary markets based on the residence of the issuer. The domestic market is where residents issue, and the international market is where non-residents issue.<sup>9</sup> International debt securities are thus those issued in a market other than the local market of the country where the borrower resides. They encompass what market participants have traditionally referred to as foreign bonds and eurobonds. Foreign bonds are issued by non-residents under the registration rules of a local market: for example, US dollar bonds issued in the US market by borrowers residing outside the United States. Eurobonds, also known as offshore bonds, are issued outside the registration rules of any local market, usually in a foreign currency.

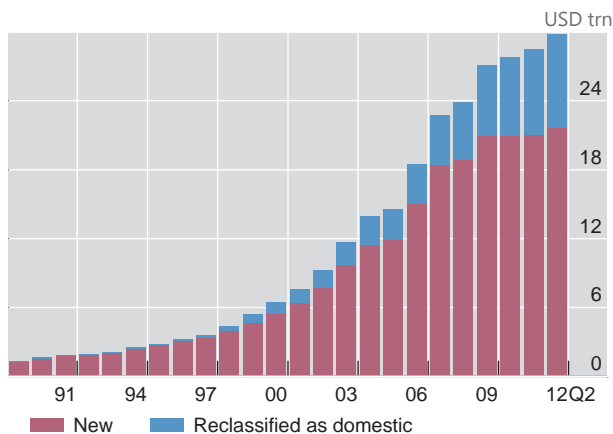
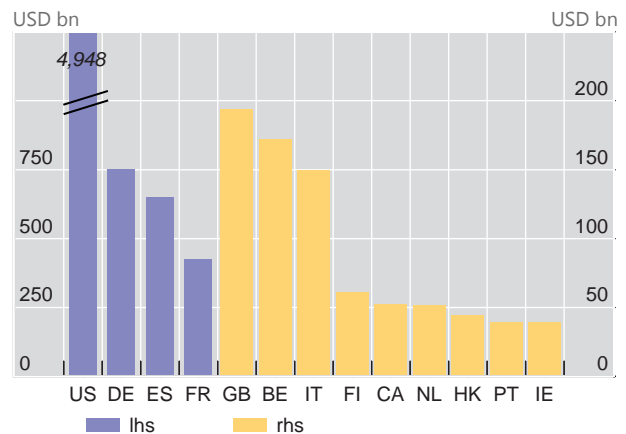
Application of this revised definition reduced the BIS's estimate of the outstanding stock of international debt securities by 16% at end-2000 and 27% at end-September 2012 (Graph 3, left-hand panel). Almost all of this reduction is explained by the reclassification as domestic bonds of local currency bonds issued by residents in the local market but underwritten by a syndicate that included at least one foreign bank. A small amount is also explained by the reclassification as domestic of debt securities issued by residents in the local market but denominated in foreign currencies: for example, euro-denominated bonds issued in Croatia by the Croatian government.

## Box 2: Identifying the market of issue

To identify the market of issue, the BIS considers three characteristics of each security: the registration domain (ISIN), listing place and governing law. The country information associated with each of these characteristics is compared with the country of residence of the issuer. If at least one characteristic is different from the residence, then the BIS classifies the issue as an international debt security. At end-September 2012, all available characteristics were different from the residence for 51% (\$11.1 trillion) of debt securities classified by the BIS as international, although for some of these only one characteristic was available. For another 34% (\$7.3 trillion), at least one characteristic identified the security as international (usually ISIN), while other available characteristics were the same as the residence.

Where available information is inconclusive, the BIS classifies the issue as international. This includes securities for which governing laws or listing places differ depending on the data source, as well as ones that the data provider has flagged as international. At end-September 2012, such issues accounted for 15% (\$3.2 trillion) of debt securities classified by the BIS as international.

<sup>9</sup> In addition to the residence of issuer approach, the HSS outlines a location of issue approach for distinguishing the market of issue. Under this alternative approach, the domestic market is synonymous with the local market; all debt securities issued in a particular country would be defined as domestic regardless of the residence of the issuer. Eurobonds, or offshore bonds, are not issued in any particular local market and thus are not easily captured by the location of issue approach.

Old and new IDS statistics<sup>1</sup>Reclassified as domestic<sup>2</sup>

BE = Belgium; CA = Canada; DE = Germany; ES = Spain; FI = Finland; FR = France; GB = United Kingdom; HK = Hong Kong SAR; IE = Ireland; IT = Italy; NL = Netherlands; PT = Portugal; US = United States.

<sup>1</sup> Amounts outstanding. <sup>2</sup> Old IDS outstanding at end-June 2012.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS.

In absolute terms, the revised definition mainly impacted debt securities issued by residents of advanced economies. From the \$8.2 trillion reclassified as domestic bonds at end-September 2012, \$5 trillion was issued by US residents (Graph 3, right-hand panel). Another \$2.5 trillion was issued by euro area residents.

