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# The Brazilian Experience in Implementing the BPM6



## The Brazilian Experience in Implementing the BPM6<sup>1</sup>

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### I. Introduction

The balance of payments (BoP), as well as the external debt (EXD) and the international investment position (IIP), are all compiled in Brazil by the Banco Central do Brasil (BCB) since its creation, in 1965<sup>2</sup>. **Brazil has always compiled BoP statistics using its exchange contracts system as the main data source (and still does)**, although the importance of survey data for external sector statistics compilation is increasing in latest years. In this way, the Brazilian BoP is compiled using an International Transactions Reporting System (ITRS).

As in many ITRS countries, Brazilian exchange contracts system is a by-product of foreign exchange controls. In Brazil, it is legally forbidden to have bank accounts denominated in foreign currency (with very few recent exceptions), only domestic currency can be used to settle domestic transactions and, since 1933<sup>3</sup>, all external transactions are made thru the banking system, generating exchange contracts. In this way, the potentially high implementation costs for such a system (regulation, observance, technology, monitoring) have long been paid and market participants are used to register its external transactions in the BCB's systems.

Brazilian ITRS has **no minimum threshold** and **all individual exchange contracts (microdata) are available for BoP compilers daily, with a 1-day lag**. Individual contracts of less than the equivalent to USD10,000 are informed in the aggregate, according to the nature of the transaction. These regulatory definitions of the exchange market allow considering the

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<sup>2</sup> BoP time series in Brazil goes back to 1947. Previously to the BCB, BoP was compiled by the Superintendence of Money and Credit (Sumoc), then the monetary authority of the country.

<sup>3</sup> Decree 23,258, of October 19, 1933 ([http://www.planalto.gov.br/ccivil\\_03/decreto/1930-1949/D23258.htm](http://www.planalto.gov.br/ccivil_03/decreto/1930-1949/D23258.htm), in Portuguese).

Brazilian ITRS as **comprehensive**. It is also a **closed system**, as the exchange contracts are reconciled with banks' foreign currency position on a daily basis and also exchange contracts related to the financial account transactions are linked to the registration system of foreign capitals in Brazil<sup>4</sup>.

In an emerging market economy, (external) crisis prone in the 1980's and 1990's and not issuer of international currency, such as Brazil, **timely external sector data has a crucial importance**. ITRS allows for the publication of **monthly BoP, with a 1-month lag**, as well as daily estimates for exchange market flows. The same is true for EXD data from Brazilian foreign capitals registration system.

At the BCB, the Balance of Payments Division (Dibap) of the Department of Economics (Depec) is responsible for compiling and publishing BoP, EXD, IIP and international reserves. Dibap is composed of 18 staff including 1 Head of Division and 4 Coordinators (trade balance; surveys<sup>5</sup>; EXD, IIP and reserves; and BoP flows). Both the exchange contracts and the registration systems are managed, regulated and monitored outside Dibap in other Depec's division or other BCB's Departments.

This paper deals with the steps taken by the BCB in the preparation and implementation of the sixth edition of the Balance of Payments and International Investment Position Manual (*BPM6*), published by the International Monetary Fund (IMF) in 2009. **On April 2015, BCB published the first BoP data according to BPM6 and on June 2015, EXD data. The implementation is expected to be finalized by February 2016 with the recompilation and conversion of BPM5 times series<sup>6</sup> to the new methodology.** The publication of external sector data according to the BPM6 occurred in line with the adoption of the System of National Accounts 2008 (SNA 2008) by the Brazilian Institute of Geography and Statistics (IBGE), on March 2015.

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<sup>4</sup> Registration of foreign capitals in Brazil in the Sumoc/BCB was established by Law 4,131, of September 3, 1962 ([http://www.planalto.gov.br/CCIVIL\\_03/leis/L4131.htm](http://www.planalto.gov.br/CCIVIL_03/leis/L4131.htm), in Portuguese).

<sup>5</sup> Brazilian Capital Abroad (<http://www4.bcb.gov.br/rex/CBE/Ingl/CBE2013Results.asp>) and Census of Foreign Capitals in Brazil (<http://www.bcb.gov.br/?CENSUS>).

<sup>6</sup> BPM5 time series goes back to 1947 (annual basis), 1978 (quarterly) and 1995 (monthly), <http://www.bcb.gov.br/?HISTBPM5>.

This paper is structured as follows: after this introduction, section II details the initial steps to the BPM6 implementation, the preliminary evaluation of the potential impacts, the process of adapting the existing exchange contracts codification and revising surveys. Section III presents the implementation of BPM6, information technology (IT) developments, reaching information providers, and the communication strategy. Section IV shows the first BPM6 results, both regarding the BoP and EXD. Section V finishes the paper with the next steps and challenges.

## **II. Initial Steps**

### **II.1 Preliminary evaluation of the BPM6 impacts on the Brazilian BoP**

In 2008, after the publication of the preparatory materials for the new manual from the technical experts groups and of the final draft of the BPM6, Depec proposed and the BCB's Board approved a project for the evaluation of the potential impacts of the new BoP methodology on Brazilian statistics. Dibap's first analysis of the new methodology resulted in the identification of 61 main changes with potential direct impact on data compilation (new concepts, the need to adapt existing data sources and to reach for additional ones), data processing (new accounts and new BoP structure of its standard components), and publication (need to revise national presentation in order to make it closer to international standards), and thus the need for a communication strategy.

The project final report was finalized and approved in mid-2009, with the determination for Depec to take the necessary actions for adopting BPM6.

