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Portfolio Investment
Recording on an Accruals Basis

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

BOP FINANCIAL FLOWS AND STOCKS TASK FORCE

**PORTFOLIO INVESTMENT
RECORDING ON AN ACCRUALS BASIS**

FULL REPORT

APPROVED BY THE WORKING GROUP ON STATISTICS

DECEMBER 1997

RECORDING ON AN ACCRUALS BASIS

FINAL REPORT BY SUB-GROUP 1

RECORDING OF INCOME ON AN ACCRUALS BASIS FOR COLLECTIVE INVESTMENTS INSTITUTIONS, MONEY MARKET INSTRUMENTS AND OTHER BONDS

INTRODUCTION

1. Sub-group 1, consisting of representatives from the Banque Nationale de Belgique (Mr. L. Aucremanne - Chairman), the Banque de France (Mr. D. Besnard), the Central Statistics Office, Ireland (Mr. M. Connolly), the Institut Monétaire Luxembourgeois (Mr. N. Goffinet)¹ and the European Monetary Institute (Jesús Pérez Bonilla - secretary), was set up by the Financial Flows and Stocks (FFS) Task Force to investigate recording on an accruals basis for mutual funds, money market instruments and other bonds. Recording on an accruals basis for bonds and zero coupon bonds was discussed within the previous sub-group and its findings were presented to the BOP FFS Task Force.
2. The mandate of Sub-group 1 states that the following issues should be addressed for mutual funds, money market instruments and other bonds:
 - (I) Identification of the problems;
 - (ii) Summary of the work already done in this area by other groups;
 - (iii) Investigations of possible solutions;
 - (iv) Proposal of a harmonised solution for the Economic and Monetary Union Balance of Payments.
3. This conclusive report has been prepared by the EMI's Sub-group 1 and is being submitted to the BOP FFS Task Force for discussion at its September 1997. This report provides a summary of the work carried out by the Sub-group 1 concerning the recording of the income for mutual funds, money market instruments and other bonds on an accruals basis in the balance of payments.
4. The report is structured in three main parts: Part 1 presents the final report on recording on an accruals basis for Collective Investment Institutions; and Parts 2 and 3 contain the final reports for money market instruments and the group of other bonds, respectively.

¹ Mr Goffinet did not participate for the discussions on money market instruments and other bonds.

PART 1

FINAL REPORT BY SUB-GROUP 1 RECORDING INCOME ON AN ACCRUALS BASIS FOR COLLECTIVE INVESTMENT INSTITUTIONS

INTRODUCTION

5. Following the mandate given to Sub-group 1 by the BOP Financial Flows and Stocks Task Force, Sub-group 1 has studied problems in the area of recording on an accruals basis for mutual funds. This report provides a summary of the whole work done in this area by the Sub-group together with a harmonised solution at a conceptual level. At a practical level, the report presents a proposal for a common estimation method for those countries which do not have the required information directly from a survey.

6. This report is structured as follows: Section 1 is related to the definition of mutual funds. Section 2 addresses the recording of the income from Collective Investment Institutions (CIIs) on an accruals basis in general terms, while Section 3 describes the implementation of the proposed approach in the balance of payments. Finally Section 4 deals with the data requirements and the estimation method recommended by the Sub-group.

SECTION 1: MUTUAL FUNDS: DEFINITION

7. Given the large number of institutions which may fall within the scope of this study and the variety and complexity of the country practices and different legislation in existence, after having referred to various official sources (IMF Manual, paragraph 388, and ESA 1995, paragraphs 5.96 and 5.97), the Sub-group suggests that the definition provided by the "Survey on Collective Investment Institutions" produced by the Money and Banking Statistics Task Force (January 1996) should be used. The survey states that: "*Collective Investment Institutions refers to incorporated (investment companies or investment trusts) and unincorporated undertakings (mutual funds or unit trusts) that invest the funds, collected from investors by means of issuing shares/units (other than equity), in financial assets (mainly marketable securities and bank deposits) and real estate*".

8. With a view to applying the accruals principle to mutual funds, preference is given to using this broad definition which covers any Collective Investment Institution (CII); therefore, the decision was taken to use the term CII instead of mutual funds. As a consequence, all institutions which fall under

that definition are covered by this study regardless of whether they are closed-end or open-end, or whether their units are quoted or unquoted. It is the responsibility of the national compilers to include those borderline cases and, in view of this, awareness of the national legal or administrative basis may be helpful.

