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Repo-type Transactions Issue: The French Experience Relating to Stocks

Prepared by the Banque de France

Contribution to the IMF BOP Committee

Repo-type transactions issue The French experience relating to stocks

♦ *According to international recommendations, and particularly the IMF fifth Manual, all repo-type transactions must be classified under the category "other investment" of BOP and IIP statistics and not in the portfolio investment item.*

Indeed, according to the IMF 5th Manual, "a repurchase agreement is an arrangement involving the sale of securities at a specified price with a commitment to repurchase the same or similar securities at a fixed price on a specified future date. The economic nature of a repo is similar to that of a collateralized loan". As a consequence, a repo is recorded as a newly created financial asset like a collateralized loan rather than as an asset related to the underlying securities used as collateral.

♦ *The value of the securities transferred or received under a bond lending or a repurchase agreement has an impact on the securities registered in portfolios' accounts and therefore on the respect of the IMF recommendations. As a consequence, if the banks reports on stocks are based on the securities accounts, the repurchase agreements entail a change in the compiled stock data, although there is no portfolio transaction (as defined by the IMF 5th Manual) in the BOP.*

In order to cope with this inconsistency, additional data are needed to offset the impact of the repos on stocks and to achieve a consistent reconciliation between the flows and the changes in stocks. Indeed, the aim is that the assets in foreign securities only concern the securities held unconditionally by residents and that the liabilities in domestic securities only concern the securities held unconditionally by non-residents.

♦ *The amounts concerned by repo-type operations are significant. An estimation of the importance of repos compared to the total of portfolio investment stocks not corrected by repos has been estimated. This comparison indicates that, in France, in most cases, the amounts of repos represent more than 10% of the total of securities held in portfolio.*

♦ *Thus, in order to try to adjust correctly the repo-type transactions in the stocks, we collect annually specific information to reclassify the securities concerned.*

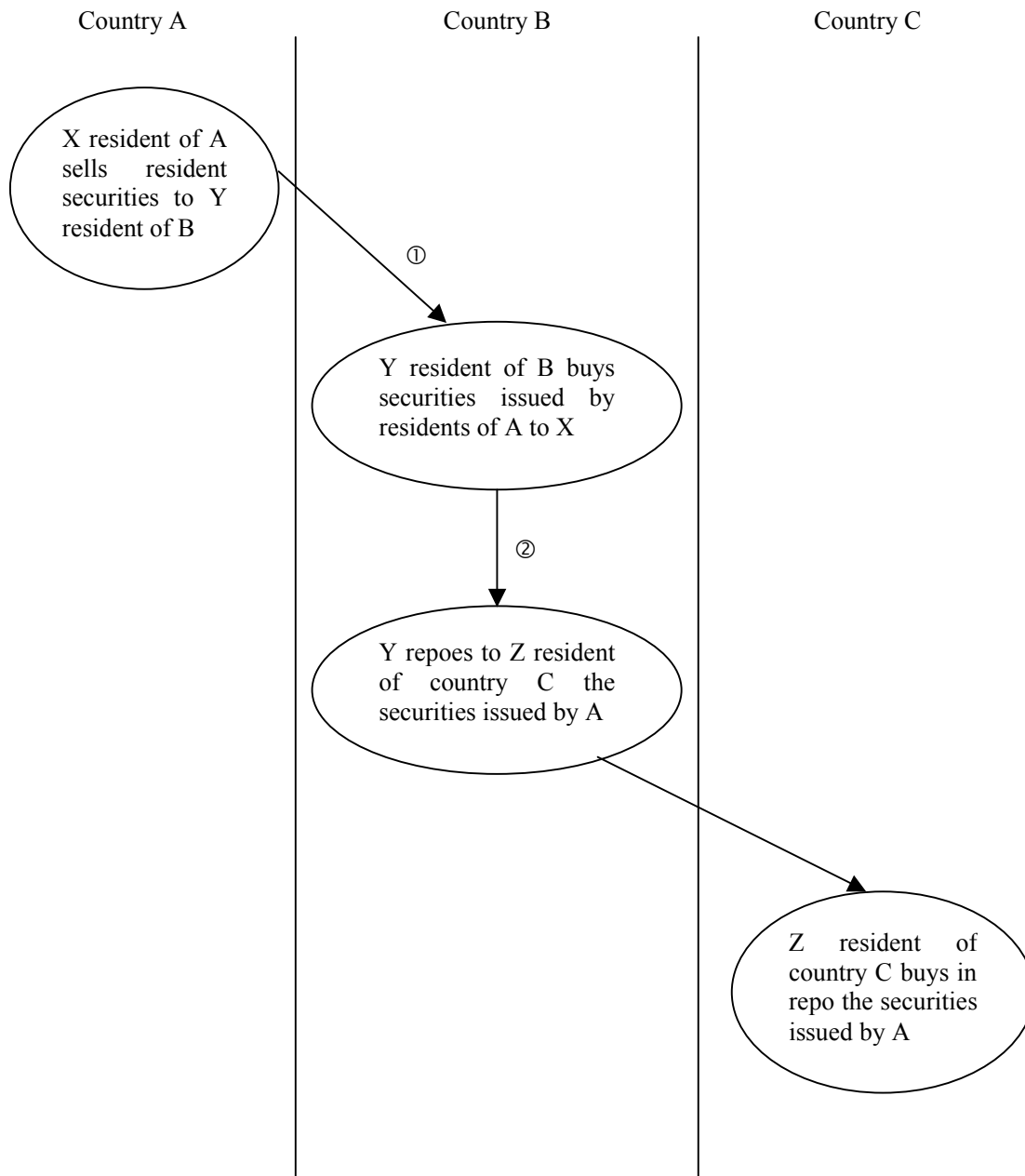
Nevertheless, these kinds of adjustments are not easy to achieve. We have to face substantial difficulties.

