Risks Associated with International Capital Flows

Paul Van den Bergh
Bank for International Settlements (BIS), Monetary and Economic Department,
Basel, Switzerland,
paul.van-den-bergh@bis.org

Abstracts

Capital flows and the economic and financial risks they potentially create can be been analysed extensively with the statistical frameworks, methodologies, compilation guidelines and data collections based on the residency principle. However, the changing landscape resulting from globalisation in the real and financial sectors call for a complementary framework based on the principle of nationality in order to shed light on new types of financial risks associated with international financial operations.

The BIS has been collecting and disseminating data on international banking positions and flows for over half a century. This is done under the auspices of the BIS Committee on the Global Financial System on which the central banks of the most important financial centers are represented. The data include balance sheet positions of internationally active banks on both a residency and nationality basis with key breakdowns that are not available for other capital flow data, for instance in terms of currency as well as the country and sector of counterparty.

Recently a number of enhancements have been agreed to the BIS data, such as the separate identification of non-bank financial institutions and non-financial corporation as the counterparty sector. Additional data will also show banks' domestic positions (and thus their total balance sheet). The new data will allow policy makers and market analysts to monitor banking positions and flows - and associated risks - in much more detail.

Keywords: banking flows, systemic risk, BIS data, statistical breakdowns

1. Introduction

This paper looks at the evolving user requirement to measure risks associated with international financial operations of the major sectors of the economy. In particular it compares the traditional residency view of financial positions from the SNA and BOP/IIP with a newly emerging nationality view based on accounting, risk management and supervisory practices.

The paper then goes on to look at the BIS international banking statistics and their planned enhancements. These statistics include various datasets that combine the residency and nationality view of banks' international operations. Experience with the BIS statistics can assist in further developing the nationality view of financial positions as part of broader international initiatives to address data gaps revealed by the financial crisis.

2. Evolving user requirements to measure risks associated with international operations

The system of national and sectoral accounts as well as the framework of the balance of payments and international investment positions are the workhorses for compilers and users of data on economic and financial developments. They have been designed and implemented to support the analysis of economic and monetary risks for individual countries and currency areas. With respect to their "external" components they provide answers to questions such as

- What is the structure of financing of current account deficits?
- What is the potential of economic and financial developments on the stability of exchange rates?
- What are individual countries' vulnerability to international contagion in capital flows.

In terms of addressing financial risks, the traditional framework allows the capturing of financial positions (stocks and flows) of institutional sectors and their interrelationships. With respect to external transactions and positions, the framework serves well as long as banks (and other non-bank financial institutions and non-financial corporates) operate out of their home country to provide cross-border international financial intermediation (loans, deposits and securities purchases and issuance). The resulting positions and exposures can then be well captured in the residency-based money and banking, financial account and balance-of-payments statistics of the lending and borrowing countries and sectors.

The growing importance of multinational companies in the financial and non-financial sectors results in a need to look beyond the residency-based approach. Indeed, such companies operate through a network of foreign entities operating in different jurisdictions. Activities of these foreign entities are not captured in the residency-based statistics of the home country but included in those of their respective host countries. However, for risk monitoring purposes the balance sheets of these affiliates form part of the global consolidated positions and exposures of multinational enterprises. Financial stresses can build up across globally consolidated balance sheets of national institutional sectors as illustrated amply during the financial crisis.[1]

Chart 1 contrasts this new nationality-based view with the residency-based view for a stylised two-country world. The residency approach groups the balance sheets of all resident institutional units, irrespective of their nationality. All institutional units are engaged in the real and financial activities in and of the respective economic territory, as reflected in the various residency-based macro statistics. The financial positions are therefore sliced horizontally, ie delineated by the border of the economic and financial territory.

The nationality approach slices positions vertically, across different jurisdictions. First it separates national from foreign institutional units in a particular country. Subsequently it adds to the financial positions of the national entities the positions of their foreign branches and subsidiaries. The latter are operating in the respective host country but their positions form an integral part of the global positions and exposures of the respective national economic units.