9. There are some types of CIIs, such as the fund of funds or the master-feed funds, which may require special treatment within the general conceptual approach. As these cases may need to be studied on an individual basis and given the fact that some problems may also differ, they will be addressed when dealing with the practical approach at a later stage.

SECTION 2: THE ACCRUALS PRINCIPLE AND INCOME DERIVED FROM CIIs

10. In discussing the recording of the investment income of CIIs on an accruals basis, the first point to be addressed was the distinction between the income that the CII earns on its investments (asset side) and the income of the investor holding units of the fund (liability side of the CII).

11. With reference to the asset side, the Sub-group is of the opinion that this income does not require special investigation as it is covered by the guidance provided by the IMF Manual (paragraphs 121 and 282, regarding the time of recording for investment income). According to these paragraphs, investment income from assets of the CIIs in the form of equity has to be recorded when payable and interest earned by the CIIs has to be recorded on an accruals basis. The recording of interest was treated in more detail in the recommendations made by the former sub-group about the recording on an accruals basis of bonds and zero coupon bonds. It is clear that these recommendations, together with those recommendations proposed by the Sub-group in the field of recording on an accruals basis for money market instruments and other bonds also apply to the interest earnings of CIIs.

12. In contrast to the asset side, the appropriate treatment of investment income on the liability side is less clear-cut, given the fact that CIIs can have different distribution policies (full distribution of the income in the form of dividends; full capitalisation of the income; or a mixed policy which combines distribution and capitalisation). Therefore, the Sub-group is of the opinion that its work should concentrate on the recording of the income of the investors in the CIIs. In particular, the following questions must be addressed:

- What is the time of recording of income when the CII distributes all or part of the income earned on its assets?
- What is the appropriate treatment in the case of capitalisation? Should capitalised income be treated as the income of the investor in the CII and, if so, what is the time of recording of this income flow? Should capitalised income be regarded as a holding gain?

13. According to the IMF Manual, dividends (distribution case) have to be recorded when payable. The capitalisation case is not treated by the IMF for CII (in neither the Manual, the Compilation Guide nor the Textbook). That said, it could be argued that the Sub-group should concentrate only on the capitalised income. Apparently, this was also the view of the BOP Financial Flows and Stock Task Force. It was stated in the Interim Report to the Working Group on Statistics entitled "Recording on a Full Accruals Basis, Theoretical and Conceptual Issues" (third draft, 12 November 1996) that: "*Investment fund units, such as mutual funds, quite often do not distribute but accumulate interest earnings. These are reflected as an increase in the value of the share of the investor. Accumulated interest earnings and the offsetting increases in the value of the shares should be recorded in the Balance of Payments. The amount involved can be significant and the EUROSTAT Committee insists on the recording of these interest earnings*" (paragraph 24 of the interim report to the Working Group on Statistics). The BOP FFSTF seems to limit the issue of accruals basis for CII to the case of capitalisation of "*interest earnings*".

14. However, the Sub-group favours a *broader approach* at the liability side of the CII, under which *all* income is covered, regardless of the type of assets in which the CII invests or the distribution policy of the CII. From a conceptual point of view, it seems unacceptable that the distribution policy of the CII should influence the time of recording of the income of the investor. Moreover, capitalisation of income occurs, when we look through the fund to its investments, not only for interest income on investments but also for dividend income on equity. From a more pragmatic point of view, it seems to be easier to implement a unique method that covers all types of CII. Hence, it is not necessary to distinguish between full distribution institutions, full capitalisation institutions and institutions which combine distribution and capitalisation. In practice, it would have been very difficult to obtain the information necessary to make this distinction as the classification of CII is often not based on this criterion.

