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International Investment Position
Methodological and Practical Issues

Prepared by the Financial Flows and Stocks Task Force
European Central Bank

BOP FINANCIAL FLOWS AND STOCKS TASK FORCE

INTERNATIONAL INVESTMENT POSITION

METHODOLOGICAL AND PRACTICAL ISSUES

WORKING DOCUMENT

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INTERNATIONAL INVESTMENT POSITION

Methodological and Practical Issues

Valuation of Positions

INTRODUCTION

1. The BOP Financial Flows and Stocks Task Force (FFSTF) is currently addressing the harmonisation of concepts and definitions used in the International Investment Position in order to enable the compilation of an Economic and Monetary Union International Investment Position (EMU IIP). At the meeting held on 16-18 October 1996, the FFSTF agreed on the following order of priorities for the discussions of some of the methodological and practical issues that arise at a national level and will have an impact on the EMU IIP:

- (i) Valuation of positions;
- (ii) Reconciliation of flows and stocks;
- (iii) Coverage;
- (iv) Sectorisation.

2. With the aim of following the order of priorities established by the FFSTF, this document discusses the valuation of external financial assets and liabilities stocks. Reconciliation, coverage and sectorisation are not discussed below but will be discussed in a future document. This paper is divided into four sections: Section 1 gives a brief introduction; Sections 2, 3 and 4 deal with valuation of Direct Investment, Portfolio Investment and Other Investment respectively. Conclusions are summarised at the end of the document. Annex 1 includes a glossary of the basic terms used in the document and a table showing the current national valuation practices is also attached.

3. Throughout this paper, it is assumed that identical concepts and definitions are used for stocks and flows.

SECTION 1: Introduction

4. As established by the IMF Balance of Payments Manual (5th edition), the IMF Balance of Payments Compilation Guide and the EMI FFSTF document "International Investment Position - A Review of Requirements", which together form the basis for IIP compilation, all external financial assets and liabilities should be measured at the **current market prices** prevailing at the beginning or end of the selected reference periods. Market valuation provides the most meaningful measure of the

economic value of the resources available to an economy. From a methodological point of view, alternatives to market price should only be used if absolutely necessary.

5. In practice, however, some deviations from the market principle may occur. There are several reasons for this. First, *book values from the reporting agents' balance sheets* could be the only readily available source for the valuation of assets and liabilities. In this case, owing to the *accounting principles established by the appropriate authority and/or different investment policies*, those book values may differ from the market value. Second, stock data are not always recorded on a *security-by-security* basis. Suitable indexes, then, have to be chosen to approach the market value for the aggregate data.

SECTION 2: Direct Investment

(i) Recommendation

6. In line with the IMF recommendations and according to the OECD Benchmark Definition of Foreign Direct Investment, it is recommended that *market value should be the basis for Direct Investment valuation*. As stated in the aforementioned document: "Market valuation places all assets at current prices rather than when purchased or last revalued, and allows comparability of assets of different vintages. It allows for consistency between flows and stocks of assets of different enterprises, industries, and countries, as well as over time" (paragraph 20, third edition).

7. In addition, the stock of investment should be converted from foreign currency to the investor's national currency using the closing mid-market exchange rate at the end of period to which the figures relate. The historical exchange rate in operation when the assets and liabilities were acquired should not be used.

(ii) Discussion

8. Therefore, in the case of direct investment enterprises with *quoted or listed shares*, the traded share price should be used to determine the direct invested equity value. This would capture both revaluations and intangible assets that might not be shown on the balance sheets. Member States with surveys on resident custodians should be able to cover these criteria. Quoted prices for comparable and similarly structured enterprises should also be applied to evaluate *non-listed enterprises' equity*. Otherwise, *prices traded in the last relevant transactions* could also be a good proxy by which to evaluate the current net worth of an enterprise. Finally, valuation of inter-company loans and trade credits should follow the same guidelines established for the Other Investment instruments.

9. In the absence of these reference prices, the most suitable valuation criterion would be the so-called *net asset value method*, according to which the real value of a given company is equal to the total of all assets valued at their replacement cost, including intangibles, minus liabilities to third parties. However, the replacement cost of a company's assets is not always available to the stock data compiler because the balance sheet value is often the only reported valuation of direct investment and assets on the balance sheets are usually valued at their historical cost, i.e. below current market value. The reason for this is that international accounting provisions, which emphasise creditor protection, apply the principle of using whichever is the lower of historical cost and market value.

10. As a result, the main departure from the market price principle in the valuation of direct investment stocks arises from the use of balance sheet data as an approximate substitute for the unavailable replacement cost. The use of *book values* from the balance sheets of direct investors or direct investment enterprises is not the most accurate procedure for determining the value of direct investment stocks. As mentioned before, *accounting practices* force enterprises to value assets in accordance with the rule of the "*lower of acquisition (historical) cost and market value*". For this reason, there could be significant deviations between the book value and the real net worth of the enterprise. Even when *revaluations* are authorised by governments, they are partial (for fixed assets only and not for intangible or financial assets) and the revalued amount is usually taxed. The latter reduces the number of advantages for enterprises of revaluing in terms of accessing new financing facilities because of larger own resources and revaluation is therefore not always undertaken. Moreover, this approach does not take into account *immaterial assets* such as goodwill or a premium the investor pays for influence on management, assets which could well be converted into liquid assets on the market.

11. Finally, in some cases accounting practices may differ depending on the *investment policy* of the enterprise. Enterprises with *product cycles longer than one year* (e.g. construction enterprises) might apply different accounting techniques to reflect the profit according to their financial policies. In these cases, real net worth may differ significantly from book values and it would be very difficult to obtain the information needed to make the proper adjustments.

12. However, for *practical reasons*, consideration could be given to the use of book values as a harmonised criterion for the valuation of direct investment stocks. The majority of direct investment relationships are established through the creation of multinational economic groups and it seems to be quite difficult for the compiler to obtain the real market valuation of all the companies in the group. Moreover, the great advantage of this valuation method is that values are quite easy to obtain or infer from corporate balance sheets. *Theoretical reasons* may also support the use of this approach to market valuation. In particular, taking into consideration the accounting practices recommended by the Financial Accounting Standard Board (FASB), the VII Directive establishes that participation in companies in the group (the so-called control stock) should be valued either at the acquisition cost or

according to the evolution of the net worth derived from the balance sheet of the relevant enterprise, even if the latter equity is listed and quoted on an organised market.

13. Other alternative methods, such as the *earning value method*, could be regarded as a starting point for the compilation of market value in the case of direct investment. This method, which is used in Austria, determines the value of the company from the direct investment enterprise's income and the current yield expectations, properly adjusted to take into account the lower liquidity and greater risk of direct investments. In other words, direct investment is considered from the same angle as securities, i.e. purely from the investment perspective. It could be possible to develop the compilation based on this method from the national point of view, although there are several drawbacks to the use of this method at present. The increasing international activity of multinational groups is giving rise to the development of affiliates located in financial centres which are in charge of managing the treasury of the whole economic group and where all the operational profits are transferred for taxation reasons. In addition, the operational profit is not always easy to identify, in which case, any profit arising from extraordinary non-operational transactions would distort the valuation. Finally, the valuation of loss-making enterprises is based on conventional assumptions that might not reflect the real market value of the enterprise.

(iii) Assessment

14. The international recommendation is to value direct investment on a market price basis. In practice, it was found that a majority of Member States compile direct investment stock data from surveys on enterprises and book values are, therefore, applied. In addition, international comparability of figures will only be possible if the guidelines provided by the OECD, which also recognise the practical difficulties of applying the principle of market valuation, are followed. This would imply that use of *book values* are acceptable as a feasible alternative where market values cannot be obtained and estimated. Longer term, market values for direct investment stocks should be approached to enable their coherence with other statistics (e.g. MU Financial Accounts).

SECTION 3: Portfolio Investment

(i) Recommendation

15. Market values at the end of the reference periods should also be the valuation criteria for all negotiable instruments. The market price for both *equity and debt securities listed in organised markets* or readily tradable is easy to identify as the quotation price. The *equity of enterprises listed on a stock exchange* should be valued using the price prevailing on its main stock exchange at the close of business on the end-of-period day. *Equities not quoted on stock exchanges* or not regularly traded should be estimated by using prices of comparable quoted shares or theoretical prices derived

from the enterprises' net asset values. A quoted traded market price, again at the close of business on the end-of-period day, should be the market value for *listed debt securities*. For *debt securities that are not readily tradable*, the net present value of the expected stream of future payments/receipts could be a good proxy. Otherwise, the market price of a security that closely approximates the tenor, risk and payment characteristics of the unpriced security could be an alternative. Finally, a price index based on similar maturities in the same currency could also be used to approach the market value of these types of securities. In all cases, *closing mid-market exchange rates* prevailing at the end of the period should be applied to the instruments denominated in foreign currency in order to convert them to national currency stock values.

(ii) Discussion

16. With regard to the *quotation price of portfolio debt instruments*, it must be stressed that the relevant price for the market valuation should be the **gross or flat price**. This price includes the accrued interest, which normally has to be paid on purchase, and reflects the fact that interest accrues continuously during the life of the instrument although coupons are paid at fixed intervals. Therefore, the potential buyer will pay for and receive the accrued income as well as the stock itself. There is thus no doubt that the gross price shows the real market value of the instrument in terms of the IMF definition. Moreover, this approach is the only one that is fully consistent with the concept of treating the accrual of interest as a transaction and would therefore reconcile transactions with opening and closing stock positions.

17. However, prices of *international securities* in newspapers, on trading screens and from commercial vendors such as Reuters, Bloomberg, Telerate, etc. are almost always quoted **clean**. Clean prices, also known as "ex-coupon" prices, are usually calculated taking into account the expected future cash flows from the bond discounted at the relevant market interest rate, but exclude the interest accrued since the previous coupon payment. In other words, the desired gross price is equal to the quoted clean price plus any associated accrued interest. In the *domestic markets* practices may be different and quoted prices may be clean as well as gross.

18. This issue specially concerns most of the *long-term debt securities*, e.g. fixed rate (straight) bonds, floating rate notes and convertible bonds, usually not issued at discount. With regard to *money market instruments*, those issued in the form of zero coupon bonds are traded on the basis of a discount to par or redemption value and are not affected by this problem. Owing to the fact that there are no intermediate coupon payments, the clean price is the same as the gross price in these cases. Treasury bills, commercial paper, bankers' acceptances, etc. are frequently traded in this manner. However, other money market instruments such as medium-term floating rate certificates of deposit are usually dealt on a clean price basis.

19. Therefore, in those cases where only clean prices are available, compilers should derive a proper adjustment in order to calculate the gross price and fulfil the required market value for stocks. The International Securities Market Association (ISMA) provides a set of rules and recommendations for the calculation of the mentioned accrued income that vary according to the type of security and market convention in question. In particular, ISMA rules 251 and 252, which have been adopted in most European domestic markets, explain the appropriate calculations to derive the accrued interest and allow gross price to be calculated using the following simple formula:

$$GP=CP+g*(n/360)$$

where: GP = percentage gross price (i.e. clean price plus accrued interest)

CP = percentage clean price

g = annual coupon rate %

n = number of days accrued calculated on the basis of 360 days per year and 30 days per month.

20. All these methods may be difficult to apply if information on stocks is not available on a security-by-security basis. The valuation of Portfolio Investment instruments requires detailed information provided by the reporting agent in order for the market value principle to be applied correctly. Type, characteristics and the currency in which the instrument is denominated are necessary to determine the relevant price and exchange rate needed to calculate the final stock market value. Implementation of the ISIN code would be very helpful in fulfilling this requirement. The quotation price, quotation currency and date of quotation seem to be facets of the so-called mandatory information to be stored in the international securities centralised database together with the type of security and the name and residency of the issuer. Not all outstanding securities have ISINs but the percentage of internationally traded equity and long-term debt securities without a number is declining all time and is probably small in terms of the value of securities outstanding.

21. In cases where only aggregated data are available, at least data related to the type of instrument and the currency of denomination would normally be needed by the IIP compiler. Suitable price indexes could thus be chosen as proxies for the market prices and appropriate exchange rates could be used to obtain the conversion of the stocks to national currency. The index could vary in complexity and broad-based indices are usually available from organisations such as the ISMA.

22. Departures from the market value could also occur when book values are not marked to market and this basically occurs in the *valuation of portfolio assets*. This could be due to the fact that regulations force *banks and enterprises to account on a historical cost basis* and their portfolio investments are therefore not marked to market. It must be remarked that the Money and Banking Task Force is discussing the possibility of market price as valuation criterion for the MFIs. Book

value could be a suitable proxy for the market value of certain securities acquired with short maturities that are in principle less sensitive to changes in market interest rates. On the other hand, book values, when they do not reflect market prices, should not be used to evaluate equity securities, debt securities heavily discounted by the market and financial derivatives.

23. Other valuation issues that may cause discrepancies in the use of the market value principle arise when the issuer of a negotiable security uses the *face or nominal value* as the valuation criterion for the outstanding liability. Under European Accounting regulations, banks must value their securities issuances (bonds, notes, certificates of deposits, etc) at their reimbursement values, including premiums, lots and any other sure incentive payments. However, from a macroeconomic perspective, the valuation of liabilities at their redemption price only makes sense if there is no market for the instrument (not negotiable) or if the issuer is not allowed to purchase its own debt on the secondary market. This may be the case for certain Other Investment instruments, but it is difficult to assume for any negotiable portfolio instrument. The EMU-IIP has to show the economic value of the resources and not the redemption value. Market valuation at the prevailing interest rates is the means by which the debtor's cost of capital should be determined. Moreover, only market valuation would ensure symmetrical valuation by both the debtor and the creditor in the case of negotiable instruments. Therefore, figures based on the reporting agents' own book-keeping (banks' balance sheets) would require certain adjustments to reflect market value.