The financial crisis has confirmed the need to complement the traditional residency-based approach with the nationality-based approach. This would allow users to answer new types of questions such as:

- What risks are national non-financial corporations exposed to as a result of their financial operations abroad (eg the issuing of equity and debt or derivative transactions).
- What is the stability of the national insurance sector of a country, ie the global consolidated activity of the national insurance companies – as compared to the stability of the insurance sector in that country?
- What is the level of capital that multinational banks hold in order to safeguard their solvency?

[1] The global financial crisis has reinforced the trend towards the multinational model in the banking industry. Though the multinational banking business models differ across national banking systems, the share of exposures generated by banks' operations through foreign offices is close to 50% of their total globally aggregated exposures.

<table>
<tr><td rowspan="3">**Residency A**</td><td colspan="2">*Domestic institutional units country A*</td><td colspan="2">*Foreign institutional units country A*</td></tr>
<tr><td>*Assets*</td><td>*Liabilities*</td><td>*Assets*</td><td>*Liabilities*</td></tr>
<tr><td>o/w interoffice</td><td>o/w interoffice</td><td>o/w interoffice</td><td>o/w interoffice</td></tr>
<tr><td rowspan="3">**Residency B**</td><td>o/w interoffice</td><td>o/w interoffice</td><td>o/w interoffice</td><td>o/w interoffice</td></tr>
<tr><td>*Assets*</td><td>*Liabilities*</td><td>*Assets*</td><td>*Liabilities*</td></tr>
<tr><td colspan="2">*Foreign institutional units B*</td><td colspan="2">*Domestic institutional units country B*</td></tr>
<tr><td></td><td colspan="2">**Nationality A**</td><td colspan="2">**Nationality B**</td></tr>
</table>

It will take time to fully elaborate an appropriate statistical framework for global consolidated accounts on the basis of nationality. The challenge lies in marrying elements from accounting, supervisory and statistical standards and practices. Fortunately, these efforts will be able to benefit from the experience with the BIS international banking statistics, which already include data from both the residency and nationality perspective.

3. BIS banking statistics

The BIS international banking statistics (IBS) are a long-established dataset for monitoring banks' international activities. They were set up by the (predecessor of) Committee on the Global Financial System (CGFS) in the late 1960s. Data are collected by participating central banks from the internationally active banks in their jurisdiction. Aggregated data for each country are transmitted to the BIS, which uses them to compile and publish global aggregated data. Data are now available on a quarterly basis with a 8-week reporting lag. Flow data are calculated on the basis of changes in stocks/positions, adjusted for exchange rate changes where possible. Around 40 central banks participate in the IBS, including the major financial centres, offshore centres and systemically important emerging market countries. See http://www.bis.org/statistics/about_banking_stats.htm for more information.

The IBS comprise several datasets, each collected with a different objective in mind. The so-called locational banking statistics (LBS)consists of two datasets: that by residence and that by nationality. The first groups the cross-border positions of all internationally active banks in a particular country with breakdowns by currency and instrument as well counterparty residence and sector. The second breaks up the positions of these resident banks by nationality: national banks and those of each other major jurisdiction. The LBS are compiled using principles that are consistent with the BOP/IIP (the horizontal view of in chart 1).

Originally, the BIS locational banking statistics (LBS) were established in the 1960s to track the growth in US dollar deposits outside the United States. They have also long been used to track capital flows. For example, BIS ((2005), (2006)) analyse how surpluses from oil exporting countries and some Asian countries were rechanneled through the international banking system. These studies focus on which territories or jurisdictions are sending, channelling and receiving capital flows.

The LBS by nationality can, in principle, be used to compile data of national banking systems on a globally consolidated basis. Indeed, across the LBS datasets available to the BIS, positions of the domestic/national banks in their home country could be aggregated with the data of the same nationality of banks in other reporting host countries (moreover data are available on inter-office positions which can thus be offset). Since not all countries participate in the LBS (and not all the breakdowns in the nationality statistics are reported to the BIS), the BIS consolidated banking statistics (CBS) were introduced in the early 1980s. These track banks' worldwide claims and other exposures, after consolidating positions between affiliates of the same banking group. They thus provide internationally comparable measures of national banking systems' exposures to country risk (the vertical view in chart 1).

