EUROPEAN CENTRAL BANK

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STATISTICAL TREATMENT OF THE EUROSYSTEM'S INTERNATIONAL RESERVES

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1 Definition of the Eurosystem's reserve assets in Stage Three of EMU

1.1 Introduction/components in the IMF definition: external assets controlled by monetary authorities

Since the definition of reserve assets included in the 5th edition of the IMF Balance of Payments Manual (the "BPM5" released in October 1993) leaves some room for interpretation, the present chapter sets out the definition of reserve assets to be applied in the national balance of payments (b.o.p.), international investment position (i.i.p.) and international reserves statistics from 1999 onwards. Statistics for the euro area as a whole are compiled by aggregating the statistics for the EU Member States participating in the euro area and the ECB.

This definition conforms to the guidelines established in the BPM5 and the international standards for statistics on reserve assets. In this respect, discussions within the framework of the IMF/BIS common template on international reserves and foreign currency liquidity have specifically been taken into account.

In accordance with Article 105 (2) of the Treaty establishing the European Community, the basic tasks[1] to be carried out through the European System of Central Banks (ESCB), which is composed of the European Central Bank (ECB) and the national central banks (NCBs) participating in the single currency, shall be, inter alia: to define and implement the monetary policy of the Community; to conduct foreign exchange operations; and to hold and manage the official foreign reserves of the Member States participating in Monetary Union. Thus:

(1) The Eurosystem, governed by the Governing Council of the ECB, constitutes the monetary authority of the euro area; and

(2) The reserve assets of the single currency area consist of the ECB's reserve assets and the reserve assets held by the participating NCBs.

According to the definition of reserve assets established in the 5th edition of the IMF Balance of Payments Manual, paragraph 424, "Reserve assets consist of those external assets that are readily available[2] to and controlled by monetary authorities for direct financing of payment imbalances, for indirectly regulating the magnitudes of such imbalances through the intervention in exchange markets to affect the currency exchange rate, and/or for other purposes". Assets under the effective control of the ECB constitute the reserve assets of the ECB, whereas only those assets effectively controlled by the NCBs are included in the national b.o.p./i.i.p. reserve assets items.

Against this background, the appropriate interpretation of the concepts of "control by monetary authorities" and "external assets" in the new environment of the single currency area should be clarified.

1.2 Control of the NCBs/ECB

According to Article 30 of the Statute of the ESCB, the pooling by the ECB of the initial EUR 50,000 million, adjusted downwards by deducting the shares in the ECB's capital subscription key of the NCBs which are not participating in the euro from the outset, has been carried out in the form of an outright transfer of ownership. Therefore:

(1) These assets, being pooled under Article 30 of the Statute of the ESCB, should be considered to be under the direct and effective control of the ECB and regarded as ***reserve assets of the ECB***.

In addition, an ECB Recommendation for a Council Regulation based on Article 30.4 of the Statute of the ESCB will establish the manner in which the Governing Council of the ECB may affect further calls on foreign reserves. These external assets, which will, in principle, be retained by the NCBs, may be regarded as contributing to preserving market confidence in the Eurosystem as a whole, since they could be mobilised in an efficient manner. Therefore, it is concluded that:

1 See Article 3 of the Statute of the European System of Central Banks and of the European Central Bank (Statute of the ESCB).

2 Readily available assets should be understood as referring to highly liquid, marketable and creditworthy assets.

(2) As long as no transfer of ownership takes place, external assets retained by the NCBs in relation to Article 30.4 are under their direct and effective control and should preferably be treated as ***reserve assets of each individual NCB***; only in the event that these further calls on foreign reserves are carried out in exactly the same form as the initial transfer of EUR 50,000 million required by Article 30 (i.e. by means of a pooling arrangement which implies crediting each participating NCB with a claim equivalent to its additional contribution) or at the time at which the potential call would be executed, should these assets be considered as reserves of the ECB (assets under the direct and effective control of the ECB).

Finally, according to Article 31.3 of the Statute of the ESCB, all other operations in foreign reserve assets remaining with the national central banks shall, above a certain limit, be subject to further approval by the ECB in order to ensure consistency with the exchange rate and monetary policies for the euro area. Nevertheless, owing to the fact that the guidelines under this article will restrict the request for prior approval by the ECB to foreign exchange activity above a given threshold, with regard to the timing of the transaction and the manner in which the transaction is to be performed, and the fact that the ECB may only request that a transaction be delayed in very exceptional circumstances, it is considered that:

(3) The NCBs still retain direct and effective control over their remaining assets, which they could use to perform transactions to fulfil their obligations towards international organisations in accordance with Article 23 of the Statute of the ESCB. Thus these assets would be considered as reserve assets of each participating NCB; in fact the guideline is not directly aimed at limiting or controlling the management of the NCBs' reserves.

1.3 External assets of the Eurosystem

(i) Foreign currency versus euro-denominated assets

A key question relates to whether or not reserve assets should necessarily be foreign currency-denominated[3] assets. This might have implied that certain euro-denominated assets could be treated as reserve assets of the euro area if the euro were to be considered a reserve currency.

However, once it is acknowledged that the aim of reserve assets is to have available sufficient liquid resources for foreign exchange policy operations, this consideration may not be maintained, since euro-denominated assets, regardless of the issuer, could not be used to support the euro. As a result:

(1) Reserve assets of EMU should be denominated in foreign currency, i.e. euro-denominated claims on either EMU or non-EMU residents should not be considered as reserve assets of the euro area.

In line with this reasoning, it is also understood that:

(2) From a national perspective, euro-denominated claims on both other EMU residents and non-EMU residents should not be considered as reserve assets.

The legal foundations of the euro[4] determine that the euro should be regarded as domestic currency in all the participating Member States and could not be considered as both a domestic and a foreign currency from a national viewpoint. The possibility of including euro-denominated holdings issued by other EMU residents in the national reserves would imply that even the intra-ESCB end-of-day balances resulting from the TARGET system, which are

[3] Hereafter, references to "foreign currency-denominated" assets are to be understood as referring to assets denominated in any currency (e.g. the US dollar, Japanese yen, pound sterling, Swiss franc, etc.) other than the euro.

[4] See Council Regulation (EC) No. 974/98 of 3 May 1998 on the introduction of the euro, OJ L 139, 11.5.98.

denominated in euro, would be considered as reserve assets at the purely national level, which would be conceptually very difficult to understand. Finally, it could be seen as endangering the idea of the singleness of foreign exchange policy, in that it would give the impression that the euro market would be split into different heterogeneous local markets.

(ii) Non-EMU versus EMU issuers: the particular case of foreign exchange deposits

In line with the general framework of the IMF's Balance of Payments Manual and the SNA 93[5], the criterion of residency is a prerequisite to be fulfilled by any asset which is intended to qualify as a reserve asset.

Only claims on non-residents would be considered as external assets.

However, in Stage Three of EMU three relevant groups of residents could be identified: (i) residents of a euro area Member State (domestic residents); (ii) residents of the other euro area Member States (other EMU residents); and (iii) residents of countries outside the euro area (non-EMU residents). Consequently, when defining reserve assets at the national level, groups (ii) and (iii) could, at least theoretically, be considered as the relevant non-resident population, whereas only group (iii) would represent the non-resident concept when identifying EMU reserves. Against this background, the following should be pointed out:

(1) The ECB's/NCBs' claims in foreign currency on non-residents of the single currency area, i.e. non-EMU residents, are to be considered as reserve assets of EMU;
(2) In parallel, those assets have also to be regarded as international reserves from a national perspective;
(3) Foreign currency-denominated claims on other EMU residents cannot be part of the EMU reserves because they are domestic claims; and
(4) Likewise, those assets are not to be considered as reserve assets from a national perspective.

Although foreign currency-denominated claims on other EMU residents would fulfil the present definition of reserves (external assets issued by a non-resident) from a strictly national point of view, the extent to which this type of assets could be used for foreign exchange policy (intervention) purposes seems to be limited. Moreover, an interpretation of the meaning of reserve assets at the national level, if they are not considered as reserve assets for the EMU at the same time, might be difficult to sustain in the context of Stage Three, bearing in mind that the holding and management of the reserves of the euro area will be one of the basic tasks of the Eurosystem and no longer only a task of the individual participating NCBs. Finally, the exclusion of these assets, which do not represent a significant part of the current foreign assets holdings of most of the NCBs, from the reserve definition at the national level means that the sum of the individual reserves of the NCBs and the ECB equals the Eurosystem consolidated reserves, enhancing transparency and the Eurosystem's credibility in exchange rate-related issues.

As a final conclusion, NCBs' claims in foreign currency on domestic and other EMU residents are not to be regarded as reserve assets.

In this framework, and despite some concern caused by some recent financial crises in other countries, it has been concluded that:

(i) Foreign currency-denominated collateralised and non-collateralised deposits placed with foreign branches/affiliates of domestic banks are to be regarded as reserve assets;
(ii) Conversely, foreign exchange collateralised and non-collateralised deposits placed with resident branches of foreign banks are to be considered as domestic assets and therefore cannot be included in the reserve assets definition.

This conclusion derives from the fact that the residence principle is the basic criterion to be

5 Paragraph 11.61 of the SNA 93 states that: "Reserves must be claims on non-residents…".

applied in order to determine whether an asset qualifies as a reserve asset.

Finally, there is a need for a more precise interpretation of the residency criterion regarding some specific assets. In this sense:

Gold, Special Drawing Rights (SDRs) and the Reserve position in the IMF held by the NCBs/ ECB are to be considered as reserve assets both at the national and at the EMU level.

Summing up, the principles guiding the concept of external assets in Stage Three of the EMU can be summarised as follows:

(1) The ECB's/NCBs' claims on residents of the single currency area are not relevant b.o.p./i.i.p. transactions/ holdings for EMU;

(2) The ECB's/NCBs' claims in euro on non-residents of the single currency area are relevant b.o.p./i.i.p. transactions/holdings for EMU, although they are not EMU Reserve assets;

(3) The ECB's/NCBs' claims in foreign currency on non-residents of the single currency area plus gold, SDRs and the Reserve position in the IMF are relevant b.o.p./i.i.p. transactions/ holdings for EMU and they are EMU Reserve assets (provided that they meet the liquidity and marketability criteria required by the BPM5).

1.4 Conclusions

Against this background, the principles guiding the concept of reserve assets at the national level in Stage Three of EMU might be summarised as follows:

(1) the ***Eurosystem*** constitutes the only monetary authority of the euro area; thus, the reserve assets of the single currency area consist of the ECB's reserve assets and the reserve assets held by the participating NCBs;

(2) assets under the effective control of the ECB constitute the ***reserve assets of the ECB,*** whereas only those assets effectively controlled by the NCBs are to be included in the ***national b.o.p./ i.i.p. reserve assets*** items;

(3) reserve assets in Stage Three of EMU should be ***denominated in foreign currency***, i.e. euro-denominated claims should not be considered as reserve assets at the national or at the EMU level;

(4) the criterion of residency should be regarded as a prerequisite to be fulfilled by any asset which is to qualify as a reserve asset; in the context of the euro area this implies that ***only claims on non-EMU residents***, i.e. non-residents of the euro area, should be considered as reserve assets in Stage Three from both a national and an EMU perspective.

Resulting from these conclusions, the following table summarises the treatment prescribed for the different assets in the balance sheet of the ECB and the euro area NCBs respectively.

		Currency of denomination	Residence of issuer	Type of asset[1]	National	ECB	Total ESCB (euro area)
Assets on the Balance Sheet of the ECB		Foreign currency	Non-EMU	Deposits placed with foreign branches of euro area resident banks		RA	RA
				Other assets		RA	RA
			EMU	Deposits placed with euro area resident banks		OI	–
				Other assets		PI/FD	–
		Euro	Non-EMU			PI/OI/FD	PI/OI/FD
			EMU			PI/OI/FD	–
Assets on the balance sheet of the NCBs	Claim on the ECB	Euro	ECB		OI	OI	–
	Other claims	Foreign currency	Non-EMU		RA		RA
			of which	Deposits placed with foreign branches or euro area resident banks	RA		RA
			Other EMU	Deposits placed with other euro area resident banks	OI		–
				Other assets	PI/OI/FD		–
			Domestic	Deposits placed with domestic banks	–		–
				Other assets	–		–
		Euro	Non-EMU		PI/OI/FD		PI/OI/FD
			Other EMU		PI/OI/FD		–
			Domestic		–		–
	Gold, SDRs and Reserve position in the Fund				RA		RA

1 The term "deposits" also refers to collateralised deposits.
Legend: RA = Reserve assets; PI = Portfolio investment;
OI = Other investment; FD = Financial derivatives.

