Compiling external sector statistics in Brazil: challenges and demands

Thiago Said Vieira*
Banco Central do Brasil, Brasília, Brasil – thiago.vieira@bcb.gov.br

Rafael Afonso Monastier
Banco Central do Brasil, Brasília, Brasil – rafael.monastier@bcb.gov.br

Abstract
This paper discusses the experience of the Banco Central do Brasil (BC) in upgrading its external sector statistics from two perspectives. The first is the one of the compilers. The main changes put in place during the upgrade are shown: a new chart of accounts, the presentation of direct investment according to the assets and liabilities principle, the compilation of reinvested earnings and of securities issued in domestic markets. The second perspective is the one of the users. The heterogeneity of users and their different kinds of demands are discussed. Finally, the paper shows the main methodological and practical issues the BC sees in the field, like the trade-off between frequency, timeliness and the size of revisions; matters regarding gross flows; and matters on bilateral data.
Keywords: external sector statistics, BPM6

1. Introduction

This paper presents the implementation process of the Balance of Payments and International Investment Position Manual – Sixth Edition (BPM6) on the Brazilian external sector statistics, completed in 2015, from two points of view: key challenges faced by compilers and the needs of the users. Additionally, it identifies different kinds of users demanding other levels of data disaggregation, and economic phenomena for which more or different information would be useful.

The text is organized as follows. After this brief introduction, Section 2 describes selected and main changes of the process of BPM6 implementation in Brazil. Section 3 discusses the users' views on this new set of statistics using part of the feedback received from them. Section 4 explores, in a summarized manner, some possible changes and trends on the external sector statistics, given the restrictions faced by compilers and the users' needs. Section 5 presents short conclusions.

2. Main changes on BPM6 implementation

In the process of updating its external sector statistics to BPM6, adopted in 2015, the Banco Central do Brasil (BC), responsible for producing the external sector statistics of Brazil, also implemented improvements in its figures that were not strictly related to the most recent methodological standard, in the sense that they had to do with commands already present in previous versions of the manual. The main BPM6 related and non-BPM6 related changes are presented below.

2.1 BPM6 related changes

- New chart of accounts:

The most general change was the design of a new chart of accounts following the list of balance of payments (BP) components presented in Appendix 9 of BPM6. This involved adopting the new BPM6 nomenclature in the publications, by replacing, for example, "current transfers" with "secondary income". It also involved presentational changes, with, for example, merchanting going from services to goods, manufacturing services moving in the opposite direction and income on reserve assets being shown separately. There were also conceptual changes, as was the case of "personal transfers" versus "workers' remittances" and the removal of migrants' transfers from the BP.

Behind the scenes, a number of adjustments had to be made on both International Transaction Reporting System (ITRS) codes and on the mapping between them and the BPM6 accounts. The BC's exchange contract system, one ITRS, is the main source for BP statistics and the core of the compilation

process consists of mapping combinations of exchange contract codes (economic code, resident code, nonresident code, etc) into BP accounts. Before the BPM6 Project even began, a revision of ITRS codes was carried out by the FX rules department with active the participation of the BP division. The aim of the revision was to eliminate codes that were not useful for the supervision anymore. This was carried out without compromising the BP compilation. More than just that, codes could be adjusted to meet BP needs, including BPM6 related ones. Among other changes, a specific code for manufacturing services was created, while the code for personal transfers was split between "students" and "other", the former going to travel instead of secondary income. Finally, as a result of the set of ITRS codes being harmonized with BP needs, setting a new mapping between them and BPM6 accounts was rather straightforward. When compared to the previous BPM5 mapping, some adjustments were made in the new one in order to implement the aforementioned presentational and conceptual services. Some other BPM6 related corrections were also carried out. The code for investment in funds abroad, for example, used to go in portfolio - debt securities[1] and was moved to equity.

- Assets and Liabilities Presentation in Direct Investment:

The single most important BPM6 related change was the presentation of Direct Investment according to the Asset and Liability Principle as opposed to the Directional Principle used in BPM5. The BC moved not only the data sent to the IMF to this new presentation but also all of its official BP publications. A methodological note was published on the subject and the change was readily accepted by the community of journalists, market analysts and the general public. The FDI/CAD ratio, an important indicator of how the current account deficit is financed, was also changed in all BC publications to the new presentation. Nevertheless, it´s important to mention that the BC keeps publishing the breakdown of DI according to the location of the direct investor, making it possible to reorganize the DI components under the Directional Principle.

The impact of the change from one principle to the other depends on the sizes of the assets and liabilities of reverse investments in debt instruments[2] (the ones from direct investment enterprises to their direct investors). If such assets and liabilities are zero, then there´s no difference between the two principles. In Brazil, reverse assets are not relatively relevant but reverse liabilities have been very high since 2007, so the impact of the change has been considerable in the last decade. That is illustrated in the following charts.

