

Assessing international capital flows after the Great Financial Crisis of 2007–09

Overview of the IFC satellite meeting¹

Burcu Tunç² and Bruno Tissot³

Introduction

The Great Financial Crisis (GFC) of 2007–09 and its aftermath have underlined the important role played by international capital flows from a financial stability perspective. They can exacerbate two main features of the financial system, namely the importance of system-wide linkages and the procyclicality of systemic risk (Crockett (2000)). The development of international finance has indeed multiplied channels allowing for contagion effects of a systemic nature. In addition, external sources of credit expansion, especially in foreign currency, appear to be playing a key role in the build-up of financial fragilities over time, as they often provide the marginal source of funding feeding episodes of financial booms. One view is thus that the development of financial liberalisation and globalisation undertaken since the 1970s has been instrumental in generating a so-called “excess financial elasticity” in the global system (BIS (2015a)).

Several factors have been at play. First, there has been a growing insertion of domestic economies in a world characterised by freely mobile capital flows across currencies and borders (Heath (2015)). Second, financial systems worldwide have changed markedly and have become extremely diversified in terms of actors and products, allowing for greater interaction with the “real economy”. Third, the globalisation of the financial system has heightened the likelihood that financial imbalances occur simultaneously across countries due to the common influence of global factors. This highlights the powerful role played by “global liquidity”, a concept that encompasses the degree of ease in financial conditions (Caruana (2012)) – a key element being the role played by international funding currencies (McCauley et al (2015)).

To assess capital flows and evaluate their effects, the first challenge relates to measurement. Ongoing changes in the nature of financial transactions, the agents involved and the data sources put a premium on closely and constantly monitoring, evaluating and adjusting the methodologies used for measuring capital flows.

¹ The views expressed here are those of the authors and do not necessarily reflect those of the Bank for International Settlements, the Central Bank of the Republic of Turkey or the Irving Fisher Committee on Central Bank Statistics. This overview benefited from comments by Katherine Hennings (CBB).

² CBRT, Statistics Department (Burcu.tunc@tcmb.gov.tr).

³ Head of Statistics & Research Support, BIS, and Head of the IFC Secretariat (Bruno.Tissot@bis.org).

To explore these issues of key interest to the central banking community, the Irving Fisher Committee on Central Bank Statistics (IFC) held a satellite meeting on “Assessing international capital flows after the crisis” in Rio de Janeiro, Brazil, on 24 July 2015. This IFC event was organised with the Central Bank of Brazil (CBB) and the Center for Latin American Monetary Studies (CEMLA), on the occasion of the 60th World Statistics Congress of the International Statistical Institute (ISI).

The meeting confirmed that the monitoring of international capital flows is of particular relevance when assessing financial stability risks. In his opening remarks, Luiz Awazu Pereira da Silva, CBB Deputy Governor, underlined the importance of analysing the challenges posed by swings in capital flows – especially for emerging market economies (EMEs) such as Brazil that had to face episodes of “sudden stops and floods” – and the adequate policy responses. To this end, having good-quality data was essential. First in line were balance of payments (BoP) statistics: with the methodological changes brought by the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6), public authorities had more accurate, comprehensive and timely information at their disposal (IMF (2009)). Yet Brazil’s experience showed that additional information could be needed, for instance to correctly assess the real (that is, unhedged) exposures of corporates as well as the consolidated positions of their worldwide affiliates. From this perspective, the demand for more data was clearly on the rise.

Echoing these remarks, Turalay Keç, IFC Chair and Deputy Governor of the Central Bank of the Republic of Turkey (CBRT), introduced the discussions by emphasising the importance of measuring cross-border linkages and financial interdependencies. Attention should focus on the challenges posed by the registration of capital flows, the progress achieved so far, remaining data gaps and the associated communication issues for central banks practicing the “dark art” of monetary policy (Blinder (1997)). From this perspective, Jesus Cervantes González (CEMLA) recalled the ongoing important efforts to develop comparable and consistent data supporting the analysis of international finance. Two objectives were key: having reliable and internationally comparable data on international capital flows; and analysing their policy implications. Global cooperation and the exchange of country experiences was instrumental to support these objectives. Hence, there was a clear benefit to continuing to discuss these issues among central banks as well as in various international fora. From this perspective, the ISI 2015 World Statistical Congress was an excellent opportunity to promote such an exchange of views in the global statistical community and beyond.