1- Methodological aspects

1.1. Possibility of double counting and asymmetries in portfolio investment statistics due to the processing of repos

At an international level, the IMF has already underlined the possibility of double counting and asymmetries in portfolio investment statistics (inconsistency between the recording of flows and that of stocks) due to the processing of repo-type transactions.

Let's take a simplified example:



Description of the transaction	Country A		Country B		Country C	
	<i>Impact on PI flows in BOP</i>	<i>Impact on PI stocks in the securities' accounts</i>	<i>Impact on PI flows in BOP</i>	<i>Impact on PI stocks in the securities' accounts</i>	<i>Impact on PI flows in BOP</i>	<i>Impact on PI stocks in the securities' accounts</i>
① X resident of country A sells securities issued by residents of A to Y resident of B	Domestic securities sold to country B: + 100	Increase in the liabilities to country B: + 100	Foreign securities bought from country A: + 100	Increase in the assets on country A: + 100		
	⇒ no asymmetry between flows and stocks		⇒ no asymmetry between flows and stocks			
② Y resident of country B repoes the securities issued by country A to Z resident of country C			No BOP flows (as it is a repo)	Decrease in the assets on country A: - 100	No BOP flows (as it is a repo)	Increase in the assets on country A: + 100
			⇒ asymmetry between flows and stocks and wrong geographical allocation (the “real owner is still Y)		⇒ asymmetry between flows and stocks and wrong geographical allocation (the “real owner is still Y)	

1.2. Consequences

As illustrated by the above example, the processing of repos may entail two major consequences:

- No consistency between flows and stocks: as the repo-type transactions have an impact on the securities' accounts but are not recorded in portfolio investment BOP flows, asymmetries could exist between portfolio investment BOP flows and portfolio investment positions;
- wrong geographical allocation: these operations may entail a wrong geographical allocation of the stocks, as the securities accounts do not (and cannot) indicate the country of residency of the “real owner”.