24. Government information on debt securities issued by the general government may usually be obtained by the compiler but may be valued at *face or nominal value* for various reasons. According to Protocol No. 5 on the Excessive Deficit Procedure (Article 2), government debt in terms of the convergence criteria defined in Article 104c (2) of the Maastricht Treaty should be valued at its nominal value outstanding at the end of the year. Nevertheless, in accordance with IMF guidelines and in line with the arguments expressed above, general government debt securities should also be valued at market prices on the IIP statement and adjustments should therefore be made to obtain the market valuation of the aforementioned outstanding debt. Information is usually available on a security-by-security basis with relevant details and characteristics for each issuance.

25. The valuation of financial derivatives will be addressed in future specialised discussion documents. Harmonisation proposals will parallel discussions on flows.

(iii) Assessment

26. The recommendation for the market valuation of Portfolio Investment stocks can be applied by Member States to a large extent. A majority of the Member States using portfolio stock direct reporting apply the market price for both assets and liabilities. Nevertheless, the additional calculation of nominal value would assist in the analysis of the impact of market prices on the valuation of

portfolio IIP data, and this information would be extremely useful in deriving the proper reconciliation adjustments. Limited exceptions to the principle arise in the case of France, which currently values some portfolio banks' holdings in foreign securities at their purchase price, after taking into account provisions for depreciation; Belgium/Luxembourg, which uses the book value for banks' positions and accumulated flows for part of Portfolio Investment, with a revaluation for price movements limited to the equities; Denmark, which uses nominal values for banks' securities issued abroad, government debt issued abroad and enterprises' debt securities issued in the Euro-market; and the Netherlands, which does not take into account revaluations on outstanding stocks of money market instruments. Belgium currently uses a concept of general government debt based on nominal valuation, in accordance with the aforementioned valuation principle used for the convergence criteria, to avoid two concepts of general government debt.

SECTION 4: Other Investment

(i) Recommendation

27. Other Investment stock positions should also be valued at market value. The valuation of Other Investment instruments denominated in foreign currency has to be made by translating them into national currency at the *closing mid-market exchange rates* prevailing at the end of period.

(ii) Discussion

28. However, instruments that are not readily transferable (loans and deposits, miscellaneous accounts receivable and payable) could be recorded in the IIP at nominal or book value as an acceptable proxy to market valuation. Departures from the valuation principle should thus not be significant. Accrued interest on loans and deposits should also be included in the valuation of loans and deposits.

29. If the *currency composition* of the underlying Other Investment instruments is not well known, valuation problems may arise owing to difficulties in applying proper end-of-period exchange rates. Moreover, the development of new financing instruments, such as *multi-currency loans*, where the borrower can instantaneously change the optional currency at its own convenience, could increase the significance of this problem in the future. In these transactions the drawdown can be made in one or several currencies and throughout the duration of the loan it is possible to switch from one currency to another on the interest payment date. Nonetheless, the equivalent value of all the currencies provided must be the same - with a small margin for fluctuation - as the amount of the loan in the initial currency (the basic currency). Consequently, movements in the loan drawdown, its repayment and its restatement can occur in several currencies.

30. A precise valuation of these loans would necessitate recording them as as many "sub-loans" as there are optional currencies at any given time, as well as keeping track of the successive movements in each individual sub-loan to reflect the drawdowns, repayments and restatements that arise. A practical solution could be to translate each movement in the loan, irrespective of its currency, into the currency in which it was initially reported at the exchange rate prevailing on the date of the movement. This amount in the basic currency is then converted into the national currency at the closing mid-market exchange rate prevailing at the end of period. The result may be a fairly accurate approach to the real valuation, except when strong fluctuations occur in the value of the currencies in question.

31. An effect similar to that arising in the case of loans with multi-currency clauses occurs when the *borrower contracts exchange rate hedges or swaps on the principal with a non-resident*. Borrowers often receive a loan in one currency and then swap or sell the amount obtained against the equivalent amount in another currency. Since it is not easy to obtain information about the real exchange rate involved in the swap, the same valuation problems arise as those described for multi-currency loans. However, it is worth bearing in mind the fact that the valuation problem is less important in these cases, compared with the problem of isolating and classifying the swap or the foreign exchange contract under the adequate item.

32. Another valuation issue that has to be taken into account refers to loans related to heavily indebted countries. The creditor should value the loan at its market value, but if the debtor is not authorised to purchase its debt on secondary markets, the face value should be used as the valuation criteria. Member States, which always act as creditors for these kinds of instruments, should record at the market price loans which become marketable at substantial discounts. In this case, the market value of the loan would be equal to the nominal value less the provision accounted to reflect the decrease of value. However, the information needed to make the required adjustment might not be available.

33. The effects of selected *debt arrangements*, such as write-offs of outstanding loans, loan forgiveness, the rescheduling of loans and debt/equity swaps, on the positions has more to do with coverage and reconciliation than with valuation. Settlement-based reporting systems may encounter problems when capturing these transactions and final positions would be affected if accumulated flows were to be used to derive them.

(iii) Assessment

34. Regarding the valuation of Other Investment stocks, it seems that in the majority of cases face value is applied for the Other Investment instruments. However, some Member States might not have a detailed currency breakdown for all the instruments included under this heading. From an analytical

point of view, the currency breakdown is less relevant in the context of an economy with full freedom of movement in external proceeds and payments, although some countries might still have interest on it. Therefore, some compilers might not ask the respondents for the currency in which the instrument is denominated and might find it difficult to follow the aforementioned recommendations.

CONCLUSIONS

35. Harmonisation of *valuation principles* is essential if a meaningful EMU-wide IIP is to be compiled. The implementation of forthcoming compilation practices based on the exchange of stock data information among the countries (i.e. IMF Co-ordinated Portfolio Survey) will also be a condition for achieving effective harmonisation. **The Task Force agrees that market values should be used in the compilation of the IIP from which a meaningful EMU IIP may be derived.** For practical reasons, some deviations from this principle may be accepted as proxies to the market value principle. These deviations have to be co-ordinated among the Member States in order to ensure consistency at the EMU level. The recommendations regarding **market prices** are summarised in the table below:

INSTRUMENT

ACCEPTED OTHER VALUATION BASIS

RECOMMENDED VALUATION BASIS

TYPE OF INVESTMENT

TYPE OF INVESTMENT	RECOMMENDED VALUATION BASIS	ACCEPTED OTHER VALUATION BASIS	INSTRUMENT
Direct investment	Market value	Book value	Equity and Other Capital
Portfolio Investment	Market value	Quoted price on main stock exchange	Equity listed on stock exchange
		Price of comparable quoted shares	Equity not listed on stock exchange
		Gross price (quoted clean + accrued inter)	Long-term debt securities listed in organised markets
		Quoted price	
Other Investment		Price index (similar maturities & currency)	Debt securities not readily tradable (i.e. private placements, bearer securities)
		Suitable ISMA price indices	Data aggregated by type of instrument & currency (i.e. information not available on a security-by-security basis)
	Market value	Book or nominal value	All instruments except loans that are negotiated at a discount (i.e. loans to heavily indebted countries)

36. With regard to the exchange rates to be used, the closing mid-market exchange rates prevailing at the reference date should be applied in all cases to convert into national currency stocks denominated in foreign currency. Multi-currency loans and other similar Other Investment instruments present special difficulties when selecting the most suitable exchange rate to be applied. Therefore, a *practical solution* to this problem could be to translate each movement in the loan into the basic currency at the exchange rate prevailing on the date of the said movement and then to convert the outstanding amount into the national currency at the closing mid-market exchange rate prevailing at the end of the period.

ANNEX 1

GLOSSARY

Market price: market price is the amount of money that willing buyers would pay to acquire a financial asset from a willing seller, provided both parties were fully informed and acted voluntarily.

Book value: the value at which an entity records the value of an asset or liability on its balance sheet. While book value can refer to either market value or historical cost, in this paper the term is used to mean *historical cost*.

Face or nominal value: is the value of the security as given on the certificate or instrument. It is the amount at which the security is to be redeemed.

Values not marked to market: an accounting practice widely used among some investors that records the value of securities held at nominal or acquisition value, which is unlikely to be the same as the market value. On the contrary, values marked to market are adjusted to reflect the current market value of the security.

Long-term debt securities: bonds and notes that usually give the holder the unconditional right to a fixed money income or contractually determined variable money income. With the exception of perpetual bonds, they also provide the holder with the unconditional right to a fixed sum as a repayment of principal on a specified date or dates.

Money market instruments: they generally give the holder the unconditional right to receive a stated, fixed sum of money on a specified date. These instruments, characterised by their safety and liquidity, are usually traded at a discount in organised markets; the discount is dependent upon the interest rate and the time remaining to maturity.

Private placements: sale of stocks, bonds, or other investments directly to an institutional investor. Usually a private placement does not have to be registered with the Securities and Exchange Commission, as public offering does, if the securities are purchased for investment as opposed to resale.

Bearer securities: securities not registered on the books of the issuing corporation and thus payable to anyone possessing it. A bearer bond has coupons attached, which the bondholder sends in or presents on the interest date for payment, hence the alternative name coupon bonds.

Listed security: a listed security is one registered on the list of an organised exchange. The security is traded under the exchange's rules. Generally, the advantages of being listed are that the exchanges provide (1) an orderly market place; (2) liquidity; (3) fair price determination; (4) accurate and continuous reporting on sales and quotations; and (5) strict regulations for the protection of security holders. *Unlisted securities* are traded in the *over-the-counter market* (OTC).

Accrued interest: interest that has accumulated between the most recent payment and the sale or valuation of a bond or other fixed-income security. At the time of sale, the buyer pays the seller the bond's price plus accrued interest, calculated by multiplying the coupon rate by the proportional number of days that have elapsed since the last payment. While the general, but not universal, practice in the international financial markets is for the quoted market price of a security to exclude any accrued interest (*clean price*), the recommended treatment in the IMF BOP Fifth Manual is to include accrued interest in the market valuation (*gross price*).

Accrued market discount: increase in the value of a discount instrument that occurs because of its approaching maturity date (when it is redeemable at par) and not because of declining market interest rates.

International Securities Market Association (ISMA): an organisation created and run by institutions active in the international securities market. ISMA has a rule book which, in essence, sets the regulatory framework for international securities market trading.

Sources used:

- "*Dictionary of Finance and Investment Terms*", Downes and Goodman, Third Edition, Ed. Barron's, 1993.
- "*Balance of Payments Manual*", Fifth Edition, IMF, 1993.
- "*Coordinated Portfolio Investment Survey*", IMF, August 1996.

VALUATION
(stocks)

NB. Financial Derivatives not included.

COUNTRY	Direct Investment	Portfolio Investment		Other Investment		REMARKS
		ASSETS	LIABILITIES	ASSETS	LIABILITIES	
BELGIUM/ LUXEMBOURG	B* M** N***	B (a) M (b) (T)	N (c) B (a) M (d) (T)	N	N	*BANKS & SHAREHOLDINGS OF GG **GENERAL GOVERNMENT DEBT ***SHAREHOLDING OF BELG. IN IMF (a) BOOK VALUES FOR BANKS (b) OTHER SECTORS & GG EQUITY (c) GENERAL GOVERNMENT DEBT (d) OTHER SECTORS EQUITY
DENMARK	B	M	M* **	N	N	*BANKS' ISSUED SECURITIES AND GOVERNMENT DEBT ISSUED ABROAD ON A NOMINAL VALUE **FACE VALUE FOR LIABILITIES ISSUED IN THE EURO-MARKET
GERMANY	B	M*	M*	N	N	*MARKET VALUE CALCULATED ON AN AGGREGATE BASIS (NOT SECURITY-BY-SECURITY)
GREECE	na	na	na	na	na	
SPAIN	B	M*	M*	N	N	*EXCEPT FOR OTHER SECTORS: ACCUMULATED FLOWS
FRANCE	B* M**	M	M	N	N	*IN FAVOR OF MARKET VALUES FOR DIRECT INVESTMENT **ONLY ON A GLOBAL BASIS, NEITHER FIRM BY FIRM NOR COUNTRY BY COUNTRY
IRELAND	B	M	M	N	N	
ITALY	B	M	M	N	N	
NETHERLANDS	B	M*	M*	N	N	*PURE STOCK ON MONEY MARKET INSTRUMENTS AVAILABLE AS FROM SEPTEMBER 1999 (1998 DATA)
AUSTRIA	B/M*	M	M	N	N	* BOOK VALUE IN THE UP, ADDITIONALY MARKET VALUE (QUOTED SHARES OR EARNINGS VALUE METHOD)
PORTUGAL	B*	na**	M***	N	N	*SURVEY FOR INWARD DI IN 97, SURVEY FOR OUTWARD DI IN 98 **DATA EXIST, BUT NOT PUBLISHED QUOTATION PRICE FOR LISTED SEC. ***QUOTATION PRICE FOR LISTED SECURITIES AND AVERAGE TRANSACT. PRICES FOR NON-QUOTED SECURITIES
FINLAND	B	M	M	N	N	
SWEDEN	B	M	M*	N	N	*NOMINAL OR FACE VALUE FOR GENERAL GOVERNMENT ISSUED PAPER
UK	B	M	M*	N	N	*ONLY FOR LIABILITIES OTHER THAN BONDS
SWITZERLAND	B	M	M	N	N	

M - Market values B - Book values N - Nominal values
na - Accumulated flows or transaction values na - not available

INTERNATIONAL INVESTMENT POSITION

Methodological and Practical Issues

Reconciliation of Positions

INTRODUCTION

1. This is the second document in a series of papers dealing with the following methodological and practical issues addressed by the BOP Financial Flows and Stocks Task Force that arise at a national level and will have an impact on the EMU IIP:

- (i) Valuation of positions;
- (ii) Reconciliation of flows and stocks;
- (iii) Coverage;
- (iv) Sectorisation.