Correctly analysing the data available was particularly important in the aftermath of the GFC. In his keynote presentation, Gian Maria Milesi-Ferretti (IMF) showed that the post-GFC period had been marked by a large compression in global capital flows and a related stop in the growth of external assets and liabilities (relative to global GDP). Flows to and from advanced economies (AEs) had weakened significantly, and growth in cross-border positions had stalled. A key issue was whether this break in the upward trend of financial integration would last. So far, it had mainly reflected global banks’ deleveraging after the GFC, the impact of euro area fragmentation (ie the decline in intra-euro area claims in the context of the sovereign debt crisis) as well as the indirect effect of the rising share of EMEs in world GDP – since EMEs had smaller external assets and liabilities compared to AEs. Regarding this last factor, there was still substantial heterogeneity among EMEs. One view was that EMEs’ ongoing domestic financial development should lead to their greater integration in international financial markets in the longer run, reflecting, for instance, a more global

presence of their financial institutions and the expansion of their local institutional investor basis.

The various presentations allowed for an in-depth exploration of four main themes. Session 1 focused on the importance, and the related challenges, of the measurement of capital flows. Session 2 reviewed country experiences in implementing the new statistical standards such as BPM6. Session 3 discussed how traditional, residency-based data could be complemented with nationality-based information so as to better capture and analyse capital flows. Session 4 discussed the associated communication challenges and possible “best practices”.

Session 1: How well are capital flows measured and what are the challenges?

The first session, chaired by Katherine Hennings (CBB), was devoted to the issues and challenges posed by the registration of capital flows. In her keynote speech, Linda Goldberg (Federal Reserve Bank of New York and BIS visiting scholar) argued that credit intermediation had been facing two structural changes in recent decades. One was the increasing volume of international banking activity, with the rise in interbank flows, the expansion of foreign financial affiliates, and the growing role played by bank’s local claims outside their domestic markets. A second key development was financial innovation and the growing role of non-banks in providing credit, raising the need to collect more data on “shadow banks” and complex financial transactions (Kodres (2013)). Certainly, additional information on international capital flows had become available since the GFC, especially in the area of banking supervision. But this was not enough: more official data should be made accessible, new datasets should be explored to assess evolving intermediation patterns, private information sources should be better integrated, and firm-level, micro data should be better mobilised to monitor cross-border spillover effects. International cooperation was crucial to address these challenges, as experienced by the International Banking Research Network (IBRN) initiative bringing together central bank researchers to analyse issues pertaining to global banks.⁴

The country presentations highlighted three main data issues from this perspective: the impact of greater financial integration for EMEs (Turkey); the growing importance of cross-border investments (Germany); and the assessment of systemic risk (South Africa). They showed that, while capital flows are not a new issue, the challenges experienced during and after the GFC called for improving their measurement, not least to better support financial stability analyses and policies.

The first presentation, from the CBRT, discussed the data implications of globalisation for financial and monetary stability policies. First, all capital flows are not equally risky, and banking flows often play a unique role. Second, it is essential to assess the role of push and pull factors in driving cross-border capital flows. Third, financial stability analyses need to consider these flows in gross terms and not just in net terms. All in all, the post-GFC experience of Turkey was that central banks need

⁴ See www.newyorkfed.org/ibrn.

to monitor capital flows in a more detailed, granular way, not least to better frame their policy frameworks and tools.