15. The main purpose of the approach proposed by the Sub-group is to attribute all income raised on the asset side as result of the investments made by the CII (either from equities or debt securities) to the holders of the units over the period under study. In other words, *it is the amount and the time of recording of the income on the asset side which determines the amount and the time of recording of the income on the liability side*. More precisely, the income flow from the CII to the investor in the CII is recorded on an accruals basis when it corresponds to interest earned by the CII and is recorded, in principle, once the dividend is paid to the CII, in the case where the CII has invested in equity. Application of this method means that **all income is assigned to the investors, regardless if it is distributed or not**. This is a reflection of the fact that the investor in the CII can claim, at any time, the income that the CII earned on its assets. Income that is not distributed is considered as being reinvested in the CII and, consequently, capitalised income has a counterpart entry in the Financial Account.

16. As far as *the time of recording* is concerned, this approach proposed is in line with the recommendations made by the ESA 1995, which states that:

“The following is also treated as interest: interest received by mutual funds from the investments they have made, and which is assigned to shareholders, even if it is capitalised. It excludes holding gains or losses on financial instruments belonging to unit trusts, which are not recorded as property income” (paragraph 4.49b).

“This heading (dividends) also includes: dividends received by mutual funds from the investments they have made, and which are assigned to shareholders, even if they are capitalised. It excludes holding gains or losses on financial instruments belonging to units trusts, which are not recorded as property income” (paragraph 4.54b).

According to these recommendations (ESA 1995), the time of recording of investment income on the liability side of the CII will completely coincide with the time of recording on the asset side. This is also the case for the proposal made by the Sub-group (see paragraph 11).

17. The idea that *capitalised income* is reinvested in the CII is also consistent with ESA 1995:

“(…) property income received by mutual funds, net of a part of management costs, and assigned to shareholders, even though it is not distributed, have a counterpart entry in the Financial Account under mutual funds shares. The effect is that property income is reinvested” (paragraph 5.141b).

18. In contrast with ESA 1995, where the types of assets in which the CII has made its investments determine also the nature of the investment income assigned to the shareholders, the Sub-group suggests that all the income assigned to the investors in the CII be labelled as income from Units in CII regardless of the type of instrument that the CII has invested in, and to record this income under “Income on equity”. This is consistent with the IMF treatment (IMF Manual, paragraph 388) where investment in a CII is to be recorded in the Balance of Payments under Portfolio Investment, Equity Securities.

19. All in all, the approach proposed by the Sub-group appears to be in overall agreement with the spirit of ESA 1995 and the GNP Committee’s interpretation of ESA 1979 (Commission decision 12 February 1997 No. C(97) 345 final). The treatment in the EMU balance of payments will therefore be consistent with the way GNP will be measured in Europe and will prevent a distortion of the Current Account Balance and GNP. This was a major concern of the Sub-group from the outset.

SECTION 3: IMPLEMENTATION OF THE PROPOSED APPROACH IN THE BALANCE OF PAYMENTS

20. It must be noted that all the following paragraphs are, in principle, written from the point of view of resident CII in which non-residents invest. This simplification was introduced only for illustrative purposes and it must be clear that a completely symmetric treatment is proposed for residents investing in non-resident CII. The latter case is only mentioned explicitly when the direction of the investment in the CII affects the estimation method.

21. According to the Sub-group proposal, all the income of a CII is attributed to the investor and, hence, recorded as investment income, even if (part of) this income is capitalised. The measurement of this income on the liability side is based on the income earned by the CII on its investments (asset side of the CII). These two income flows are recorded simultaneously. However, this does not mean that two identical income flows are recorded in the balance of payments. Indeed, the similarity between these two income flows only occurs if *all* the investments of the CII and *all* the investors in the CII are considered, whereas in the balance of payments only the income flows that correspond to the foreign assets and foreign liabilities of the CII are recorded.

22. In practice, it can be assumed that the investment income of the (resident) CII on its foreign assets will be captured by the traditional collection system prevailing in each country. In the case of data collected on a cash basis, adjustments have to be made in order to take into account the recommendations of the IMF and the former sub-group for the recording of interest earnings on an accruals basis. On the liability side of CII, it will be necessary to measure the BOP relevant investment income flow from the resident CII to the non-resident investor. In measuring this flow it will be important to take into account the income earned by the CII on its foreign assets as well as the income earned on its domestic assets. This measuring will have to be in line with the general rules for the time of recording on the asset side of the CII, as explained in paragraph 7.