2. This document discusses the reconciliation of external financial assets and liabilities stocks and flows and the compatibility between accumulated flows and stocks data. This paper is divided into two parts: Part 1 deals with the reconciliation of stocks and flows and is subdivided into two sections; and Part 2 concentrates on the reconciliation procedures that ensure the compatibility between accumulated flows and stocks data. Part 2 is divided into four sections: Section 1 gives a brief introduction; and Sections 2, 3 and 4 deal with the specific consistency problems of accumulated flows according to the different types of investment. Conclusions are summarised at the end of the document. A table summarising current national practices on reconciliation issues is also attached.

PART 1: RECONCILIATION OF FLOWS AND STOCKS

SECTION 1: Introduction

3. *An improvement in the quality of both stocks and flows data should be the final result of the reconciliation exercise.* The reconciliation of changes in stocks and transaction data is an excellent means by which to validate both sets of data when collected independently and gives possible explanations for the changes in positions at the beginning and end of a given period owing to different factors. These factors are:

- (i) the *transactions* that have taken place during the period,
- (ii) *price and exchange rate* changes, and

(iii) *other adjustments* reflecting changes in stocks which are not due to the aforementioned factors.

4. However, owing to the amount of detailed information required to derive all these adjustments for each individual item, consideration could be given to a *pragmatic approach whereby changes arising from price, exchange rates and other adjustments could be required on an aggregate basis only and would be shown under one common heading (e.g. 'Valuation and Other changes')*. In addition, the use in practice of different *geographical allocation* principles for stock and flows might cause consistency problems for EMU IIP.

SECTION 2: Reconciliation of stock and flows collected from different sources

Consistency and compatibility between flows and stocks

5. *General consistency* could be achieved if *the reporting population is the same for both sets of information*. Furthermore, the reconciliation exercise is sometimes derived by the reporting agent itself and subsequently submitted to the institution responsible for compilation. In other words, the opening position, transactions during the reporting period and the closing position are provided and, therefore, the general compatibility is ensured. In some Member States this reporting procedure is used to gather information for the General Government sector and for a certain portion of the MFIs' assets and liabilities.

6. On the contrary, in those items and/or systems where the *data for stocks and flows are obtained from different sources and reporting agents*, the reconciliation exercise becomes more relevant. On the one hand, data compatibility will be improved; on the other, it serves as a tool for checking the actual quality of the stock data. In such a situation, *identical concepts and definitions* should be used for both flows and stocks or the reconciliation exercise may be difficult to implement and, in some cases, inconsistent. The common conceptual framework established by the IMF Manual and the EU harmonisation proposals for the compilation of flows and stocks should be used as the basis for this and as a prerequisite to ensure compatibility between flows and stocks.

7. In the long term, further reconciliation of data obtained from different sources could be achieved if those Member States affected established certain *links between flows and stocks data*. For Direct Investment data, the link could be the creation of a register to assign a form of identification number to the significant reporting population that would be used to match transactions and stocks for the individual direct investment relationships. For Portfolio Investment data, this link between transactions and stocks could be achieved by the use of ISIN codes when the information for both flows and stocks is reported on a security-by-security. The reconciliation exercise will serve to indicate the degree of consistency existing between flows and stocks data.

Deriving the reconciliation adjustments

8. According to the IMF guidelines, transaction data should be compiled at prevailing market prices, whereas position data should be compiled at end-period market prices. Therefore, in a context where flows and stocks are obtained from different sources, compilers need to take into account *valuation differences in order to reconcile transactions and changes in positions data*. These valuation differences, which are caused by price and exchange rate changes, could be classified within the following categories from a conceptual point of view (there is, of course, no requirement to show them separately):

(1) *effect on outstanding position data* - this effect refers to:

(i) assets/liabilities *held throughout* the compiling periods.

The relevant market prices (according to the valuation basis discussed in other methodological papers) and the prevailing midpoint exchange rates at the beginning and end of the period should be used for the calculations. The gain or loss reflected by the valuation change is *unrealised*;

(2) *effect of the revaluation of net transactions* - three different cases can be distinguished here:

(i) assets/liabilities *held* at the beginning of the period and *disposed* of during the period;

(ii) assets/liabilities *acquired* during the period and *held* at the end of the period;

(iii) assets/liabilities *acquired and disposed* of during the period.

In cases (i) and (ii), the valuation difference arises from the use of a different price to value stocks and transactions. Transactions should be valued by applying prices and exchange rates prevailing at the time of the transaction, whereas stocks should be evaluated according to the relevant prices and exchange rates prevailing at beginning or end of the period. Those prices and exchange rates should be the precise reference to identify the valuation difference properly.

In case (iii), transactions do not generate a stock and the valuation difference is not captured by any change in positions but it is included in the reported transactions. By way of example, let us assume that the stock at the beginning and end of the reference period is nil and that an asset was acquired for 100 and subsequently sold for 101 during the period under discussion. In this situation, the change in the stock position would not capture any valuation difference, even though a positive valuation difference did take place ($101-100=+1$). The compiler needs to take this fact into account and has to isolate these differences in order to fulfil the reconciliation exercise. Suitable prices and exchange rates prevailing at the time the transactions take place should be used for the calculations.

9. A third effect, *the (non-price) effect of the so-called Other Adjustments*, also needs to be taken into account, *if relevant*. The most common phenomena to be recorded under this valuation effect are:

(a) *write-offs*: the unilateral cancellation of debt by the creditor, whether owing to bankruptcy or other factors, does not fulfil the IMF definition of a transaction and, therefore, should not be

recorded as a BOP flow. However, the consequential removal by the creditor of that financial asset from his/her balance sheet should be accounted for here. Practical difficulties may arise owing to lacks of information.

(b) bonus issues: bonus issues are financial operations through which the number of shares owned by an investor increases without any transaction. In principle, they should also be recorded under Other Adjustment to reflect that increase in volume, which is accomplished by an off-setting entry in the Price Changes column to reflect the decrease in the value of the shares (the same net worth divided by a higher number of shares means a lower price per share). However, if the investment is regarded as the stake of ownership and not as the number of shares owned by the investor, the value of the investment as a whole has not changed at all and *no entries* would be required in the reconciliation statement. The individual number and price of the shares have changed, but not the value of the investment as a whole. Therefore, it could be recommended that *no reconciliation adjustments should be obtained for bonus issues*, although compilers with a security-by-security approach would have to take the increase in the number of shares into account. Moreover, stock indices will include and reflect the effect of bonus issues. In addition, owing to the development of these and similar operations, practical reasons would also support this recommended treatment. By way of example, *shares split operations*, where the nominal value of the share is divided to increase the liquidity of the equity security on the stock exchange, are becoming common practice and their treatment should be the same as that recommended for bonus issues.

(c) reclassifications: reclassifications of financial instruments among the different types of investment are recorded here as well.

(d) reallocation of institutional units: from one sector to another are to be covered under Other Adjustments.

(e) changes in population (but not in the residence).

10. *Calculations* to reconcile changes in positions and transaction data could be undertaken using the following methodology, as recommended by the IMF in the Appendix VIII of the Co-ordinated Portfolio Investment Survey Guide¹:

(1) disaggregated previous end-period stock positions in domestic currency terms must be converted into their foreign currency components using previous end-period spot exchange rates;

(2) obtain the *price change factor*, which is defined as:

$$V = \frac{P_t}{P_{t-1}}$$

where: P_t = present end-period market prices in foreign currency,

P_{t-1} = previous end-period market prices in foreign currency,

¹ An example of the use of this method to calculate the reconciliation adjustments is presented in an Annex at the end of the document.

and apply it in order to revalue the outstanding holdings at present end-period market prices in the currency of denomination;

(3) convert the revalued holding into domestic currency using present end-period spot exchange rates;

(4) convert the disaggregated transaction data into the original currency of denomination using the exchange rate prevailing at the time of the transaction;

(5) revalue transactions to present end-period market prices in foreign currency by multiplying transactions by the price change factor,² which is defined as:

$$V = \frac{P_t}{P_a}$$

where: P_t = present end-period market prices in foreign currency,

P_a = market prices in foreign currency current at the time of transactions;

(6) convert the revalued transactions into domestic currency using present end-period spot exchange rates;

(7) add the revalued holdings and transactions in domestic currency and compare the *estimated* closing position to the *reported* present end-period position data. Differences should be investigated and explained.

11. An *alternative reconciliation method*² would consist in calculating the transactions from the stocks data and in comparing these *estimated* flows with the *reported* flows obtained from the reporting agents. As stated in the above method, differences should then be analysed in order to improve the quality of both flows and stocks. The method consists in the following steps:

(1) convert initial and closing holdings into the currency of denomination using beginning and end-period spot exchange rates respectively;

(2) adjust the effect of write-offs and other adjustments;

(3) calculate the *transactions*: the best way to proceed in order to eliminate the impact of price changes on changes in stocks is to work with underlying units. An underlying unit is determined by dividing the value of the financial instrument by its price. Any change in the number of underlying units should be attributable to transactions. This change should then be multiplied by the period average price of the instrument to derive the *estimated* value for transactions in the currency in which the instrument is denominated;

(4) after allowance has been made for write-offs and transactions, changes in the stock position data in the currency of denomination should reflect price changes;

(5) initial and closing positions should be converted again into the domestic currency using beginning and end-period spot exchange rates respectively;

(6) transactions and write-offs should also be converted into domestic currency using exchange rate transactions which can be considered as average for the period;

² An example of the use of this method is also presented in the Annex.

(7) price changes should be converted into domestic currency using:

* exchange rate transactions which are average for the period if turnover has been significant;

* beginning spot exchange rates if turnover has not been significant;

(8) the difference between the change in stocks and the sum of transactions, price changes and write-offs can be considered as the impact of exchange rate changes.

12. Those Member States that *derive transaction data for certain instruments from the pure stock data* they collect from various sources are encouraged to apply this method in order to obtain reliable estimates. In such cases, it must be ensured that stock sources have only limited coverage gaps, otherwise estimates for flows will also be incorrect. However, even if stock data were quite accurate, transactions derived from them without any adjustment could be poor in the event of a high turnover in a particular asset, low net movement in the stock and volatile relevant prices and/or exchange rates. Therefore, reconciliation (as described in the aforementioned method) is also a basic requirement if stock data are to be used to derive transactions. Logically, the greater the availability and detail of the information used, the more accurate the flow data will be obtained. Moreover, calculations should be made at frequent intervals in order to obtain more acceptable estimates from the method.

Conclusion

13. The degree of accuracy of all these calculations depends on the *level of detail of the stock and flow data available* to the compiler. With regard to **price (valuation) changes**, information on a security-by-security basis for both transactions and positions on Portfolio Investment instruments should be necessary in order to choose suitable prices. Should this not be possible, at least separate information for equity securities and long-term securities is recommended. *For equities*, stock market price indices can be used as a proxy for market prices to derive changes in the value of resident holdings. Some knowledge of the currency or geographical distribution of the equity stock might be quite helpful when selecting and applying the indices. *For long-term securities*, information on currency and maturities would be desirable to enable a better choice to be made on the available price indices. For the calculation of the **exchange rate effect**, compilers must know the currency breakdown of the stock positions to a greater extent. Otherwise, a weighted exchange rate should be applied and an indication of the relative importance of each currency in the total holdings would be useful. BIS and OECD publications could provide this kind of information.

PART 2: ACCUMULATION OF FLOWS

SECTION 1: Introduction

14. In accordance with the aim of previous methodological discussions, the purpose of this part of the document is to determine some of the *minimum requirements that ensure a reasonable quality of stocks derived by the accumulation of flows*. Thus the requirement to identify accurately changes in value which are caused by factors other than transactions is both crucial to enable reliable estimations of stock data to be obtained from accumulated flows and is necessary to ensure their compatibility with stocks collected directly.

15. The *harmonisation* of the concepts and definitions used to compile BOP transaction data and the related guidelines established by the IMF Manual and the EU harmonisation proposals should be a prerequisite when stock estimates are obtained as accumulated flows. This should avoid the recording of non-financial transactions (i.e. service charges, fees, commission, etc.) under stocks and would also ensure the correct treatment of all financial transactions (i.e. repo, sell/buy-back and bond lending operations).

16. *Coverage gaps* in the recording of transactions have to be filled as far as possible. Both settlement and "survey-on-flows" recording systems could result in several coverage gaps that should be closed progressively.

17. Nevertheless, the specific problem of the *geographical allocation* of stocks which are estimated by accumulating flows is worth mentioning because it could lead to inconsistencies with the stock data collected directly. The only meaningful geographical allocation principle for the compilation of IIP data with geographical detail is the debtor/creditor principle. However, the practical implementation of this principle is known to pose problems, particularly on the liabilities side, where it is difficult to identify the ultimate creditor and where statistical coverage problems exist. In conclusion, if stock data are based on the accumulation of flows allocated geographically according to a certain principle, the resulting stocks will also be based on the same geographical allocation principle. *Occasional stock surveys* and certain cross-checking exercises with pure stock data from other statistics (if data are available) are envisaged as the only feasible recommendation to combat this problem and achieve a suitable level of compatibility and coherence between the geographical breakdown of pure and accumulated flow stocks.

18. Even if those prerequisites were to be fulfilled, *reconciliation* is especially important in the case of accumulated flows. It must be ensured that accumulated flows are a reliable and close estimate for real market valued stock positions. Otherwise, neither compatibility nor comparability between stocks and accumulated flows were be possible. The required reconciliation adjustments may

be different depending on the special characteristics of the investment type in question and are discussed below.

SECTION 2: Direct Investment

19. The *use of accumulated flows* for Direct Investment stock estimation purposes presents several problems. Even if reinvested earnings were to be captured under transactions and if the directional principle were to be applied to the direct investment flows (*as required*), significant discrepancies could still arise between real stocks data and the estimates obtained by means of the accumulation of flows. For example:

- values placed on *transactions between affiliated units* are not necessarily market values. Direct investment enterprises could use transaction values to allocate (transfer) the profits of the holding to units located in certain countries;
- the real *value of an enterprise* is not only linked to the quantity or stream of the investment received, but also to the profitability of the assets in which the investment flows are materialised.