US$ billions   Inward DI x DI Liabilities (without reinvested earnings)

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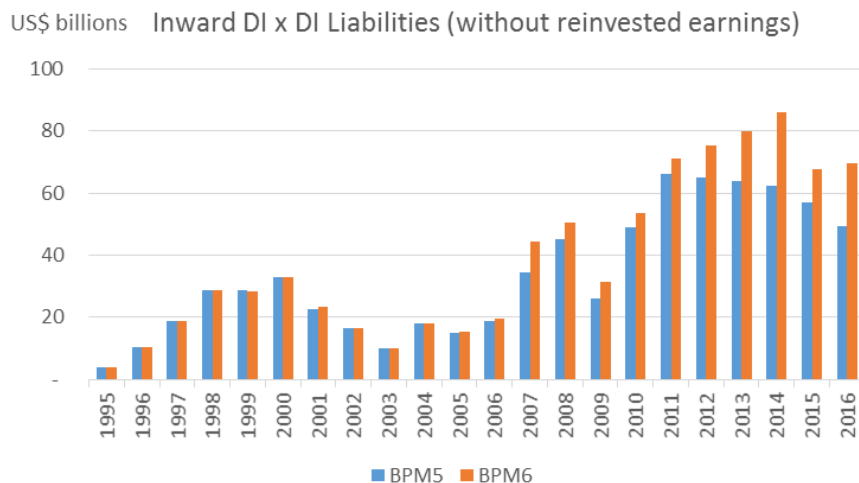
[1] The underlying hypothesis for this allocation was that the funds abroad would invest mostly in fixed income assets. However, as we know, BPM6 made it clearer that investment fund shares should go in equity no matter the type of assets the fund invests in.

[2] In the case of Brazil, equity reverse investments are virtually nonexistent, so only debt reverse investment counts.

US$ billions   Outward DI x DI Assets (without reinvested earnings)
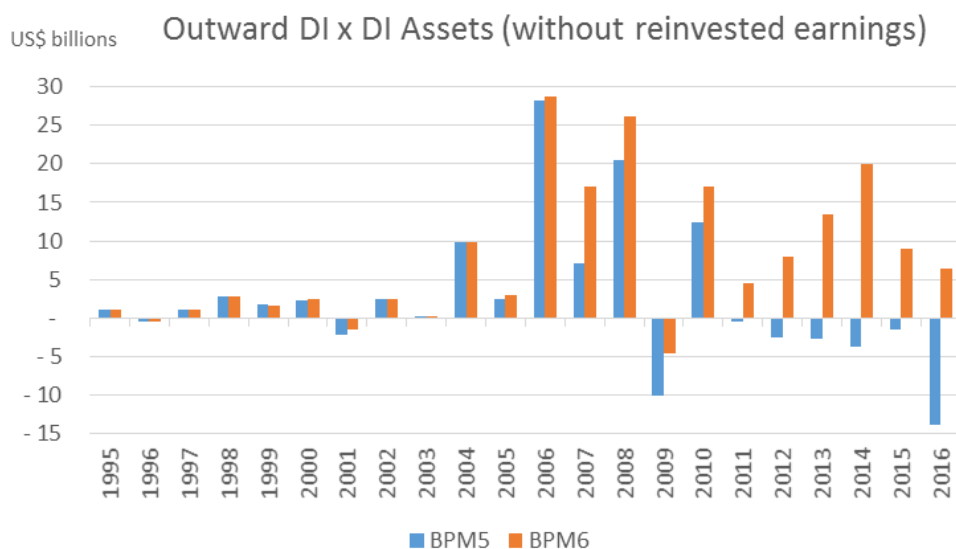
The reason for the high amount of liabilities in the form of reverse investments is that subsidiaries of Brazilian companies abroad have been issuing securities in foreign markets and subsequently forwarding the funds to their headquarters in Brazil in the form of loans. It is a way that companies from Brazil and other EMEs have used to raise funds amidst the liquidity wave in international markets in the aftermath of the 2008 crisis.

2.2 Non-BPM6 related changes
- Reinvested Earnings:

By definition, reinvested earnings do not trigger flows in the ITRS and so they cannot be compiled from this source. Until 1999, the workaround for this shortcoming of BP´s main source was to use the reinvested earnings registered before a system of FDI positions maintained by the BC. When the quality of this source degraded due to a lack of enforcement, publication of reinvested earnings was discontinued. The solution put in place during the transition to BPM6 was to use questions on retained earnings made on surveys regarding investments abroad (Brazilian Capital Abroad – CBE) and DI in the country (Census of Foreign Capital in Brazil - Census), making it possible to compile figures for 2010 onwards.