The second presentation (Deutsche Bundesbank) focused on the growing importance of countries' cross-border assets and liabilities – as recorded in their international investment positions (IIP) – when assessing risks to financial stability. Understanding the dynamics of net external wealth requires looking not only at capital flows (transactions) but also at stocks variables (where valuation effects sometimes can be the dominant force). Yet available data were still incomplete, in particular as regards the duration, instrument and currency composition of international capital flows.

The third presentation (South African Reserve Bank) analysed South Africa's experience with cross-border capital flows after the GFC and the related introduction of methodological improvements (especially related to the compilation of data on foreign direct and portfolio investments, derivatives and international banking). Having better statistics was essential to: (i) understand how an emerging economy like South Africa was exposed to international surges and reversals in capital flows; (ii) identify the domestic factors that were driving the volume of such flows as well as their composition; and (iii) ensure that policies benefit from accurate analysis based on empirical evidence.

Session 2: Has the registration of capital flows improved with the new statistical standards?

The second session, chaired by Gloria Peña from Central Bank of Chile, acknowledged the improvement brought by the new statistical standards in recent years, especially following the introduction of BPM6. In his keynote speech, Manik Shresthain (IMF) recalled that the growing interest in analysing risks and vulnerabilities using balance sheet data, globalisation and financial innovation (eg securitisation) had been the three main motivations behind the new BoP standards. The measurement of capital flows had been greatly enhanced, allowing the better capturing of, in particular, the wide scope of financial assets and liabilities as well as their composition in terms of sectors and instruments (eg maturity, currency). Yet the experiences of the more than a hundred countries that had implemented the new standards underlined the importance of having an adequate communication strategy, following a stepwise approach and adapting the data collection infrastructure. Another issue was the increasing demand for longer time series, and the IMF had been working specifically on ways to convert previous datasets to the new standards. Looking ahead, it was crucial to demonstrate the value added brought by the new statistics, focus on the remaining data gaps that were policy-relevant, and ensure a coordinated approach across countries – in line with the priorities of the Data Gaps Initiative (DGI) endorsed by the G20 (IMF and FSB (2009)).

The following country presentations underscored the achievements brought by the new statistical standards. As regards Korea, a major issue related to its increasing share of production outsourced to foreign economies ("outward processing"), especially China for electronic products. The presentation from Bank of Korea showed how the implementation of BPM6 was an opportunity to better measure the goods sent abroad for processing as well as merchanting (ie the process whereby a unit in

economy X purchases goods from economy Y for sale in economy Z⁵). The Bank of Korea was working on further improving the related compilation methods by relying less on customs data and more on the information on foreign exchange businesses going through financial institutions – with the Foreign Exchange Information System (FEIS) set up in 1999.

Turning to Brazil, the CBB presentation provided an overview of the data sources and methodology related to the measuring of the country's BoP and IIP in the context of the new BPM6 standards. While FX controls had been removed, the central bank still had to authorise institutions to operate in FX markets, and registration through their FX settlement system had been kept for statistical purposes. A key advantage of these Brazilian data was their granularity (eg transaction-by-transaction), high frequency (daily) and timeliness. In addition, a variety of other data sources (eg administrative datasets and surveys) were also mobilised in order to capture other types of financial transactions (eg non-cash transactions). Needless to say, the data compilation process to deal with the vast amount of granular information was quite complex. The central bank had to set up a specific data warehouse with a dedicated IT process. The implementation of BPM6 was also an opportunity to make progress in specific statistical areas – for example, the measurement of estimates of firms' reinvested earnings, interest payments for domestically issued debt securities and receipts related to debt securities issued abroad by non-resident affiliates of Brazilian companies. Yet these improvements required significant resources and time and resulted in some cases in substantial data revisions, raising internal and external communication challenges.