Thus, the repo-type operations constitute a real challenge for portfolio investment collection system.

Considering these difficulties, the Task Force on Portfolio Investment Systems (TFPICS) of the ECB has created a Follow-up Group on the subject. The purpose of the Follow-up Group is to “undertake an in-depth analysis of the repo problem, namely to further investigate to which extent the (non-) identification of securities temporarily acquired/borrowed from outright portfolios could constitute a substantial problem for the collection of portfolio investment figures, notably as regards the reporting of information by custodians for statistical purposes”¹.

In fact, the main results of the work undertaken by this Follow-up Group reinforce the ideas that:

“the high significance of the repo market constitutes a major problem for the collection of portfolio investment figures for custodians”. The possible distortions caused by this issue should be taken into consideration when defining a portfolio investment collection system (on either flows or stocks)”².

2- Significance of repo-type operations

2-1 Results of an empirical exercise on French data

For the needs of the “Follow-up Group on repos” of the TFPICS of the ECB, France has tried to assess the significance of the repo market in relation to the importance of the portfolio investment account in France. To this end, an estimation was made on the importance of repos compared to the total of the portfolio investment stocks not corrected by repos (stocks of foreign securities held by residents and stocks of resident securities held by non-residents).

The securities accounting for the largest portfolio investment stocks were selected by type of instrument (equities and bonds).

Two sources of information were used, one for the total of portfolio investment (PI) and the other for repos:

- PI stocks data are derived from end of the year stocks on a security by security basis. The data are reported by banks and concern their own portfolio and the portfolio they hold in securities’ accounts on behalf of their clients. These stocks based on securities’ accounts include the impact of repos. Indeed, the basic information received from banks for their own positions is only adjusted for foreign securities repoed and lent (according to the rules of banking balance sheets). It is not adjusted for securities borrowed. The outstanding amount of securities held on behalf of their clients is not adjusted, neither for repos nor for securities lending.
- for repos: for their own accounts and on behalf of their clients, banks have to declare the outstanding amounts of securities repoed (see part 3). Similarly to other data on securities, the figures on repos are on a security-by-security basis with the indication of the ISIN code.

A comparison was made between the total PI stock with the repos stock declared for each security selected.

This comparison was made only for shares and bonds because:

- for other equities: no repos were declared;
- for money market instruments: as they are mainly identified with generic³ codes, a study security by security was not possible;

The data relate to stocks at the end of 1998.

¹ Page 2 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB

² Page 3 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB

³ Codes that gather the securities which have the same characteristics (same currency of issue, country of residence of the issuer,...)

- As regards the French experience, the following results can be stressed:
- the repo-type transactions have shown an important increase since 1995, linked to the growth of issues of the securities used in repo-type transactions (like Government bonds);
 - the significance of repos stocks and the type of repos used (“pure repos” or securities lending) mainly depend on the type of instrument concerned: the securities lending concern more bonds than equities;
 - in most cases, the amounts are important (often representing more than 10 % of the total of securities held in portfolio) and a wide majority of securities are concerned by repos (only about 20 % of the securities, all instruments together, were not affected by repos).
 - the amounts of repos, whatever their nature (“pure repos” or securities lending), are larger for resident and non-resident bonds (on average, 30 % of the stock of bonds) than for resident and foreign equities (in majority less than 15 % of the stock of equities).

Nevertheless, such a study is very difficult to achieve for several reasons. Firstly, the repo-type transactions are often mixed with other operations like sales, overdraft sales... or even new repos or lending (see part 4). Moreover, the importance of repos can be estimated on a double level. On the one hand, one can estimate the impact on the basis of absolute total stocks of repos, i.e. securities sold in repos plus securities bought in repos, plus securities lent and securities borrowed. This estimation corresponds to the absolute size of repos. On the other hand, one can take into consideration only the net impact of repos, i.e. securities bought in repos plus securities borrowed, minus securities sold in repos and securities lent. The second estimation is closer to the real correction that must be done on the portfolio in order to get a stock consistent with flows on a methodological point of view, i.e. the reintegration of the securities in the portfolio of the real owner.