### **II.2 New exchange contracts codification**

The Brazilian exchange contracts system has its own codification, established considering the country's legal, institutional and historical aspects, and the most important kind of flows to/from the Brazilian economy. This system of codes was originally defined in an environment of foreign currency scarcity. There were restrictions and controls to currency outflows, and the exchange contracts system's codes allowed for the regulation and supervision of the foreign exchange market. Just to mention one example, distinct codes for imports existed, proper for specific goods that were subject to different taxation or other

restrictions<sup>7</sup>. As the economic and institutional conjunctures evolve, different regulations on capital controls, taxation and access to the foreign exchange market were successively adopted, mostly creating new exchange codes, framing the system.

In 2010, a project on the improvement of the exchange market regulatory framework was initiated, aiming, among other things, to adequate it to the new economic and financial environment without restrictions to capital inflows/outflows and to the new statistical requirements of the BPM6<sup>8</sup>. This last objective was to be achieved by the **complete reformulation of the existing exchange contracts codification**, also simplifying and rationalizing existing codes, reducing observance costs. The revised codification and a publication with formal definitions and explanatory notes were published by the BCB on December 2013 and became effective on February 2014<sup>9</sup>.

The most important part of the exchange contracts codification for the BoP statistical compilation is the nature of the operation, which refers to the specific type of transaction. The reformulation reduced the quantity of exchange natures in 40%, from 319 to 190. The following table illustrates some of the changes, related both to the BPM6 and to simplification:

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<sup>7</sup> Other example is the variety of codes for international travel, according to the objective of the travel. For instance, there was a specific code to travelling for health reasons and the amount of foreign currency authorized to be sold for the traveler was higher in comparison to a regular tourist travel.

<sup>8</sup> To achieve these objectives, the project was a cooperative work of the Prudential and Foreign Exchange Regulation Department (Dereg), chairing the project; Depec; the Financial System Monitoring Department (Desig) and the Information Technology Department (Deinf).

<sup>9</sup> <http://www.bcb.gov.br/Rex/legce/port/Circular3690.asp?idpai=CAMBIOREGULA> and [http://www.bcb.gov.br/rex/LegCE/Port/Ftp/Notas\\_auxiliares\\_classificacao\\_operacoes\\_cambio.pdf](http://www.bcb.gov.br/rex/LegCE/Port/Ftp/Notas_auxiliares_classificacao_operacoes_cambio.pdf) (in both cases in Portuguese).

**ITRS codes - nature of the transaction**

| Selected codes until January, 2014                      | Select codes as of February, 2014  |
|---|--|
| Imports - general merchandise                           |  |
| Imports - crude oil (NCM 2709.00.10)                    |  |
| Imports - oil and derivatives (NCM - codes 2710 a 2713) | Imports  |
| Imports - books and newspapers                          |  |
| Imports - simplified exchange contract                  |  |
| Imports - special zone                                  |  |
| Travel - governmental missions                          |  |
| Travel - education, cultural and recreational           |  |
| Travel - health treatment                               | Travel   |
| Travel - business and training                          |  |
| Travel - others   |  |
| ...   | Services - waste treatment and depollution   |
| ...   | Services of manufacturing  |
| ...   | Donation - infrastructure works and capital goods  |
| Unilateral transfers - remittances                      | Unilateral transfers - worker's remittances<br>Unilateral transfers - remittances for students |
| Foreign capital - debt securities - notes               |  |
| Foreign capital - debt securities - commercial papers   | Foreign capital - debt securities - long term  |
| Foreign capital - debt securities - bonus               |  |

**One important improvement in the exchange codification for statistical purposes is the development of a more detailed structure of codes regarding various services.** Nonetheless, in some cases, as illustrated above for imports and travel, the revision condensed very similar older codes into a unique, without loss of information for the BoP. Although exchange contracts are the BoP main data source, it is possible to combine its nature codes with other data sources to elaborate the needed statistics. In some cases, transactions registered under the same exchange code are distributed in different BoP accounts using data that is external to the exchange contracts system.

**Other important development is the adoption of the same structure of codes for both assets and liabilities of the financial account.** In previous decades, besides foreign currency scarcity, Brazilian IIP was composed almost exclusively by liabilities. In this way, capital controls and regulation were historically concentrated in foreign investments and the exchange contracts codes reflected these facts, being heavily concentrated and detailed when it relates to inflows. The 2014 reformulation, following the international statistical

standards, as the BPM6, guaranteed symmetry among exchange codes related to assets and liabilities.

Lastly, it should be noted that all changes are obviously in accordance with current laws and regulations.

### II.3 Transfer of BCB surveys to Depec and its comprehensive revision

The BCB conducts two surveys in order to collect data to complement the compilation of external sector statistics, flows and positions. The **Census of Foreign Capitals in Brazil (Census)** aims to compile statistics of Direct Investment (DI) resident enterprises and resident debtor companies. As such, its major purpose is to measure the DI Liabilities position. The **Brazilian Capital Abroad (BCA)** is intended to measuring the positions of residents foreign assets.. Both surveys are designed to be censuses, since they seek to collect information from all enterprises and individuals (in this last case, exclusively the BCA).

The **Census** has been carried out since 1996<sup>10</sup> (base-year 1995) as a compulsory declaration, conducted every five years. In the three first Census, from 1996 to 2006, respondents included (i) companies recipient of direct or indirect foreign investments, with direct or indirect non-resident participation in equity of at least 10% of shares or quotas representing voting power, or, at least, 20% of total paid-in capital and (ii) companies recipient of foreign credits. The **BCA** has been conducted since 2002<sup>11</sup> (base-year 2001) as an annual survey, mandatory for natural and legal persons holding assets abroad in an amount equal or above US\$100 thousand.

