The Portuguese experience in compiling PI statistics

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Introduction

Various alternatives are available when designing a data collection system for portfolio investment (PI) statistics, in the context of balance of payments (BOP) and international investment position (IIP). Such systems differ according to the reporting agents they target, periodicity and level of aggregation, while the corresponding results vary in terms of implementation and running costs, availability and quality of data and response burden.

Until 1999, Portuguese PI statistics relied on an asymmetric system of assets and liabilities. Whereas the data collection system in use since 1991 for the liabilities system used a security-by-security (s-b-s) data model, the absence of a unique and standardized identifier on the assets side precluded use of this method. Thus, data collected from respondents were aggregated by type of security, country of the issuer and currency in which the assets were denominated. Another distinguishing feature of the two systems was the periodicity with which data were collected. While monthly flows were available for both PI assets and liabilities, data collection for end-of-period positions was monthly on the liabilities side but annual for assets.

As mentioned above, the existing data collection system was implemented in the early 1990s, and by the end of the decade, certain changes and adjustments were necessary, mostly due to the need for improved periodicity in end-of-period statistics and for improved coverage of PI asset data.

1. Selection of a data collection model for PI statistics – level of detail

Data collection models for PI statistics may be defined on the basis of several features: the level of detail in the information collected (aggregate versus s-b-s), the type of information collected (on both stocks and flows, or on only one of these variables, in which case the second value is derived from the first), the collection method used (census or sample survey) and the reporting channel used (indirect – i.e., settlement-based or custodian-based – versus end-investor direct reporting).

Aggregate reporting has the advantage for the compiler of reducing implementation and maintenance costs, and of resulting in a relatively small amount of data to maintain. However, it also involves the risk of miscalculation, the problem of different reporting entities using different aggregation procedures, and greater difficulties in cross-checking data and reconciling flows and stocks. Another significant issue is the greater risk of misclassification or double-counting of items that appear as both portfolio investment and direct investment, since the distinction must be made by each individual respondent, and there may be limited information about a given investor's share of a company's equity capital. Also, for respondents, aggregate reporting usually means a greater reporting burden in terms of details and breakdowns to be covered, since an s-b-s database must be maintained (in each respondent's system) to provide the data for such breakdowns, while adjustments must be made in reporting systems every time new or additional output requirements are implemented.

Security-by-security reporting, on the other hand, ensures accuracy and consistency of data, but shifts costs and work from the respondent to the compiler, in the form of aggregation procedures and maintenance of an individual securities database. There is greater flexibility in responding to new requirements and, in some cases, changes in respondents' reporting systems may not even be needed. This type of system can be used to derive flows from high-frequency stock data, reducing the reporting burden for reporting agents and allowing for quality checks at a very detailed level. The reporting burden will also be reduced by the fact that less detail (in terms of breakdowns) needs to be reported by respondents. Finally, s-b-s reporting is useful for calculating interest on an accruals basis, and it may provide synergies in dealing with other statistics, such as money and banking statistics and national financial accounts. The main disadvantages of s-b-s data collection models are the considerable costs of implementing and maintaining them, and their dependence on the availability of unique securities identifiers.

2. Selection of a data collection model for PI statistics – reporting channel

Based on the respondents being targeted, three major reporting channels can be distinguished. The first option is indirect settlement-based reporting by domestic banks for their own transactions and for transactions executed on behalf of their clients. This alternative has the advantage of keeping the size of the reporting population relatively small while providing high-frequency and timely data. It can easily be adapted for s-b-s reporting, and the portfolio/direct investment double-counting problems are minor. The main difficulties have to do with the widespread use of netting and clearing techniques that prevent the collection of gross investment and disinvestment data, and the need for complementary reporting (e.g. for settlements through accounts with foreign banks). Moreover, pure stocks statistics must be collected separately, through one of the other possible channels.

A second option is direct reporting by resident issuers and end-investors, which can ensure full reconciliation between flows and stocks, and the collection of related income data on an accrual basis. Here, the distinction between direct and portfolio investment does not present a problem. The major drawback of this alternative is the potentially large size of the reporting population, especially in the case of households. Also, in the case of some specific sectors, it may be difficult to obtain timely and high-frequency data. The implementation of s-b-s reporting may be more difficult for sectors unfamiliar with this way of reporting and storing information. Finally, statistical principles and methodology may differ from the accounting principles used by a large number of respondents.

The third option is indirect reporting by custodians or other financial intermediaries involved in securities transactions and holdings. This reporting channel has the same advantages as the first alternative (timely and high-frequency data, relatively small reporting population, ease of adaptation for s-b-s reporting, the possibility for micro-checks of data), while permitting full reconciliation between stocks and flows. However, it requires that certain complementary information be collected directly from the end-investors, in the case of securities held in custody abroad. The exclusion of repo-type transactions/positions and direct investment holdings represents an additional challenge.