2-2 Similar results in other countries

Within the framework of the “Follow-up Group on repo-type transactions/positions “ of the TFPICS of the ECB, three empirical exercises were carried out in France (see above), Spain (volume of repo-type transactions against portfolio investment flows) and Luxembourg (stocks of repos in comparison with total portfolio investment positions in the balance sheet of the Luxembourg MFIs). These studies aimed to assess the magnitude of the problem linked to the size of the repo market.

The results for Spain and Luxembourg were very similar to those of France. In Spain, “broadly speaking, gross flows of repos and reverse repos double the size of outright purchases and sales of securities”⁴. In Luxembourg, “since end-1998, repo stocks have increased substantially reaching 7 % of the total amount of securities held by MFIs at the end of March 2001”⁵.

Undoubtedly, these empirical exercises showed the evidence of the high significance of the repo market. As a consequence, it constitutes a major problem for collection of portfolio investment data. It would become more and more of crucial importance to identify the amounts of repo-type operations and the counterparts associated.

In France, we have considered two ways of obtaining this information on stocks: either to ask the banks to provide us with the necessary information or to use banking balance sheets.

3- Experience of France in correcting the impact of repo-type transactions on stocks

Beforehand, it must be noted that, as long as there is a legal commitment to return the securities at the end of the contract, lending and repurchase agreements are not concerned by the

⁴ Page 4 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB

⁵ Page 5 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB

reporting of PI flows in the French data collection system (implementation of the IMF and ECB methodology). Repo transactions associated with cash are included in the item “other investment”:

- for the banking sector, the information is collected from the balance sheets (but not isolated from the other deposits);
- for the other sector, the information is collected from settlements (but once again not isolated from other deposits).

As a result only PI stocks are adjusted.

3-1 Annual positions based on securities’ accounts

3-1-1 Type of information collected

On an annual basis, France gets additional information on repo-type positions in order to ensure the reconciliation between stocks and flows. The stocks, based on securities’ accounts that include the impact of repo-type transactions are adjusted in order to be consistent, on a methodological point of view, with flows that exclude the repo-type transactions

The additional information, recorded at the same time as the annual position and referring to temporary sales/purchases of securities, is the following:

	Own portfolio of the resident banks	Securities accounts of the resident clients	Securities accounts of the non-resident clients
Foreign securities	Stocks of securities bought or sold in repos and securities lent or borrowed by non-residents, with the indication of the counterpart country of the non-resident concerned		
French securities	Stocks of securities bought or sold in repos and securities lent or borrowed by non-residents, with the indication of the counterpart country of the non-resident concerned		Stocks of securities bought or sold in repos and securities lent or borrowed by the resident clients and the resident banks

3-1-2 The characteristics of this information

- Similarly to other data on securities, the figures on repo-type transactions are on a security-by-security basis with the indication of the ISIN code. As a consequence, the corrections applied to the stocks are made on a security-by-security basis;
- the information on securities’ stocks:
 - . bought in repos
 - . sold in repos
 - . borrowed
 - . lent

are identified independently thanks to specific economic codes;

- all the financial intermediaries concerned by the report of annual stocks of securities are obliged to declare this statement on repo-type transactions;
- the status (resident/non-resident) of the counterpart to the repo-type transactions is reported, which is essential for the correction of the stocks in a correct manner.

3-1-3 Example of correction

Thanks to this information, it is possible to correct the declarations of the banks. One can illustrate this with an example:

If a resident client repoes German bonds to a non-resident counterpart (American), the declaration of the resident bank which holds the securities' account of the client would be the following:

- nature of the operation: securities sold in repos;
- country of residence of the counterpart: United States
- portfolio concerned: portfolio of the resident in foreign securities.