In late 2010, BCB's Board decided for the transference of both surveys from Desig to Depec, reaffirming the main objective of the surveys to be data sources for statistical compilation. In this decision, it was also stressed the efficiency and productivity gains derived from an integrated structure for collecting, analyzing, compiling and releasing statistical data.

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<sup>10</sup> Although its legal base dates from 1962, Law 4,131, of September 3, 1962 ([http://www.planalto.gov.br/ccivil\\_03/LEIS/L4131.htm](http://www.planalto.gov.br/ccivil_03/LEIS/L4131.htm), in Portuguese). Census results are published at <http://www.bcb.gov.br/?CENSUS>.

<sup>11</sup> In a similar fashion, although its legal base dates from 1969, Decree-Law 1,060, of October 21, 1969 ([http://www.planalto.gov.br/ccivil\\_03/decreto-lei/1965-1988/De1060.htm](http://www.planalto.gov.br/ccivil_03/decreto-lei/1965-1988/De1060.htm), in Portuguese). BCA results are published at <http://www4.bcb.gov.br/rex/CBE/Ingl/CBE2013Results.asp>.



**The first main methodological improvement in these surveys was the establishment of sample surveys, aiming for better follow-up of positions and increasing frequency.** Consequently, since base period 2011, the Census is being conducted on a sample basis every year and BCA, since March 2011, quarterly.

**The other important methodological improvement was the comprehensive revision of both surveys to enhance its adherence to statistical concepts and, lately, to follow the BPM6 guidelines.** In 2011, the **Census** was split into two surveys: the Quinquennial Census and the Annual Census, the latter targeted to large enterprises. Methodological improvements comprise the adoption of **market value** as a criterion for the valuation of DI enterprises and the identification of both **immediate and ultimate investors**. Enterprises headquartered in Brazil were allowed to respond the Census by consolidating information on their controlled companies also operating in the country, as a way of reducing the cost of compliance and the number of respondents. In the last survey edition, base-year 2014, Census mandatory declaration comprised (i) DI enterprises, including investment funds, with a net worth equal or more than US\$100 million and (ii) companies headquartered in Brazil, recipient of short-term trade credits granted by non-residents, with outstanding value equal or exceeding US\$10 million.

Concerning the **BCA**, sample quarterly surveys, since 2011, are mandatory for residents with foreign assets abroad, which totaled US\$100 million or more. Further refinement on the survey structure comprised: information about **reinvested earnings**; classification of positions by instrument considering the immediate host country, economic sectors and currency. Again, a further important feature is that data on stocks are mainly **market valued**.

Table 1 - Foreign Investment in Brazil and Brazilian Investment Abroad: Universe and Sample Surveys

| Foreign Investment in Brazil                | 1995   | 2000    | 2005    | 2010    | 2011    | 2012    | 2013    |
|---|--------|---------|---------|---------|---------|---------|---------|
| Number of respondents                       | 6,322  | 11,404  | 17,605  | 16,844  | 3,210   | 2,398   | 2,082   |
| Survey FDI equity stock - US\$ million      | 41,696 | 103,015 | 162,807 | 587,209 | 524,817 | 533,958 | 477,485 |
| Imputed FDI equity stock - US\$ million     | -      | -       | -       | -       | 65,679  | 82,301  | 96,261  |
| Total value FDI equity stock - US\$ million | 41,696 | 103,015 | 162,807 | 587,209 | 590,495 | 616,258 | 573,745 |

| Brazilian Investment Abroad                 | 2013 Q2 | 2013 Q3 | 2013 annual | 2014 Q1 | 2014 Q2 | 2014 Q3 | 2014 annual |
|---|---------|---------|-------------|---------|---------|---------|-------------|
| Number of respondents                       | 409     | 387     | 30,573      | 415     | 417     | 430     | 37,007      |
| Survey FDI equity stock - US\$ million      | 212,508 | 229,234 | 272,921     | 225,791 | 234,751 | 232,462 | 269,832     |
| Imputed FDI equity stock - US\$ million     | 41,798  | 41,636  | -           | 52,121  | 52,482  | 53,524  | -           |
| Total value FDI equity stock - US\$ million | 254,306 | 270,870 | 272,921     | 277,911 | 287,234 | 285,986 | 269,832     |

Source: Central Bank of Brazil

In addition to improvements already implemented, BCB is continuing to improve its external statistics compilation process. A new system for the submission of electronic BCA questionnaires is under construction. Using modern IT architecture, the new system, among other functionalities, will collect information regarding ultimate invested countries and activities of Brazilian investors abroad. Moreover, by improving intuitiveness and rationality for respondents, the developing BCA system is expected to reduce observance cost and provide higher quality data.

Furthermore, a modernization of Electronic Declaratory Registration System for Foreign Direct Investment (EDR-FDI) is occurring. EDR-FDI captures cross border capital flows associated with FDI, combining information regarding investment details and investor's identification. In line with BPM6 guidelines, EDR-FDI is being designed to receive quarterly sample survey positions on reinvested earnings and other financial positions. This new information will be used to validate annual Census responses, as well as to improve reinvested earnings' monthly estimation.

### III. BPM6's implementation process in Brazil

On October 2013, the BCB's Board approved a specific project, with its own budget, for the implementation of BPM6, starting on January 2014 and expected to be finalized by the end of next year. For the implementation of BPM6 the project has for lines of action: i) capacitate and enhance the staff on the new methodological concepts and best compilation practices; ii) development of a new BoP database (using Data Warehouse, DW), adjusting the processes of production, analysis and dissemination of statistics; iii) recompile and convert historical data to the new BPM6 methodology, with a monthly frequency from 1995, a quarterly frequency from 1979 and an annual frequency from 1947; and iv) external communication through seminars and organization of national and international events, to present and/or discuss the new methodology with users, including market participants, academia, press, government agencies and international organizations.