II Some methodological features in the context of external reserves statistics

II.1 The gross and net reserve assets concepts. The specific case of financial derivatives.

In the context of some countries' financial crises, the idea that "usable reserves" might be a more important indicator of a country's ability to meet its foreign exchange obligations than the gross reserves gained in importance. These usable reserves would be the result of supplementing gross data with information about encumbrances on reserves (i.e. "reserve-related liabilities"[6]).

The Eurosystem has devoted further work to the collection of information on foreign currency assets (including official reserves) and reserve-related liabilities, in the course of 1999 and 2000, within the frame of reference of the IMF/BIS "Common template on international reserves and foreign currency liquidity".

Nonetheless, the usefulness of the traditional category of reserve assets based on the "gross reserve assets" concept has also been recognised.

Against this background, the following has been concluded regarding the disclosure of the Eurosystem's international reserves in external statistics:

(1) The structure of the reserve assets category remains unchanged in the euro area b.o.p. and i.i.p. (i.e. disclosed on a gross basis as defined in the BMP5)[7];

(2) This information is complemented with further details on foreign currency assets as well as reserve-related liabilities of the euro area and the ECB, which are shown in the Eurosystem's and the ECB's template on international reserves and foreign currency liquidity, respectively.

As a departure from the recommendation regarding gross recording of reserve asset figures, the following has been decided as regards the disclosure of financial derivatives falling into the category of reserve assets:

(1) Transactions in financial derivatives of reserve assets should be recorded in the b.o.p. statistics on a net basis;

(2) Positions in financial derivatives of reserve assets should be recorded in the i.i.p. and other reserve-related statistics (such as the Eurosystem's and the ECB's template on international reserves and foreign currency liquidity) on a net basis, although this, in consequence, entails a deviation from the gross reserve asset concept.

This exception to the general rule was considered the only feasible way to reconcile flows and stocks related to financial derivatives transactions/ positions in reserve assets. If separate positions for assets and liabilities of these holdings were to be shown, the application of the gross reserve asset concept would imply that financial derivative liabilities of the monetary authorities would not be included under reserves.

II.2 Classification of financial derivatives in the presentation of external reserve statistics

The presentation of a separate heading for financial derivatives could be justified by the recently heightened interest in the reserve assets item and its composition, and the use of financial derivatives in the management of reserves. It might assist the correct recording of certain monetary authorities' financial derivative transactions, as the present treatment proved to be heterogeneous. Finally, separate identification might enhance the reconciliation between stocks and flows of financial derivative transactions of the monetary authorities.

For all these reasons, a separate category for financial derivatives under the "Reserve assets" heading of the euro area b.o.p. and i.i.p. was created. The main components of the Reserve

6 This concept has recently been developed by the IMF and the BIS within the framework of the so-called "Common template on international reserves and foreign currency liquidity".

7 All EMU Member States have actually been compiling reserve assets on a gross basis since the beginning of Stage Three.

assets sub-category of the Eurosystem b.o.p. and i.i.p. would then be stated as follows:

Reserve assets

Monetary gold
Special drawing rights
Reserve position in the IMF
Foreign exchange
  Currency and deposits
    with monetary authorities
    with MFIs (excluding central banks)
  Securities
    Equity
    Bonds and notes
    Money market instruments
  Financial derivatives
Other claims

II.3 Valuation principles for reserve assets in external statistics. Discrepancies with accounting valuation rules.

In accordance with the BPM5, reinforced by the IMF operational guidelines for the compilation of the Common template on international reserves and foreign currency liquidity, the following rules are being applied in the valuation of reserve assets:

(1) All reserve asset transactions to be reported in the b.o.p. statements are to be recorded at market prices *(including interest accrued and not yet paid)* at the time of the transaction and converted into euro using market exchange rates at the time of the transactions;

(2) Stocks of reserve assets in the i.i.p. and other reserve asset stock statistics should be valued using closing mid-market prices *(including the interest accrued and not yet paid)* as at the end of the appropriate periods; closing mid-market exchange rates prevailing at the reference date should be applied for the conversion of stocks denominated in foreign currency into euro.

(3) Gold should be valued at the closing market price (gold fixing usually quoted in terms of US dollars per fine troy ounce) prevailing at the end of the reference period.

National central banks' balance sheets have proved to be the main sources of information on reserve assets in most of the euro area countries. However, accounting/operational principles and b.o.p./i.i.p. statistical standards on reserve assets are not fully consistent, especially as far as the valuation of reserve assets is concerned. Discrepancies were considered as particularly significant in the following areas:

(1) *Frequency of valuation*. Since the frequency of revaluation of instruments in accounting statements is not consistent with statistical guidelines (which prescribe valuation at market prices consistent with the reference period of reserve assets stocks), this could create operational problems for some NCBs. In practice, the valuation at market prices of the stocks of reserve assets in the balance sheets of the NCBs only takes place on a quarterly basis for the time being;

(2) *Valuation and income recognition on securities*. When reserve assets are sold, the reference price used by the accountants to record such an operation is usually the average cost of the portfolio. This price may differ from the price of the transaction, which is the relevant one prescribed by statistical standards.
Moreover, accountants calculate the corresponding realised profit as the difference between the sale price and the average cost of the portfolio. The profit computed in this way would differ from the difference between the sale price and the acquisition price of the securities concerned.

(3) *Transactions in financial derivatives*. At maturity of the financial derivative contract (foreign exchange forward contracts, swaps, futures), differences between the market price and the price agreed in the contract would be

recorded as income in the accounting statements, whereas the appropriate b.o.p. recording would require these amounts to be recorded as financial derivatives transactions in reserve assets. In addition, the average cost criterion is also applied in order to determine the results of transactions in financial derivatives.

(4) *Reconciliation problems on the stock of reserves due to some revaluation practices in the balance sheet.* Accountants calculate on a quarterly basis the revaluation adjustments to the position of certain assets in order to reflect the differences between their market value and the value recorded in the books, based on the average cost criterion. In this context, unrealised revaluation losses are counted as "income", whereas unrealised revaluation gains are transferred directly to a "revaluation account". These differences should not give rise to any b.o.p. entry, but they should be recorded as valuation changes in the reconciliation exercise for the i.i.p. This reconciliation might be hampered, if b.o.p. flow data were derived from accounting stock data.

As a result of these discrepancies, if b.o.p./i.i.p. reserve assets data were to be compiled on the basis of the information provided by the accounting departments, some adjustments would be required in order to avoid departures from the methodology prescribed by statistical standards.

Former discrepancies in the treatment of reversible gold transactions have disappeared as the methodology applied by statisticians has adjusted to the accounting principles. The amount of gold exchanged as a result of any reversible gold transaction, and in particular in the case of gold swaps, should be treated as provision of collateral. In this case, the monetary gold account would remain unchanged. In the case of exchange of foreign currency, this would generate a net change (an increase) in the total gross reserves of the gold lender (the cash borrower) as a result of the receipt of the money. This treatment will be further analysed in the following section of this publication.

II.4 Consideration of income on reserve assets

The recording of investment income is considered to be a functional category in the same manner as the financial account of the balance of payments. As there is no separate category for income on reserve assets in the BPM5 Standard Components the following bullet points have been decided, with regard to this issue in the euro area b.o.p.:

(1) Income on reserve assets is to be recorded indistinguishably under the "other investment" item of the investment income account, including interest income on reserve holdings of bonds and notes and money market instruments;

(2) Income on reserve assets should be recorded on an accruals basis at least on a quarterly basis;

(3) One major problem regarding the compilation of income on reserve assets derives from the discrepancies between the concept of income in the b.o.p. standards and in the accounting/operation rules, as pointed out above. When transactions in reserve assets take place, the reference prices used by the accountants in the calculation of the corresponding realised income are the sale price and the average cost of the portfolio, which may differ from its acquisition cost.

III The statistical treatment of reserve asset instruments

III.1 General aspects

Since the monetary crises which took place in most of the Asian countries in the late 1990s, international organisations have gradually become more concerned with the availability of reliable information on the capacity of a country to contend with potential financial crises. Consequently, the IMF has established new requirements for the dissemination of data on international reserves under the Fund's Special Data Dissemination Standard (SDDS) project. The Common template on international reserves and foreign currency liquidity (the template) requires additional details on international reserves and other foreign currency claims and drains from those presented so far in international standards, addressing, for the first time, the compilation of figures on reserve-related liabilities.

Since the IMF's rules providing guidance for reporting on the basis of the new template still leave some room for interpretation, the finalisation of the statistical guidelines for the compilation of the Eurosystem's international reserves data remained a priority from 1999 until early 2000.

In the first chapter of this booklet, the definition of reserve assets to be applied in both national and euro area statistics from 1999 onwards has been clearly established. In accordance with this definition, only claims of the Eurosystem[8] in foreign currency on non-residents of the euro area – plus gold, Reserve position in the IMF and SDRs – fall within the category of reserve assets. This definition expressly precludes foreign currency claims on residents in the euro area from being considered as reserve assets, either at the national or at the euro area level.

The template encompasses a wider range of positions – embodied in the concept of foreign currency liquidity – as compared with the more restricted concept of gross external reserves. Therefore, and in order to be consistent with the agreed definition of reserve assets of the euro area, the *Eurosystem's claims on residents denominated in foreign currency* should be disclosed under item I.B ("*Other foreign currency assets*") in Section I of the template, thus not being considered as part of the official reserve assets (reflected under item I.A). Foreign exchange net drains vis-à-vis resident and non-resident counterparts should be disclosed in either Section II or Section III. Other positions vis-à-vis residents and non-residents should also be considered in Section IV, where appropriate.

For the sake of clarity, the present chapter aims at following the structure of the above-mentioned template to the greatest possible extent. Following an exhaustive analysis of the transactions involving international reserves, this chapter addresses the statistical treatment to be applied in both national and euro area b.o.p., i.i.p. and international reserves statistics.

Methodological guidelines on particularly complex transactions presented in this chapter will be illustrated with practical examples referring to their statistical treatment in the euro area statistics and the template, in the next chapter.

This chapter has been structured in the following way:

- positions/transactions in gold;
- positions/transactions vis-à-vis the IMF (including SDRs);
- positions/transactions in securities;
- positions/transactions in currency and deposits; and
- positions/transactions in financial derivatives.

8 The Eurosystem is composed of the European Central Bank and the national central banks participating in the single currency. Foreign exchange claims and liabilities of central governments and/or the Treasury are not included in the reserve assets definition for the euro area in accordance with the institutional arrangements in the Treaty establishing the European Community. Article 105 (2) of the Treaty, in conjunction with Article 116 (3), gives the Eurosystem the exclusive right to hold and manage the official foreign reserves of the Member States from the beginning of Stage Three of EMU.

III.2 Positions/transactions in gold

i) *Outright transactions in gold.* In accordance with paragraph 438 of the IMF Balance of Payments Manual (5thedition), monetary gold can only be owned by monetary authorities or by others subject to the effective control of the authorities. Accordingly, three different situations could be analysed for gold transactions with non-resident institutional units: (i) transactions between monetary authorities, i.e. national central banks (NCBs); (ii) transactions between monetary authorities, i.e. NCBs, and other counterparts such as other MFIs; and (iii) transactions between non-monetary authorities.

In line with recommendations in the fifth edition of the IMF Balance of Payments Manual (BPM5), only gold transactions in which both counterparts belong to the institutional sector of monetary authorities (including international monetary organisations), i.e. case (i) above, should be recorded as monetary gold flows in the reserve assets of the b.o.p. statistics. Likewise, changes in stocks should be recorded under Reserve assets/Monetary gold in the i.i.p.

When the NCB's counterpart to a gold transaction is not a monetary authority, i.e. case (ii) above, the gold transaction should be recorded under the goods item in the current account. The resulting increase or decrease in the gold position of the NCB arising from the respective monetisation/demonetisation of the gold should be reflected as a reclassification in the "Other adjustment" column of the i.i.p. In other words, monetisations and demonetisations of gold are to be treated as reclassifications of gold and, therefore, would never be reflected in the balance of payments, although they induce changes in the international investment position.[9]

Gold purchases and sales between resident and non-resident entities, other than monetary authorities, i.e. case (iii) above, should be recorded as "Trade in goods".