20. Therefore, the unadjusted accumulation of flows should not be regarded as a rigorous method for the estimation of direct investment stocks data. Only if the basic benchmark stocks data are well-known, occasional surveys are developed (i.e. every three years), and flows are adjusted to market value could accumulated flows be used to obtain at least more frequent and/or first estimates.

21. According to the information provided by the Member States, none of those producing direct investment stock data uses only unadjusted flows to calculate its final figures, although three Member States (Belgium/Luxembourg, Spain, Italy) combine pure stocks and accumulated flows and five others (Denmark, Sweden, Germany, Austria, the United Kingdom) use accumulated flows to calculate first estimates and/or more frequent data.

SECTION 3: Portfolio Investment

22. As in the case of direct investment, several discrepancies between real and estimated stock data occur when *unadjusted accumulated flows* are used to collect the portfolio stock data. In this case, *both price and exchange rate adjustments* are necessary for the accumulation of flows to be a good proxy for marked-to-market stocks and, therefore, to be compatible with direct recorded portfolio stock data.

23. The **Perpetual Inventory Model**³ is the most common method used to derive *price adjustments*. This model requires a benchmark estimate of the stock data. Such an estimate could be obtained from a occasional collection of stock data, or a point in time when the stock position of the instrument is known or assumed to be nil could also be used as the base. The method calculates the value of a stock at the end of a period as being equal to the value of the stock at the beginning of the period, plus the impact of transactions and non-transactions changes in the value of the stock during the period. Calculations should initially be made in the currencies in which the instruments are denominated and converted, by using prevailing exchange rates, to the domestic currency.

24. The method consists in the following steps:

(1) convert the initial benchmark estimate holding into the currency of denomination using beginning spot exchange rates;

(2) divide it by the price of the instrument at the beginning of the period to obtain the benchmark stock of underlying units. An appropriate price index could also be used if information is not available on a security-by-security basis;

(3) convert the transaction data into the currency of denomination using exchange rate transactions which are average for the period;

(4) divide the transaction data in the currency of denomination by the period average price to calculate the number of underlying units attributable to transactions during the period;

(5) add the results of (2) and (4) to obtain the number of underlying units held at the end of period;

(6) multiply the number of underlying units at the end of period by the end-period price to obtain the value of the final holding in the currency of denomination;

(7) once transactions, initial and final stock have been obtained in the currency of denomination, changes in the stock position data in the currency of denomination should reflect price changes;

(8) initial and *estimated closing positions* should be converted again into the domestic currency using beginning and end-period spot exchange rates respectively. Estimated closing positions will be used as the initial benchmark holding for the next period;

(9) transactions should also be converted into domestic currency using exchange rate transactions which are average for the period;

(10) price changes should be converted into domestic currency using:

* exchange rate transactions which are average for the period if turnover has been significant;

* beginning spot exchange rates if turnover has not been significant;

³ The example on the Annex also includes calculations to be derived if the Perpetual Inventory Method is to be used.

(11) the difference between the change in stocks and the sum of transactions and price changes can be considered as the impact of exchange rate changes.

25. More accurate estimates could be obtained by making the required adjustments on a *security-by-security* basis, although more detailed information would be necessary in order to take factors such as bonus issues or write-offs into account. Otherwise, the use of market prices and/or indices implies recording the effect that these changes in volume may have on prices. The use of ISIN code would be very helpful at this stage, as mentioned in the first part of this document. Adjustments should also be carried out whenever an *issue matures*, if detailed information is available.

26. On the other hand, dealing with *aggregates* only requires the adequate selection of a *price index* for each type of instrument to provide all the relevant information for an accurate valuation. In this case, details of the type of instrument and the currency of denomination would be desirable to derive proper adjustments. Better results could be achieved if additional details were available on a market-by-market distribution of the instruments, thus more accurate and appropriate indices could be applied.

27. *Exchange rate adjustments* also have to be accounted for either on a security-by-security basis or else for aggregates or even short-term securities. The need for these adjustments is highlighted by the extent of exchange rate movements which have taken place recently. The actual exchange rates of the transaction and the closing mid-market exchange rates of the end of period should provide the valid reference necessary to derive exchange rate adjustments. The average exchange rate of the reference period could be used as a proxy for the actual exchange rate of the transaction, should this not be available and if foreign exchange markets are almost stable.

28. Of the twelve Member States that provided information on portfolio stock data, only three (Belgium/Luxembourg, Germany, Italy) use accumulated flows instead of pure stock data as their main source, although some information on pure stock data is available for banks. Italy adjusts flows for price and exchange rate for both equity and debt instruments on a security-by-security basis. Appropriate indices are selected for the reconciliation exercise but estimates far from market value should be expected if the benchmark stock used for the accumulation is more than three years old (i.e. from 1988). Germany and Belgium/Luxembourg make price adjustments only for equity instruments, while debt-related instruments only show exchange rate adjustments.

SECTION 4: Other Investment

29. The *unadjusted accumulation of flows* would also lead to unrealistic stock estimates for Other Investment. Otherwise, stock data valuation changes caused by exchange rate fluctuations could be significant, especially if the relevant exchange rates are volatile, the turnover of the assets is high and

the net movement in the stock is low. In scenarios of this kind, there could be a large difference between the estimated stock data obtained using this method and the real stock valued at the end-of-period exchange rate. Therefore, *exchange rate adjustments* are strongly recommended if accumulated flows are used to derive other investment stock data. As mentioned above, actual exchange rates at the time of the transaction and closing mid-market exchange rates at the end of the period should be used to obtain the real exchange rate adjustment. If the actual exchange rate cannot be applied on a transaction-by-transaction basis, the average exchange rate of the period could be used as a proxy if foreign exchange markets are relatively stable. If this is not the case, exchange rate adjustments could be rather poor and, therefore, stock data obtained in this way would not be a reliable estimate.

30. Moreover, these adjustments might not be easy to identify at present in certain cases owing to the development of some instruments. *Multi-currency loans*, which have already been defined, will complicate the task of identifying the related exchange rate adjustments. Even more difficulties could occur if the loan operation is linked to an additional *swap operation*. Practical solutions to the treatment of these new types of instruments were presented in a previous document dealing with valuation methodological issues. As movements in the loan (drawdown, repayment and restatements) can occur in several currencies, the most feasible solution would be to translate each of these movements into the basic currency in which the loan was initially extended. After that, exchange rate adjustments are calculated by converting transactions into the domestic currency at the average period exchange rate.

31. With regard to current practice, eight Member States (Belgium, Portugal, Germany, Spain, Italy, Netherlands, Austria and the United Kingdom) use accumulated flows, either alone or combined with other pure stock data, to estimate other investment stock data. The use of accumulated flows is concentrated in the General Government and Other Sectors items, since more resources are normally required to survey the non-MFI sector and less pure stock data are available. For the MFI sector, the majority of Member States usually collect direct stock data from the reports received by their Banking Supervision Departments (with a monthly frequency in most cases) or from surveys on the financial sectors (e.g. Finland). Quite accurate and correctly valued stock data should be expected for this sector.

32. To improve or check the quality of Other Investment stock data, international banking statistics, such as those compiled by the Bank for International Settlements (BIS), could be used to obtain the benchmark stock for accumulation or for the purpose of cross-checking with current data. However, these data should be done with caution. BIS data present certain drawbacks when used for IIP purposes:

- (i) BIS statistics do not include data from all the countries;
- (ii) nationality generally has priority over residence;

(iii) information is not always disaggregated by instrument.

Therefore, proper adjustments might be required prior to using this data source for the compilation of stock data. The use of investment income items from the Current Account may also be a starting-point for evaluating the quality of the accumulated flows/stocks data, although links between net investment income and the IIP can be quite complex and some Member States derive their income flows from Portfolio Investment stocks.

CONCLUSIONS

Reconciliation of flows and stocks

33. As stated above, **reconciliation** should be improved and developed, not only for analytical reasons, but basically to make it possible to produce more accurate estimates of both stock and transaction data. *General consistency* between both sets of statistics can be ensured in those collecting systems where the same reporting agent provides the basic data for both stocks and flows. Otherwise, compatibility should be achieved via the *implementation of certain links between the stock and flow figures*:

(i) use of the ISIN code would establish a link in the area of Portfolio Investment flows and stocks;

(ii) the creation of registers to assign an identification number to either the reporting agents or the different individual financial instruments.

34. In contexts where different sources are used to compile transactions and positions, a *detailed analysis of the valuation differences* would be the most appropriate tool to reconcile transactions and changes in positions. Depending on the information available to the compiler, *different reconciliation methods* could be used to obtain the discrepancies that should be investigated and explained. However, in general, the *greater the level of detail in the basic information on both stocks and flows*, the *more precise* the reconciliation will be. In particular, the following information would be desirable:

(i) currency breakdown to capture the exchange rate effect;

(ii) a breakdown of applicable market prices, especially for Portfolio Investment instruments, to isolate the market value effect. This would probably be most easily identified with security-by-security data;

(iii) timing of transactions to select the appropriate price and exchange rate.

Aspects of the geographical allocation would also have a link with the reconciliation of flows and stocks.

35. Therefore, some **practical recommendations** which would still enable a meaningful reconciliation exercise relaxing these requirements should be addressed:

(i) the use of weighted exchange rates according to the relative importance of each currency in the total holdings, taking into account information available in economic publications (by the BIS and the OECD);

(ii) if at least separate information is available for the different types of instruments (no data on a security-by-security basis), suitable price indices could be used as proxies for the individual market prices to derive changes in the value of resident holdings:

- *for equities*; stock market indices according to the currency or geographical distribution of the equity;
- *for long-term securities*; the selection of price indices would be easy if information on currency, maturities and credit risk was available;

(iii) the geographical breakdown could also be obtained from the BIS and OECD listings of international securities issues and geographical distributions of MFI and non-MFI deposits;

(iv) the average period market prices and exchange rates could provide acceptable estimates as an alternative to the accurate timing of transactions, specially if the calculations were undertaken at frequent intervals (monthly rather than quarterly). It is reasonable to assume that transactions are spread throughout the compiling period.

Accumulation of flows

36. From the EMU point of view, in order to ensure the largest degree of *harmonisation and compatibility between accumulated flows and stocks collected directly*, a reconciliation process would be necessary using similar methodological guidelines. It is only in this way that it will be possible for an EMU IIP to be obtained by aggregating national IIP data. Therefore, the following **conclusions** could be drawn to meet these requirements:

METHOD: ACCUMULATION OF FLOWS

TYPE OF INVESTMENT	CONCLUSION
Direct Investment	<i>Not acceptable</i> for final data evaluation <i>Acceptable</i> only for provisional or more frequent data
Portfolio Investment	<i>Acceptable</i> if price and exchange rate adjustments are derived on a security-by-security basis <i>Acceptable</i> if price and exchange rate adjustments are derived at an aggregate level <i>Not acceptable</i> if neither price nor exchange rate adjustments are derived
Other Investment	<i>Acceptable</i> if exchange rate adjustments are derived

37. In the light of all this information, some **minimum requirements** could be established to ensure a certain degree of reliability of *accumulated flows used to calculate stocks*. These minimum requirements could be divided in two groups:

(i) *general requirements:*

- (i) *periodical benchmark stock surveys every three years* (recognising that the household sector is very difficult to survey). This survey will be used as a tool to monitor and check the reliability of the estimated stocks and will serve as the basic benchmark for a new accumulation process. Member States with periodic or more frequent pure stock data would not be required to develop a more comprehensive survey for the special purpose of fulfilling this minimum requirement;
- (ii) cross-checking with pure stock data from other statistics (if data are available).

(ii) *detailed requirements* depending on the type of investment involved:

- (a) *final Direct Investment* should not be obtained following this method, although it could be used for first estimates and/or more frequent data;
- (b) *adjustment of price and exchange rates for Portfolio Investment items;*
- (c) *exchange rate adjustments for Other Investment items.*

ANNEX 1

EXAMPLES OF THE RECONCILIATION EXERCISE

1. Let us assume that a resident of the euro area (EMU resident) holds 10 shares in a US resident company (denominated in USD) at the beginning of the accounting period and that during the period under discussion 2 shares are sold to a non-EMU resident. The relevant data for the exercise are contained in the following table⁴:

Date	Number of shares	Price of the share in USD	Exchange rate EUR/USD
1 January 97	10	1	3
15 January 97	-2 (sale)	2	3.5
31 January 97	8	3	4

Depending on the information available to the compiler, different methods could be used for the reconciliation exercise:

2. (A) STOCK AND FLOW DATA ARE AVAILABLE:

In this case, the initial available information will be:

- Initial stock in EUR = $(10 \times 1 \times 3) = 30$
- Transactions in EUR = $(-2 \times 2 \times 3.5) = -14$
- Final stock in EUR = $(8 \times 3 \times 4) = 96$
- Valuation difference $\{96 - (30 - 14)\} = 80$

3. Following the *method explained in paragraph 10*, the reconciliation adjustment would be:

(1) previous end-period stock positions in domestic currency terms must be converted into their foreign currency components using previous end-period spot exchange rates:

$$\frac{EUR30}{EUR/USD3} = USD10$$

(2) obtain the *price change factor*, which is defined as:

$$V = \frac{P_t}{P_{t-1}} = \frac{3}{1} = 3$$

⁴ If data on an individual basis are not available, suitable indexes can be used for both price and exchange rates without any conceptual changes in the procedures and results, as explained in the text. However, estimates might be less accurate.

and apply it in order to revalue the outstanding holdings at present end-period market prices in the currency of denomination:

$$\text{USD } 10 \times 3 = \text{USD } 30$$

(3) convert the revalued holding into domestic currency using present end-period spot exchange rates:

$$\text{USD } 30 \times \text{EUR}/\$ 4 = \text{EUR } 120$$

(4) convert the disaggregated transaction data into the original currency of denomination using the exchange rate prevailing at the time of the transaction:

$$\frac{\text{EUR} - 14}{\text{EUR} / \text{USD} 3.5} = \text{USD} - 4$$

(5) revalue transactions to present end-period market prices in foreign currency by multiplying transactions by the price change factor, which is defined as:

$$V = \frac{P_t}{P_s} = \frac{3}{2} = 1.5$$

$$\text{USD} -4 \times 1.5 = \text{USD} -6$$

(6) convert the revalued transactions into domestic currency using present end-period spot exchange rates:

$$\text{USD} -6 \times \text{EUR}/\text{USD } 4 = \text{EUR} -24$$

(7) add the revalued holdings and transactions in domestic currency and compare the *estimated* closing position with the *reported* present end-period position data:

$$\underline{\text{Estimated}} = \text{EUR } 120 + (\text{EUR} -24) = \text{EUR } 96 = 8 \text{ shares USA} \times \text{USD } 3 \times \text{EUR}/\text{USD } 4 = \underline{\text{Reported}}$$

Differences, if any, should be investigated and explained.