23. The proposed treatment operates on the basis that the entire income flow from the (resident) CII to the non-resident investor is capitalised, until the time a dividend is paid. Hence, the entire income flow is recorded as a debit entry under Investment Income - Portfolio Investment - Income on Equity, with an offsetting credit entry in the Financial Account Portfolio Investment - Liabilities - Equity Securities - Other Sectors, representing the reinvestment of the capitalised income in the CII. When the CII pays out a dividend to the non-resident investors, this payment is not recorded under Investment Income, but instead it is recorded in the Financial Account as a debit entry, representing a reduction in the CII liabilities. The net result of these entries is that the entire income flow is recorded under Investment Income (not only the dividends paid out as in the case of data collected on a cash basis) and that the part of the investment income which has not been distributed as dividends (capitalised) is recorded as a net increase in the investment of the non-resident investor in the CII.

24. Within the general treatment of investment income of CII's outlined in the previous paragraphs, it is important to take into account the management fees charged by the CII's. The Sub-group discussed in detail the various costs linked to the transactions with CII shares in the balance of payments. These costs cover the CII's payments for management, administration, custodians of assets and other operating costs. It is known that these costs are often implicitly passed on to the investors in the CII and that, therefore, a data collection system based on payments will only measure the income flow net of all these costs.

25. However, the Sub-group is of the opinion that, instead of this net recording, the investment income flow from the CII to the investor and the management fee charged by the CII should be recorded separately. This approach is more appropriate from an economic view-point. As a consequence, it is suggested that, within the Current Account, the entire income attributed to investors should be recorded under Investment Income (debit entry) and that the relevant fees should be recorded under Financial Services (credit entry). Such a clear distinction between income and services seems to be more in line with the general recommendations of the IMF. Finally, the offsetting entry in the Financial Account (credit entry) would then be equal to the entire income that is attributed to the investor in the CII, minus the fees charged and the dividends paid to investors.

SECTION 4: DATA REQUIREMENTS AND ESTIMATION METHODS

26. Whereas the Sub-group firmly insists that all Member States should follow the conceptual approach for the investment income of CII's as it is outlined in Sections 2 and 3 of this report, it is also its opinion that it is possible to allow for more freedom in the area of the practical implementation. Indeed, the Sub-group is of the opinion that the data requirements can be met, in an almost similar way, by either a *survey* or by an *estimation method based on stock data*. If both methods are assembled in line with the conceptual treatment brought up before, the choice made in the practical scope will not influence the final outcome by more than what is usually accepted as normal statistical bias. Any case, it is clear that the eventual distortions deriving from the choice between both methods will be small compared to the distortions that will exist if some Member States record investment income flows between CII's and their investors on a cash basis.

27. Regardless of the measurement method chosen (survey or estimation based on stocks), the approach proposed in Sections 2 and 3 aims at obtaining data for the following variables:

- the income generated on the asset side of the CII's (foreign and domestic assets) and the time of recording of this income;

- the part of this income attributed to non-resident investors (only this fraction is to be recorded in the balance of payments) for which information about the proportion of the shares of resident CII held by non-residents may be required;
- the amount of dividends paid to non-residents by domestic CII;
- the management fees charged by CII.

28. After having studied various proposals, the Sub-group agreed that where the data necessary to record the investment income of CII as outlined above are not available directly from a survey, a common estimation method should be used to calculate the income earned by the CII on its assets during the period under study. It must be pointed out that a settlement reporting system is not sufficient in itself to provide all the necessary information. In short, the proposed method requires the use of **stock data** concerning the holdings of resident CII shares by non-residents and the holdings of foreign CII shares by resident investors. **A rate of return** is also required, which is obtained from the investments of the CII, in order to calculate the income attributable to the non-resident investors. This is done on a quarterly accruals basis.

29. As far as interest income earned by CII is concerned, this estimation method based on stocks is entirely in line with the conceptual treatment mentioned in Sections 2 and 3. The time of recording of the income attributed to the investor in the CII, which is quarterly accrued by the estimation method, coincides with the time of recording of the investment income that the CII earns on its assets. If Member States apply the general guidelines of accruals principle to this income, it is also accrued quarterly.

30. With regard to income from equity earned by the CII, the Sub-group is aware that the estimation method based on stocks is, in theory, difficult to justify since the method assigns this income to the investor in the CII on a quarterly "accruals" basis, while the initial income earned by the CII is recorded when payable. Nevertheless, it is difficult, from a practical point of view, to define an estimation method that is able to attribute this income to the investor in the CII systematically during the same accounting period as the one for which the income from equity earned by the CII is recorded, unless a survey is used.