Finally, gold purchases and sales by resident monetary authorities to resident entities should only induce entries in the "Other adjustment" column of the i.i.p. reflecting the monetisation/ demonetisation of gold [as explained in case (ii)].

ii) Gold swaps. Gold swap agreements should be treated as gold repos (see next point) even though there is a formal difference between gold swaps and gold repos, as only in the former case is there an actual change of ownership (see next paragraph).

iii) Gold repos. The recording of gold repos (and gold swaps) should be in line with the treatment applied to other repo transactions with securities. In general, according to the BPM5[10], repos are treated as collateralised loans, i.e. deposits in which the borrowed funds are backed by other assets (securities or, in the case of gold repos, gold). At any time when an NCB engages in a gold repo agreement and borrows foreign currency funds, the cash-borrowing NCB should record in both the b.o.p. and the i.i.p. an increase in "Reserve assets/Foreign exchange/ Currency and deposits" and a parallel increase in "Other investment/Liabilities/ Monetary Authorities/ Currency and deposits". Interest payments/ receipts (i.e. the difference between the sale and the repurchase prices) should be treated as income and, therefore, recorded under the current account in the b.o.p.

By contrast (i.e. in the event of an NCB taking gold in exchange for cash), the level of gross international reserves of the cash-lending NCB would remain unchanged (apart from the income received at the end of the transaction). In the case of a financial counterpart, both the decrease in foreign currency funds and the balancing claim on the cash-taking NCB should be classified under the same heading "Reserve assets/Foreign exchange/Currency and deposits", hence, with a null effect on the total.

This kind of transaction would exert an influence on the following items of the template as reported by the cash-borrowing NCB:

9 See paragraph 439 of the IMF Balance of Payments Manual (5th edition).

10 See paragraph 418 of the IMF Balance of Payments Manual (5th edition).

- I.A.(1).(b) "Official reserve assets/Foreign currency reserves (in convertible foreign currencies)/Deposits", accounting for an increase in holdings of foreign currency;
- II.3.i "Other/outflows related to repos (-)", amounting to the nominal value (see next paragraph) of the open repo positions (as reserve-related liabilities) if the residual maturity of gold swaps/repos were below one year; and
- IV.(1).(d) "Securities lent or repoed and included in Section I", accounting for the value of the gold swapped/repoed.

The nominal amount of predetermined inflows/outflows associated with gold swaps/repos results from the repurchase price of the gold (thus encompassing both the starting purchase price plus the income linked to these transactions). Nonetheless, practical problems could arise in those cases where information is taken from accounting statements in which only information on the initial price of the transaction is available (the income would be indistinguishably accrued in the profit and loss account). Therefore, the initial value of the transactions would be accepted as a proxy for the nominal value of the predetermined inflows/outflows.

The valuation of the gold swapped/repoed could prove difficult in cases where no on-balance accounting register is derived from the delivery of collateral and the amount of gold involved remains in the portfolio of the cash borrower. For the sake of convenience, the application of the initial value of the transaction (i.e. the initial amount of cash received) is recommended for estimating the value of the gold exchanged, in the event that no other accounting information is disclosed on-balance.

iv) *Gold loans and deposits*. Owing to the lack of a common terminology applicable to transactions in gold, hereinafter gold loans and deposits will be treated as identical transactions, which only differ in the nature of the gold borrower: when it is a financial institution (including other monetary authorities), these transactions (gold loans/deposits) will be referred to as gold deposits; when the gold borrower is not a financial institution, they will be called gold loans.

The rationale behind these transactions is usually connected with the search for higher rates of return on the gold holdings of monetary authorities. The gold is lent in the market to a creditworthy counterpart (which sometimes acts as a mere intermediary for a gold dealer with a transitory, short position in gold). Generally, high quality collateral is required by the NCB, which is returned to the gold borrower once the agreed term of the contract expires.[11] At that time, the arranged revenue of the gold loan/deposit is paid to the NCB by the borrower.

In spite of the fact that gold loans/deposits may involve opposing economic considerations as compared with gold swaps/repos (as revealed by the direction of the income payments), the statistical treatment of the gold is similar: neither the lending of gold nor the delivery of collateral (this latter applies only in the case of an exchange of securities collateral being required) would involve any recording in the b.o.p. or the i.i.p. (i.e. holdings of monetary gold would remain unchanged). Only the income on external reserves would be considered under the current account. In the template, the amount of gold deposited/lent would remain in Section I, under Monetary gold, and would also be recorded in Section IV.(1).(d) ("Securities lent or repoed and included in Section I").

The adoption of this solution involves, in fact, an important implication for the whole euro area: **reversible transactions in gold do not have any effect on the level of monetary gold** regardless of the type of transaction (i.e. gold swaps, repos, deposits or loans), in line with the recommendations contained in the IMF guidelines.

[11] The exchange of securities collateral in gold loans/deposits could cause some confusion with gold swaps/repos. In the case of gold delivered in exchange of (and backed by) securities collateral, these transactions enter into the category of gold loans/deposits (i.e. can never be considered as gold swaps/repos). However, in the case of gold deposits and loans, cash collateral is never exchanged (if this were the case, such a transaction would no longer be considered as a gold loan/deposit, but as a gold swap/repo).

Provided that monetary authorities in the euro area only deal with highly creditworthy counterparts, the same statistical treatment is recommended, irrespective of the economic nature of the counterpart (either other NCBs, other MFIs or other non-residents), i.e. no changes at all in either flows or stocks under Reserve assets would derive from gold lending and (where required) the delivery of securities collateral.

III.3 Positions/transactions vis-à-vis the IMF (including SDRs)

SDRs, as defined by the IMF, are reserve assets created by the IMF to supplement other reserve assets which have been periodically allocated to IMF members in proportion to their respective quotas.[12] Changes in SDR holdings might be induced by two different situations: (1) transactions involving SDR payments or receipts; or (2) allocation/cancellation of SDRs.

i) SDRs account transactions. The statistical treatment of these accounts should be in line with the methodology applied to correspondent bank accounts: any b.o.p. transaction might be settled by means of these accounts and therefore, in addition to recordings under the corresponding item of the b.o.p., variation in the SDRs item should be disclosed. For instance, purchases of US dollars would produce a change in the composition of reserve assets, namely an increase in currency and deposits (USD) and an equivalent decrease in SDRs.

Interest received corresponding to the own SDRs account should be reflected in a receipt under the current account (income) offset by an equivalent payment representing an increase in reserve assets (SDRs).

This treatment should be applied to any other transaction with the IMF settled using these accounts (for instance, transactions linked to NAB loans).

ii) SDRs' allocation/cancellation. No transaction should be recorded in the b.o.p. because, in fact, no transaction occurs. However, a change in the stock of reserve assets would be reflected in the i.i.p. via an entry in the "Other adjustments" column, thus enabling the reconciliation between flows and stocks.

Although part of the Reserve position in the Fund is denominated in SDRs, no recording under "Reserve assets/SDRs" should derive from movements in this position, which should only be reflected under "Reserve assets/Reserve position in the IMF", as pointed out in the following paragraphs.

iii) Reserve position in the IMF. An IMF member may have, in the Fund's "General resources account", a position that is the sum of: (i) the reserve tranche position, which a member may draw upon; and (ii) any indebtedness of the Fund under a loan agreement that is readily repayable to the member.[13] Although the limit of the capacity of the IMF to make use of these loan agreements is denominated in each country's domestic currency, if the IMF decided to enter into one of these agreements, the country in question would obtain a claim on the IMF denominated in foreign currency which, therefore, could be included in its foreign reserve assets.

1) As regards the treatment of claims arising from Fund financing, following some recommendations from the IMF, those claims derived from the *General Agreement to Borrow (GAB)* and the *New Agreement to Borrow (NAB)* should be classified under "Reserve assets/Reserve position in the IMF" in the b.o.p. and the i.i.p. and under item I.A.(2) "IMF Reserve position" of the template.

2) By contrast, those claims arising from the use of the IMF's *PRGF (Poverty reduction and growth facility) Trust loan account* [which will substitute the *Enhanced structural adjustment facility (ESAF)* as from 2000] should be statistically treated as deposits in the Fund and thus recorded under "Reserve assets/Foreign exchange/Currency and deposits" in the b.o.p. and the i.i.p., and separately identified under *I.A.(1).(b).(i), "Official reserve assets/Foreign currency reserves (in convertible foreign*

currencies)/Total currency and deposits with other national central banks, BIS and IMF" in the template. Countries' commitments to the IMF's PRGF (and formerly the ESAF) not yet drawn should not be reported in Section III of the template.

iv) *Purchases/repurchases within the IMF reserve position*. If one member buys foreign currency using the Fund's general resources account (purchase) by drawing on its position in the Fund, a reclassification should be recorded under reserve assets, thus not altering the total level of reserves. Such a transaction should be reflected by means of an increase in holdings of foreign exchange and a symmetrical decrease in the reserve position in the Fund. A repurchase would represent the reverse transaction.

III.4 Positions/transactions in securities

In principle, no special quandaries seem to arise as regard transactions in securities within reserve assets. Major problems might result from the identification of the issuer's residency, as is usually the case in portfolio investment. As a rule, only foreign currency-denominated securities issued by non-residents of the euro area could be held to be reserve assets.

The application of the accruals principle is prescribed for all types of securities, including zero coupon bonds. Provided that a security is denominated in foreign currency and issued by a non-resident institution, the accrued interest should be recorded as interest income under "Current account/Investment income/Other investment" and the offsetting entry would then be recorded under "Reserve assets/ Foreign exchange/Securities". When the coupon payment is finally received from the issuer, it should be recorded under "Reserve assets", thus reducing holdings derived from the accrued interest computed in former periods.

Securities lending would not be considered in this category, but rather in the next one; as a general rule, securities temporarily exchanged in repo-type transactions (including securities lending) would not give rise to any recording under "Securities" (see next point).

III.5 Positions/transactions in currency and deposits

As in the previous point, no particularly onerous difficulties arise from this kind of transaction. However, and returning to the general principles underlined in the introduction of this document, only claims in foreign currency on non-residents of the euro area are classified as reserve assets. This definition expressly excludes foreign currency deposits with financial institutions resident in the euro area from the concept of external reserve assets, at either the national or the euro area level.

i) *Holdings/transactions of/in foreign currency notes and coins*. These will be reported indistinguishably together with foreign currency deposits under "Reserve assets" in both the b.o.p. and the i.i.p. (more specifically, under "Reserve assets/Foreign exchange/Currency and deposits"). In the template, they would be allocated to item I.A.(1).(b).(i), "Official reserve assets/Foreign currency reserves (in convertible foreign currencies)/Total currency and deposits with other national central banks, BIS and IMF".

ii) *Loans/deposits to external portfolio managers*. As an alternative to the management of its portfolio, an NCB might send money to a non-resident financial intermediary, not necessarily included in the category of financial institution, which would subsequently invest the funds in other financial instruments denominated in foreign currency and return the earned income to the NCB. These assets managed by external agents should be classified in each correspondent prescribed category. However – although it is not the most common scenario – on some occasions NCBs do not have access to information on the final destination of these funds. Only in this case should the foreign exchange funds be included as currency and deposits in the b.o.p. and the i.i.p., under "Reserve assets/Foreign exchange/

Currency and deposits". In the template, they also have to be recorded as currency and deposits, i.e. item I.A.(1).(b) "Official reserve assets/Foreign currency reserves (in convertible foreign currencies)/Total currency and deposits".

iii) *Foreign currency loans*. Despite the fact that the borderline between deposits and loans is slight, according to the criterion followed in other sections of this document, it is possible to distinguish between them in accordance with the economic nature of the counterpart. Thus, those transactions in which the cash borrower is an NCB or any other financial institution will be treated as deposits, whereas they will be considered to be loans in the case of any other counterpart. As regards the statistical treatment of loans, as a general rule, those loans to non-financial non-residents that fulfil the necessary conditions to be considered as reserve assets will be recorded in the b.o.p. and the i.i.p. under "Reserve assets/Other claims". Accordingly, in the template these claims would be identified separately under "Official reserve assets/Other reserve assets/ Loans to non-bank non-residents" [I.A.(5)]).

iv) *Repurchase agreements, securities lending transactions (in this latter case, only if cash collateral is involved) and sell-buy back operations*. These types of transactions would be treated as collateralised loans/deposits. Repoed securities temporarily exchanged as collateral would not give rise to any b.o.p./i.i.p. entry.

At the beginning of a foreign currency-denominated repo or a securities lending transaction (with delivery of foreign exchange collateral), the cash borrower (the NCB) would record an increase in its holdings of foreign currency (under "Reserve assets/Foreign exchange/Currency and deposits") together with a liability (to be recorded under the "Financial account/Other investment/Liabilities/ Monetary authorities/Currency and deposits"). Opposite recordings are registered when the contract expires.

As regards the other side of the same transaction, i.e. in the case of an NCB entering into a reverse repo, the cash-lending NCB does not register any variation in the total amount of reserve assets. If the non-resident counterpart is an NCB or another financial institution (which is the most common scenario), no recording occurs at all in the b.o.p. and no variation is reflected in either the i.i.p. or the template (the decrease in holdings of foreign currency of the NCB is balanced by an identical foreign currency claim on the cash-borrower, both classified in the category "Reserve assets/ Foreign exchange/Currency and deposits").