Taking into account the fact that:

(a) the difference between the change in the stock position and transaction data in the currency of denomination should reflect price changes in the currency of denomination;

(b) price changes should be converted into domestic currency using beginning spot exchange rates (turnover has not been significant);

(c) the difference between the change in stocks in domestic currency and the sum of transactions and price changes in domestic currency can be considered as the impact of exchange rate changes;

the *reconciliation exercise* will present the following figures:

	<i>Stock_{t-1}</i>	<i>Transactions</i>	<i>Price changes</i>	<i>Exchange rate changes</i>	<i>Stock_t</i>
<i>In USD</i>	10 (10x1x3)	-4 (-2x2)	18 {24-(10-4)}		24 (8x3)
<i>In EUR</i>	30 (10x3)	-14 (-4x3.5)	54 (18x3)	26 {96-(30-14+54)}	96 (24x4)

4. According to the *method explained in paragraph 11*, the reconciliation exercise will be the following (in fact this *method should also be used to derive transactions from flows*):

(1) convert initial and closing holdings into USD using beginning and end-period spot exchange rates respectively:

$$\frac{EUR30}{EUR / USD3} = USD10$$

$$\frac{EUR96}{EUR / USD4} = USD24$$

(2) adjust the effect of write-offs and other adjustments:

(3) calculate the *estimated transactions*:

$$\frac{USD10}{USD1 / share} = 10shares$$

$$\frac{USD24}{USD3 / share} = 8shares$$

Estimated transactions in shares = 8-10= -2 shares (2 shares sold during the period)

Value of estimated transactions in USD = (-2 x USD 2/share)= -4

(4) changes in the stock position data in USD should reflect price changes:

Estimated price changes = {24-(10-4)}= USD 18

(5) initial and closing positions should be converted again into EUR using beginning and end-period spot exchange rates respectively:

Initial position = USD 10 x EUR/USD 3= EUR 30

Closing position= USD 24 x EUR/USD 4= EUR 96

(6) *estimated transactions* should also be converted into EUR using exchange rate transactions which are average for the period:

USD -4 x EUR/USD 3.5= EUR -14

(7) estimated price changes should be converted into EUR using:

* exchange rate transactions which are average for the period if turnover has been significant;

* beginning spot exchange rates if turnover has not been significant:

USD 18 x EUR/USD 3= EUR 54

(8) the difference between the change in stocks and the sum of transactions, price changes and write-offs can be considered as the impact of exchange rate changes:

Estimated exchange rate changes= {96-(30-14+54)}= EUR 26

Estimated transactions should be compared with the reported transactions. Differences, if any, should be investigated and explained. If no reported transactions are obtained for certain instrument but stock figures are available, *transactions estimated according to this method could be used as a proxy as stated in paragraph 12.*

Estimated transactions= EUR -14= Reported transactions

5. (B) ONLY FLOW DATA ARE AVAILABLE:

In this case, the initial available information will be:

- Initial benchmark stock in EUR= (10x1x3)= 30
- Transactions in EUR= (-2x2x3.5)= -14

The *Perpetual Inventory Model* (paragraph 24) has to be applied:

(1) convert the initial benchmark estimate holding into the currency of denomination using beginning spot exchange rates:

$$\frac{EUR30}{EUR / USD3} = USD10$$

(2) divide it by the price of the instrument at the beginning of the period to obtain the benchmark stock of shares:

$$\frac{USD10}{USD1 / share} = 10shares$$

(3) convert the transaction data into USD using exchange rate transactions which are average for the period:

$$\frac{EUR - 14}{EUR / USD3.5} = USD - 4$$

(4) divide the transaction data in USD by the period average price to calculate the number of shares attributable to transactions during the period:

$$\frac{USD - 4}{USD2 / share} = -2shares$$

(5) add the results of (2) and (4) to obtain the number of shares held at the end of period:

$$\text{Number of shares at the end of period} = (10-2) = 8 \text{ shares}$$

(6) multiply the number of shares at the end of period by the end-period price to obtain the value of the final holding in USD:

$$(8 \text{ shares} \times \text{USD } 3/\text{share}) = \text{USD } 24$$

(7) once transactions, initial and final stock are obtained in USD, changes in the stock position data in USD should reflect price changes:

$$\text{Price changes} = \{24 - (10 \times 4)\} = \text{USD } 18$$

(8) initial and *estimated closing positions* should be converted again into EUR using beginning and end-period spot exchange rates respectively. Estimated closing positions will be used as the initial benchmark holding for the next period:

$$\text{Initial benchmark position} = \text{USD } 10 \times \text{EUR}/\text{USD}3 = \text{EUR } 30$$

$$\text{Estimated closing position} = \text{USD } 24 \times \text{EUR}/\text{USD}4 = \text{EUR } 96$$

(9) transactions should also be converted into EUR using exchange rate transactions which are average for the period;

$$\text{USD } -4 \times \text{EUR}/\text{USD } 3.5 = \text{EUR } -14$$

(10) price changes should be converted into EUR using:

* exchange rate transactions which are average for the period if turnover has been significant;

* beginning spot exchange rates if turnover has not been significant:

USD 18 x EUR/USD 3= EUR 54

(11) the difference between the change in stocks and the sum of transactions and price changes can be considered as the impact of exchange rate changes.

Exchange rate changes= {96-(30-14+54)}= EUR 26

The estimated closing position in EUR has been determined as EUR 96, but it should be noted that the reliability of the result will crucially depend on the quality of the initial benchmark stock figure. Therefore, the obtention of periodical pure stock data should be strongly recommended if an accumulation of flows is to be used as a reliable and compatible estimate for pure stocks.

NB. Financial Derivatives not included.

COUNTRY	DIRECT INVESTMENT			PORTFOLIO INVESTMENT			OTHER INVESTMENT		
	Abroad & in rep. economy			Assets & Liabilities			Assets & Liabilities		
	STOCK DATA MAIN SOURCE	RECONCILIATION ADJUST.	REMARKS	STOCK DATA MAIN SOURCE	RECONCILIATION ADJUST.	REMARKS	STOCK DATA MAIN SOURCE	RECONCILIATION ADJUST.	REMARKS
BELGIUM/ LUXEMBOURG	S/AF	P* E**	*NO DERIVED FOR S; FOR AF, PRICE INDE- XES ARE USED. **FOR S,RESIDUAL: FOR AF, SUITABLE EX-RATES USED.	S/AF	P* E**	*FOR S, ONLY FOR CII'S SHARES; FOR AF, INDEXES FOR EQUIT **FOR S,RESIDUAL: FOR AF, SUITABLE EX-RATES USED.	S/AF	E*	*FOR S,RESIDUAL: FOR AF, SUITABLE EX-RATES USED.
DENMARK	S	-		S	P* E**	*CALCULATED ON SEC-BY-SEC BASIS FOR MFI'S ASS/LIAB **FOR GOVERNMENT LIABILITIES ONLY.	S	E*	*FOR MFI'S ASS/LIAB ON A NET BASIS AND FOR GOVERN. LIABILITIES.
GERMANY	S	-		AF*	P** E	*PURE STOCKS FOR MFI'S ASS/LIAB **ONLY FOR EQUITY INSTRUMENTS	S/AF	E*	*ONLY FOR MFI'S ASS/LIAB
GREECE	na	-		na	-		na	-	
SPAIN	S/AF	P* E**	*FOR QUOTED SHARES **FOR LOANS AND INTERCOMPANY ACCOUNTS BALANCES	S*	P* E*	*EXCEPT FOR OTHER SECTORS: ACCUMULATED FLOWS	S/AF	E* O*	*ALSO FOR OTHER ADJUSTMENTS
FRANCE	S	-		S	P E*	*PROBLEMS WITH THE PORTFOLIO STOCK HELD ABROAD	S	P E	
IRELAND	S*	E O**	*PARTIAL S SYSTEM **MARKET PRICE AND OTHER CHANGES	S*	E O**	*PARTIAL S SYSTEM FOR ASSETS **MARKET PRICE & OTHER CHANGES	na	-	
ITALY	S/AF	P E		AF*	P** E**	*BENCHMARK OF 1988. MFI'S DATA PURE STOCKS **ON SEC-BY-SEC BASIS; NOT FOR MONEY MARK. INS.	AF*	E**	*BENCHMARK OF 1988. MFI'S DATA PURE STOCKS **INDEXES USED FOR CALCULATIONS
NETHERLANDS	S	E*	*INDEXES USED FOR CALCULATIONS	S	P* E*	*INDEXES USED FOR CALCULA- TIONS; NOT FOR MONEY MARKET INSTRUMENTS	S/AF	-	
AUSTRIA	S	P E O*	*AS A RESIDUAL AT PRESENT; FROM BEG. 98 BROKEN DOWN INTO RECLASS & RESIDUAL ADJUST.	S	P E O*	*AS A RESIDUAL AT PRESENT; FROM BEG. 98 BROKEN DOWN INTO RECLASS & RESIDUAL ADJUST.	S(90%) AF(10%)	P* E O**	*FOR TRANSACTIONS IN LOANS WHERE PRICE IS BELOW PAR VALUE OF THE LOAN **AS FOR DI & PI
PORTUGAL	S*	-	*SURVEY FOR INWARD INVEST- MENT LAUNCHED IN 1997. OUTWARD INVESTMENT SUR. PLANNED FOR 1998.	S* AF**	P E***	*ONLY FOR LIABILIT. **FOR ASSETS, AL- THOUGH DATA NOT PUBLISHED. ***ONLY FOR ASSETS	S/AF	E	
FINLAND	S	P* E	*PRICE AND OTHER CHANGES NOT SHOWED SEPARA- TELY	S	P* E	*PRICE AND OTHER CHANGES NOT SHOWED SEPARA- TELY	S	E	
SWEDEN	S	-		S	-		S	-	
UK	S	E*	*ONLY FOR ESTIMATES	S	P* E* O**	*INDEXES APPLIED ONLY TO ESTIMATES **ONLY FOR BONUS ISSUES	S AF*	E O**	*NEGLECTIBLE ***WRITE OFFS
SWITZERLAND	S	-		S	-		na	-	

S - Survey on stocks AF - Accumulation of flows P - Price changes E - Exchange rate changes
O - Other adjustments "na" - Valuation adjustment not derived na - Stock data not available

INTERNATIONAL INVESTMENT POSITION

Methodological and Practical Issues

Coverage of Positions

INTRODUCTION

1. The following paper is the third in a series of papers dealing with the methodological and practical issues for study addressed by the BOP Financial Flows and Stocks Task Force. These issues, which arise at a national level, could have an impact on the EMU IIP, and it was agreed to study them in the following order:

- (i) Valuation of positions;
- (ii) Reconciliation of flows and stocks;
- (iii) Coverage;
- (iv) Sectorisation.

2. This document discusses the methodological aspects of the coverage of external financial assets and liabilities stocks, the main gaps in the coverage of those stocks and the consistency problems between flows and stocks data derived from differences in coverage. The paper is divided into three sections: Section 1 deals with the methodological aspects of the coverage; Section 2 concentrates on the coverage of positions and the main coverage gaps; and Section 3 deals with the consistency problems between flows and stocks collection systems. Conclusions are summarised at the end of the document. A table summarising the preliminary implementation of the Portfolio Investment Co-ordinated is also attached.

SECTION 1: INTRODUCTION

3. From a methodological point of view, the representativeness of the *reporting population*, the *level of detail of the reported data*, and the *conceptual compatibility between the required and reported information* provided by the selected respondents are the main factors to be analysed in order to determine the level of coverage of any statistic. Nevertheless, a 100% coverage is impossible to reach because several elements need to be considered when designing the general framework of any statistic:

- (1) *Data requirements*; basically frequency, timeliness and level of detail of the data;
- (2) *Population frame or potential reporting population*: the total population involved in the activity being measured. Usually responding reporters are a sub-group of this total population;

(3) *Available data sources*: according to the legal authority and resources of the compiler. Therefore, the choice of the most appropriate data source will often require trade-offs that might reduce the level of coverage to the benefit of other decision variables. Frequency, timeliness and resource costs tend to be in an indirect relationship with coverage factors.

4. The coverage of the International Investment Position, the statistical statement that reflects the stock of external financial assets and liabilities of the economy at the end of any given period, could be also analysed according to this scheme. According to (1) *data requirements*, a breakdown within the framework of the IMF's Standard Components and an annual frequency with nine months' delay are defined. In addition, the liberalisation of exchange controls, nearly complete in most EU Member States, has permitted the free access by all residents to nearly all cross-border transactions and to the maintenance of external financial assets and liabilities. *Government entities; credit institutions; other financial institutions; non-financial enterprises and households* constitute (2) the *potential reporting population*.