In the late 1990s, the CBS were expanded to capture guarantees and other credit enhancements that result in the reallocation of banks' risk exposures from the immediate borrower to another (ultimate) obligor. These ultimate risk data have recently proved useful in tracking banks' exposures to troubled European sovereigns (Avdjiev et al (2010)).

Collectively, the LBS and CBS are a key source of information for analysing financial stability issues ranging from country risk exposures to funding risks in different currencies and banks' role in the transmission of shocks across countries (see Fender and McGuire (2009)).

4. Enhancing the BIS international banking statistics

The recent global financial crisis revealed gaps in the information available to monitor and respond to risks to financial stability. Interconnections within the financial sector, including its various subsectors, as well as between the financial sector and the other sectors of the economy have become more complex and global (BIS (2011)). This has made it harder to understand where vulnerabilities can manifest themselves and how they can spread within and across countries. The IBS helped to shed light on the strains that emerged in the crisis, especially the US dollar funding needs of European banks (McGuire and von Peter (2009)).

In 2012 the Committee on the Global Financial System (CGFS), which oversees the collection of the IBS, approved a number of enhancements to the locational and consolidated banking statistics (CGFS (2012)). The basic thrust of the enhancementswas to capture additional details about banks' balance sheets as shown in Charts 2 and 3. Firstly, the enhancements extend the coverage of the statistics to banks' domestic positions so their international positions can be evaluated in the context of their whole balance sheets. Secondly, the counterparty breakdowns will be more granular with a separate identification of positions vis-à-vis non-bank financial institutions and non-banks. This should facilitate the monitoring of banks' involvement with the shadow banking system. Thirdly, more information will be collected on the location of banks' counterparties. Finally, data will also become available for banks' liabilities in the CBS.

The enhancements of the IBS will facilitate the analysis of risks associated with international banking transactions on a residency and nationality basis. In particular they will facilitate responding to questions such as:

- What is the level country risk of national banking systems, both at the level of residency of the counterparty and counterparty sector?
- How large are national banking system's funding risks resulting frommismatches in currency and maturity
- Where are the potential weaknesses in the geographical operations of national banking systems?
- What is the evolution of banks' international operations in the context of their whole balance sheet?

It is important to note that the enhancements currently being implemented do not rule out further improvements in the future. Future enhancements can continue to build on the existing datasets and underlying reporting templates. For instance, further granularity could be introduced for the counterparty sector to monitor banks' interaction with the shadow banking sector and non-financial sectors. And informationon the derivatives could be included in the instrument breakdown.

Locational banking statistics (new)

On a residency basis	On a nationality basis
Cross-border and domestic financial assets and liabilities of all resident banks and by type of reporting bank • Domestic banks • All branches of foreign banks • All subsidiaries of foreign banks	Cross-border and domestic financial assets and liabilities by nationalitly of resident banks • Domestic banks • All other BIS bank nationalities (43) separately

By instrument
• Loans/deposits
• Debt securities
  ○ Short-term issues
  ○ Long term issues
	By instrument
	• Debt securities (liabilities only)
	  ○ Short-term
	  ○ Long-term

By currency • Domestic • Foreign: USD, EUR, JPY, CHF, GBP	By currency • Domestic • Foreign: USD, EUR, JPY, CHF, GBP

By counterparty sector
• Banks (incl monetary authorities)
• Non banks financial corporations
• Other non-banks
  ○ Government (encouraged)
  ○ Non-financial corporations (ecouraged)
  ○ Households (encouraged)
	By counterparty sector
	• Banks, of which
	  ○ Own offices
	  ○ Monetary authorities
	• Non bank financial corporations
	• Other non-banks
	  ○ Government (encouraged)
	  ○ Non-financial corporations (encouraged)
	  ○ Households (encouraged)