## Harmonisation of classifications

The second change is to align the classifications, or breakdowns, with those in the HSS. The key classifications include: sector of the borrower; and currency, interest rate type and maturity of the security. While these are the same as the classifications previously published by the BIS, some labels and definitions have been adjusted in the interests of harmonisation.

The most important adjustments are to the sector classification. The BIS previously included central banks with governments but now groups them with financial corporations, specifically with financial corporations other than banks.<sup>10</sup> Corporate issuers have been renamed non-financial corporations to clarify that financial institutions are excluded. The reclassification of central banks as financial corporations had a noticeable impact on the DDS statistics of some countries but was not important in the IDS statistics.

The BIS has historically published the IDS statistics broken down by both the nationality and residence of the issuer and will continue to do so even though the HSS provides no guidance for such a classification. Nationality refers to the ultimate obligor, as opposed to the immediate borrower on a residence basis, and is linked to the consolidation of assets and liabilities for related entities. Information on a

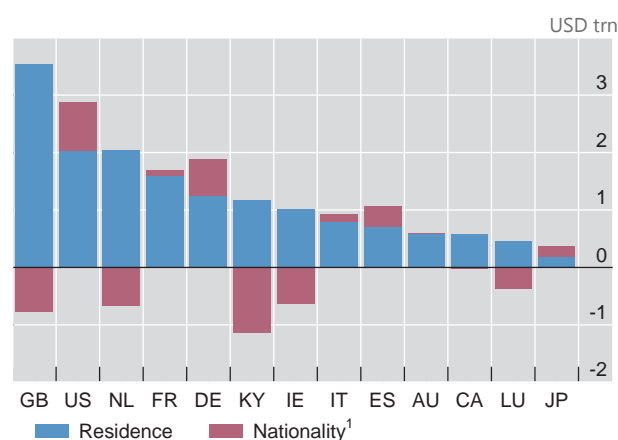
<sup>10</sup> For ease of interpretation, the BIS continues to use the label "banks" to refer to issuers that are classified in the HSS as "deposit-taking corporations except the central bank".

## International debt securities by residence and nationality of issuer

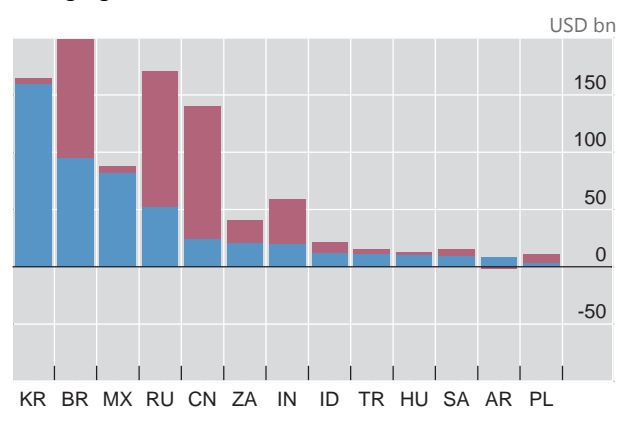
Amounts outstanding for financial and non-financial corporations, at end-September 2012

Graph 4

### Advanced economies and financial centres



### Emerging economies



AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CN = China; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; HU = Hungary; ID = Indonesia; IE = Ireland; IN = India; IT = Italy; JP = Japan; KR = Korea; KY = Cayman Islands; LU = Luxembourg; MX = Mexico; NL = Netherlands; PL = Poland; RU = Russia; SA = Saudi Arabia; TR = Turkey; US = United States; ZA = South Africa.

<sup>1</sup> Amounts outstanding by nationality equal the cumulative total of the amounts shown for residence and nationality, for example for negative amounts shown for nationality, amounts outstanding by nationality are less than amounts outstanding by residence.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS.

nationality basis is useful to analyse potential support that might be available from the parent company and to understand links between borrowers in different countries and sectors. For example, the debts of a Cayman Islands subsidiary of a Brazilian bank may be guaranteed by the parent bank. Consistent with the approach taken in the international banking statistics, the BIS bases the nationality of an issuer on the residency of its controlling parent, regardless of any intermediate owners.

The classification of international issues by nationality instead of residence results in a reallocation of issuance from financial centres to major economies. Outstanding IDS for the Cayman Islands, Ireland, the Netherlands and the United Kingdom are substantially lower on a nationality basis than on a residence basis (Graph 4, left-hand panel). By contrast, outstanding IDS for Brazil, China, India and Russia are more than twice as high on a nationality basis (Graph 4, right-hand panel).