#### III.1 Information Technology (IT) developments

The processing of primary data from the various data sources to generate BoP statistics is made thru a DW fully dedicated to the BoP. BoP DW serves not only as a storage place for all the BoP transactions but also as a tool for the compilation process. For instance, after data have been loaded to the BoP DW from the ITRS DW and other sources it is checked and reclassified according to BoP needs. In this sense, **a critical step towards BPM6 implementation was the development of a new DW and the associated chart of BoP accounts and conversion table.**

The first reason for a new DW was the need to have **concurrent BPM5 and BPM6 data during the transition process.** While BPM6 data was being developed, there was still the need to keep producing BoP figures in BPM5, and therefore it was not convenient to set the BPM6 database in the same environment of the BPM5 one. However, the two main reasons to set up a separate DW were the need for a new "chart of BoP accounts" and a new conversion table.

**The chart of BoP accounts is the accounts' tree that implements, in the DW, the structure of BoP standard and supplementary components.** As this structure changed from BPM5 to BPM6, a new chart was necessary. The new chart of BoP accounts basically followed the structure of standard and supplementary components outlined in Appendix 9 of BPM6. Then this structure has been tailored to the country's specific needs with the addition of a few more accounts, namely for i) the distinction between portfolio liabilities traded in

domestic and foreign markets and ii) the breakdown of loans liabilities according to a specific classification of the creditor (organisms, agencies, buyers and other). The keys used to identify the accounts were defined internally and follow a mnemonic structure. SDMX<sup>12</sup> fields were also added to the chart of accounts and therefore it will be possible in the future to produce SDMX compliant data straight from the DW.

The **conversion table translates Brazilian ITRS codes to BoP accounts**. As both the BoP accounts and the conversion rules differ between BPM5 and BPM6 due to methodological aspects, the creation of a new conversion table was required. When data is loaded into the DW from the ITRS or other sources that use ITRS codes, the load program consults the conversion table in order to assign BoP fields to the transactions. The ITRS codes used as input in this map are the transaction code, which conveys i) the economic motivation for the transaction; ii) the inflow/outflow field; iii) the resident and non-resident codes; iv) the link code, which conveys the kind of direct investments relationship between the resident and non-resident, if there is any; and v) the economic sector of the resident. The output of the table consists of the BoP fields to be assigned to the transactions, i.e., the BoP account as well as the asset/liability and the credit/debit fields<sup>13</sup>.

On the other hand, the technology and even the database tables and fields of the new DW were similar to the BPM5 one, with just some specific technical improvements being implemented in the new version. This proved to be very convenient because it **simplified the adaptation of the BPM5 processes and DW reports to BPM6**. Moreover, it allowed the direct migration of past data from the BPM5 to the BPM6 DWs, as will be explained below.

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<sup>12</sup> The Statistical Data and Metadata eXchange (SDMX) is an initiative set forth by international organizations to sets standards to normalize the exchange of statistical data and metadata and improve their efficient sharing, using modern information technology. It consists of: i) technical standards, ii) statistical guidelines, and iii) an IT architecture and tools. More information on <http://sdmx.org/>.

<sup>13</sup> A feature of the BPM6 conversion table is that not all input fields must be used to determine BoP fields. Depending on the transaction code, only a subset of the input fields is used. For example, for most services, the BoP account to be assigned to the transaction does not depend on the resident or non-resident, or on the link between the two. In such cases, only the transaction code containing the type of service and the inflow/outflow field are enough to determine the BoP fields. On the other hand, instruments like securities could be DI or portfolio depending on the resident and non-resident parties and on the link between them. Consequently, for transactions using this instrument, all of the input fields must be combined to determine the BoP fields.

After the BPM6 DW was ready, an immediate matter was how to feed past data into it, since the first BPM6 release in April 2015 should cover the 15 months from January 2014 to March 2015. One option was “**full recompilation**”, which means loading new data directly from the ITRS and other primary sources into the BPM6 DW and then executing the compilation procedures all over again. This was done for the 4 months just before the first BPM6 release as a means to test the new compilation procedures and their backward compatibility with the BPM5 ones.

However, it was not a convenient approach to take for the whole period. Recompiling all months would be inefficient since it would mean throwing away all the transaction checks and reclassifications that had already been done in the BPM5 DW. So, for the other 11 months, instead of loading data from the primary sources, a **migration from the BPM5 DW to the BPM6** one was carried out. In this way all the reclassification of ITRS codes that had been done in the BPM5 DW could be reused in the BPM6 context.

To understand why such reuse is possible, it is important to grasp in a little more depth the role of the ITRS codes versus the one of the chart of BoP accounts and the conversion table. ITRS codes describe the transactions and their parties, and such descriptions are in general unaffected by the BPM version. Reclassifications and other quality checks are most of the time done on the ITRS codes, and not directly on the BoP accounts. When a reclassification is performed, a new BoP account is assigned to the transaction based on its new set of ITRS codes and on the conversion table.

So, as the description of the transactions embedded in the ITRS codes is BPM version independent, and as the reclassifications are performed on these codes, then it is perfectly feasible to migrate data from the BPM5 DW to the BPM6 one and reuse the reclassifications. What depends on the BPM version is the chart of BoP accounts as well as the way the transactions are allocated to those accounts, which is determined by the conversion table.