In accordance with the treatment of foreign currency loans, if the counterpart of a reverse repo transaction were neither a financial institution nor one of these other financial intermediaries/external managers, a reclassification would be registered in the b.o.p. (a decrease in the holdings of currency and deposits and an increase in "Other claims"), which would not affect the total level of reserve assets. This statistical treatment differs slightly from the proposal of the IMF, which recommends classification of all claims arising from reverse repos under "Reserve assets/ Other claims".

In the case of reverse repos followed by outright sales of the securities received as collateral, NCBs could even register negative positions in "Reserve assets/Foreign exchange/ Securities", accounting for a sale of assets which did not previously form part of their portfolio.

Repo transactions would produce changes in the following items of the template to be reported by the cash-borrowing NCB:

- I.A.(1).(b) "Official reserve assets/ Foreign currency reserves (in convertible foreign currencies)/total currency and deposits", accounting for an increase in holdings of foreign currency;
- II.(3).(i) "Other/outflows related to repos (-)", amounting to the nominal value (see next paragraph) of the open repo positions (as reserve-related liabilities) if the residual maturity of the future payments were lower than one year; and

- IV.(1).(d) "Securities lent or repoed and included in Section I", accounting for the value of the repoed securities.

The nominal amount of predetermined inflows/outflows associated with repo-type positions results from the repurchase price of the collateral involved (thus encompassing both the starting purchase price plus the income linked to these transactions). Nonetheless, practical problems could arise in those cases where information is taken from accounting statements in which only the initial price of the transaction is available (income derived from collateralised loans is indistinguishably accrued in the profits and losses account). Therefore, the initial value of the transactions would be accepted as a proxy for the nominal value of the predetermined inflows/outflows.

As regards the valuation of lent or repoed securities, this could appear arduous in cases where the delivery of collateral is not usually recorded on-balance and those securities involved generally remain in the portfolio of the cash borrower. For the sake of convenience, as a practical rule, the application of the initial value of the transaction (i.e. the initial amount of cash received) is again recommended for estimating the value of the repoed securities, in the event of no other accounting information being disclosed on-balance.

v) *Credit lines:* the nominal amount of credit lines not yet drawn provided/received by NCBs which could suppose foreign exchange outflows/inflows in the short run should be reported in Section III of the template under item III.(3) "Undrawn, unconditional credit lines provided by/to monetary authorities".

Once drawn upon, in accordance with the treatment mentioned at the beginning of this section for loans and deposits, liquid claims of an NCB on the cash borrower arising from withdrawn credit lines conceded by monetary authorities could be held to be "Reserve assets", provided that the correspondent counterpart is considered to be highly creditworthy and the claim arising fulfils the condition of being readily available.[14] Reciprocal currency arrangements among central banks and with the Bank for International Settlements enter into this category, as well as other financing agreements between central banks and consortia of private financial institutions.

The statistical treatment of credit lines in the template could be summarised as follows:

A) If an NCB provided another entity with a credit line in foreign exchange, it would register variation in the following items:

- I.A.(1).(b) "Official reserve assets/ Foreign currency reserves (in convertible foreign currencies)/total currency and deposits", accounting for the part of the credit line already drawn on (a decrease in holdings of foreign exchange);
- I.A.(1).(b)/I.A.(5) (As either deposits or other reserve assets, depending on the nature of the counterpart), accounting for the claim derived from the use of the credit line (counting on a creditworthy counterpart); and
- III.(3).(ii) "Undrawn unconditional credit lines provided to:", accounting for the part of the value of the credit line which remained undrawn, which would be considered to be a contingent net (negative) drain on foreign currency.

B) Symmetrically, if an NCB were provided with a credit line in foreign currency, it would be reflected in the template by means of the following recordings:

- I.A.(1).(b), "Official reserve assets/ Foreign currency reserves (in convertible foreign currencies)/total currency and deposits", accounting for the part of the credit line already drawn on (an increase in holdings of foreign exchange);
- II.(1), "Foreign currency loans, securities and deposits/outflows (-)", if the residual maturity were lower than one year, accounting for the part of the credit line already drawn on (negative net drain); and

12 See paragraph 440 of the IMF Balance of Payments Manual (5th edition).

- III.(3).(i), "Undrawn unconditional credit lines provided by:", accounting for the percentage of the value of the credit line which remained undrawn, which would be considered to be a contingent net (positive) drain on foreign currency.

In those cases where collateral is required when credit lines are drawn on, those securities should be disclosed in Section IV, under item (d).

III.6 Positions/transactions in financial derivatives

These are probably the most complex transactions for compilers (and not only regarding reserve assets). Many efforts have been devoted to the harmonisation of the statistical treatment of financial derivatives within the euro area, in parallel with similar work being carried out within the IMF.

It is of utmost importance to highlight the fact that the recording of both transactions and stock positions in financial derivatives under the Eurosystem's reserve assets should be carried out on a net basis (i.e. including both positive and negative positions), as explained in former sections of this booklet. This treatment regarding positions appears to be an exception to the gross reserve assets concept, but it was considered the only feasible way to reconcile flows and stocks.

Generally speaking, liquid positions in financial derivatives settled in at least one foreign currency vis-à-vis creditworthy non-resident counterparts would be computed under "Reserve assets" on a marked-to-market basis. This valuation would include all unrealised gains and losses associated with both changes in prices (derived from interest rate movements, changes in foresight, etc.) and changes in foreign exchange rates. The inclusion of both positive and negative stocks under "Reserve assets" on a net basis could cause negative positions to occur. This could happen frequently and, in particular, manifest itself in the case of interest rate derivatives (i.e. swaps and forward rate agreements), which quite often "flip" from assets to liabilities and vice versa.

Some doubts could emerge regarding the consideration of OTC derivatives (for instance, swap agreements or some types of options) as reserve assets. It should be up to each NCB to decide on whether such a financial instrument is offsetable on the market and a prevailing price for the underlying assets enables its classification in this category, provided that, in principle, there would be no other objection to doing so.

As regards the statistical consideration of financial derivatives in the template, apart from other particular considerations which will be analysed on a case-by-case basis in the next paragraphs, as a general rule the net marked-to-market value will be recorded under item I.A.(5) and IV.(1).(e) of the euro area template. Thus, item I.A of the template (i.e. total sum of official reserve assets) as reported by the Eurosystem will be consistent with Table 8.6 of the ECB's Monthly Bulletin.

The criterion for deciding on the residency of the counterpart could not result in so straightforward a manner, especially in the case of financial derivatives dealt in organised markets. As a rule, financial derivatives dealt in organised markets located outside the euro area may be considered to fall within this category. In the event that, in certain cases, information on the residency of the market is not available to the NCBs, the geographical allocation of claims and drains arising from financial derivatives could be based on the residency of the clearing house.

As regards positions in financial derivatives denominated in foreign currency vis-à-vis resident counterparts, they would be disclosed in the template under item I.B ("Other foreign currency assets") of Section I. Predetermined and contingent short-term net drains vis-à-vis resident counterparts would be disclosed in Sections II and III respectively.

The main goal of this chapter is not to focus on an exhaustive coverage of financial derivatives, but rather to cover the methodological treatment of those derivatives most usually present in the portfolio of an NCB, as far as holdings of reserve assets are concerned. The structure of this chapter is determined by the different types of financial derivatives being analysed in each bullet point:

- Options
- Futures
- Interest rate derivatives (interest rate swaps, cross currency swaps and forward rate agreements)
- Forward foreign exchange contracts
- Swaps foreign exchange against domestic currency

i) *Options*

This kind of contract gives the purchaser the right, but places no obligation on him/her, to buy ("call") or sell ("put") an asset at a predetermined price (strike price) within a specific period of time or on a specified date. Symmetrically, the seller would be obliged, but would not have the right, to deliver (call) or acquire (put) the asset at the agreed price if the buyer of the option decided to exercise it (and he would logically do so only if the option were "in-the-money").

In accordance with the above-mentioned paper entitled "Final report on financial derivatives", two types of options may be considered: exchange-traded options and over-the-counter (OTC) options. Exchange-traded options are packaged in fixed quantities and have a fixed range of dates; they could be margined options-style (in this case, an initial premium would be paid to the seller of the option and daily variation margins could be covered by collateral instead of cash) or futures-style (no initial premium required and variations are settled in cash). By contrast, OTC options can adapt to each customer's requirement and are thus not commonly traded on secondary markets.

Only those options settled in at least one foreign currency and negotiated with non-resident counterparts would be relevant as regards reserve assets. OTC options and exchange-traded options with options-style margining involve a payment of the premium up front. At the beginning of the contract, the central bank buying an option would record in the b.o.p. the full premium paid (i.e. the purchase price plus the implied service charge) under "Reserve assets/Foreign exchange/Financial derivatives" (that recording would be derived from the acquisition of a financial asset). If a central bank sells an option ("option written" by the NCB), according to the above-mentioned net-basis treatment, the premium received would then be symmetrically recorded under "Reserve assets/Foreign exchange/Financial derivatives" with a negative sign (accounting for a liability).

In options-style margining, cash margin payments and receipts associated with options should be classified in the b.o.p. under "Reserve assets/Foreign exchange/Currency and deposits"[15]. Options-style variation margins would be considered to be deposits provided that no real change in ownership occurs before the conclusion of the contract. When the contract expires, this ownership would then be definitively transferred if required.

If the owner finally exercises the option and the underlying asset is delivered, this transaction should be recorded in the b.o.p. under the appropriate item at the prevailing market price. If the underlying asset corresponds to a specific amount of foreign currency, its delivery should be recorded under "Reserve assets/Foreign exchange/Currency and deposits", valued according to the foreign exchange rate prevailing in the market.

The difference between the market price and the strike price should be recorded under "Reserve assets/Foreign exchange/Financial derivatives", irrespective of whether it implies a payment or a receipt. This treatment would be the same for both call and put (either bought or written) options.

With regard to the treatment of stocks, options contracts should be valued at market prices within the i.i.p. The statistical treatment in the template could be summarised as follows:

13 See paragraph 441 of the IMF Balance of Payments Manual (5th edition).

14 If the claim arising from the credit line were not liquid enough to be considered as a reserve asset, it should be reported in Section II, under item II.1.

(i) Sections I (I.A.(5) "Other reserve assets/ Financial derivatives") and IV (IV.(1).(e) "Memo items/Financial derivative assets (net, marked to market)") should disclose the market value of the option on a net basis (with a plus or minus sign, accounting for bought or written options respectively).[16]

(ii) In the case of options in foreign currency vis-à-vis the domestic currency, if the remaining maturity of some potential payments/receipts were lower than one year, a net contingent foreign currency drain equivalent to the possible amount of foreign currency to be obtained/delivered (and not to the market value of the derivative) should be separately disclosed in Section III as well (III.4 "Aggregate short and long positions of options in foreign currencies vis-à-vis the domestic currency))".[17]

(iii) In the case of potential payments/ receipts with a remaining maturity of over one year, they should be disclosed in Section IV (IV.(1).(f) "Derivatives [...] that have a residual maturity greater than one year, which are subject to margin calls"), if they are subject to margin calls

(iv) In the case of exchange of cash margins, they should be treated as deposits and, thus, included in Section I (I.A.(1).(b) "Official reserve assets/Total currency and deposits")

The statistical treatment of futures-style options is similar to that for futures, which is explained in detail in the following paragraphs.

ii) Futures

A futures contract is a standardised form of a forward agreement traded on organised markets. For this kind of contract, one party has the obligation to purchase and the other, the obligation to sell a specified quantity of an asset at a fixed price on a fixed future date. The main differences between this and other forward contracts stem from the fact that in futures the terms of the contract are standardised, there is a centralised exchange of trading contracts led by the market and each contract is subject to regular margining.

Organised futures markets do not provide any information on the counterpart. A clearing house searches in the market for opposite orders and matches them. The balance sheets of both transactors account for opposite positions vis-à-vis the market. Therefore, information on the residency of each counterpart is not available and hence it becomes necessary to establish a criterion according to which these transactions could be considered to be reserve assets: only transactions in futures settled in at least one foreign currency and traded on markets placed outside the euro area could be reported as flows/stocks under "Reserve assets".

Variation margins on futures are not statistically treated as those on options: although initial margin payments would be computed as changes in deposits, futures-style variation margin payments should be recorded under "Reserve assets/Foreign exchange/Financial derivatives". This stems from the fact that daily variation margin payments are usually collected by the clearing house from one party and paid to the other, accounting for an actual change in ownership.