### Greater use of central banks' data

The final change is to make greater use of debt securities statistics reported by central banks. Since 2009, the BIS has been working with central banks to collect statistics according to the classifications in the HSS. Most of the 56 countries contacted by the BIS now provide some or all of the requested data. These data are more comparable than the DDS statistics that the BIS previously compiled from various sources, and the differences are better documented.

The BIS has started to publish total debt securities (TDS) for those countries where the central bank reports data combining international and domestic issues by

their residents. As before, the BIS does not add together its own IDS statistics and the DDS statistics from other sources; total debt securities are only published when reported by central banks, which are better able to ensure that issues are not double-counted. Some central banks do not report domestic and international debt securities separately, instead providing only a combined total, because they have difficulty identifying the market of issue. This is the case especially for countries with internationally integrated bond markets, such as euro area countries and the United States. Where only TDS statistics are available, the BIS has discontinued the publication of DDS statistics for that country. Only if the central bank has reported neither TDS nor DDS statistics according to the classifications in the HSS does the BIS continue to compile domestic debt securities based on whatever information is available.

Many central banks report only outstanding stocks; the BIS thus estimates changes in stocks to provide a rough approximation of net new borrowing. Changes in stocks are adjusted for exchange rate movements by assuming that amounts outstanding are denominated in the currency of the local market. This is a poor assumption for total debt securities and thus changes in stocks are estimated for domestic debt securities only.

The new DDS statistics tend to be larger than the previously published data, for some countries substantially so (Graph 5, left-hand panel). The difference is explained by the more comprehensive coverage of central bank-reported data as well as the unwinding of adjustments made by the BIS to the old DDS statistics for possible double-counting of local issues targeted at international investors.

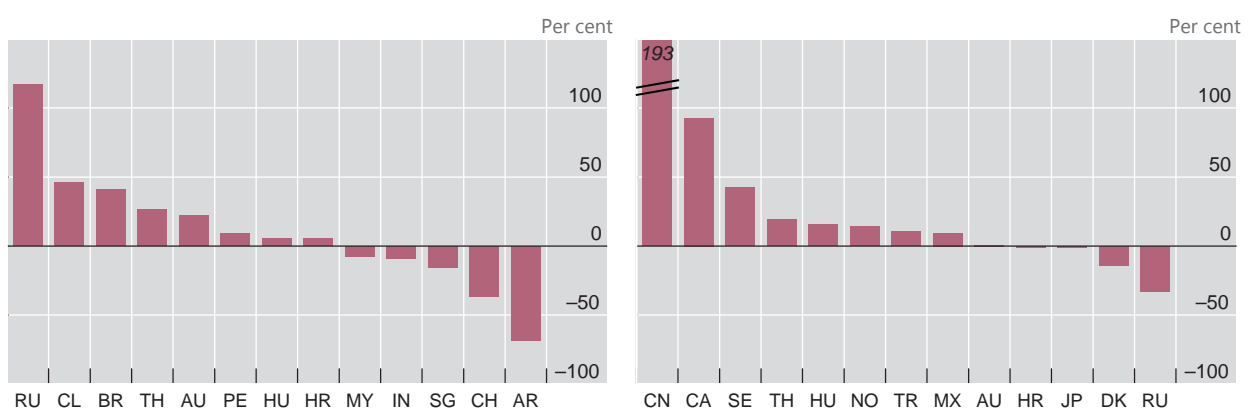
The growing importance of bond markets is clearly illustrated by the TDS statistics. For the sample of (mainly advanced) countries for which a long time series is available, the outstanding stock of debt securities increased from 135% of GDP in 2000 to 188% in 2012. The increase was driven mainly by financial corporations in

## Revisions to BIS debt securities statistics

Graph 5

Difference between new and old DDS statistics<sup>1</sup>

Difference between BIS and national data on IDS<sup>2</sup>

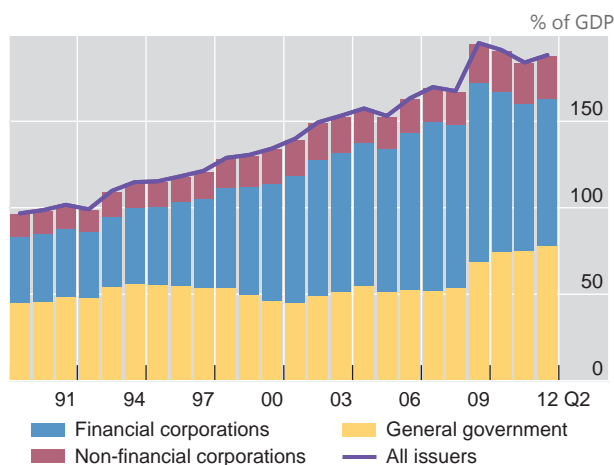
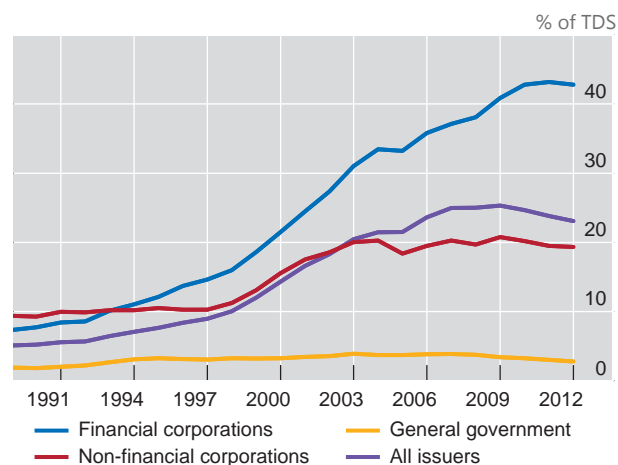