### **III.2 Reaching information providers**

To compile BoP statistics using an ITRS means, among other things, to have difficulties in compiling some economic transactions that happens without financial flows, that are settled in domestic currency or the ones made directly in foreign banking accounts. Furthermore, there are specific difficulties related to the measurement of reinvested earnings, asset income denominated in Reais (BRL) negotiated in the domestic market and,

relatively to goods and services, payments made abroad. **The BPM6 implementation process involved efforts to overcome these intrinsic IRTS limitations.**

Information required for the compilation of reinvested earnings started to be supplied by the **BCB surveys' (Census and BCA)** that measure DI liabilities and assets (excluding international reserves) positions. In the other cases, Dibap had to develop new data sources, a process only partially concluded. For payments in domestic currency made to nonresident investors relative to fixed income interests denominated in BRL and negotiated in the domestic market, information started to be supplied by the **Open Market Operations Department (Demab)**, BCB's department that manages the Special System for Settlement and Custody (Selic), in which those securities are traded.

The development of internal data sources has higher degrees of freedom in comparison to external sources. Apart from specific regulation, as in the Census and BCA cases, the BCB does not have legal authority to require information from entities that are not in the National Financial System. Data gathering from nonfinancial companies has thus been built in cooperative bases, culminating with the formalization via agreements or memorandums of understanding.

In the BPM6 implementation process, Dibap visited government institutions, the development public bank, customs and taxation authority, private transport companies, significant exporters, and other nonfinancial companies, explaining the new methodological standard for the external sector, and proposing to receive information according to specific forms for each group. Up to the first semester of 2015 the results are limited, since only a minority of entities has been sending information periodically. Nonetheless, the expectation is to gradually increase the number of direct information from nonfinancial information providers.

### **III.3 Communication strategy**

Best practices for statistical compilation and publication of data include the preparation of a communication strategy in such cases as methodological updates significantly impacting current statistics. This strategy must comprise actions taken prior as well as during this release and also after first data with the new methodology has been published, both to inform more details on the data and to answer questions and doubt of the users.

In this sense, BCB has published in its website a first statement on the BPM6 adoption in Brazil five months before the first release of new data<sup>14</sup>. The communiqué mentioned the date for the BPM6's first release of data (April 2015), the consistency of the SNA 2008 (March) and BPM6 adoption in Brazil and the publication of the first Methodological Note<sup>15</sup> on the BPM6. The note deals with the general conceptual changes caused by implementing BPM6. The following step was adapting and publishing the IMF's Frequently Asked Questions to the Brazilian case<sup>16</sup>.

After completing the phase of communicating the future adoption of the BPM6, the next step was to prepare the documents to be released simultaneously to the statistical publication. Two more detailed Methodological Notes<sup>17</sup> on the accounts that were quantitatively more impacted in the Brazilian case (current account and DI), including estimates of the new series for 2010-2014, were published a week before the data release. In this week also was held a meeting with the press to present the new methodology and the new tables (without data). On April 22, 2015 the data were first published with the regular press release and additionally a specific presentation by the Head of Depec<sup>18</sup>. At that moment, the BPM6 monthly time series went back only to January 2014<sup>19</sup>.

For the first release of the EXD according to the BPM6, on June 2015, a Methodological Note was also published a week before the publishing of the new data<sup>20</sup>. In this case, BPM6 quarterly time series is available beginning on December 2001<sup>21</sup>.

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<sup>14</sup> On November 24, 2014 (<http://www.bcb.gov.br/ingles/economic/combpm6i.pdf>).

<sup>15</sup> "External Sector Statistics – Adoption of the Sixth Edition of the Balance of Payments and International Investment Position Manual (BPM6)", of November 24, 2014 (<http://www.bcb.gov.br/ingles/economic/nm1bpm6i.pdf>).

<sup>16</sup> <http://www.bcb.gov.br/ingles/economic/faqbpm6i.pdf>.

<sup>17</sup> "Current Account" (<http://www.bcb.gov.br/ingles/economic/nm2bpm6i.pdf>) and "Direct investment and primary income (earnings)" (<http://www.bcb.gov.br/ingles/economic/nm3bpm6i.pdf>).

<sup>18</sup> [http://www.bcb.gov.br/pec/appron/apres/Tulio Maciel Novo BPM6 22 04 2015.pdf](http://www.bcb.gov.br/pec/appron/apres/Tulio_Maciel_Novo_BPM6_22_04_2015.pdf) (in Portuguese).

<sup>19</sup> <http://www.bcb.gov.br/?HISTBPM6>.

<sup>20</sup> "External Debt" (<http://www.bcb.gov.br/ingles/economic/nm4bpm6i.pdf>).

<sup>21</sup> <http://www.bcb.gov.br/?GEDHSERIES>.

A specific webpage was created for the release of BPM6 related information<sup>22</sup>, which should be constantly updated with FAQ revisions, new public presentations and/or papers<sup>23</sup> and other relevant material. For the next year, a series of presentations in universities are planned.

#### IV. First results

##### IV.1 BoP

As mentioned before, the main impacts of the BPM6 for the Brazilian BoP were on the current account and DI. In the **current account**, three changes with relevant impact in the aggregate figures have been implemented so far: i) **adjustments in the export/import of goods data** received from the Ministry of Development, Industry and Trade (MDIC); ii) **compilation of interests from debt securities traded in the country and settled in BRL**; and iii) of **reinvested earnings**.

Before BPM6, the balance on **goods** in the BoP relied solely on the figures compiled and released by the MDIC. Such data is extremely timely (released weekly) and comply with the methodological guidelines of the International Merchandise Trade Statistics (IMTS)<sup>24</sup>. However, BPM6 recommends that IMTS be adjusted to BoP requirements. Following this guideline, the balance on goods in the BoP is now compiled with the use of supplementary sources to complement IMTS. Implemented adjustments take into account mainly imports of electricity not paid in foreign currency, exports delivered inside and imports delivered outside the country's economic territory.