31. The Sub-group suggests, for those Member States which prefer not to introduce a survey in their existing settlement reporting system, the application of the estimation method based on stocks in the case of income from equity. Although the method is not entirely correct, it has the advantage that the time of recording of the investment income flow at the liability side of the CII does not depend on the distribution policy of the CII. In other words, even if all or part of the income earned by the CII is capitalised, the entire income earned by the CII is attributed to the investor in the CII. The advantage of treating the capitalisation case in a satisfactory way outweighs the disadvantage of introducing a

discrepancy between the time of recording of income from equity earned by the CII and the time this income is imputed, by the estimation method, to the investor in the CII.

32. Although the application of the accruals principle is required for quarterly and annual data, this estimation method that combines stock data and rates of return should be applied with a higher frequency, ideally on a daily basis. The two main reasons are as follows:

- Given the high volume of transactions with CII shares, the average outstanding amount for a particular quarter can vary substantially from the average calculated on the basis of the outstanding amounts at the beginning and at the end of the quarter under study;

- Owing to the high volatility of the relevant rates of return (i.e. interest rates), it is preferable that daily stocks were related to daily rates of return.

However, the Sub-group is of the view that the use of monthly stock data and rates of return can, in practice, produce good estimates.

Estimation of stocks

33. It is clear that the rate of return will typically depend on the type of asset in which the CIIs have made the investments. Therefore, the stock data have to be broken-down by type of instrument in which the CIIs invest in order to be able to match the stocks with the relevant rates of return.

34. If stock data, on a monthly basis and broken-down by instrument, are not available directly (such as in the IIP, in reports on national markets of CIIs or as a result of a survey), they should be estimated by using any suitable information available. In particular, stock data relating to a previous period, which could be updated with data on transactions thereafter.

35. The classification of CIIs according to the instrument in which they invest is linked, in most Member States, to the national regulations or has an administrative basis. Hence, a lot of information is often available on the investment policy of resident CIIs. However, this information is related to the total investment of resident CIIs and not to the part of their investment which correspond with the shares held by non-residents. As a consequence, additional information about the proportion of the shares of resident CIIs held by non-residents is required.

36. Clearly, there is a trade-off between the accuracy of the estimation method, which depends on the level of detail with which the stocks are broken-down by instrument, and the fact that, for reasons of data availability, a certain level of aggregation will always characterise the estimation method. It is a responsibility of the national compilers to deal with this trade-off. On this reading, it seems to be unavoidable that the stocks relating to the investments of residents in non-resident CIIs are less

detailed than the data related to the investments of non-residents in resident CIIIs. Concerning the asset allocation of non-resident CIIIs and the corresponding rate of return, Member States are encouraged to exchange information. The Sub-group recommends that national compilers should, at least, try to make a distinction between the following broad categories of assets in which the CIIIs invest (bonds, money market instruments and equities). In addition, the accuracy of the estimation method will be improved significantly if an additional breakdown is made using the currency in which the CII has made its investment (for investments in bonds and in money market instruments) and using the country in which the CII has invested (for investment in equity).

The rate of return

37. As stock data on CIIIs are usually at market value, it is obvious that the rates of return that prevail in the market at the time of compiling have to be used and not the historical rates of return. Moreover, these rates of return should reflect only the investment income earned by the CIIIs on their assets and exclude any capital or exchange gain or loss.

38. That said, it is suggested that the rate of return is based on a *market benchmark* instead of on the yields of CIIIs that are often published (which include capital gains or losses). For the same reason, it is not possible to use the quoted price of CII shares to calculate the accrued income. For debt securities, balance of payments compilers must use the *interest rate* of the benchmark that is representative for each category of instruments for which separate stock data have been collected, whereas in the case of equity securities, the *dividend yields* of the benchmarks have to be taken into account.

39. An important assumption underlying this benchmark proposal is that non-resident investors holding domestic CII shares will be provided with a return equal to the average return observed for the relevant category of resident CIIIs. Clearly, there is no reason to think that non-residents will systematically gain higher or lower returns than resident investors.