Thanks to this information, France is able to reintegrate these securities in the portfolio of his real owner, i.e. the resident entity.

3-2 Quarterly banking statement

A sample of resident banks reports to the Banque de France on a quarterly basis their portfolio in foreign securities, on a security-by-security basis. The reported data correspond to the detail of data recorded in the balance sheets. The figures provided by the banks include the impact of repo-type transactions and consequently are not consistent with the flows.

In that context, the balance sheets data are used to identify the amounts linked to repo-type transactions. These amounts allow adjustments (increase or decrease), on an aggregated level⁶, of the declarations of the banks regarding their own portfolio in foreign securities. The adjustment is made by using:

- on the assets side of the balance sheet, the amounts relating to foreign securities lent;
- on the liability side, the amounts relating to the foreign securities borrowed.

As far as repurchase agreements are concerned, they remain attributed, in the banking balance sheets, to the portfolio of the bank that sold them through a repo. Consequently, no adjustment is needed in that case.

4- Difficulties encountered

4-1 Due to the nature of the repo operations themselves

The adjustments to be made in order to correct the impact of the repo-type transactions are not very easy to achieve for several reasons:

- lots of details are necessary which are not readily available, like the country of residence and the institutional sector of the counterpart, the portfolio concerned (own portfolio or customers' portfolio), the type of repos (securities lent, borrowed, sold in repos, bought in repos). In addition, the form of repo-type operations is not easy to fill in by the banks and often several calls are needed to get the information;
- overall, the repo-type transactions are often followed by other operations, like sales, overdraft sales,... or even new repos or lending. This second level of transactions has, in turn, an impact on the portfolios. One must take into account this impact when a correction is made on the stock relating to the first repo transaction. Moreover, in case of overdraft sales, no cash transactions are recorded.

So, the information on the repos is not always available. At some points, one must estimate what happened with the securities concerned in order to explain the changes in the portfolio stocks.

4-2 Due to the reduced availability of information

For the needs the TFPICS of the ECB, the Follow-up Group on repos has investigated in order to know if local custodians would be able to provide data on repos for BOP statistics purposes. In France,

⁶ Because the balance sheets are on an aggregated level and not on a security by security basis

a questionnaire was sent to four French banks chosen for the significance of their repos activity. This questionnaire stressed five major aspects:

- Availability of information on repo-type transactions/ positions conducted by the banks for their own account;
- Availability of information on repo-type transactions/positions on behalf of banks' clients;
- Degree of detail of the available data;
- Periodicity and delay of availability;
- Availability of information on the use of repos (like new sales, new repos, overdraft sales,...).

The *main results* can be summarised as follows:

- Information on repos conducted by the banks on their own account, which constitutes the bulk of these operations, is generally available;
- Data on repos performed on behalf of their clients are generally fragile or not available at all;
- It seems more difficult to get information on flows than on stocks;
- In general, data on repos could be provided on a security-by-security basis;
- Whatever flows or stocks may be, the country of residence and the institutional sector of the counterpart are not available;
- None of the respondent banks seems to be able to provide additional information on the subsequent use of the securities acquired under repo transactions (e.g. either maintained in their portfolio, subsequent overdraft sold or new repoed);
- Even if the details on repo positions/transactions can be available in the internal banks databases, the provision of such information would require heavy IT developments.

In addition to France, contacts have been also conducted within the Follow-up Group on repos, with custodians located in Spain and Luxembourg. “The outcome of these contacts, which were undertaken by each country in an independent manner, are remarkably coincident, thus pointing to conclusions that may most likely be extrapolated to the rest of the countries”⁷.

More precisely, the main results of these investigations are the following⁸:

- “custodians are able to identify their own repo-type transactions/positions;
- custodians do not have the resources to identify their customers' repo-type transactions/positions”.

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⁷ Page 6 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB

⁸ Page 3 of the Executive Summary of the Report of the Follow-up Group on repos of the TFPICS of the ECB