The second relevant change, as mentioned, is relative to the primary income account, more specifically **interests**. Until the shift to BPM6, as the only source for this item was the ITRS,

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<sup>22</sup> <http://www.bcb.gov.br/?BPINTERINV>.

<sup>23</sup> As an example, the presentation "*Brazilian Data Collection System and BPM6 Issues*", made on July 24, 2015, for the joint BCB-Cemla-IFC Seminar "Assessing International Capital Flows After the Crisis" was published in the webpage (<http://www.bcb.gov.br/pec/appron/apres/Brazilian-data-collection-system-and-BPM6-issues-seminar-IFC-2015-July.pdf>).

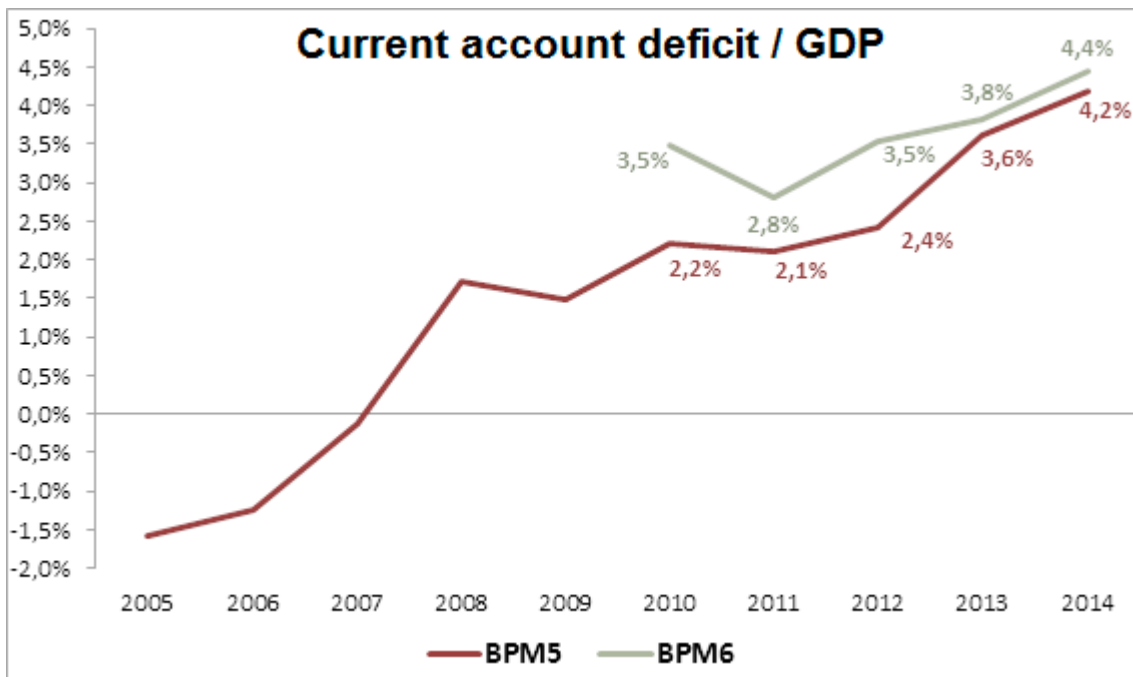
<sup>24</sup> United Nations, International Merchandise Trade Statistics: Concepts and Definitions, 1998 ([http://unstats.un.org/unsd/publication/SeriesM/SeriesM\\_52rev2E.pdf](http://unstats.un.org/unsd/publication/SeriesM/SeriesM_52rev2E.pdf)).



the payments of interest coupons on securities traded in the domestic market, in BRL, was only captured in the statistics if or when the resources were effectively sent abroad. With the adoption of a new data source, the Selic, those interest payments are included, no matter if they are sent abroad or not.

The other relevant change in the current account is the computation of **reinvested earnings**, a BoP item that hadn't been compiled in Brazil since 1999 due to the lack of reliable sources. From that year up to 2015, only earnings effectively sent to a direct investor abroad or received by a direct investor in the country were included in the BoP. The issue of lack of sources has been solved with the inclusion of new questions on reinvested earnings in the BCA and Census surveys. In this way, both the reinvested earnings of direct investors abroad and in the country are now covered in the BoP.

The graph below shows a comparison of the current account deficits, as a share of Brazilian GDP, according to the (old) BPM5 time series and the BPM6 new one. The figures for BPM6 are still estimates based on the preliminary impact of the three main changes above, which were added to the BPM5 numbers.



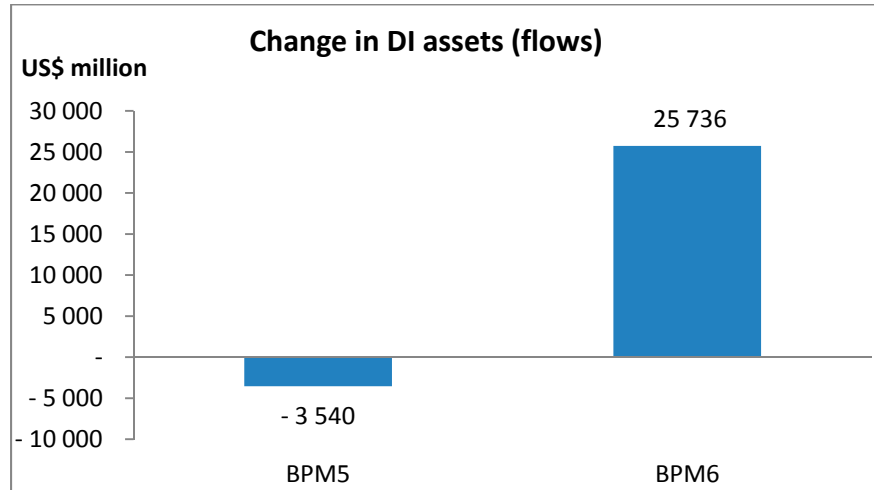
In the financial account, the three most important BPM6 changes took place in **DI**: i) **the use of the assets/liabilities principle**; ii) **the computing of debt between fellow enterprises**; and iii) **reinvested earnings**.