40. In the case of the fund of funds or master-feed funds (institutions which invest in the shares of other CIIIs), the Sub-group suggests that the proposed method should be extended to the asset side of those individual institutions in which the fund of funds or/and the master fund invests. Therefore, it is necessary to understand the types of CIIIs in which the fund of funds invests and the investment policy of the master fund in order to make better estimates.

Management fee

41. With regard to the estimation of the fee, an average of the percentage applicable to the share holders investment can be estimated on the basis of the information which usually is published and

available to any potential investor. This average must be applied to the estimated stocks of the period under study in order to estimate the management fee.

Dividends paid by the CIIs

42. As outlined in Sections 2 and 3, dividends paid by the CII to the investors in the CII no longer have to be recorded under investment income, but in the financial account. Therefore, it is necessary to identify, in a settlement reporting system, the dividends which are paid by resident CIIs to non-resident investors and those that are received by resident investors from non-resident CIIs. If this identification cannot be achieved within the framework of the existing data collection system, national compilers should try to estimate the above mentioned flows of dividends. Within this context, it might be helpful to use, for example, a distribution/capitalisation ratio for each category of institutions for which separate stock data and the corresponding rate of return are worked out.

Geographical breakdown: MUM/non-MUM split

43. With a view to compiling the extra-EMU balance of payments, it must be emphasised that the estimation method proposed for the income, the fees charged and the dividends paid should then be applied separately according to the counterpart country, firstly in respect of resident CIIs and secondly in respect of resident investors in non-resident CIIs. Following this, each variable considered would be worked out with a geographical breakdown that would allow the split between MUMs/non-MUMs.

44. If this procedure is regarded too ambitious, the Sub-group suggests a simpler approach. Once the results have been calculated in terms of total amount, these can be broken-down geographically according to the part of each country in the foreign liabilities of the CIIs.

PART 2

FINAL REPORT BY SUB-GROUP 1 RECORDING INCOME ON MONEY MARKET INSTRUMENTS ON AN ACCRUALS BASIS

INTRODUCTION

45. The Sub-group discussed the recording of investment income on an accruals basis for money market instruments in detail. The Sub-group agreed on a common estimation method for applying the accruals principle to money market instruments. The method proposed for these instruments, which is described below, is in line with the main recommendations for bonds and zero coupon bonds presented by the former Sub-group.

46. This report is structured as follows: Section 1 explains the instruments covered under money market instruments within the context of the accruals basis; Section 2 deals with the estimation method proposed and Section 3 describes its implementation in the balance of payments.

SECTION 1: COVERAGE OF MONEY MARKET INSTRUMENTS

47. There is a large variety of instruments under the category of money market instruments. Most of them are short-term debt securities, such as certificates of deposit, commercial paper, bankers' acceptances, Treasury bills, discount notes and others. An important feature of these securities is that they usually have a short-term maturity (less than one year) and are issued at discount (without coupon payment). However, some of these instruments have a maturity of over one year and may also include a coupon payment.

48. With a view to proposing a common method for applying the accruals principle to money market instruments, it was agreed that attention should be focused on those short-term debt securities which meet the following criteria: *issued at discount and with an original maturity up to one year*. Hence, the method proposed below refers, in principle, *only* to these instruments. The Sub-group is of the view that the recommendations of the former Sub-group for bonds and zero-coupon bonds are applicable to those money market instruments with an original maturity of over one year.

49. It is obvious that, when no coupon payments occur, the settlement reporting system of many countries will, in general, not allow to identify the investment income flows, and subsequently they

will be included in the financial account. Therefore, it is necessary to introduce an estimation method for the investment income earned on money market instruments.

SECTION 2: METHOD FOR ESTIMATING THE ACCRUED INTEREST

50. For these instruments, the difference between the amount paid at the time of acquisition - either the issue price (when the security is purchased on the primary market) or the transaction price (when the security is bought on the secondary market) - and the amount received when the security is redeemed or sold on the secondary market, represents the income and this is to be recorded in the current account on an accruals basis. Although the interest accrued might ideally be calculated on a security-by-security basis, the Sub-group suggests that a more global approach can be followed to calculate the accrued interest for money market instruments which would be based on stock data and a relevant rate of return (benchmark). This is done because it is felt that it would be difficult and costly to identify each security, owing to the large number of existing securities with a short maturity and the high volume of transactions involving these instruments on the secondary market.