The selection of a direct or indirect reporting scheme depends, of course, on national characteristics, such as the size of the targeted population and the prevailing reporting practices. Direct reporting is more suitable for banks' own holdings, while indirect reporting may be the only practical approach for households. For other sectors, choosing the most suitable reporting channel depends on a number of factors, including the average size of companies. Indirect reporting has advantages in terms of timeliness, efficiency and ability to adapt to s-b-s. However, it may encounter difficulties in collecting specific data such as repo

transactions, or in distinguishing between portfolio and direct investment, and must be supplemented by direct reporting in some cases, while special care must be taken to avoid gaps (lack of coverage) or overlaps (double-counting).

3. The Portuguese approach

The need to change the portfolio investment data collection system for BOP and IIP purposes led to in-depth consideration of various dimensions of the problem, including selection of the most appropriate level of detail and choice of reporting channel, as described above. The experience of having an s-b-s reporting system (for PI liabilities) side by side with an aggregated one (for PI assets) ultimately led to choosing an s-b-s data model, as the benefits of an s-b-s system versus an aggregated approach became evident. On the compilers' side, the quality of the final statistics and the data control checks are facilitated and enhanced if data are collected on an individual basis. On the respondents' side, the need to aggregate the data means that each has to maintain a database of individual securities and run aggregation procedures, thus increasing the workload needed to produce the statistics by increasing the number of respondents involved. Communication with respondents confirmed that they preferred an s-b-s solution. Moreover, widespread use of the ISIN code, now becoming common in financial markets, eliminates the practical difficulties of implementing such a system as regards residents' investments in foreign securities.

As to selection of the respondents, the existing system was based on indirect reporting by resident custodians, complemented by direct reporting from end-investors holding securities in custody abroad, and this continued to be an appropriate solution, especially in terms of obtaining reliable and timely data.

As mentioned above, one of the major drawbacks of an s-b-s reporting system is the significant cost involved in developing it and maintaining it over time. The solution devised to reduce this cost was to also use the system for other statistics compiled by the Banco de Portugal Statistics Department. Accordingly, the Securities Statistics Integrated System (SIET) was implemented to collect data not only for BOP and IIP purposes, but also for monetary and banking statistics, as well as for the national financial accounts. This option had additional benefits: in extracting information from their systems, respondents did not need to confine themselves to information relevant to BOP and IIP – i.e. residents' investment in foreign securities or non-residents' investment in national securities – but rather could provide data on all investors' transactions/holdings in all securities; certain data needed for financial accounts (residents' investment in national securities) that were not previously available were now accessible; and lastly, an integrated collection system ultimately generated more consistent statistics.

Another interesting outcome of this process is that, although respondents are obliged to report monthly flows and quarterly stocks, the large majority prefer to report both flows and stocks on a monthly basis, believing that this option entails fewer costs for them and reduces inconsistencies.

The data collected through this system are, therefore, very rich in terms of the information they offer compilers and users of PI statistics, providing not only information on traditional variables such as the type of security (in detail), the resident investor/issuer's institutional sector (in detail) and a full geographical breakdown (on the assets side), but also other detailed data useful for analysis, such as the currency in which securities are denominated and the non-resident issuer's institutional/economic sector. Moreover, changes in the underlying methodology can be introduced easily, since the design of the data collection system took account of possible future changes in output requirements.

4. Compiling PI statistics

On the PI liabilities side, the direct reporting option is usually not available, and indirect reporting through resident custodians is limited by the extent to which non-resident investors use the domestic financial system. Neither option is able to provide a geographical breakdown of liabilities by creditor country. The Portuguese system uses a mixed approach, in which PI liabilities are calculated on the basis of the net balance of all cross-border custody holdings among issuers, central securities depositories (CSDs), resident custodians and resident end-investors. The risk of misclassification or of double-counting direct investment is obviated by correlating PI data with direct investment surveys.

The main current limitation relates to the geographical allocation of PI liabilities' end-of-period positions and related income by creditor country. This is a significant concern, since it limits the compilation and dissemination of meaningful bilateral IIP statistics. In this context, an exploratory analysis of Coordinated Portfolio Investment Survey (CPIS) data is being undertaken. Conducted annually since 2001 by the IMF, and with 70 countries reporting as of the 2005 edition, the CPIS is considered a valuable data source for the geographical allocation of PI liabilities. The analysis being conducted is aimed at devising measures to overcome some of the current limitations of the CPIS: the fact that certain confidential data remain unpublished; the lack of information on geographical allocation of securities held as foreign reserve assets (collected through another confidential survey – SEFER); and the absence of data on holdings of countries that do not report to the CPIS.

In regard to PI assets, indirect reporting via custodians may not capture all relevant data, even when complemented by direct reporting of securities held in custody abroad, especially in the case of households. Although this is not considered a significant problem at present, since Portuguese households can generally be assumed to use the resident banking system for their investment decisions, it could become a greater problem in the context of a more integrated European Union (EU) – and, more specifically, euro area (EA) – financial system. A third party reporting (TPR) scheme, therefore, merits further analysis and development at the EU/EA level.

References

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