5. The variety of possible (3) *data sources* from where data on pure external financial stocks could be collected makes the selection of the most appropriate source by no means straightforward. *The implementation of ESA95 and the harmonisation of the different statistical systems* is favouring the compatibility and coherence of all these alternative data sources. The most common stock data collection sources are, inter alia:

(i) *surveys on stocks*: the advantage of these sources is the potential high degree of compatibility with the conceptual framework formed by the IMF Manual and the EU harmonisation proposals. Moreover, they are quite flexible and both the reporting burden and population could be specified depending on the type of investment and instruments to be covered (i.e. surveys on direct investment enterprises for direct investment stocks; data from securities depository institutions and/or end-investors for portfolio investment, etc.). The disadvantage is that the associated resource cost tends to be very high.

(ii) *MFI's balance sheets*: deposit and other credit institutions included in the list of MFIs are required to present periodically their balance sheets to the supervision department of the monetary authority or the public institution responsible for the supervision of the national financial system. Also banks' and Other Financial Institutions' stock data are usually collected through *surveys for Money and Banking Statistics* purposes. Therefore, this information could be used for the compilation of the stock data of the MFI sector. The main coverage drawback arises in this case from the differences between the design of the stock requirements and the concepts reported on the balance sheets. Assets classification is different and that could also limit the possibility to use the official balance sheet information.

(iii) *Treasury Book-Entry Register*: in many Member States either the monetary authority or a public body keeps a record of transactions in and outstanding amounts of government-issued bonds, notes and money-market instruments. This source is generally useful for improving the coverage of

the General Government Portfolio Investment liabilities but the difficulties of correctly attributing securities registered under nominee companies to residents and non-residents needs to be emphasised.

(iv) *other sources*: these sources could be used as additional information to close coverage gaps in the stock data collection. They could include the following:

- *International Banking Statistics*: useful to cover non-financial firms' and households' deposit holdings in non-resident deposit institutions;

- *Non-financial firms' balance sheets*: registers with this kind of data could be available for legal reasons and might be accessed by the stock compiler if necessary.

6. Therefore, problems of coverage will differ depending on *the national system implemented for the stock data collection*. Any in-depth study of the level of coverage should analyse the different components of the IIP statement. In other words, *both coverage of sectors and financial instruments* have to be investigated to determine which domestic sectors and instruments present gaps in coverage and to derive practical recommendations that could close those gaps. In addition, it is also important to avoid double counting when different data sources are combined. This information would also reflect the extent to which the figures on the EMU IIP will reliably express the gross external assets and liabilities and the net international investment position of the EMU area.

SECTION 2: COVERAGE OF PURE COLLECTED STOCKS

Coverage of Direct Investment stocks

7. Most Member States conduct periodical *enterprise surveys on resident enterprises/investors* to collect Direct Investment stock data. In this case, the compatibility of the recorded data and the conceptual framework would be facilitated through properly designed collection forms according to the methodological requirements of the IMF Manual, the OECD Direct Investment Benchmark and the EU harmonisation proposals. Therefore, a fairly good coverage of the *investment instrument* can be expected.

8. Regarding the *population coverage*, basically the MFIs, Other Financial Institutions and, especially, non-financial enterprises are the resident units involved in this type of investment. The survey could cover either all these units or the non-financial companies only. In the latter situation, the *coverage gap* in the Direct Investment stock of financial institutions might be addressed by using any relevant information available from their *reports (balance sheets) to the supervision department* or the stock data collected through *surveys for Money and Banking Statistics* purposes. The coverage of non-financial firms should be ensured through the development of a register of direct investment enterprises/investors that will form the reporting population and whose representativeness may vary according to its characteristics:

(i) *census*: whether it includes all members of the population;

(ii) *partial coverage collection*: whether it includes enterprises above a certain threshold measured in terms of their dimensions (i.e. nominal capital) or other variable (i.e. significant cross-border activity);

(iii) *sample*: whether enterprises are selected according to rigorous sampling procedures and the results are grossed up;

(iv) *stratified sample*: this procedure, which would combine options (ii) and (iii), is a more sophisticated variation and might produce a high level of coverage while remaining relatively cost-effective.

In principle, procedures (ii) and (iv) might obtain an acceptable level of coverage, not only for Direct Investment stocks but also for Portfolio and Other Investment positions, and its maintenance seems to be cost-effective. Good *register systems* seem to be necessary for increasing coverage. Sampling could produce serious discrepancies with reality if the sample is not well selected and updated and the grossing procedures are not revised.

Coverage of Portfolio Investment stocks

9. The population frame involved in the Portfolio Investment activity has increased significantly in recent years owing to the liberalisation of financial markets, financial innovation and the globalisation process. The question of how to ensure comprehensive coverage of portfolio external assets and liabilities has no easy answer. Member States differ in their financial structure for legal, institutional and historical reasons.

10. In principle, the use of a *survey* seems to be the most appropriate solution from the point of view of coverage, at least for the assets side of the portfolio stocks. Data on the liabilities side, reflecting non-resident holdings of securities issued by residents, seem to be more difficult to obtain because for the resident issuer segment it is impossible to identify the ultimate holder of their financial liabilities.

11. Precisely for this reason, the IMF, in co-operation with other international organisations, has promoted the development of a one-off *Co-ordinated Portfolio Investment Survey* designed to collect comprehensive information as at end 1997, with geographical detail, on resident holdings of non-resident equities and long-term securities and, via the exchange of bilateral data, improve also the coverage and quality of the country's stock of portfolio liabilities. In addition, the project is seen as a powerful tool in the implementation of the EMU assets/EMU liabilities approach required at a later stage for the compilation of the EMU-IIP.

12. For countries which collect data on a *security-by-security basis*, the use of ISIN codes, as discussed in principle for the compilation of portfolio investment flows, could also be a means of achieving harmonisation in the classification of securities and in country attribution if combined with

the use of a Centralised Securities Database. Thus, the creation and maintenance of such a Centralised Securities Database containing certain information relevant for IIP purposes and linked to each individual ISIN code, should be regarded as an important part of the project in which the co-operation of all participating countries would be necessary. Moreover, it would stress the links between flows and stocks portfolio investment data and facilitate the reconciliation exercise.

13. Most Member States currently conduct a survey based on the requirements of the Co-ordinated Survey, either adapting an existing survey or creating a new reporting system. Others are still in the process of implementing it or do not want to change the existing reporting burdens. Table I at the end of the document summarises the current status of the project in the various Member States.

14. In general, and according to the guidelines of the Co-ordinated Portfolio Investment Survey, compilers have to investigate the investment behaviour and saving pattern of resident investors - financial institutions, non-financial corporations, government and households - before taking a decision on the entities to be surveyed. The results of this examination will provide an indication of:

- (1) which investors are the largest owners of non-resident securities;
- (2) the channels through which each investor holds non-resident securities.

The answers to these questions are particularly relevant for the household sector owing to the fact that this is a significant source of savings in many economies and given the size of the potential reporting population. In addition, if the confidentiality of the data is not guaranteed the household sector would refuse to co-operate because of taxation reasons. Therefore, it is difficult to build up a representative sample for this sector and *gaps or undercoverage* of the survey could appear if households:

- (i) acquire significant amounts of non-resident securities;
- (ii) either keep those non-resident instruments in self-custody or hold them with non-resident custodians.

15. In addition, the increase in investment funds channelled through *nominee companies*, which are usually created in certain countries (e.g. Switzerland) to facilitate the negotiability of non-resident nominative equity securities in organised markets (i.e. stock exchanges), could cause additional coverage gaps. The nominative shares are registered to the nominee company and are subsequently negotiated through the issuance of receipts or certificates as bearer securities. In this case, the ultimate end-investor will usually be unknown to the compiler of the country of residence of the company issuing the nominative shares.

16. As a result, different approaches should be recommended to cope with these coverage problems:

- (1) *end-investor survey*: good coverage should be expected from this type of approach when investment in non-resident securities is concentrated in the hands of institutional investors such as banks, securities dealers, mutual funds, investment trusts, pension and insurance funds. In other

words, it should be used when households and non-financial firms do not invest significant amounts in non-resident financial instruments or use collective investment funds to materialise their investment in those assets. Domestic investors and survey respondents will be the same (i.e. potential and reporting populations will coincide) and a comprehensive register of respondents should be created and maintained.

(2) *custodian survey*: good coverage should be achieved under this system when domestic residents mainly hold their non-resident securities with domestic custodians who are financial institutions that hold those instruments on behalf of end-investors. The number of respondents (custodians) will be fewer than the number of end-investors and the costs associated with the maintenance of the reporting population register should be reduced. To avoid double-counting of the securities holdings, primary custodians who in turn deal with a global custodian should be clearly identified in this register and only one of the pair should report the data.

(3) *combined custodian/end-investor survey*: when domestic residents (especially households) hold non-resident securities directly with non-resident custodians or keep them in self-custody (i.e. for tax reasons), this should be the recommended procedure. Data should be primarily collected from custodians; end-investors would only report when they do not use domestic custodians. However, the compilation and maintenance of a comprehensive register of end-investors who hold non-resident securities with custodians other than domestic custodians could be very complicated, especially in those Member States where this investment policy is common practice in the household and non-financial sector (i.e. Belgium). In this case, other alternative and practical proposals could be mentioned to reduce the coverage gap:

(i) introduction of a *threshold*: only residents that entrust directly to non-resident custodians non-resident securities above a certain amount will be included in the register as "reporting end-investors".

(ii) use of *published annual accounts* of the major investing institutions and non-financial enterprises' *balance sheets* to complete the information miscoverage.

17. A variation on the latter survey would be to conduct a survey of *institutional investors, investment advisers/managers and brokers*. In such a case, the problem of double-counting could arise. However, such instances could be confined as far as possible to mutually exclusive investment/investor scenarios, thereby controlling and limiting the possibilities of over-counting.

18. With regard to the coverage of instruments, the level of coverage would depend on:

(1) the *reporting burden* included in the survey and;

(2) the *degree of compatibility* between the required data and the data directly available from the *record-keeping systems* used by the respondent (i.e. balance sheet items, off-balance sheet information, etc.).

19. With respect to *paragraph 18(1)*, it has to be noted that most Member States with surveys on portfolio stocks cover equity, bonds and notes, and money market instruments, at least for the *assets* side.

20. The coverage of *liabilities* presents a crucial problem, i.e. *determining the residence of the end-investor*. This problem will be faced whatever the method proposed to improve the coverage of resident portfolio investment liabilities held by non-resident investors. Certain methods for the collection of direct liabilities data could be mentioned in this context:

(a) the easiest and most cost-effective approach (if the survey is currently conducted for portfolio assets) would involve *asking resident custodians* about resident securities held on behalf of non-resident investors. This would obviously require an increase in the *reporting burden of the survey*. This procedure would provide good coverage of resident securities denominated in the domestic currency and traded in national organised markets that are usually entrusted to resident custodians. However, resident securities denominated in foreign currency and, therefore, issued and usually traded in foreign organised markets (i.e. ADR, international bonds, etc.) would not be captured by this survey.

(b) information collected directly from the *Treasury Book-Entry Register* about outstanding amounts of government-issued bonds, notes and money market instruments held by non-residents might be useful to improve the coverage of the General Government Portfolio Investment liabilities' stock.

(c) France suggests a three-tier procedure approach to cover international bonds:

* maintain a database (on a security-by-security basis) showing the outstanding amounts on the international bonds issued by residents;

* ask the respondents to declare these international bonds, when they are held in custody on the account of residents;

* make the difference between the outstanding amount appearing in the database and the amount held by residents to obtain the amount held by non-residents.

21. However, none of the aforementioned methods would enable the ultimate end-investor to be known. The problem of the global custodians (i.e. Euroclear, Cedel, etc.) and nominee companies would arise: resident custodians would consider holdings acquired by these global custodians as non-resident holdings but resident investors could subsequently purchase the securities from them; the securities would usually remain entrusted in the global custodian and therefore, no adjustment would be made to the liabilities figures. Moreover, even on the assumption that securities acquired by global custodians are mainly owned by non-resident end-investors, figures would reflect the total liabilities held by non-residents, but the *difficulties in obtaining a reliable country attribution* would remain unsolved. From an EMU perspective, those data might be useful with regard to the compilation of a total net EMU-IIP, but they would not enable the implementation of the EMU assets/EMU liabilities approach required at a later stage. For this reason, the exchange of information on a bilateral basis

seems to be the one feasible means of increasing the accuracy and level of coverage of Portfolio Investment liabilities stocks in the context of the EMU-IIP.

22. Finally, coverage of derivatives, for both the assets and the liabilities side, is poor in most cases. The innovations in the treatment of these instruments by the reporting institutions and investors may be creating problems affecting the proper collection of this stock information. In addition, most Member States will not cover financial derivatives through the Portfolio Investment Co-ordinated Survey. For most of them, unadjusted accumulated flows seem to be the only possibility for obtaining financial derivatives data. As a result, the data included under this heading should be interpreted with caution. The EMI's Sub-group on financial derivatives was set up to deal with the practical recording issues concerning these instruments.

23. With regard to *paragraph 18(2)*, the *compatibility* between the required data and the data directly available from the *record-keeping systems* used by the respondent, the major problems or gaps are the following:

(i) *distinction between Direct and Portfolio Investment in equity and debt securities*: custodians are usually not able to classify their securities according to this criterion. Hence, the only practical way of proceeding is to collect all the data and adjust them afterwards using an estimate of Direct Investment securities held with domestic custodians. This estimate could be based on reports provided by the resident direct investors or on data obtained from other sources, such as administrative bodies that collect Direct Investment-related data for regulatory purposes (see also Portfolio Investment Flows Report dated January 1996);

(ii) *repo agreements and stock lending*: although the reporting rules and instructions to avoid double counting for these financial operations could be quite clear, they might not be followed if they are not in line with the respondents' record-keeping systems. It is difficult to assume that a resident custodian would report to the compiler securities used as collateral for a repo transaction once he has transferred them to another custodian, even if the reporting instructions establish this treatment. It seems to be a more realistic assumption that he will report the stock of securities at the given period, without taking into account whether the securities held are linked or not to a repo agreement. If this is the case, an adjustment to the figures is necessary. For non-resident securities of resident deposit and credit institutions, the adjustment would be possible if the repo information in their balance sheets could identify whether the securities used as collateral are resident or not. If that is not the case, the overall repo business figures derived from the balance sheet would only be useful to determine the size of the problem, but no adjustment could be derived. The coverage gap could be even bigger if account is taken of the fact that institutional end-investors other than credit institutions are involved in the international repo business (the BOP treatment for repos and bond lending was agreed by the BOP FFSTF and approved by the WGS in March 1996).