51. Although the application of the accruals principle is required for quarterly and annual data, the estimation method based on stock data and a rate of return should be applied with a higher frequency, ideally on a daily basis. Arguments in favour of this are given in paragraph 28 in part 1 on CIIs. However, as for CIIs, the Sub-group is of the opinion that the use of monthly stock data and interest rates can, in practice, produce good estimates.

52. The method proposed by the Sub-group requires the use of monthly stocks concerning the holdings of domestic money market instruments by non-residents and a rate of return to work out the corresponding accrued interest. Obviously, the same method is also applied for the foreign money market instruments held by residents.

53. Stocks have to be "marked-to-market" and compilers should use the interest rate prevailing in the market during the period for which calculations are made. If the outstanding amounts of money market instruments held by non-residents and of foreign money market instruments held by residents are not available on a monthly basis, it is proposed that the monthly stocks should be built up using annual or quarterly stock data (such as those from the IIP) and the monthly flows collected for balance of payments purposes. Although, it is necessary to obtain a valuation of the stocks "marked-to-market", the issue of the revaluation of the previous stocks is less crucial for money market instruments than for bonds as their market value is, generally speaking, less affected by changes in the interest rates. The stock amount to be used when applying the method is the average of the stock at the beginning and that at the end of the month.

54. In order to improve the results of the estimation method, it is suggested to break down the stock amount that non-residents hold by maturity and to apply a benchmark interest rate to each maturity. If such a breakdown is not available, it can be assumed that non-residents held money market instruments in proportion to the share of each maturity in the total outstanding amount of money market instruments. In so doing, the same maturity distribution existing in the total outstanding amount of money market instruments is applied to the holdings of these instruments by non-residents. Alternatively, calculations could be made using the average maturity. Moreover, if national compilers consider that the result of the estimation method can be improved significantly by introducing an additional breakdown based on the sector of issuer, they are encouraged to do so.

55. The rate of return suggested is based on a "benchmark" rate of interest for a given maturity and sector (see previous paragraph). The Sub-group understands that most money market instruments are now issued by numerous economic agents in competitive markets. This practice would guarantee, in principle, that the benchmark interest rate is sufficiently representative. Hence, it can be assumed that the estimation method, although it is not applied on an instrumental basis, will produce satisfactory results, as long as the data breakdown is realistic. It could be argued that the margin of error in choosing a rate of return is fairly low under "normal" market conditions, as the spread between the different maturity periods (e.g. 3, 6 or 9 months) is very modest. However, the Sub-group insists on the maturity breakdown of the stocks, particularly when the yield curve is very steep or reversed.

56. As far as foreign money market instruments held by residents are concerned, the stock data must also be broken-down by the currency of the nominal value. For each currency and for each maturity, a rate of return should be taken as benchmark. The calculation of the accrued income has to be made in the currency in which the money market instrument is denominated and the result has to be converted subsequently into the currency of the compiling country by using the market exchange rate that prevailed during the period for which the calculation is made.

SECTION 3: THE RECORDING OF THE ACCRUED INTEREST OF MONEY MARKET INSTRUMENTS IN THE BALANCE OF PAYMENTS

57. The estimated accrued interest should be registered in the Investment Income of the Current Account, either as a credit or as a debit, and the corresponding offsetting entry must be recorded in the Financial Account under Portfolio Investment, Debt Securities - Money Market Instruments, according to the underlying instrument. In addition, the value which is effectively exchanged (and which corresponds to the flow of cash) has to be declared in the Financial Account under Debt Securities - Money Market Instruments.

58. In the rather unusual case of money market instruments with an original maturity of less than one year and which contain coupon payments, it will be necessary to identify the corresponding

coupon payment in order to avoid double accounting. The effective payments would then be used to adjust the offsetting entry in the financial account.

59. With a view to producing the Portfolio Investment Income Account of the balance of payments of the extra-EMU area, the Sub-group recommends that when estimating the accrued interest on money market instruments it be broken down geographically. The geographical allocation of the accrued income should be in line with the geographical breakdown of stocks.