This treatment for variation margins would be consistent with market stock values near to zero at the end of each day (this stems from the fact that unrealised profits and losses during the day would in the end become realised and transferred to the corresponding counterpart). Hence, there would be no recording of stocks on futures with daily margining.

Therefore, in order to summarise the statistical treatment of futures, all transactions associated with these kinds of derivatives should be recorded in the b.o.p. under

[17] In the case of American-style options (which can be exercised at any time from inception to maturity), contingent inflows and outflows should be allocated to the first column of Section III (i.e. residual maturity up to one month).

"Reserve assets/Foreign exchange/Financial derivatives", regardless of the way in which they are settled (either taking up an opposite futures position before maturity to offset the existing obligation, with delivery of the instrument or by means of an equivalent cash payment). If the instrument were delivered, only the difference between the agreed price and the market price of the instrument at the end of the contract would be allocated to transactions in "Reserve assets/Financial derivatives". No entry would be recorded in the i.i.p. In the Eurosystem's template, only predetermined outflows/inflows in foreign exchange (i.e. the nominal value of future contracts on foreign exchange) would be disclosed under item II.2, "Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency" (including the forward leg of currency swaps).

iii) Interest rate derivatives (Interest rate swaps, cross-currency swaps and forward rate agreements)
Swaps are agreements to exchange sets of cash flows. In the case of cross-currency swaps, the principal is exchanged at the inception of the contract, unlike interest rate swaps. Interest payments corresponding to swap agreements are usually carried out on a net basis. FRAs are agreements whereby the interest associated with a deposit is purchased/sold at a predetermined price on an agreed future date. Both swaps and FRAs usually end at maturity.

Some agents use these instruments for hedging purposes when having to contend with variable streams of interest payments which are indexed in some way – or, in the case of cross-currency swaps, streams of payments in foreign currency. By means of these contracts, investors may manage to pay a fixed interest rate/foreign exchange rate instead of a variable one. However, in many cases no other transaction (involving interest/foreign exchange payments) justifies the existence of this kind of contract, the only purpose of which would then be to contribute to the agent's active portfolio management.

These financial derivatives normally take the form of over-the-counter contracts. Two criteria should be observed in order to consider swaps and FRAs as reserve assets: currency of settlement of the contract (at least one non-euro area currency) and residency of the counterpart (outside the euro area).

In this case, and following both ECB and IMF recommendations, the net stream of cash settlement flows associated with interest rate derivatives should be recorded in the b.o.p. under "Reserve assets/ Foreign exchange/Financial derivatives" (rather than under the "Current account").

In the case of cross-currency swaps, the interest rate element associated with these transactions would have to be recorded in the b.o.p. under "Reserve assets/Foreign exchange/ Financial derivatives" (in those contracts settled in at least one foreign currency and conducted with non-resident counterparts). In addition, the difference between the two legs corresponding to the principal exchanged in terms of the base currency, if applicable, should also be recorded under "Reserve assets/ Foreign exchange/Financial derivatives".

All these derivatives with an interest rate component might register positive and negative values along the life of the contract. Taking this feature into account, they would be mirrored under the following items of the template:

(i) in Sections I and IV, the market price of these derivatives should be disclosed respectively in "Official reserve assets/ Other reserve assets" (I.A.(5)) and in "Financial derivative assets" (net, marked to market) (IV.(1).(e)). In those cases in which no market value is available, estimates should be based on the current value of the stream of payments/ receipts, deduced from the difference between the agreed rates and the forward market rates to the date of each settlement;[18]

(ii) in the case of cross-currency swaps, if the remaining maturity of some predetermined payments/receipts were lower than one year, these net drains of

[18] When the transaction is settled, it involves changes in foreign exchange holdings (i.e. changes in I.A.(1).(b)).

foreign currency (either positive or negative) should be reflected in Section II, under aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps [II.(2)];.

(iii) in the case of potential payments/ receipts of a forward with remaining maturity of over one year subject to margin calls, they should be disclosed in Section IV (IV.(1).(f) "Derivatives [...] that have a residual maturity greater than one year, which are subject to margin calls").

As the template on international reserves and foreign currency liquidity focuses on the risk associated with changes in foreign exchange rates, positions associated with the interest rate component of these financial derivatives would not give rise to any recording under Section II, provided that no predetermined foreign exchange inflows/outflows derives from it.

iv) Forward foreign exchange contracts

By means of these contracts, two agents agree on the delivery of a specified amount of foreign currency at a fixed exchange rate on an agreed future date. Transactions only occur at maturity when the terms of the contract are executed. At that moment, the market and the agreed rates are normally different, which is what gives the financial derivatives either a positive or a negative value.

The difference between the amount of domestic currency to be delivered, as agreed at the time of the contract, and the amount of foreign exchange to be received, valued into domestic currency at the spot rate prevailing at settlement should be allocated to transactions in Reserve assets/Foreign exchange/Financial derivatives.

As in the case of derivatives with an interest component, either positive or negative values at maturity are possible. It is necessary to consider these transactions in several parts of the template:

(i) in Sections I and IV, the market price of the derivative should be recorded respectively under "Official reserve assets, Other reserve assets" (I.A.(5)) and under "Financial derivative assets (net, marked to market)" (IV.(1).(e)). The market price of these derivatives could be deduced from the difference between the forward foreign exchange rate to the end of the contract and the agreed rate;

(ii) if the remaining maturity of some payments were lower than one year, the nominal value of the predetermined net drains should be reflected in Section II, under "Aggregate short and long positions in forwards and futures in foreign currencies" (II.(2)).

(iii) In the case of payments/receipts with remaining maturity of over one year, if these contracts were subject to margin calls, they should be disclosed in Section IV (IV.(1).(f) "Derivatives [...] that have a residual maturity greater than one year, which are subject to margin calls").

In the case of forwards between domestic currency and any other foreign currency, some doubts could arise as regards the valuation into euro of the predetermined foreign exchange inflows/outflows to be included in Section II of the template. Two possible rates could be used: i) the agreed foreign exchange rate of the commitment (i.e. the euro leg of the agreement would be used to express the amount of foreign currency in euro); and ii) the prevailing market rate. In accordance with IMF guidelines on this issue, the latter (i.e. the mid-point foreign exchange rate of the last day of the period covered by the template) should be used to convert the foreign exchange leg of the agreement into euro.

v) Swaps foreign exchange against domestic currency

The statistical treatment of these transactions would be equivalent to considering independent spot and forward purchases/sales of foreign exchange against domestic currency. At the moment of delivery, an increase/decrease in foreign exchange would be reflected in the b.o.p.

under "Reserve assets/Foreign exchange/ Currency and deposits". The difference between the price agreed and the market price of the transaction would be reflected under "Reserve assets/Foreign exchange/Financial derivatives".

As regards the template, these transactions would be reflected in the following sections:

(i) in Sections I and IV, the market price of the derivative should be recorded respectively under "Official reserve assets, other reserve assets" (I.A.(5)) and under "Financial derivative assets (net, marked to market)" (IV.(1).(e)) on a marked-to-market basis. The market price of these derivatives could be deduced taking into account the discounted stream of payments/receipts derived from the difference between the market forward foreign exchange rate to each date of delivery and the agreed rate;[19]

(ii) if the remaining maturity of some payments/receipts were lower than one year, the forward leg of the swap (i.e. the amount of foreign exchange to be delivered, either positive or negative) should be reflected in Section II, under "Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency (including the forward leg of currency swaps)" (II.(2)).[20]

[19] When the transaction is settled, it involves changes in foreign exchange holdings [i.e. changes in I.A.(1).(b)].

[20] To value predetermined foreign exchange inflows/ outflows into euro, prevailing market foreign exchange rates should be used.

III.7 Summary

Positions/transactions in gold

Type of transaction	Statistical consideration	Involved items of the b.o.p./i.i.p.	Involved items of the template	Other remarks
Gold purchases and sales (Counterpart: extra-EMU NCB)	Outright transaction	Reserve assets / Monetary gold	I.A.(4)	–
Gold purchases and sales (Counterpart: extra-EMU non-NCB)	Outright transaction	Reserve assets / Current account / Goods	I.A.(4)	Monetisation / Demonetisation of the gold required
Gold purchases and sales between residents (non-NCB) and non-residents	Trade in goods	Current account / Goods	–	–
Gold swaps	Collateralised loans	Reserve assets / Foreign exchange / Currency and deposits Other investment / Liabilities / Monetary authorities / Currency and deposits	I.A.(1).(b) II.3.(i)/(ii) IV.(I).(d)[21]	No gold recordings in either the b.o.p. or the i.i.p.
Gold repos	Collateralised loans	Reserve assets / Foreign exchange / Currency and deposits Other investment / Liabilities / Monetary authorities / Currency and deposits	I.A.(1).(b) II.3.(i)/(ii) IV.(1).(d)	Nol gold recordings in either the b.o.p. or the i.i.p.
Gold loans and deposits	Exchange of collateral	–	IV.(1).(d)	No changes in gold holdings in either the b.o.p. or the i.i.p.

[21] *Accounting for the amount of gold exchanged*

Positions/transactions vis-à-vis the IMF (including, SDR)

Type of transaction	Statistical consideration	Involved items of the b.o.p./i.i.p.	Involved items of the template	Other remarks
SDRs' account	Equivalent to a foreign currency account	Reserve assets / Special Drawing Rights	I.A.(3)	–
Allocation / cancellation of SDRs	Other adjustments	Reserve assets / Special Drawing Rights	I.A.(3)	Only stock changes (i.i.p./template)
Foreign currency drawn upon the reserve position in the IMF	Reallocation of resources	Reserve assets / Reserve position in the IMF Reserve assets / Foreign exchange / Currency and deposits	I.A.(2) I.A.(1).(b)	–
Indebtedness of the Fund under NAB or GAB agreements	Reserve position in the Fund	Reserve assets / Reserve position in the IMF Other investment / Currency and deposits	I.A.(2)	Although settled in domestic currency, it gives rise to a claim in foreign currency
Indebtedness of the Fund under the ESAF agreement	Deposit in Foreign exchange in the Fund	Reserve assets / Foreign exchange / Currency and deposits Other investment / Currency and deposits	I.A.(1).(b).(i)	Although settled in domestic currency, it gives rise to a claim in foreign currency

Positions/transactions in securities

Type of transaction	Statistical consideration	Involved items of the b.o.p./i.i.p.	Involved items of the template	Other remarks
Accrued interest on securities	Higher value of the security involved	Current account / Investment Income / Other investment Res. Assets / Foreign exchange / Securities	I.A.(1).(a)	–

Positions/transactions in currency and deposits

Type of transaction	Statistical consideration	Involved items of the b.o.p./i.i.p.	Involved items of the template	Other remarks
Repo type transactions/ positions (Repo, sell-buy back and security lending transactions-positions with exchange of cash) in foreign currency	Collateralised loans	Reserve assets / Foreign exchange / Currency and deposits Other investment / Liabilities / Mon. Authorities / Curr. and Deposits	I.A.(1).(b) II.3.(i)/(ii) IV.(1).(d)	Initial amount of cash delivered as a proxy of the value of collateral
Credit lines claims/liabilities once drawn upon; contingent net drains up until then	Predetermined claims/liabilities once drawn upon; contingent net drains up until then	Reserve assets / Foreign exchange / Currency and deposits Other investment / Assets / Liabilities / Mon. Authorities / Curr. and Deposits	I.A.(1).(b)[22] · I.A.(1).(b)/I.A.(5)/ II.1[23] III.(3)	If any collateral required, securities lent / repoed would be recorded under item IV.(I).(d) of the template without any additional recording in the b.o.p. or the i.i.p.
Foreign currency notes and coins	Claims on other NCBs	Reserve Assets / Foreign exchange / Currency and deposits	I.A.(1).(b).(i)	–

22 *Accounting for the change in foreign exchange holdings, once drawn upon.*
23 *Either in Section I (as a deposit or a loan) or II, depending on the liquidity of the claim arising, once drawn upon.*