By residence of counterparty • Residents • Non-residents of 230+ individual countries	By residence of counterparty • Residents • 76 individual countries • Non-residents of all other countries

Consolidated banking statistics (new)

Immediate borrower basis	Ultimate risk basis
International and domestic claims of domestic banks	Foreign and domestic claims of domestic banks
By remaining maturity • Up to and including one year • Over 1 and up to 2 years • Over 2 years	By type of claim • Cross-border claims of all affiliates • Local claims of foreign affiliates in all currencies

By counterparty sector
• Banks
• Offcial sector (renamed)
• Non-bank financial corporations
• Non-financial sector
  ○ Non-financial corporations (encouraged)
  ○ Households (encouraged)
	By counterpary sector
	• Banks
	• Public sector
	• Non-bank financial corporations
	• Non-financial sector
	  ○ Non-financial corporations (encouraged)
	  ○ Households (encouraged)

Other positions • Inward risk transfer • Outward risk transfer • Net risk transfer • Local currency claims (and liabilities) • Tier 1 capital • Total and risk-weighted assets	Other exposures • Derivatives • Guarantees extended • Credit commitments
International and domestic liabilities • Deposits • Short term debt issues • Long-term debt issues • Derivatives • Equity	

Finally, the enhancements to the IBS will also bring improvements in disclosure. A key purpose of the IBS is to inform financial stability analyses by central banksand the BIS. The IBS also help market participants to analyse and manage risks, and thus greater transparency contributes to financial stability. As recommended by the CGFS, the BIS is working with reporting central banks to review their current confidentiality restrictions with a view to making the IBS more widely available.

5. Conclusions

A new paradigm is emerging to complement the traditional residency-based view of the economy and the financial system. It is based on the nationality view of balance sheet positions and the consolidation of positions of head offices in the home country with those of foreign offices in host countries. The BIS has built up considerable expertise with combining the two views and using various datasets based on them to analyse bank's international operations. The BIS statistics are being enhanced to address a number of issues identified before and during the financial crisis.

The enhancements to the IBS are part of a broader international effort to close data gaps revealed by the crisis. The Financial Stability Board and International Monetary Fund have recommended improvements to a broad range of statistics. Apart from the IBS (recommendations 10 and 11), these also include the collection of detailed data on the exposures of global systemically important banks, such as the LBS statistics provided by them to their national central bank or supervisor (recommendations 8 and 9). Moreover, work is recommended to prepare the extension of balance sheets of non-bank financial institutions and non-financial corporations along the lines of the IBS (recommendations 13 and 14).

References

Avdjiev, S, C Upper and N Vause (2010): "Highlights of international banking and financial market activity", BIS Quarterly Review, December, pp 1325, www.bis.org/publ/qtrpdf/r_qt1012b.pdf.

Bank for International Settlements (2011): "Chapter VI: Closing data gaps to enhance systemic risk measurement", 81st Annual Report, June.

Borio, C (2013): "The great financial crisis: setting priorities for new statistics", BIS Working Papers, no 408, April, www.bis.org/publ/work408.pdf.

Committee on the Global Financial System (2012): "Improving the BIS international banking statistics", CGFS publications, no 47, November, www.bis.org/publ/cgfs47.htm.

Fender, I and P McGuire (2009): "Bank structure, funding risks and the transmission of shocks across countries: concepts and measurement", BIS Quarterly Review, September, pp XX-XX.

Financial Stability Board and International Monetary Fund (2009): "The financial crisis and information gaps", Report to the G20 Finance Ministers and Central Bank Governors, October, www.imf.org/external/np/g20/pdf/102909.pdf.

McCauley, R, P McGuire and G von Peter (2010): "The architecture of global banking: from international to multinational?", BIS Quarterly Review, March, p X–X.

McGuire, P and P Wooldridge (2005): "The BIS consolidated banking statistics: structure, uses and recent enhancements", BIS Quarterly Review, September, pp 73–86.

Paul Van den Bergh, edit (2012), Residency/Local and Nationality/Global Views of Financial Positions, IFC Working Paper no 8, February