AR = Argentina; AU = Australia; BR = Brazil; CA = Canada; CH = Switzerland; CL = Chile; CN = China; DK = Denmark; HR = Croatia; HU = Hungary; IN = India; JP = Japan; MX = Mexico; MY = Malaysia; NO = Norway; PE = Peru; RU = Russia; SE = Sweden; SG = Singapore; TH = Thailand; TR = Turkey.

<sup>1</sup> New minus old DDS statistics, as a percentage of old DDS statistics; amounts outstanding at end-March 2012. Countries shown are those where the difference exceeded 5%. <sup>2</sup> The BIS's new IDS statistics minus national data, where national data refer to IDS derived from TDS and DDS reported by central banks; amounts outstanding at end-June 2012, except AU, CA and MX (end-March 2012) and CN (end-2011).

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS.

Total debt securities

International debt securities<sup>2</sup>

<sup>1</sup> Sum for a fixed sample of 17 countries for which reporting begins in 1989. <sup>2</sup> For international debt securities, new BIS statistics.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS.

the years prior to the onset of the global financial crisis in 2007 and subsequently by governments (Graph 6, left-hand panel). For much of this period, international issuance increased more rapidly than domestic issuance: the share of outstanding international bonds in the total for all issuers rose from 14% to 25% between 2000 and 2009 (Graph 6, right-hand panel). Since 2009, however, international issuance has been outpaced by domestic issuance owing to the low share of government borrowing in international markets.

Even though the IDS statistics compiled from the BIS's security-by-security database and the DDS and TDS statistics reported by central banks are in principle harmonised with the HSS, in practice small differences remain. These differences are largely idiosyncratic, in contrast to the systematic issues that affected comparability in the previously published data. In the sample of 13 countries that report both TDS and DDS statistics, the BIS's estimate of outstanding IDS is usually larger than the IDS derived from national data (Graph 5, right-hand panel). The difference is explained in part by incomplete information on the characteristics used by the BIS to distinguish international from domestic issues (see Box 2).

## Future enhancements

The implementation in December 2012 of revisions to its debt securities statistics is the latest step towards the BIS's long-term goal of publishing comprehensive, comparable data on financial intermediation through debt capital markets. Further enhancements are planned, building on the HSS's conceptual framework. These include the publication of additional breakdowns for debt securities issues and better data on securities holdings.

For the IDS statistics, the BIS will continue to refine the identification of the market of issue by searching for missing details on the characteristics of individual

securities. In future, data by market of issue will be decomposed by foreign bonds and eurobonds. Foreign bonds could then be combined with domestic debt securities to estimate the size of the local bond market and analyse the role of foreign issuers in its development.

As more central banks report the necessary data according to the classifications in the HSS, additional details will be published for the DDS and TDS statistics. Details that would be useful for financial stability analysis include: subsectors, especially a more granular breakdown of financial corporations; maturity on both an original and a remaining basis; interest rate of issue (eg fixed, interest rate-linked, inflation-linked); and currency. In addition to facilitating the monitoring of currency mismatches, the availability of a currency breakdown would permit the calculation of exchange rate-adjusted changes in amounts outstanding, in lieu of data on flows.

Further improvements in comparability are also planned. Valuation methodologies are not yet fully harmonised across countries, with some DDS and TDS statistics being reported at market values and others at face or nominal values. Face values are provided wherever available, considering the focus of the BIS's statistics on borrowing activity.

Finally, the BIS will continue to work with international groups to improve the availability of data on holdings of debt securities by different types of investors. The IMF in 2012 introduced a more rigorous dissemination standard that requires countries to publish debt securities on a from-whom-to-whom basis, as outlined in Part 2 of the HSS (IMF (2012)). Additional details about banks' holdings of securities will also become available as part of the enhancements to the international banking statistics agreed by the CGFS (CGFS (2012)).

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