The paper from the Magyar Nemzeti Bank described Hungarian reporting of FDI statistics, with a focus on the distortive effects of globalisation on the collection, processing and interpretation of statistical data. This mainly reflected the fact that Hungary is a small and open economy with large FDI activity. To address these challenges, FDI data had been supplemented with separate information on special purpose entities (SPEs), capital in transit and asset portfolio restructuring transactions. As regards SPEs,⁶ their identification criteria had been clarified and a variety of data sources, especially at the micro level, had been mobilised. Similar work had been conducted to measure capital in transit,⁷ which mainly affected less than 20 enterprises operating in Hungary, as well as the impact of asset portfolio restructuring transactions by multinational enterprises (MNEs).⁸

⁵ Cf Chapter 14 of the System of the National Accounts (2008 SNA); see European Commission et al (2009).

⁶ See 2008 SNA Chapter 4, especially #4.55-6: "There is no common definition of an SPE but some of the following characteristics may apply (...). Such units often have no employees and no non-financial assets. They may have little physical presence (etc.)".

⁷ Cf 2008 SNA Chapter 21, especially #21.41: "'Pass through funds' or 'funds in transit' are funds that pass through an enterprise resident in one economy to an affiliate in another economy, so that the funds do not stay in the economy of the affiliate. These funds are often associated with direct investment".

⁸ See OECD Benchmark Definition on FDI, fourth edition (OECD (2008)), especially Table A.9.1. The Guide recognises that "(...) financial restructuring is deferred to the research agenda as they require further research".

Session 3: Should residency-based data be completed by nationality information?

This session, chaired by Gülbin Şahinbeyoğlu (CBRT), discussed nationality-based statistics as a complementary approach to the “more traditional” residency-based framework of the System of National Accounts (SNA) and of BoP statistics. In his keynote speech, Bruno Tissot (BIS and IFC) presented (i) the purpose, (ii) the usefulness and (iii) the challenges of such a complementary approach (see also Tissot (2016)).

The GFC highlighted the need for a global approach when assessing financial stability risks, not least due to the importance of system-wide common exposures/interlinkages. This required the establishment of a framework for assessing financial positions on a so-called “nationality-basis”, that is, at a globally consolidated level. Several steps could be taken in this endeavour (IAG (2015)). One was to classify economic units by sector and nationality. A second was to properly define the concept of control between two economic units, which might depend on the perspective retained (eg statistical standards, business accounting, financial supervision). A third was to look at information aggregated at the “corporate group” level. The completion of these steps could allow the consolidated exposures of global entities to be assessed, especially those related to cross-border and cross-sector positions, even though there were a number of challenges. Some important datasets were already presented on such a nationality basis, underlining the usefulness of this approach for policy purposes – in particular the Basel-based initiatives to set up consolidated datasets in the area of shadow banking (FSB (2015)), international debt and banking statistics, and derivatives statistics (BIS (2015b)).

The presentation from the Board of the Federal Reserve System also supported the view that the SNA/BoP residency framework could be usefully complemented by a nationality-based approach. On the one hand, residency clearly mattered, especially from a policymaker’s perspective. On the other hand, it was important to look at exposures on an ultimate risk basis and also to identify cross-border controlling relationships. Yet one should not assume that a “controlling parent” would always support its subsidiaries in case of difficulties. Hence, the parent group should not necessarily be considered as the *ultimate obligor* of its affiliates, as it might be only a source of *potential* support. Nevertheless, considering this information was important for financial stability analyses, which usually focus on the assessment of the upper bound of risk exposures. Moreover, a consolidated approach – as in the area of banking supervision – was necessary to capture all indirect exposures (McGuire and Wooldridge (2005)).

The presentation from the CBB highlighted the importance of considering the growing internationalisation of EMEs’ financial markets after the GFC, especially related to foreign residents’ holdings of EMEs’ domestic debt securities and issuance by the foreign affiliates of EME corporations. This development produced a sizeable gap between the residency- and nationality-based estimates of Brazilian corporates’ debt issuance, as also shown by the BIS debt securities statistics (Gruić and Wooldridge (2015)). The use of available micro information showed that: (i) almost one third of this gap represented the global issuance of financial institutions (which is properly monitored by supervisors as they act on a consolidated basis); (ii) the vast majority of the rest of the gap reflected intercompany loans, especially by Brazilian

commodity exporters searching for better funding conditions abroad; and (iii) only a minor part of the related FX exposures were unhedged.