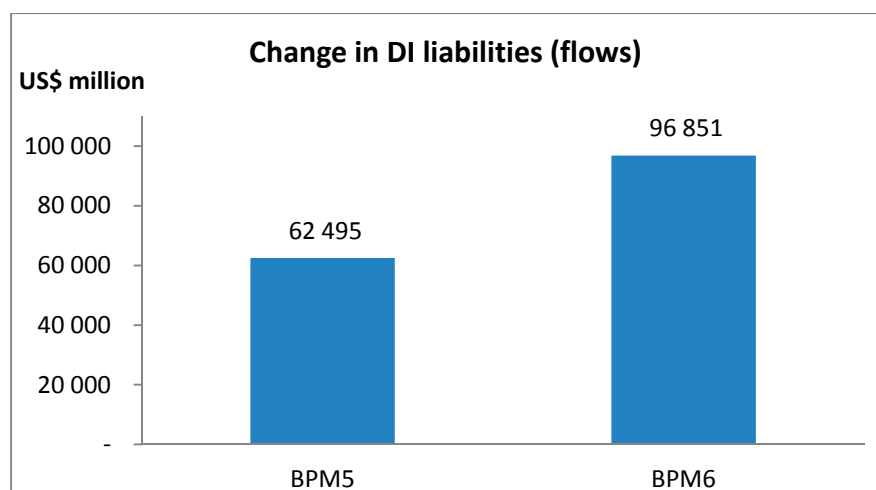
Within the **assets/liabilities principle** the main change is a rearrangement of the reverse investment, which happens when the direct investor has a liability from its DI enterprise. In BPM5 the reverse investment was *subtracted* from assets and liabilities and in BPM6 it is *added* to them. This change of principle contributed to raise both the DI assets and liabilities as compared, respectively, to the Outward FDI and to the Inward FDI from BPM5.

In BPM5, **debt between fellow enterprises** was not computed as a separate item. A relationship between fellow enterprises used to be classified as Outward FDI or Inward FDI depending on the location of the ultimate controlling parent. From BPM6 on, debt between fellow enterprises is being computed and shown separately.

Finally, **reinvested earnings** affect DI in the same fashion as they do in the case of the current account. A debit (credit) in reinvested earnings in the current account corresponds to a raise in the liabilities (assets) under DI – equities.

The following graphs show a comparison between DI in the BPM5 and BPM6 concepts for 2014. The shifts mostly reflect the incorporation of reinvested earnings and the adoption of the asset/liability principle instead of the directional principle.





## IV.2 EXD

In the context of the Brazilian BPM6 implementation, two main changes occurred in June 2015 regarding **EXD**: i) the **valuation by market value of external debt securities**; and ii) the **incorporation of outstanding debt securities issued in the domestic market and held by nonresidents as EXD**.

Regarding the valuation criteria of debt securities' in EXD statistics, **market value is adopted, in addition to nominal value (reported as a memo item)**. Initially the valuation change affected only government debt securities, due to some data source limitations concerning private debt securities' market values.

The table below compares the outstanding government debt securities under two criteria of valuation, nominal and market value:

|   |        |        |        |        |        |        |        | US\$ million |
|---|--------|--------|--------|--------|--------|--------|--------|--------------|
| General Government - Long-term<br>- Debt securities | 2011   | 2012   | 2013   | 2014   |        |        |        | 2015         |
|   | Dec    | Dec    | Dec    | Mar    | Jun    | Sep    | Dec    | Mar          |
| <b>Market value</b>                                 | 49 159 | 52 388 | 39 560 | 39 791 | 42 499 | 42 441 | 42 049 | 38 187       |
| <b>Nominal value</b>                                | 37 776 | 37 696 | 35 668 | 35 302 | 36 770 | 38 441 | 37 855 | 35 068       |
| <b>Diference</b>                                    | 11 383 | 14 692 | 3 892  | 4 489  | 5 729  | 4 000  | 4 194  | 3 119        |

According both to the BPM6 and the “External Debt Statistics: Guide for Compilers and Users” (EDS 2013)<sup>25</sup>, EXD is a liability of a resident unit held by nonresidents, irrespective of the place of trading, the jurisdiction, or the currency in which the debt is denominated.