Positions/transactions in derivatives

Type of transaction	Statistical consideration	Involved items of the b.o.p./i.i.p.	Involved items of the template	Other remarks
Options	Contingent net drains	Reserve assets / Foreign exchange / Currency and deposits[24] · Reserve assets / Foreign exchange / Financial Derivatives	I.A.(1).(b) I.A.(5) III.4 IV.(1).(e) IV.(1).(f)[25]	Margins would be treated as deposits in foreign currency
Futures	Positions settled on a daily basis	Reserve assets / Foreign exchange / Currency and deposits[26] · Reserve assets / Foreign exchange / Fin. Deriv.	I.A.(1).(b)	No stocks should be computed on futures with daily margining.
Interest rate swaps, Cross-currency swaps and Forward rate agreements	Predetermined net drains	Reserve assets / Foreign exchange / Currency and deposits Reserve assets / Foreign exchange / Financial Derivatives	I.A.(1).(b) I.A.(5) II.(2)[27] IV.(1).(e) IV.(1).(f)	–
Forward Foreign exchange contracts	Predetermined net drains	Reserve assets / Foreign exchange / Currency and deposits Reserve assets / Foreign exchange / Financial Derivatives	I.A.(1).(b) I.A.(5) II.(2) IV.(1).(e) IV.(1).(f)	–
Swaps domestic currency / Foreign exchange	Independent spot and forward purchases and sales	Reserve assets / Foreign exchange / Currency and deposits Reserve assets / Foreign exchange / Financial Derivatives	I.A.(1).(b) I.A.(5) II.(2) IV.(1).(e)	–

24 *If settled by means of foreign exchange deposits / foreign exchange delivery.*
25 *In the case of derivatives subject to margin calls with residual maturity over one year.*
26 *Accounting for daily settlements in foreign exchange.*
27 *Only the foreign exchange component of cross-currency swaps would give rise to entries under Section II.*

IV Appendix: Some numerical examples

This section includes examples of some transactions involving external reserves. The following types of transactions are considered:

- Gold transactions
- Credit lines
- Repurchase agreements
- Interest rate swaps
- FRAs
- Forward Foreign exchange contracts

IV.1 Gold transactions

An NCB "A" of the euro area performs the following transactions in gold:

1. 5 Dec. 1999: purchases 20,000 ounces of gold from the Bank of England, at USD 300 / gold oz. This transaction is settled by means of a credit entry in a six-month deposit in USD in the Bank of England in "A" (at 3%).
2. 15 Dec. 1999: one-month gold deposit of 10,000 ounces in J. P. Morgan New York. JPM places USD 3,100,000 in US government securities as collateral. Under the terms of the loan, JPM agrees to return the gold on demand; otherwise, the collateral would be exercised. At maturity (on 15 January 1999), in addition to the gold, "A" receives from JPM USD 3,000; this amount is placed in a deposit denominated in USD in JPM. At the same time, the collateral returns to JPM.
3. 20 Dec. 1999: "A" undertakes a gold swap with the United States Federal Reserve in which "A" provides the Federal Reserve with 1,000 ounces of gold in exchange for USD 300,000, in currency. The transaction will be reversed on 20 January 1999, at the spot price of the gold prevailing in the market at that moment.

Additional information:

- Gold spot rate from 30/11/1999 to 20/01/1999: USD 300 / oz (unchanged during this period of time)
- Gold spot rate from 20/01/1999 to 31/01/1999: USD 305 / oz (unchanged during this period of time)

Information on exchange rates:

Date	Monthly average foreign exchange rate EUR/USD	Mid-point exchange rate EUR/USD
30/11/99	–	0.96
15/12/99	0.93	–
31/12/99	–	0.90
15/01/00	0.92	–
31/01/00	–	0.94

The following entries would be recorded in the b.o.p. statement of country "A":

	COUNTRY A (in EUR)		
Monthly b.o.p. 31 December 1999	**Credit**	**Debit**	**Balance**
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits [28]	5,859,000		5,859,000
Reserve assets / Monetary gold	5,580,000	-5,580,000	
Reserve assets / Foreign exchange / Currency and deposits		279,000	-279,000

28 Recording interest income on an accrual basis is not required within the euro area other investment account.

No recording derives from transaction number 2 in December (both gold and securities exchanged are treated as collateral): only at maturity the interest paid would give rise to a b.o.p. recording. Nor is the gold exchanged in transaction number 3 at the origin of any b.o.p. recording (this transaction is statistically treated as a collateralised loan).

	COUNTRY A (in EUR)		
Monthly b.o.p. 31 January 1999	**Credit**	**Debit**	**Balance**
Current account / Investment income / Other investment	2,760	4,600	-1,840
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits		276,000	-276,000
Reserve assets / Foreign exchange / Currency and deposits	280,600	2,760	277,840

Let us suppose the following stocks in the NCB's balance sheet as at 30/11/1999:

- Financial account / Other investment / Liabilities / Monetary authorities / Loans & Deposits: EUR 500,000,000
- Reserve assets / Monetary gold: 25,000 ounces (= EUR 7,200,000)
- Reserve assets / Foreign exchange / Currency and deposits: USD 50,000,000 (=EUR 48,000,000) (In the Federal Reserve of New York)
- Reserve assets / Foreign exchange / Securities: USD 100,000,000 (=EUR 96,000,000)

The reconciliation between flows and stocks in the i.i.p. of country "A" would reflect the following entries:

	COUNTRY A (in EUR)					
IIP	**Stock 30.11.99**	**BOP flows**	**Price changes**	**Exchange rate changes**[29]	**Other adjustm.**	**Stock 31.12.99**
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & dep.	500,000,000	5,859,000	-	-189,000	-	05,670,000
Reserve assets / Monetary gold	7,200,000	-5,580,000	-	-630,000	-	12,150,000
Reserve assets / Foreign exchange / Securities	96,000,000	-	-	-6,000,000	-	90,000,000
Reserve assets / Foreign exchange / Currency and dep.	48,000,000	-279,000	-	-3,009,000	-	45,270,000
IIP	**Stock 31.12.99**	**BOP flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31.01.00**
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & dep.	505,670,000	-276,000	-	+ 246,000	-	05,640,000
Reserve assets / Monetary gold	12,150,000	-	+211,500[30]	+540,000[31]	-	12,901,500
Reserve assets / Foreign exchange / Securities	90,000,000	-	-	+4,000,000	-	94,000,000
Reserve assets / Foreign exchange / Currency and dep.	45,270,000	277,840	-	+2,005,960[32]	-	46,998,120

In the template reported by country "A", the entries corresponding to the captions involved in this example would be the following:

Template 30/11/1999	**Description**	**Value**[33]
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	96,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	48,000,000
I.A.(4)	Official reserve assets / Gold (including gold on loan)	7,200,000

[29] *Exchange rate changes are computed according to the following formula:*
$Fx_t = S_{t-1} * (E_t - E_{t-1}) - F_t * (E_t - E'_t)$
Where:
Fx_t *= Exchange rate changes*
S_{t-1} *= Initial stock (in original currency)*
E_{t-1} *= Opening mid-point foreign exchange rate EUR /USD (corresponding to the last day of the previous period)*
E_t *= Closing mid-point foreign exchange rate EUR /USD (corresponding to the last day of the period)*
F_t *= Flows during the period (in original currency), including the b.o.p. sign (- sign for outflows and + sign for inflows)*
E'_t *= Average foreign exchange rate of the period (at which transactions are valued into EUR)*

[30] *This result derives from the following calculations: 45,000* (305 – 300) * 0.94.*

[31] *This result derives from the following calculations: 45,000* 300 * (0.94 – 0.9).*

[32] *Which comes from: 50,000,000*(0.94 – 0.9) + 300,000*(0.94 – 0.92) – 2,000*(0.94 – 0.92).*

[33] *In EUR.*

Template 31/12/1999	Description	Value
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	90,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	45,270,000
I.A.(4)	Official reserve assets / Gold (including gold on loan)	12,150,000
II.1.(i)	Predetermined short-term net drains on f.c. assets (nominal value) / for. cur. loans, secur. and dep. / Outflows(-) principal (More than three months and up to one year)	-5,400,000
II.1.(ii)	Predetermined short-term net drains on f.c. assets (nominal value) / for. cur. loans, secur. and dep. / Outflows(-) Interest (More than three months and up to one year)	-162,000[34]
II.3.(i)	Predetermined short-term net drains on f.c. assets (nominal value) / Other / Outflows related to repos (Up to one month)	- 270,000[35]
II.3.(ii)	Predetermined short-term net drains on f.c. assets (nominal value) / Other / Inflows related to reverse repos (Up to one month)	2,700[36]
IV.(1).(d).(i)	Memo items / securities lent or repoed and included in Section I	2,970,000[37]
IV.(1).(d).(iv)	Memo items / securities borrowed or acquired under repo agreements but not included in Section I	2,790,000

Template 31/01/2000	Description	Value
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	94,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	46,998,120
I.A.(4)	Official reserve assets / Gold (including gold on loan)	12,901,500
II.1.(i)	Predetermined short-term net drains on f.c. assets (nominal value) / for. cur. loans, secur. and dep. / Outflows(-) principal (More than three months and up to one year)	-5,640,000
II.1.(ii)	Predetermined short-term net drains on f.c. assets (nominal value) / for. cur. loans, secur. and dep. / Outflows(-) interest (More than three months and up to one year)	-169,200

34 *Accounting for the income associated with the six-month deposit of the Bank of England in "A".*

35 *Accounting for the foreign exchange drain corresponding to the repurchase of gold, in transaction 3, valued at the gold price prevailing in the market on 31/12/1999 (i.e. - USD 300,000).*

36 *Accounting for the future receipt of foreign exchange corresponding to the interest involved in transaction 2 (+ USD 3,000).*

37 *Corresponding to both the gold lent in transaction number 2, and the gold swapped in transaction number 3.*

IV.2 Credit lines

An NCB "A" of the euro area enters into a reciprocal currency arrangement with the United States Federal Reserve for two months, which provides "A" with temporary access to USD up to the limit of the credit line. At the same time, the Federal Reserve would correspondingly have access to EUR up to the limit of this commitment. This agreement is for monetary purposes and would be used in case any of these currencies needed support in the market. If the credit line were drawn on by one of the countries, the cash borrower would have to deliver a proportional amount of collateral (i.e. securities) to the counterpart. At the end of the agreement, those amounts drawn on must be redeemed. These are the features of the commitment:

- Agreement date: 15 December 1999
- Upper limit of the arrangement in USD: 10,000,000,000
- Upper limit of the arrangement in EUR: 9,300,000,000
- Type of collateral: US treasury bills[38]
- End of the agreement: 15 February 2000

On 10 January, country A withdraws USD 1,000,000,000 from the credit line provided by the Federal Reserve. On 28 January, the Federal Reserve draws on EUR 4,000,000,000. Both transactions are settled by means of deposits in J. P. Morgan, New York. On 15 February, both loans are redeemed. No more transactions take place.

Information on exchange rates:

Date	Monthly average exchange rate EUR/USD	Mid-point foreign exchange rate EUR/USD
30/11/99	-	0.96
12/99	0.93	-
31/12/99	-	0.90
01/00	0.92	-
31/01/00	-	0.94
02/00	0.95	-
28/02/00	-	0.95

Nothing is recorded in the b.o.p. of the country of "A" until one of the credit lines is drawn on. When the Federal Reserve withdraws EUR, there is no entry in the b.o.p. of the country of "A" as well, which only registers a substitution of a claim on a non-resident private credit institution (a deposit in JP Morgan) by another claim on a non-resident monetary authority (the Federal Reserve), both of them classified under the same item of the b.o.p. and denominated in EUR. Delivery of collateral would also not be at the origin of any recording. Therefore, the b.o.p. only registers the following entries:

[38] *Information on the market value of the collateral is not provided, in order to keep this example as close to reality as possible (the lack of accounting information on this matter usually occurs in practice). If the market value of these securities were available, it should be used to assess them.*

	COUNTRY A (in EUR)		
Monthly b.o.p. 31 January 1999	**Credit**	**Debit**	**Balance**
Fin. acc. / Other inv. / Liabilities / Mon. auth. / Loans & deposits	920,000,000		920,000,000
Reserve assets / Foreign exchange / Currency and deposits		920,000,000	-920,000,000
b.o.p. 28 February 1999	**Credit**	**Debit**	**Balance**
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits		950,000,000	-950,000,000
Reserve assets / Foreign exchange / Currency and deposits	950,000,000		950,000,000

Let us suppose the following stocks in the NCB's balance sheet as at 30/11/1999:

- Financial account / Other investment / Assets / Monetary authorities / Loans & deposits: EUR 60,000,000,000
- Financial account / Other investment / Liabilities / Monetary authorities / Loans & deposits: EUR 50,000,000,000
- Reserve assets / Foreign exchange / Currency and deposits: USD 5,000,000,000 (=EUR 4,800,000,000)
- Reserve assets / Foreign exchange / Securities: USD 10,000,000,000 (=EUR 9,600,000,000)

The reconciliation between flows and stocks in the i.i.p. of country "A" would register the following entries:

	COUNTRY A (in EUR)					
IIP	**Stock 30/11/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjust.**	**Stock 31/12/99**
Fin. acc. / Other inv. / Assets / Mon. auth. / Loans & deposits	60,000,000,000	-	-	-	-	60,000,000,000
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits	50,000,000,000	-	-	-	-	50,000,000,000
Reserve assets / Foreign exchange / Securities	9,600,000,000	-	-	-600,000,000	-	9,000,000,000
Reserve assets / Foreign exchange / Currency and dep.	4,800,000,000	-	-	-300,000,000	-	4,500,000,000
IIP	**Stock 31/12/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjust.**	**Stock 31/01/00**
Fin. acc. / Other inv. / Assets / Mon. auth. / Loans & deposits	60,000,000,000	-	-	-	-	60,000,000,000
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & dep.	50,000,000,000	920,000,000	-	+ 20,000,000	-	50,940,000,000
Reserve assets / Foreign exchange / Securities	9,000,000,000	-	-	+400,000,000	-	9,400,000,000
Reserve assets / Foreign exchange / Currency and deposits	4,500,000,000	-920,000,000	-	+ 220,000,000	-	5,640,000,000
IIP	**Stock 31/01/00**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other. adjust.**	**Stock 28/02/00**
Fin. acc. / Other inv. / Assets / Mon. auth. / Loans & deposits	60,000,000,000	-	-	-	-	60,000,000,000
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits	50,940,000,000	-950,000,000	-	+ 10,000,000	-	50,000,000,000
Reserve assets / Foreign exchange / Securities	9,400,000,000	-	-	+100,000,000	-	9,500,000,000
Reserve assets / Foreign exchange / Currency and dep.	5,640,000,000	950,000,000	-	+ 60,000,000	-	4,750,000,000

In the template reported by country "A", the entries corresponding to the captions involved in this example would be:

Template 30/11/1999	Description	Value[39]
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	9,600,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	4,800,000,000
Template 31/12/1999	**Description**	**Value**
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	9,000,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	4,500,000,000
III.3.(A).(a).(i)	Undrawn, unconditional credit lines / provided by other national monetary authorities, BIS, IMF and other int. organisations/Other int. organisations[40]	+ 9,000,000,000
Template 31/01/2000	**Description**	**Value**
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	9,400,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	5,640,000,000
II.1.(i)	Predetermined short-term net drains on f.c. assets (nominal value) / Foreign currency loans, securities and deposits / Outflows (-), principal (Up to one month)	- 940,000,000
III.3.(A).(a).(i)	Undrawn, unconditional credit lines / provided by other national monetary authorities, BIS, IMF and other int. organisations/ Other int. organisations	+ 8,460,000,000
IV.(1).(d).(i)	Memo items / securities lent or repoed and included in Section I[41]	940,000,000
IV.(1).(d).(iv)	Memo items / securities borrowed or acquired under repo agreements but not included in Section I[42]	4,086,956,522
Template 28/02/2000	**Description**	**Value**
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	9,500,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	4,750,000,000

39 *In EUR.*

40 *The other leg of the agreement (i.e. the credit line in EUR provided to the Federal Reserve) would not be reflected in the common template, because it does not imply any contingent drain in foreign currency. In case of any other credit line provided by the NCB "A" in foreign currency (either to a resident or a non-resident entity) should be separately disclosed under item III.3.(B).*

41 *The value of the collateral derives from the amount of cash transferred at the beginning of the transaction, valued into EUR using the mid-point exchange rate of 31/1/2000.*

42 *This recording corresponds to the amount of US Treasury bonds received from the Federal Reserve. In this example the value is derived from the amount withdrawn by the Federal Reserve (EUR 4,000,000,000) valued into USD at the average rate EUR/USD of the period when the transaction took place and valued again into EUR using the mid-point foreign exchange rate EUR/USD of the last day of the reference period. Notice that, though the transaction is denominated in EUR, the securities exchanged as collateral are denominated in foreign currency (and, therefore, must be considered in the common template)*

IV.3 Repurchase agreements

a) An NCB "A" of the euro area enters into a one-month repo with a non-EMU central bank "B" (the cash provider) with the following features:

- Agreement date: 15 December 1999
- Amount of cash transferred from "B" to "A": USD 3,000,000[43]
- Type of collateral delivered to "B": US treasury bills[44]
- Maturity date: 15 January 2000
- Agreed repurchase price: USD 3,015,000

b) In addition, "A" enters into a 21-day reverse repo with a non-EMU central bank "C" (cash borrower), with the following details:

- Agreement date: 20 December 1999
- Amount of cash transferred from "A" to "C": USD 1,000,000[45]
- Type of collateral delivered by "C": US treasury bills[46]
- Maturity date: 10 January 2000
- Agreed repurchase price: USD 1,003,000

Information on foreign exchange rates:

Date	Monthly average exchange rate EUR/USD	Mid-point foreign exchange rate EUR/USD
30/11/99	-	0.96
12/99	0.93	-
31/12/99	-	0.90
1/00	0.92	-
31/1/00	-	0.94

The following entries would be recorded in the b.o.p. statement of country "A"[47]:

COUNTRY A (in EUR)

Monthly b.o.p. 31 December 1999	**Credit**	**Debit**	**Balance**
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & dep.	2,790,000		2,790,000
Reserve assets / Foreign exchange / Currency and dep.		2,790,000	-2,790,000
31 January 1999	**Credit**	**Debit**	**Balance**
Current account / Investment income / Other investment[48]	2,760	13,800	-11,040
Fin. acc. / Other inv. / Liab. / Mon. auth. / Loans & deposits		2,760,000	-2,760,000
Reserve assets / Foreign exchange / Currency and deposits	2,771,040		2,771,040

47 *Reverse-repo transactions would not give rise to any b.o.p. recording (one claim would be substituted by another, both classified under the same b.o.p. item).*

48 *Recording interest income on an accruals basis is not required within the euro area "Other investment" account.*

43 *By crediting a current account held by "A" in a non-resident private bank.*

44 *No information on the market value of repoed securities is provided.*

45 *By debiting a current account held by "A" in a non-resident private bank.*

46 *No information on the market value of repoed securities is provided.*

Let us suppose the following stocks in the NCB's balance sheet as at 30/11/1999:

- Financial account / Other investment / Liabilities / Monetary authorities / Loans & deposits: EUR 500,000,000
- Reserve assets / Foreign exchange / Currency and deposits: USD 50,000,000 (=EUR 48,000,000)
- Reserve assets / Foreign exchange / Securities: USD 100,000,000 (=EUR 96,000,000)

The reconciliation between flows and stocks in the i.i.p. of country A would reflect the following entries:

	COUNTRY A (in EUR)					
IIP	**Stock 30.11.99**	**BOP flows**	**Price changes**	**Exchange rate changes**	**Other adjust.**	**Stock 31.12.99**
Fin. Acc. / Other Inv. / Liab. / Mon. Auth. / Loans & Dep.	500,000,000	2,790,000	-	-90,000	-	502,700,000
Reserve assets / Foreign exchange / Securities	96,000,000		-	-6,000,000	-	90,000,000
Reserve assets / Foreign exchange / Currency and Dep.	48,000,000	-2,790,000	-	-3,090,000	-	47,700,000
IIP	**Stock 31.12.99**	**BOP flows**	**Price changes**	**Exchange rate changes**	**Other. adjust.**	**Stock 31.01.00**
Fin. Acc. / Other Inv. / Liab. / Mon. Auth. / Loans & Dep.	502,700,000	-2,760,000	-	+ 60,000	-	500,000,000
Reserve assets / Foreign exchange / Securities	90,000,000		-	+4,000,000	-	94,000,000
Reserve assets / Foreign exchange / Currency and Dep.	47,700,000	2,771,040	-	+ 2,059,760[49]	-	46,988,720

[49] *This result derives from the following calculations: 53,000,000*(0.94 - 0.90) + (-3,012,000)*(0.94 – 0.92)*

In the template to be reported by country A, the entries corresponding to the captions involved in this example would be:

Template 30/11/1999	Description	Value
I.A.(1).(a)	Official Reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	96,000,000
I.A.(1).(b)	Official Reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	48,000,000
Template 31/12/1999	**Description**	**Value**
I.A.(1).(a)	Official Reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	90,000,000
I.A.(1).(b)	Official Reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	47,700,000
II.3.(i)	Predetermined short-term net drains on foreign currency assets (nominal value) / Other / Outflows related to repos (-)	- 2,713,500[50]
IV.(1).(d).(i)	Memo items / Securities lent and on repo / Lent or repoed and included in Section I	2,700,000
IV.(1).(d).(iv)	Memo items / Securities lent and on repo / Borrowed or acquired but not included in Section 1	900,000
Template 31/01/2000	**Description**	**Value**
I.A.(1).(a)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Securities	94,000,000
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	46,988,720

50 *Accounting for the repurchase price of the transaction. In the event that it was not available, the initial price of the transaction would be accepted as a proxy.*

IV.4 Interest rate swaps

Let us assume that an NCB "A" of the euro area agrees a four-year interest rate swaps (IRS) for USD 10 million with a non-resident on 1 December 1999. The NCB agrees to pay the fixed rate of 6% and receive the indexed rate (average of daily overnight settings for the relevant period) in order to hedge itself against interest payments derived from a loan taken in dollars, at a variable rate. The contract details are as follows:

- Agreement date: 1 December 1999
- Notional amount: USD 10,000,000
- IRS start date: 1 January 2000
- IRS maturity date: 31 December 2004
- Interest paid annually on 31 December

The contract is settled by means of payments/receipts in compensation for the difference between the fixed and the indexed rates ("A" credits/debits an account denominated in USD in a correspondent private bank settled in the United States).

The flows corresponding to the swap would be as follows (for the sake of simplicity, all calculations have been performed on an annual basis):

	Principal USD 10,000,000		Fixed rate: 6.0%	
(1)	(2)	(3)	(4)	(5)
Date	Remaining maturity	Index (market) spot interest rate	Annual average rate EUR/USD	Flows[51, 52]
31/12/99	4 years	5.8%	0.9	-
31/12/00	3 years	5.3%	0.9	-63,000
31/12/01	2 years	5.5%	0.8	-40,000
31/12/02	1 years	6.3%	0.8	+24,000
31/12/03	-	6.5%	0.9	+45,000

51 *Outflows are shown with a - sign; inflows with a + sign.*
52 *At the end of each year, flows result from the difference between the index reference rate (Column (3)) and the agreed fixed rate (6.0%) times the amount of the contract (USD 10,000,000), converted into euro using the average exchange rate EUR/USD.*

The NCB would record in its balance of payments for the years 1999-2003:

	COUNTRY A (in EUR)		
b.o.p. 31 December 2000	**Credit**	**Debit**	**Balance**
Reserve assets / Foreign exchange / Currency and deposits	63,000	-	63,000
Reserve assets / Foreign exchange / Financial derivatives	-	63,000	-63,000
b.o.p. 31 December 2001	**Credit**	**Debit**	**Balance**
Reserve assets / Foreign exchange / Currency and deposits	40,000	-	40,000
Reserve assets / Foreign exchange / Financial Derivatives	-	40,000	-40,000
b.o.p. 31 December 2002	**Credit**	**Debit**	**Balance**
Reserve assets / Foreign exchange / Currency and deposits	-	24,000	-24,000
Reserve assets / Foreign exchange / Financial derivatives	24,000	-	24,000
b.o.p. 31 December 2003	**Credit**	**Debit**	**Balance**
Reserve assets / Foreign exchange / Currency and deposits	-	45,000	-45,000
Reserve assets / Foreign exchange / Financial derivatives	45,000	-	45,000

Regarding the valuation of stocks (in order to fulfil both the International Investment Position and the Template), additional information is provided, i.e. 1) relevant market forward interest rates; 2) prevailing market discount interest rates; and 3) the mid-point EUR/USD exchange rates at the end of each reference period. The forward rates would be used to estimate the expected future stream of payments/receipts, calculated as the difference between the market forward index rates and the agreed fixed rate. The discount rates would be applied to obtain the present value of that stream of payments/receipts at the relevant reference dates, accounting for the marked-to-market value of the financial derivative. The end-of-period exchange rates would be necessary to convert the values into EUR (reporting currency) and to identify the exchange rate separately from the interest rate (price) effect.