Coverage of Other Investment stocks

24. It is in the area of Other Investment stocks that the use of surveys to collect the data is less widespread among Member States. Thus, accumulation of flows is still commonly used to obtain stock figures. For this reason, alternative pure stock sources should be studied to improve the level of coverage.

25. With regard to the banking sector, information on positions might be available in the *reports submitted periodically to the official supervision department, as well as from Money and Banking Statistics*, which are increasingly coherent to ESA95 requirements. National compilers should take care when using this data source because the attempts to accommodate the design and language of the conceptual framework of the IIP to the terminology used in the balance sheets of banks are still underway. For example, data provided on foreign and domestic currencies should not be used as proxies for residency, because doing so could lead to unrealistic results. Moreover, another important gap in the reports submitted to the supervision departments, as far as their use for IIP is concerned, is the level of detail. Nevertheless, the coverage and reliability of the figures obtained from this source for these institutional investors can be expected to be rather high and the data would also cover the main part of the Other Investment positions of the country.

26. Coverage of stocks of the General Government might be complete in most of the Member States, both for *loans* and for *deposit assets*. Official sources in charge of managing Treasury transactions and accounting could be approached to collect information for the General Government sector. Trade credits stock might be negligible for this sector in many Member States.

27. For *deposit assets* of non-financial enterprises and households (i.e. the Other Sectors sector), information could be gathered from the International Banking Statistics:

(i) Although the IMF no longer publishes data on deposits held abroad, its publication entitled *International Financial Statistics* used to include a table headed "Cross-Border Bank Deposits of Non-banks by Residence of Creditor" which covered precisely the deposit accounts (in foreign currency) of non-bank residents with non-resident banks in reporting countries.

(ii) The *Bank for International Settlements (BIS)* maintains two statistical systems, one quarterly, and one half-yearly. It is the quarterly system that provides information on resident banks' cross-border assets and liabilities and their foreign currency positions with residents. At present, information is reported by eighteen industrial countries and six major off-shore financial centres (coverage could be considered comprehensive on a global level; however, the absence of information related to certain countries is a serious drawback with regard to the use of these data by some Member States). The derived data obtained by aggregating the reported data on a country-by-country basis provide fair estimates of non-resident banks' claims on, and liabilities to, the bank (loans and deposits) and non-bank (loans) sectors in some 200 individual countries. As most countries reporting

to the BIS provide an extended currency breakdown of banking positions, exchange rate adjusted changes in the positions could also be calculated.

28. These statistics could be a useful source in the absence of national data or for the purpose of the cross-check for coverage of national data, although they have some limitations, as already mentioned in the paper dealing with reconciliation issues (bank definition, not all the countries are included, the country classification mainly based on nationality and not on residence, treatment of trade credits). A prior study on an individual country basis might be necessary to determine proper adjustments to these data. Otherwise, if deposit-related transactions are available with an accurate currency breakdown and the benchmark deposit stock data are reliable, the accumulation of flows, adjusted for exchange rate changes, could produce acceptable estimates¹.

29. Reliable data on *trade credits* and *loans* for Other Sectors could be obtained through the establishment of surveys. In the case of trade credits, the survey should approach those enterprises involved in this type of financing, mainly large enterprises, such as construction enterprises, shipyards, etc. However, it should be noted that if the credit is financed or intermediated by a bank, then the financial operation is to be treated and classified as a loan and not as a trade credit. Therefore, this coverage gap might not be as important as expected. With regard to loans, the survey would probably require a wider scope in order to obtain reliable data. The alternative of accumulated flows adjusted for exchange rate changes also has to be considered for these instruments.

SECTION 3: CONSISTENCY BETWEEN FLOWS AND STOCKS

30. The application of the conceptual and methodological framework established by the IMF Manual and the EU harmonisation proposals for the compilation of flows and stocks should be a prerequisite to ensure their compatibility. In addition, a higher degree of *consistency* could be achieved if the reporting population is the same for both sets of information. Furthermore, the collection of data in the form of a reconciliation statement also linked to the related income items contributes to the consistency and accuracy of the reported data and, therefore, should be strongly recommended.

31. Most Member States maintain collection systems where data for stocks and flows are obtained from different sources and reporting agents. In these cases, the *links* between the coverage of flows and stocks and the reconciliation statement should be highlighted. The reconciliation exercise included in the IIP statement would allow the calculation of the transactions from the stocks data. The differences between these *estimated* flows and the *reported* flows obtained directly from the reporting agents have to be analysed and would make it possible to identify whether:

¹ See the paper "International Investment Position: Reconciliation of positions".

- (1) flow or stock data present coverage gaps;
- (2) flow or stock data do not comply with the agreed conceptual and methodological standards.

This work would highlight the major areas where improvements should be made by the compilers to achieve a higher degree of quality and consistency.

32. In the area of Direct Investment, the major consistency problems could arise from the following issues:

- (i) reinvested earnings (significant coverage gap in the flow data);
- (ii) application of the Directional Principle (difficulties in the practical implementation of the concept for stocks and flows).

The outcome of the work of the EMI Sub-group on "Estimation methods for Direct Investment" will be useful to establish some practical harmonised proposals to close the gaps and increase the consistency of flows (which do not usually capture reinvested earnings) and stocks (recording of reinvested earnings and application of the Directional Principle on pure stock sources seems to be more feasible).

33. For Portfolio Investment, five common practical problems are (i) the *distinction between Direct and Portfolio Investment securities*, as only the use of additional information as explained in paragraph 23 could be recommended to obtain proper adjustments. In addition, (ii) the *application of the accrual basis* to the Portfolio Investment instruments, which could jeopardise the consistency between flows and stocks. Stocks collected directly and valued at market value will include the accrued interest, but this accrued interest would not be recorded as a financial transaction in certain collection systems. Again, the implementation of harmonised proposals, which is under study by the EMI Sub-group on "Accruals" is recommended as the best way to achieve consistency. (iii) *Transactions between resident investors belonging to different institutional sectors* on non-resident securities are not usually captured and, therefore, the reconciliation of the instrument at the sector level will produce discrepancies. (iv) *Changes in residency*, when not captured by the flow data, will lead to discrepancies in the reconciliation exercise. Lastly, (v) *difficulties of reconciling transactions and positions for derivatives* are currently being studied by the EMI's Derivatives Sub-group.

34. Coverage problems on trade credits transactions, as well as on deposit flows of households and non-financial firms, would be the most significant cause of imbalances between the collected stocks among Other Investment instruments. However, these imbalances will only appear if pure stock data exist, which in many cases is almost impossible for Other Sectors. Other transactions requiring complex data collection procedures to ensure their adequate coverage are syndicated loans, if the loan syndicate is formed by resident and non-resident credit institutions. The existence of these kinds of operations has to be taken into account as a possible explanation for differences arising from the reconciliation exercise.

35. Finally, it should be mentioned that stock data compiled via the accumulation of flows should naturally be consistent with collected flow data. From the point of view of the coverage of positions, the main drawback of using this method is that gaps evaluated for flows would also arise for stocks.

CONCLUSIONS

36. In conclusion, owing to the theoretical and practical reasons explained in Part 1 of this document and as shown by the Member States' current practices, the *major coverage gaps* in the national stock data seem to be concentrated in the following standard items:

- (i) Direct Investment in those countries not conducting a survey on direct investment stock;
- (ii) Portfolio Investment liabilities, especially for the non-financial sector;
- (iii) Financial Derivatives;
- (iv) trade credits, loans and deposits for the non-financial sector.

Therefore, the coverage of Portfolio Investment liabilities positions could be improved as follows by means of increasing the quality and coverage of *surveys on Portfolio Investment assets in favour of an exchange of information on a bilateral and multilateral basis*. However, the major benefits of such an exchange would derive from the ability to obtain a country attribution for the portfolio liabilities necessary for the compilation of the EMU IIP at a later stage. If limited to EMU participants only, an EMU/non-EMU split would be available at least. Thus, the collection of data on assets should be as harmonised as possible and, therefore, the guidelines of the IMF's Co-ordinated Portfolio Investment Survey should be applied as the common conceptual framework guiding the work. In general, three additional recommendations could be made to improve the coverage of the Survey could be made:

- (i) inclusion in the reporting population of end-investors who entrust their non-resident securities holdings directly to non-resident custodians or keep the securities in self custody. The introduction of a reporting threshold for these investors could be considered when this practice is widespread in the household sector;
- (ii) stress the compatibility between the required data and the data directly available from the record-keeping systems used by the respondents. This procedure would reduce the problems of double-counting or undercoverage, especially for complicated issues, such as repo agreements;
- (iii) the use of additional sources, such as published annual accounts of investment institutions or official registers to make proper adjustments to the reported figures when necessary (distinction between Direct and Portfolio Investment securities).

37. In those cases where a survey on Portfolio and/or Other Investment stocks is not conducted, alternative sources should be considered, although this would be limited:

(i) information on positions for the *banking sector* could be obtained from the reports (*balance sheets*) that these institutions have to submit periodically to the official supervision department. This information would cover Portfolio as well as Other Investment assets and liabilities;

(ii) at least partial information on Portfolio liabilities of the Government sector could normally be derived from the *Treasury Book-Entry Register*;

(iii) *International Banking Statistics* could be used as an alternative source for obtaining non-financial sector holdings with non-resident deposit institutions, as described in the paper when pure Other Investment stock data are not collected for this sector;

(iv) *accumulated flows, if properly adjusted*, could be an alternative source of pure stock data for trade credits, loans and deposits of the Other Sectors and General Government.

38. *Compatibility between flows and stocks*, which is closely linked to the results of the reconciliation exercise, could be progressively achieved by:

(1) collecting both sets of information from the same reporting population. If a threshold exists for flows and stock collection systems, it should be checked with regard to the degree of coherence of the group of respondents obliged to provide information;

(2) favouring as far as possible the collection of data in the form of a reconciliation statement to be filled out by the respondent itself. In addition, the collection form should keep closer to the accounting and book-keeping practices of the reporters. Any adjustments to the reported figures necessary for methodological reasons should be derived by the compilers and not by the respondents themselves;

(3) implementing the recommendations and harmonisation proposals agreed at EU level for flows and also for stocks. In fact, the conclusions of the EMI Sub-groups set up to present practical solutions to certain issues should help to reduce discrepancies between flows and stocks.

39. As a result, work in this direction would increase the coverage and quality of national IIP data and figures on the EMU IIP might give a real impression of the gross external assets and liabilities of the EMU area.

preliminary implementation

COUNTRY	SURVEY CHARACTERISTICS			PORTFOLIO INVESTMENT ASSETS				PORTFOLIO INVESTMENT LIABILITIES				REMARKS
	TYPE OF SURVEY	SURVEYED POPULATION	GEOGRAPHICAL ATTRIBUTION	EQUITY SECURITIES	BONDS & NOTES	MONEY MARKET INSTR.	FINANCIAL DERIVATIVES	EQUITY SECURITIES	BONDS & NOTES	MONEY MARKET INSTR.	FINANCIAL DERIVATIVES	
BELGIUM/ LUXEMBOURG	AG	C&E	Y	Y	Y	Y	-	-	-	-	-	HOUSEHOLDS WITH HOLDINGS ON SELF CUSTODY VERY SIGNIFICANT BUT NOT COVERED.
DENMARK	AG	C&E	-	-	-	-	-	-	-	-	-	SURVEY ON EXTERNAL DEBT CONDUCTED. PICS WILL BE DRAWN FROM THIS SOURCE.
GERMANY	AG	C	-	Y	Y	-	-	Y	Y	-	-	NO COUNTRY ATTRIBUTION OF INVESTMENT AT PRESENT.
GREECE	-	-	-	-	-	-	-	-	-	-	-	
SPAIN	S-S	C&E	Y	Y	Y	Y	-	Y	Y	Y	-	DOMESTIC AND NON-RESIDENT INVESTORS' SECTOR AVAILABLE.
FRANCE	S-S	C E(BANKS)	Y	Y	Y	Y	Y	Y	Y	Y	Y (ON AG BASIS)	SECTOR OF DOMESTIC INVESTOR AND CURRENCY COMPOSITION OF ASSETS & LIAB. CAPTURED.
IRELAND	AG	V	Y	Y	Y	Y	Y	Y	Y	Y	Y	
ITALY	S-S	C&E	Y	Y	Y	Y	Y*	-	-	-	-	CURRENCY COMPOSITION OF ASSETS COVERED. *DERIVATIVES COLLECTED ON AN AGGREGATE BASIS.
NETHERLANDS	AG	C&E	Y	Y	Y	-	-	Y	Y	-	-	SECTOR OF DOMESTIC INVESTOR COVERED.
AUSTRIA	S-S	C&E	Y	Y	Y	Y	Y	Y	Y	Y	Y	SECTOR OF DOMESTIC INVESTOR AND CURRENCY COMPOSITION OF ASSETS AND LIAB. COVERED
PORTUGAL	S-S	C&E	Y	Y	Y	Y	-	Y*	Y*	Y*	-	SECTOR OF DOM. INV. AND CURRENCY COMP. OF ASSETS COVERED HOUSEHOLDS & NON-FIN. FIRMS DIFFIC. TO COVER *NOT THROUGH CPIS
FINLAND	AG	C&E	Y	Y	Y	Y	-	-	-	-	-	SECTOR OF DOMESTIC INVESTOR COVERED
SWEDEN	AG	C&E	Y	Y	Y	Y	-	-	-	-	-	SECTOR OF DOMESTIC INVESTOR COVERED
UK	AG	E	Y	Y	Y	Y*	Y*	-	-	-	-	SECTOR OF DOMESTIC INVESTOR COVERED *BANKS ONLY
SWITZERLAND	AG	C	-	Y	Y	-	-	Y	Y	-	-	

S-S - Security by Security basis AG - Aggregate basis C - Custodians E - End-investors
V - Sub-population of end-investors, institutional investors, investment managers/administrators and brokers
Y - Covered by the survey "-" Not covered
Mandatory data

INTERNATIONAL INVESTMENT POSITION
Methodological and Practical Issues
Sectorisation of Positions

INTRODUCTION

1. This is the last document in the series of papers dealing with the methodological and practical issues addressed by the BOP Financial Flows and Stocks Task Force which arise at the national level and will have an impact on the EMU IIP. The issues in question are listed below:

- (i) Valuation of positions;
- (ii) Reconciliation of flows and stocks;
- (iii) Coverage;
- (iv) Sectorisation.