However, this solution created new challenges related to the frequency, timeliness, granularity and coverage of the two new sources. The press release in which the BP is published is monthly with a three weeks lag from the end of the reference period. The Census and CBE are conducted, respectively, annually and quarterly, and their results are made available around nine months and six months, after the reference date. The solution was to produce early estimate of the reinvested earnings based on the monthly remitted earnings. An improvement of this estimation method, with the use of additional sources, is under study. Additionally, the granularity of the data collected in the surveys is also annual and quarterly, and not all their editions are census type surveys, which called for ways to distribute the data over the months as well as expansion methods.

- Securities issued in domestic markets:

In the middle of the past decade, nonresident investors were granted exemptions from income taxes charged on the local fixed income market. Until then, the presence of nonresidents in this market was virtually nonexistent, but some years later it had already raised to around 21% of the government debt issued locally in domestic currency. The financial account flows related to these investments could be identified with the use of a new "securities in domestic markets" FX code. Identifying the interest

coupons, though, remained an issue as they are deposited in local currency in the foreign investor´s account, and are usually remitted under the same FX code as the principal amount. The solution adopted during the BPM6 upgrade was to use data from the SELIC, the central repository of government securities, on coupons deposited in nonresidents' accounts. A debit entry is recorded in the primary income account under portfolio interest. The corresponding credit entry is made under government debt securities in the portfolio investment account, i.e., it is assumed the coupon is reinvested in the same security instrument. If it is not the case and the interest coupon is sent back to the nonresident, then the credit entry will be naturally cancelled by the debit entry generated by the FX system.

3. User's views and needs on the new set of Brazilian external sector statistics

As a disseminator of external sector statistics, the BP division has frequent contact with the data users and does a job of clarifying questions and helping such users to interpret the figures in the most precise way from a methodological and economic perspective. It´s something that has value by itself and that also gives the team input to improve the way statistics are presented.

One key insight from this contact is that users are heterogeneous and therefore it does not make sense to work with the idea of an "average user" in mind. It is key for a good communication process to try to understand and address the different perspectives and needs of international organizations, peer central banks, journalists, academics, market analysts, etc. International organizations and other peers formulate and deeply understand the methodology. The general public, on the other hand, needs strong communication (via methodological notes for example) to be able to use the figures consistently. Moreover, it at times demands breakdowns that are different or go beyond the standard.

Another observed pattern is that a certain class of users is more focused on the FX market itself than on the balance of payments. This is especially true for market analysts, whose main interest is to understand and forecast FX movements. Those analysts often use the BP accounts as a tool to break down FX flows. The way the BP division found to address this need was to publish a table with a breakdown of FX flows into broad categories of FX codes. This table is based on raw data from the FX system that has not gone through any of the quality processes of the BP compilation. Loans are not classified in direct investment or other investment, for example. Nevertheless, it is still useful for the analysts.

Even though the FX markets analysts are an extreme case, it is possible to say that the public in Brazil, even the academic one, has a bias towards seeing the BP as a "FX balance". This is understandable given that the Brazilian currency is not convertible and that foreign currencies are not accepted in local transactions. These two factors lead to a condition in which BP transactions are usually FX transactions and vice-versa. Indeed, this what makes the FX system such a powerful source for the BP compilation. However, with changes like the ones shown above regarding reinvested earnings and securities in domestic markets, the Brazilian compilation is shifting towards a mixed system in which the FX is still the main source, but complemented with secondary sources for specific accounts.

In its BPM6 communication, the BC has emphasized that the BP measures economic transactions that are not necessarily materialized into financial transactions in the FX market. And that´s a reason, the argument goes, why reinvested earnings and interest on securities in the country paid in local currency can be considered BP transactions.

Besides showing which transactions are carried out without the exchange of foreign currency, the Central Bank also breaks down in its figures whether the portfolio transactions in equity and securities take place in domestic or in foreign markets. This is not in BPM6, but it is a breakdown that conveys valuable information on the distribution of exchange rate risk. In fact, if a security is issued in a foreign market and therefore in a foreign currency, the resident issue incurs in an exchange rate risk. However, if a nonresident buys a security denominated in local currency in a domestic market, it is this nonresident who bears the exchange rate risk.

One breakdown that is prescribed in BPM6, is published in the Brazilian BP and is praised by the local public is the breakdown of the direct investment according to the location (onshore / abroad)

of the direct investors. For instance, for many types of analysis it matters if a debt liability in direct investment is between a direct investor abroad and a resident subsidiary or a reverse investment between a subsidiary abroad lending to its resident direct investor. Moreover, it is also a matter of methodological transparency: Brazil has followed the BPM6 recommendation to show direct investment according to assets / liabilities, but the additional breakdown according to the location of the direct investor allows for the reorganization of data according to the directional principle.