(1) Type of forward/spot value	Market value	Market value	Market value	Market value	Market value
(market) index interest rate	**31//12/99**	**31/12/00**	**31/12/01**	**31/12/02**	**31/12/03**
Spot	5.8%	5.3%	5.5%	6.3%	6.5%
1-year forward	5.2%	5.5%	6.2%	6.5%	
2-years forward	5.6%	6.0%	6.6%		
3-years forward	6.0%	6.5%			
4-years forward	6.4%				
(2) Discount rates[53]	**31/12/99**	**31/12/00**	**31/12/01**	**31/12/02**	
1-year ahead	5.5%	5.4%	5.85%	6.4%	
2-years ahead	5.4%	5.75%	6.4%		
3-years ahead	5.8%	6.25%			
4-years ahead	6.2%				
(3) Date	**Mid-point foreign exchange rate EUR /$**				
31/12/98	0.9				
31/12/99	0.9				
31/12/00	1.0				
31/12/01	0.8				
31/12/02	0.9				
31/12/03	0.9				

53 *In this example the rates of discount are derived from the market spot and forward rates. For the sake of simplicity, they are computed as the average between the relevant rates (either forward or spot) at the beginning and the end of each reference period, according to the following formula:*

$f^{i'} = (f^{(i-1)} + f^{i})/2$

Let us suppose the following stocks in the NCB's balance sheet as at 31 12 1998:

- Reserve assets / Foreign exchange / Currency and deposits: USD 50,000,000 (= EUR 45,000,000)
- Reserve assets / Foreign exchange / Financial derivatives: 0.

Regarding the reconciliation of positions and transactions, it should be borne in mind that all positions are treated throughout as assets with either a negative or a positive sign, reflecting the marked-to-market value of the swap.

The reconciliation between flows and stocks in the i.i.p. of the country of "A" would reflect the following entries:

	COUNTRY A (in EUR)					
IIP	**Stock 31/12/98**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/99[54], [55]**
Reserve assets / Foreign exchange / Currency and dep.	45,000,000	-	-	-	-	45,000,000
Reserve assets / Foreign exchange / Fin. derivatives	-	-	-71,808	-	-	-71,808
IIP	**Stock 31/12/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/00**
Reserve assets / Foreign exchange / Currency and dep.	45,000,000	+63,000	-	+4,993,000	-	49,930,000
Reserve assets / Foreign exchange / Fin. derivatives	-71,808	-63,000	+17,770	-14,181	-	-5,218
IIP	**Stock 31/12/00**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/01**
Reserve assets / Foreign exchange / Currency and dep.	49,930,000	+40,000	-	-9,986,000	-	39,904,000
Reserve assets / Foreign exchange / Fin. derivatives	-5,218	-40,000	+21,910	+1,044	-	57,735
IIP	**Stock 31/12/01**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/02**
Reserve assets / Foreign exchange / Currency and dep.	39,904,000	-24,000	-	+4,991,000	-	44,919,000
Reserve assets / Foreign exchange / Fin. derivatives	57,735	+24,000	-216	+8,774	-	42,293
IIP	**Stock 31/12/02**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/03**
Reserve assets / Foreign exchange / Currency and dep.	44,919,000	-45,000	-	-	-	44,964,000
Reserve assets / Foreign exchange / Fin. derivatives	42,293	45,000	+2,707	-	-	-

[54] The marked-to-market value of the swap would consist of the actual value of all future payments/receipts, using prevailing market rates, according to the following formulae:

$$St = 10{,}000{,}000 * Et * \{(f1 - 0.06) / (1+f1') + (f2 - 0.06) / [(1+f1')*(1+f2')] + (f3 - 0.06) / [(1+f1')*(1+f2')*(1+f3')] + \ldots\}$$

Where:
St: marked-to-market value of the financial derivative on the last day of the period
E_t = closing mid-point foreign exchange rate EUR/USD (corresponding to the last day of the period)
fi: i-year forward market rate at time on t
fi': discount rate (expected prevailing market rate in the year t+i).

[55] To illustrate how the formula is applied in the example, the first stock (December 1999) would be computed as follows:

$$S_{1999} = 10{,}000{,}000 * 0.9 \{(0.052 - 0.06) / (1+0.055) + (0.056 - 0.06) / [(1+0.055)*(1+0.054)] + (0.06 - 0.06) / [(1+0.055)*(1+0.054)*(1+0.058)] + (0.064 - 0.06) / [(1+0.055)*(1+0.054)*(1+0.058)*(1+0.062)] = -71{,}808$$

The template, as reported by the country of NCB "A", would reflect the following entries:

Template 31/12/1999	Description	Value[56]
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	45,000,000
I.A.(5)	Official reserve assets / Other Reserve assets / Financial deriv.	-71,808
IV.(1).(e)	Memo items / Financial derivative assets (net, marked-to-market) / Swaps	-71,808
Template 31/12/2000	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	49,930,000
I.A.(5)	Official reserve assets / Other Reserve assets / Financial deriv.	-5,218
IV.(1).(e)	Memo items / Financial derivative assets (net, marked to market) / Swaps	-5,218
Template 31/12/2001	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	39,904,000
I.A.(5)	Official reserve assets / Other Reserve assets / Financial deriv.	+57,735
IV.(1).(e)	Memo items / Financial derivative assets (net, marked to market) / Swaps	+57,735
Template 31/12/2002	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	44,919,000
I.A.(5)	Official reserve assets / Other Reserve assets / Financial deriv.	+42,293
IV.(1).(e)	Financial derivative assets (net, marked-to-market) / Swaps	+42,293
Template 31/12/2003	**Description**	**Value**
I.A.(1).(b)	Official Reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	44,964,000

56 *In EUR.*

IV.5 FRAs

On 30 November 1999 resident NCB "A" purchases a 3/6 FRA of USD 100,000,000 at 6% in the market of New York (i.e., commits itself to pay 6% on a 6-month notional deposit of USD 100,000,000). The contract features might be summarised as follows (no margin calls required[57]):

- Date of agreement: 30 November 1999
- Underlying notional instrument: six-month deposit of US$ 100,000,000
- Starting market rate for the forward contract: 6%
- Date of settlement: 28 February 2000

Other factors:

- On 31 December 1999 the market rate for this FRA decreases by 5.5% (i.e. a potential loss for "A" of USD 500,000[58])
- On 31 January 2000 the market rate for this FRA goes up by 6.5% (i.e. "A" potentially earns USD 500,000)
- At maturity, the six-month interest rate for the USD is 6.8% and the transaction is settled: "A" receives a compensation of USD 800,000, transferred to its account in a correspondent bank settled in the United States.

Information on exchange rates:

Date	Monthly average exchange rate EUR/USD	Mid-point exchange rate EUR/USD
30/11/99	-	0.96
31/12/99	-	0.90
31/01/00	-	0.94
02/00	0.94	
28/02/00	-	0.95

Only at maturity the b.o.p. of country "A" would reflect a transaction:

	COUNTRY A (in EUR)		
Monthly b.o.p. 28 February 1999	**Credit**	**Debit**	**Balance**
Reserve assets / Foreign exchange / Currency and deposits		752,000	-752,000
Reserve assets / Foreign exchange / Financial derivatives	752,000		752,000

Let us suppose the following stocks in the NCB's balance sheet as at 30/11/1999:

- Reserve assets / Foreign exchange / Currency and deposits: USD 500,000,000 (= EUR 480,000,000)
- Reserve assets / Foreign exchange / Financial derivatives: 0

57 *If any, they should be treated as deposits and, if denominated in foreign currency, they could be recorded under reserve assets.*

58 *The potential stream of future payments/receipts should be discounted at the relevant rates. In this example, this fact is ignored for the sake of simplicity.*

The reconciliation between flows and stocks in the i.i.p. of country A would reflect the following entries:

	COUNTRY A (in EUR)					
IIP	**Stock 30/11/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/12/99**
Reserve assets / Foreign exchange / Curr. and dep.	480,000,000	-	-	-30,000,000	-	450,000,000
Reserve assets / Foreign exchange / Fin. derivatives	-	-	-450,000	-	-	-450,000
IIP	**Stock 31/12/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/01/00**
Reserve assets / Foreign exchange / Curr. and dep.	450,000,000	-	-	+20,000,000	-	470,000,000
Reserve assets / Foreign exchange / Fin. derivatives	-450,000	-	+940,000	-20,000	-	+470,000
IIP	**Stock 31/01/00**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 28/02/00**
Reserve assets / Foreign exchange / Curr. and dep.	470,000,000	-752,000	-	+5,008,000	-	475,760,000
Reserve assets / Foreign exchange / Fin. derivatives	+470,000	+752,000	+285,000	-3,000	-	-

In the template reported by country "A", the entries corresponding to the captions involved in this example would be:

Template 30/11/1999	**Description**	**Value[59]**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	480,000,000
Template 31/12/1999	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	450,000,000
I.A.(5)	Official reserve assets / Other reserve assets / Financial deriv.	-450,000
IV.(1).(e)	Memo items / Financial derivative assets (net, marked-to-market) / Forwards	-450,000
Template 31/01/2000	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	470,000,000
I.A.(5)	Official reserve assets / Other reserve assets / Financial deriv.	+470,000
IV.(1).(e)	Memo items / Financial derivative assets (net, marked-to-market) / Forwards	+470,000
Template 29/02/2000	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	475,760,000

[59] *In EUR.*

IV.6 Forward foreign exchange contracts

A resident NCB "A" enters into a forward foreign exchange contract with J. P. Morgan New York to sell USD 100,000,000 at a price of EUR 91,000,000 (no margin calls required[60]). The contract features might be summarised as follows:

- Date of the agreement: 10 December 1999
- Market price of the forward contract: EUR 91,000,000
- Delivery date: 20 January 2000
- Amount: USD 100,000,000

Other factors at play:
- On 31 December 1999 the market offers a 20-day forward foreign exchange contract to sell USD 100,000,000 at EUR 93,000,000, according to certain expectations of recovery of the USD.
- At maturity, the exchange of currencies takes place, by means of a correspondent bank settled in USD.

Information on exchange rates:

Date	Monthly average exchange rate EUR/USD	Mid-point exchange rate EUR/USD
30/11/99	-	0.96
31/12/99	-	0.90
01/00	0.92	-
31/01/00	-	0.94

In December the b.o.p. of country "A" would not reflect any transaction. At maturity, two transactions would be recorded: i) the sale of foreign currency, valued at market exchange rates; ii) the result of the derivative, valued as the difference between the strike (agreed) foreign exchange rate and the prevailing market rate:

COUNTRY A (in EUR)

Monthly b.o.p. 31 January 1999	Credit	Debit	Balance
Fin. acc. / Other inv. / Assets / Mon. auth. / Loans & deposits		91,000,000	-91,000,000
Reserve assets / Foreign exchange / Currency and deposits	92,000,000		92,000,000
Reserve assets / Foreign exchange / Financial derivatives		1,000,000	-1,000,000

Let us suppose the following stocks in the NCB's balance sheet as at 30/11/1999:

- Financial account / Other investment / Assets / Monetary authorities / Loans & deposits: EUR 500,000,000
- Reserve assets / Foreign exchange / Currency and deposits: USD 500,000,000 (= EUR 480,000,000)
- Reserve assets / Foreign exchange / Financial derivatives: 0

The reconciliation between flows and stocks in the i.i.p. of country A would reflect the following entries:

[60] *If any, they should be treated as deposits and, if denominated in foreign currency, they could be recorded under reserve assets.*

IIP	COUNTRY A (in EUR)					
	Stock 30/11/99	b.o.p. flows	Price changes	Exchange rate changes	Other adjustm.	Stock 31/12/99
Fin. acc. / Other inv. / Assets / Mon. auth. / Loans & dep.	500,000,000	-	-	-	-	500,000,000
Reserve assets / Foreign exchange / Fin. derivatives	-	-	-	-2,000,000	-	-2,000,000
Reserve assets / Foreign exchange / Curr. and dep.	480,000,000	-	-	-30,000,000	-	450,000,000
IIP	**Stock 31/12/99**	**b.o.p. flows**	**Price changes**	**Exchange rate changes**	**Other adjustm.**	**Stock 31/01/00**
Fin. acc. / Other inv. /Assets / Mon. aut. / Loans & dep.	500,000,000	-91,000,000	-	-	-	591,000,000
Reserve assets / Foreign exchange / Fin. derivatives	-2,000,000	-1,000,000	-	+1,000,000	-	-
Reserve assets / Foreign exchange / Curr. and dep.	450,000,000	92,000,000	-	+18,000,000	-	376,000,000

In the template reported by "A", the entries corresponding to the captions involved in this example would be:

Template 30/11/1999	Description	Value
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	480,000,000
Template 31/12/1999	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	450,000,000
I.A.(5)	Official reserve assets / Other Reserve assets / Financial deriv.	-2,000,000
II.2.(a)	Aggregate short and long positions in forwards and futures in foreign currencies vis-à-vis the domestic currency / Short positions (-) / Up to one month	- 90,000,000
IV.(1).(e)	Memo items / Financial derivative assets (net, marked to market) / Forwards	-2,000,000
Template 31/01/2000	**Description**	**Value**
I.A.(1).(b)	Official reserve assets / Foreign currency reserves (in convertible foreign currencies) / Deposits	376,000,000