The presentation from the Bank of Mexico highlighted the importance of analysing the origin and destination of FDI flows to understand the globalisation process and its impact on EMEs. This required “looking through” the controlling chains and identifying the ultimate investors. It was particularly illuminating in Mexico, where foreign-owned firms represented a significant part of the domestic stock exchange and local debt issuance; symmetrically, Mexican firms were very active in third countries’ financial markets. The new statistical standards allowed FDI flows from counterparty countries on both an ultimate investor and an immediate investor basis to be compared. One conclusion was that the location of the origin of FDI funding was less useful for policy analysis compared to information on the nationality and sector of those using these funds.

Session 4: What are the communication challenges?

The panel session, chaired by Luiz Awazu Pereira (CBB), showed that in addition to its analytical and measurement challenges, there were indeed several communication challenges regarding the new standards for measuring capital flows. A key aspect was to present the related improvements to the public and make sure that the dissemination of the new data and associated metadata was supported by adequate communication to facilitate their understanding by the public.

The first panel intervention (Brazilian Institute of Economics – Getulio Vargas Foundation) recalled that the IMF had formulated “best practices” for communicating on BPM6. Although each country had its own characteristics, understanding users’ needs was a key requirement. The communication strategy of BoP compilers should thus address the main issues of importance for these users, namely the existence of data gaps, the size of the revisions, the time length of the series, and the ability of the statistics to “tell a story”. Specific communication plans should be set up to reach out to the user community before, during and after the implementation of the new standards. Compilers should think as data users, and focus their attention more on data gaps and on merging those competing datasets that are based on old and new standards. Introducing a long back-run of historical data and providing overlap periods was essential; this often required accessing more granular data.

The second panel presentation, by the ECB, presented the euro area’s experience in dealing with communication and analysis challenges raised by the new BPM6 standards. These challenges related to: (i) the introduction of new statistical methodologies; (ii) changes in compilation systems and practices; (iii) additional data sources; and (iv) new infrastructure in terms of data codification (eg Data Structure Definitions, DSDs) and transmission (eg SDMX⁹ standard). Communication to internal users as well as the public highlighted several issues. First, the new standards had led to sizeable revisions for the data themselves – with some countries’ revisions to the estimates of their current account balances and net international investment positions representing up to 5% and 75% of GDP, respectively. Second, it was important to communicate not only on transactions and flow figures, but also on

⁹ Statistical Data and Metadata eXchange; see IFC (2016).

stock variables. Third, specific attention should be devoted to communicating on errors and omissions.

The third intervention (Bank of France) started by paraphrasing Hal Varian (Google) who argued that statisticians had a great future in terms of job opportunities. But this required three main objectives: to ensure that statisticians were highly qualified experts capable of extracting information value from data; to develop a statistical service-oriented process with a customer-minded manner; and to have a proactive communication strategy to ensure that both internal and external users could access and understand the data themselves. As regards internal users, the Bank of France had set up a dedicated data warehouse for pooling a vast amount of unstructured data, based on open-source "big data" technology and with an adequate governance framework to ensure effective data-sharing. Communication to external users should be monitored by both actual data producers and communication specialists.

The last panel presentation (Narodowy Bank Polski) described the BPM6 implementation in Poland, focusing on the analytical challenges and related lessons in terms of communication strategy. As regards the challenges faced, and in addition to large resource needs (eg IT), one was the difficulty to have longer time series with sufficient back data; another was the size of the revisions. As regards communication, a major recommendation was to emphasise the new analytical possibilities offered by the BPM6 standards: for instance, for better understanding Poland's international investment position as well as the sources of FDI (eg by comparing flows from direct investor and ultimate investor countries).

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