Another comment is that, even though the breakdowns according to counterpart countries and economic sector are very important for many users, as will be commented below in item 4, the introduction of new sources can make them more difficult to implement. FX contracts and some other sources have country and sector fields that are checked for quality. However, when data are estimated or expanded, as is the case of reinvested earnings described above, country and sector distributions get difficult to compute. In fact, Brazil still publishes direct investment broken down by sector and country without reinvested earnings.

4. Perspectives, methodological and practical issues, and new users' demands

BC produces external sector statistics in high frequency: stocks of international reserve are available on a daily basis, balance of payments on a monthly basis, and IIP and external debt on a quarterly basis. At the same time, Brazilian statistics are very timely, with a lag of one day for reserves, between three and four weeks for balance of payments, and one quarter for IIP and external debt. On the other hand, these two features increase the probability of more and heavier revisions, imposing a trade-off. In our experience as compilers and publishers, talking with researchers, students in all levels, market analysts and market participants, high frequency and timeliness of the statistics provide wide benefits that overcome the volatility derived from large and frequent revisions. A higher number of observations, expanding the possibilities for econometrical studies, as well as the possibility to incorporate the information given by statistics in market decisions are some highlighted benefits.

One condition for the success of this approach is to adopt the best practices in terms of communication. A calendar of revisions and explanatory notes for the large ones are necessary, in order to prepare the users, and assure the knowledge regarding the updated information. This is one major item in our agenda.

Another issue ongoing in the Brazilian external sector statistics is the increase in the frequency of IIP and external debt figures, from quarterly to monthly, and the improvement of the timeliness, from a quarter to between three and four weeks. Again, this movement will be accompanied by more and large revisions since part of the data will be estimated and then replaced in the future.

BPM6 standards shows all the financial account in net terms, while Brazilian balance of payments remains presenting the gross capital flows. Although this feature has been supported by the Brazilian system of foreign exchange contracts (and it may be much more costly to obtain gross flows when the sources for compilation are other), the availability of this kind of breakdown is appreciated by different users. Gross flows allows, for instance, to measure the volumes traded in the market, indicating liquidity conditions, and calculate indebtedness indicators containing debt service and amortizations. In the world of gross flows, some methodological clarifications are suggested. First, to what extent a renegotiation, an agreement between creditor and debtor must be considered as a new transaction. Sometimes renegotiations involve large extensions in maturities or large changes in the interest rate. But in other situations, there are small changes, like an interest rate of 3 months being replaced by one of 6 months. This decision is neutral for net flows, since the new disbursement offsets the amortization, but matters for gross flows.

The demands for bilateral data, which split the 'rest of the world' sector or the 'nonresidents' category in individual countries, have been increasing over the last year, under different motivations. These statistics are very important for the discussion of trade agreements, including goods and services, and investment agreements. The identification of the country of counterpart is essential for building monetary and other areas statistics. More recently, the use of mirror statics has been disseminated, both

to fill some gaps in specific balance of payments accounts and to improve the quality of data through the check of bilateral discrepancies. FDI statistics plays a key role since usually the structure of multinational groups involves many countries and, in this sense, the concepts of ultimate investing country and ultimate controlling parent requires more developments and discussions. Further on, although two surveys conducted by IMF, Coordinated Direct Investment Survey (CDIS) and Coordinated Portfolio Investment Survey (CPIS), requires the breakdown by country for direct investment and portfolio investment positions, there are no tables with the country details suggested in BPM6, and this could be useful to stimulate the compilers.

In Brazil, for direct investment positions, the country of the ultimate direct investor is collected since 2011 for liabilities, and the ultimate destiny of the direct investing, for the assets, began to be collected in 2017. There is another ongoing project to extend the coverage of these final countries to the flows, specifically FDI flows. The country of origin of one multinational group is very often more valuable information than the immediate country, which, in many cases, is a tax haven.

5. Conclusions

This paper has shown some challenges that the compilers of external sector statistics in the BC have faced recently, including the ones related to the upgrade to BPM6. It has also shown some insights regarding its contact with the questions and demands from the statistics users. Some of these challenges and insights are specific to Brazil and countries with similar institutional and economic conditions.

Nevertheless, a more general conclusion may be drawn: the development of the methodology of external sector statistics as well as their practical compilation work should not lose sight of the various needs of their users. In this sense, some topics for this development are proposed:

a. Although BPM6 does not require gross flows to be compiled in the financial account, the Brazilian experience shows they may convey valuable information for economic analysis. It would be useful if the manuals could clarify some questions that matter in the world of gross flows. For instance, to which extent should a debt renegotiation be regarded as a new transaction?

b. External sector manuals could give more details and even suggest tables regarding counterpart countries. CPIS and CDIS emphasize the need for this kind of breakdown, and giving guidelines on this topic in the BP manual itself seems like a natural step.

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