2. This document discusses the sectorisation of the flows and stocks of external financial assets and liabilities. This paper is divided into three parts: Part 1 deals with the definition of the sectors; Part 2 concentrates on the sectorisation criteria; and Part 3 discusses the major problems related to sectorisation that arise both at the national and at the EMU level. Conclusions are summarised at the end of the document.

PART 1: DEFINITION OF THE SECTORS

SECTION 1: Introduction

3. The sectorisation of the Portfolio and Other Investment components of the EMU International Investment Position serves inter alia to strengthen the conceptual links between these statistics and the System of National Accounts (SNA93), the European System of Accounts (ESA95), Money and Banking Statistics and international banking.

4. The sectorisation requirements of the IMF's Standard Components are basically followed in the EMU IIP presentation of the sectoral breakdown, with the sole exception of the sectorisation of the Other Investment position. The presentation of the EMU IIP first establishes a breakdown by sector (first priority) for Other Investment and, subsequently, a breakdown by instrument. This "sector-based" presentation is compatible with but not identical to that defined in the IMF IIP standard components, in which instruments are given first priority. This presentational change is due to the fact

that most of the operations performed by the banking sector are concentrated in the Other Investment items, as would be expected. Hence the analytical usefulness of the external financial assets and liabilities data would be enhanced if the information related to this sector were to be isolated from the rest.

5. The following sectors should be identified in the compiling economy:
 - (1) Monetary Authorities;
 - (2) General Government;
 - (3) Banks;
 - (4) Other Sectors.

This identification provides a combined functional and institutional approach to sectorisation. In this respect, the significant degree of concordance with the SNA should be noted, although the sectors do not comprise institutional units as in the SNA. A more detailed description of these sectors is given in the following section. The sectorisation criteria are outlined in Part 2.

SECTION 2: Description and contents of the different sectors

Monetary Authorities

6. The "Monetary Authorities" sector, which is based on a functional concept, basically includes the institutional unit of the central bank (or currency board, monetary agency, etc.) in addition to certain operations that are usually attributed to the central bank but which, in some cases, are carried out by other government institutions or by commercial banks. Such operations include the issuance of currency, the maintenance and management of international reserves and the operation of exchange stabilisation funds. These operations are re-routed via the central bank. At present, almost all Member States include solely the central bank within the "Monetary Authorities" sector.

General Government

7. The General Government sector is fully consistent with that sector in the SNA and ESA95 and consists of the following units:

- (1) Central Government, including its administrative agencies;
- (2) State or Regional Governments, including their administrative agencies;
- (3) Local Government, including its administrative agencies;
- (4) Social Security Funds operated at each level of government.

Public non-financial corporations and quasi-corporations which are market producers principally engaged in the production of goods and non-financial services should be classified under "Other Sectors". This also applies to public producers involved in the aforementioned activities and

recognised as independent legal entities by virtue of special legislation. A similar remark should be made regarding official credit institutions. Those institutions should be included under "Banks" according to both the MFI definition and the ESA95 definition, and not under "General Government".

Banks (MFI sector)

8. For the purpose of compiling an EMU IIP in due course and in order to stress the links with EMU Money and Banking Statistics, it is proposed that the "Banks" sector of the EMU IIP presentation should coincide with the Monetary Financial Institutions (MFI) sector of the above-mentioned statistics. However, one exception would be that, for Money and Banking Statistics, the European Central Bank (ECB) and the National Central Banks (NCBs) should be shown within the MFI sector under "Central Banks" whereas for the IIP they will be classified outside of the "Banks" sector as "Monetary Authorities".

9. According to the Implementation Package published by the EMI in July 1996, a *provisional* List of Monetary Financial Institutions (MFIs) is to be compiled in 1997 which must be fully operational in early 1998. It should be emphasised that the List of MFIs will provide as homogeneous a population as possible for the European Union as a whole for statistical purposes in accordance with the following MFI definition: "MFIs comprise resident Credit Institutions as defined in Community Law, and all other resident Financial Institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs, and, for their own account (at least in economic terms), to grant credits and/or make investments in securities". Thus, MFIs are defined according to functional criteria and all financial institutions with liabilities meeting these criteria will be included in the MFI sector, whatever the specialised nature of their business. Therefore, MFIs coincide with two institutional sub-sectors in the ESA95, namely central banks (S.121) and other monetary financial institutions (S.122).

10. Certain Collective Investment Institutions (CIIs) are likely to meet the agreed definition and will be included in the MFI sector. These are Money Market Funds (MMFs). Unlike credit institutions, Community Law does not identify MMFs. In the absence of such a legal reference point, a common reference definition for statistical purposes and classification criteria to be applied throughout the EU have been developed:

(1) where certain institutional or market features are present, CIIs will be classified on the basis of these. CIIs with high fees, infrequent dealing opportunities, or a stated intention to achieve an investment aim other than that included in the definition will be excluded. CIIs which form part of a national regulatory category appearing to correspond to the proposed common MMF definition and which are accompanied by procedures preventing other CIIs from undertaking similar business will be included. Elsewhere, in the absence of such a national regulatory category, CIIs stating a firm

commitment to achieve a return close to money market rates or to invest a significant portion of funds in money market instruments will be included in the MFI sector;

(2) where CIIs do not exhibit such institutional or market features, they will be selected for inclusion in the MMF population depending on how the return on their shares compares with money market rates in terms of volatility. The threshold will be derived at the EU level from the performance of the shares of institutions which unquestionably satisfy the regulatory classification mentioned above.

11. The results of this classification will be reflected in an Addendum to the present provisional List of MFIs which should be made available later this year. The final List of MFIs will be published by March 1998 at the latest. Following the release of this final List, procedures for monitoring and continuous checking will be implemented within the Money and Banking Section of the EMI to ensure that it remains up to date, accurate, as homogeneous as possible and sufficiently stable for statistical purposes.

12. In conclusion, the recommendation to coincide the "Banks" sector with the MFIs included in the List for money and banking statistics purposes would enable these statistics to be used for the compilation of the EMU IIP and would ensure the availability of certain monthly information based on MFIs' balance sheets that could also be used for IIP purposes. In such a case, the sector would comprise Deposit Money Institutions (banks, savings banks and credit co-operatives), Specialised Credit Institutions (e.g. Mortgage Loans companies; Finance, Factoring and Financial Leasing companies), Official Credit Institutions and CIIs considered to be MFIs according to the definition.

Other Sectors

13. The "Other Sectors" category is composed of:

(1) Other Financial Institutions not included under the MFI definition: this sector should include the following institutions:

- (i) CIIs not considered as MMFs and, therefore, not included in the MFIs List;
- (ii) Real estate investment institutions;
- (iii) Securities-dealer companies and agencies;
- (iv) Mortgage credit securitisation funds;
- (v) Insurance companies;
- (vi) Pension funds;
- (vii) Financial auxiliaries;

(2) Non-Other Financial Institutions:

- (i) Non-financial enterprises (public and private);
- (ii) Non-profit-making institutions serving households;

(iii) Households.

14. The inclusion of numerous financial intermediaries and insurance companies within this sector may cause fairly sizeable figures to appear under certain headings of the financial external stock data where large holdings of non-financial companies or individual parties would not normally be expected. Thus, for analytical purposes and with regard to the possible use of the EMU IIP for the compilation of other MU statistics, such as the MU Financial Accounts, information about the different sub-sectors might be useful. However, in general, it is very difficult for Member States to split "Other Sectors" into Households, Non-financial enterprises and Other (non-MFI) Financial Institutions.

PART 2: SECTORISATION CRITERIA FOR STOCKS

15. In principle, the sector attribution rules for financial stocks seem to be easy to apply. Holdings of *external financial assets* have to be assigned to the corresponding institutional sector to which the resident current creditor (owner of the asset) belongs. Holdings of *external financial liabilities* have to be included in the institutional sector to which the resident issuer of the liability belongs.

16. For *Portfolio Investment* instruments, their consideration as an external asset or liability depends only on the residence of the issuer and owner of the securities, regardless of the type of instrument, the currency of denomination and the location of the market on which the securities are issued. Securities issued by residents and owned by non-residents are *resident liabilities*; those issued by non-residents and owned by residents are *resident assets*. Sectorisation will be carried out according to the above-mentioned principles.

17. With regard to *Other Investment* stocks, it should be added that:

(i) (*government-guaranteed and/or bank-insured*) *trade credits* should be treated as private stocks rather than as government or bank lending and, therefore, included under "Other Sectors" stocks. The reason for this is that in these cases the debtors have not failed to pay and the loans have not been transferred to the government or bank that had guaranteed them. Indeed, guarantees and financial intermediation in which the intermediary is not in fact the legal creditor or debtor should not be taken into account. In addition, in some Member States it is not always clear whether these loans are insured by the government or by a public insurance company;

(ii) loans and deposits connected to *repo agreements* have to be classified under the institutional sector to which the resident that extends or receives the financing belongs, regardless of the nature of the issuer of the securities acting as collateral. The residency of the

borrower and lender is the criterion that will attribute the character of asset or liability to the operations, not the residency of the issuer of the collateral.

PART 3: PRACTICAL SECTORISATION PROBLEMS OF THE EMU IIP

18. Several practical problems related to sectorisation issues could cause difficulties regarding the compilation of a meaningful EMU IIP. An agreed approach to these issues would allow proposals to be developed to deal with them:

Transactions between resident sectors

19. In principle, the sectorisation of external financial stocks is based on the same principles as the sectorisation of flows. Flows on the *liabilities* side should be included under the institutional sector to which the resident issuer of the liability belongs, irrespective of the nature of the resident party involved in the sale of the liabilities to their purchase from non-residents. This criterion also seems to be applied in practice in most Member States. On the *assets* side - i.e. securities issued by non-residents and acquired by residents - flows are assigned to the institutional sector to which the resident subscriber or buyer of the securities belongs. As a result, the securities issued by non-residents, which are initially subscribed by credit institutions and subsequently sold to other residents, appear in the "Banks (MFI)" sector of the balance of payments. If these transactions between residents are not captured, a serious discrepancy will arise in the reconciliation exercise. It is assumed that the outstanding stocks are directly covered by an alternative pure stock data collection source. These types of transactions between residents could be particularly frequent and sizeable in the case of non-resident issues on domestic markets and debt securities denominated in the domestic currency (bull dog bonds, navigator bonds, matador bonds, etc.).

20. The EMI BOP Section has already prepared a paper "Portfolio Investment Flows" dated January 1996 dealing with this issue in which conclusions and recommendations are put forward. A common approach to tackling this problem should be encouraged to ensure the compatibility of EMU IIP data.

Inclusion of an institution in a different resident sector

21. Institutions subject to changes in their legal status (*institutional changes*) or changes in the definition of the requirements to be considered for their inclusion in the different sectors (*functional changes*) may require special treatment in order to avoid discrepancies in the reconciliation exercise. A reasonable recommendation could be to proceed as follows:

(i) in the *flows statistics*, transactions in which the institution affected by the changes is involved should be allocated according to this new status and thus assigned to the institutional sector which now includes the institution;

(ii) in the *stocks statistics*, the reclassification of the stocks attributed to the institution in question should be reclassified from the former sector to the new sector by means of an annotation in the "Other Adjustments" column of the reconciliation statement.

Although the MFI definition could imply the inclusion in the "Banks (MFI)" sector of certain CIIs that would normally have been included under "Other Sectors", the reclassification of sectors is not very common and, therefore, should not cause any particular difficulties with regard to the compilation of the EMU IIP.

CONCLUSIONS

22. In summary, the following conclusions could be drawn:

(1) The "*Banks*" sector of the EMU IIP statistics should coincide with the *MFI sector of the Money and Banking Statistics*, with the exception of the ECB and central banks that should be included as part of the "Monetary Authorities" sector;

(2) in general, *no further breakdown regarding "Other Sectors"* can be provided by Member States for the compilation of the EMU-IIP;

(3) the sectorisation criteria referred to above should be met, both for assets and liabilities stocks. *Special cases for Other Investment stocks* should be assigned as proposed in the paper:

* *(government-guaranteed and/or bank-insured) trade credits* should be treated as private stocks rather than as government or bank lending and, therefore, included under "Other Sectors" stocks;

* *repo agreements* have to be classified to the institutional sector to which the resident that extends or receives the financing belongs, regardless of the nature of the issuer of the securities acting as collateral;

(4) the treatment of *transactions between resident sectors* should follow the proposals put forward by the EMI BOP Section in its paper discussing that issue;

(5) *functional and institutional changes in the different sectors* should be recorded according the following scheme:

* *flows* should be allocated according to the new status and thus assigned to the institutional sector which now includes the institution;

* *stocks have to be reclassified* from the former sector to the new sector by means of an annotation in the "Other Adjustments" column of the reconciliation statement.