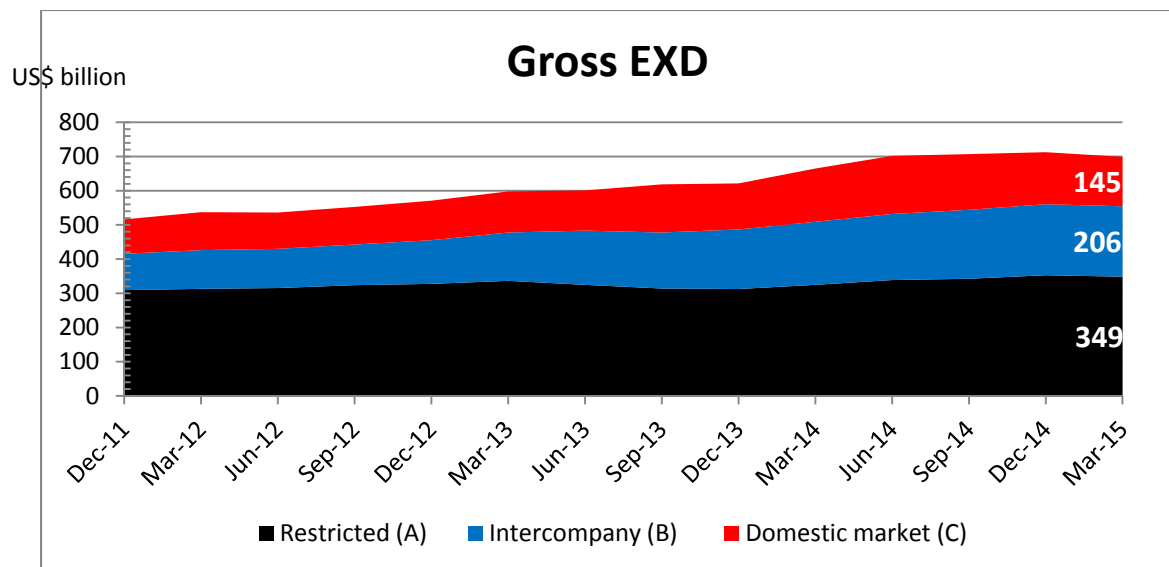
<sup>25</sup> <http://www.tffs.org/edsguide.htm>.

**Given this conceptual framework and the increasing importance of outstanding debt securities issued in Brazil and held by nonresidents, the Brazilian EXD quarterly statistics started covering this item.** These liabilities have always been included in the IIP series. The methodological change only considered this external liability, already computed in the IIP statistics, as EXD.

EXD time series containing domestic debt securities held by non-residents were recompiled from December 2001. The data sources for these amount are the already mention Selic, managed by Demab, for Domestic Federal Public Debt (DFPD) held by nonresidents, which represented around 97% of total outstanding; and the Brazilian Securities and Exchanges Commission (CVM), for the private sector debt securities.

This incorporation of domestically issued securities held by non-residents allowed a broader analysis of the Brazilian EXD. Previously to June 2015, Brazilian EXD was presented in national publications as having two tiers, as regards its risk profile: one that can be called “restricted EXD”, with the other being intercompany lending. Now, national presentation has added a third tier: the domestic debt securities, issued in Brazil and settled in BRL, held by nonresidents. For an emerging market economy to have EXD issued locally and denominated and settled in its own domestic currency is an important step in minimizing the so called “original sin”, making the debtor EXD service not dependent on the availability of foreign currency and transferring exchange rate risk to the nonresident creditor. For these reasons, EXD national publications show this part of EXD separately.

The following graph shows this national presentation of EXD, using these three tiers:



## V. Next steps

After the first release of BPM6 BoP statistics on April 2015, with a new monthly time series initiating on January 2014, next steps mainly involve, in order of priority: i) **backdating BoP series from 1947 to 2013**; ii) **setting and using new data sources to fill ITRS gaps**; and iii) **using market values for private debt securities in the EXD**.

While step ii is important in the medium to long term, as it will make an overall data quality improvement possible, **step i is critical in the short term**. During the current transition period, data users only have available either BPM5 time series that were discontinued on February 2015 or the BPM6 series only from 2014. Contacting data users after the first BPM6 release, they have pointed to backdating in BPM6 format as their top demand.

To plan the backdating, two general points were taken into consideration. On the one hand, availability, granularity and general quality of information sources diminish as we move backwards in time. On the other hand, this may not be a serious issue as the complexity of the BoP transactions and their diversity across the various BoP accounts also diminish as we move backwards. The backdating plan currently under execution has three different approaches for three different periods of time.

For **2009-2013**, there are transaction-by-transaction data available in the BPM5 DW. That makes it possible to perform a data migration from the BPM5 to the BPM6 DW in the same fashion as the one done for 2014 and described in item III.1. As a result, the reclassifications and other quality checks performed in the BPM5 monthly compilations will be automatically carried over to the BPM6 DW. Proceeding this way will avoid full recompilation and therefore will reduce the amount of work needed to generate BPM6 figures. At the same time, the transaction-by-transaction granularity of the database will be preserved.

For **1995-2008**, the same approach is not feasible, as there is no BoP DW available, just a less robust database without a transaction-by-transaction granularity. This means data had to be aggregated in some of its dimensions before being inserted in the database. Moreover, as the reclassifications and other quality procedures used to be done before data aggregation and their insertion in the database, it is not possible to trace these procedures back to the individual transactions.

As a result, to have micro data in the BPM6 DW for the period, it would be necessary to (re)load transactions from the ITRS DW and other primary sources into the BPM6 DW and then perform a full recompilation for the whole period, which is not feasible.

However, it might be possible to take advantage of the fact the quality procedures affect some transactions much more than others. Loans and securities, for instance, are much often reclassified, as they might be DI and the fields that determine the relationship between the resident and the nonresident often needs reclassification.

This scenario suggests a mixed approach: the transactions that are not often reclassified could be loaded transaction-by-transaction from the primary sources, whereas the figures for the ones that are heavily reclassified should come from the old BoP database, in an aggregate fashion. The precise specification of exactly which accounts will be fed from the primary sources and which from the old database is a work still in process.

Finally, for **1947-1994**, there is neither an ITRS DW nor an old BoP database available. So, for this period an “automatic conversion” will be done to move data directly from the BPM5 to the BPM6 accounts. No micro data work will be done for those years.

As for steps ii and iii, they have already been dealt with in previous sections.