PART 3

FINAL REPORT BY THE SUB-GROUP 1 RECORDING INCOME ON OTHER BONDS ON AN ACCRUALS BASIS

INTRODUCTION

60. Following the mandate of Sub-group 1 on recording investment income on an accruals basis, the Sub-group discussed the recording of accrued income on *other bonds*. It was agreed that the work should focus on those bonds which were mentioned by the previous sub-group. The methods discussed by this sub-group only applied to fixed interest rate bonds and zero-coupon bonds. The focus of their discussions was on bonds with regular coupon payments and normal conditions at issue and maturity. Those bonds with more complicated structures/features such as convertible bonds, junk bonds, indexed bonds etc. together with floating rate bonds, may need to be investigated further with regard to the method of calculating accrued interest.

61. Given the variety of instruments that Sub-group 1 had to cover (CIIs, money market instruments and different types of other bonds) and the time constraints faced, the Sub-group decided that their work on other bonds would concentrate on the disclosure of those features which make “other bonds” different from conventional bonds and zero-coupon bonds, and on the consequences that these differences may have for the recording of investment income on an accruals basis. Where possible, recommendations with respect to the method of calculating accrued interest would be presented.

62. This paper summarises the discussion on “other bonds” and the recommendations proposed by the Sub-group. The report is structured in two sections: Section 1 describes general problems in estimating the accrued interest on other bonds, and Section 2 explains the peculiarities of each of the following four types of bonds: index-linked bonds, junk bonds, floating rate notes and convertible bonds.

SECTION 1: GENERAL PROBLEMS FOR OTHER BONDS

63. The Sub-group examined the four types of bonds (index linked bonds, junk bonds, floating rate notes and convertible bonds) for a better understanding of the nature of these bonds and their economic rationale. The methods recommended by the former Sub-group and the proposals made for CIIs and money market instruments were also revised with a view to examining the extend to which

they could be applied in the case of other bonds. It was felt that, in general, it may be difficult to estimate the accrued interest on these bonds following a global approach for each type of bond.

64. The most important obstacles are created by the multiple and complicated characteristics found not only along the four types of bonds but also within the same category. It was agreed that the most difficult issue was to determine an adequate "benchmark" which could be used to estimate the accrued interest, following a global approach. As a consequence, it may be necessary in some cases to use information on a security-by-security basis rather than global data.

65. In addition, it should be noted that the similarity of the results obtained by the different calculation methods proposed by the previous sub-group for normal bonds (market value method, nominal value method or historical cost method) cannot always be found in the case of other bonds. Hence, this report recommends the application of the method which is able to produce good results for each type of other bonds. As explained in Section 2, the method chosen can vary from one type of instrument to another.

66. The recording of investment income in the case of other bonds is complicated by the fact that some of these bonds comprise embedded derivative products. As illustrated in Section 2, it can be difficult to determine the investment income due to the financial derivative. The Sub-group is of the opinion that the discussion about financial derivative falls outside its mandate. Indeed, these issues have been discussed in the context of the Financial Flows and Stocks Task Force. It must be noted that the treatment of the embedded derivatives is approved and these products should be recorded together with the underlying financial instrument and not be recorded and valued separately in balance of payments statistics.

67. As for the other methods of calculating accrued income (CIIs, money market instruments), the quality of the result of the estimation method would improve if the frequency of its application were increased. Therefore, the best results would be obtained with a daily calculation. However, the Sub-group is of the opinion that an estimation method on a monthly basis could also produce good results.

68. Given the special features of other bonds, it may be rather difficult to record the investment income on these types of bonds on an accruals basis. The Sub-group feels that the implementation of the accruals principle is easier for a variety of instruments, such as normal bonds and zero-coupon bonds, money market instruments and CIIs, whose outstanding amounts are far greater than other bonds. Consequently, it may be useful to conduct a preliminary investigation on the importance of these types of bonds in the balance of payments of each country. Somehow, priority should be given to the more important types of instruments.

SECTION 2: ESTIMATION OF THE ACCRUED INTEREST

69. This section addresses the estimation method for calculating accrued interest and the major problems for the following groups of bonds: index-linked bonds, junk bonds, floating rate notes and convertible bonds.

Index-linked bonds

70. Index-linked securities are defined in the BOP Manual (paragraph 397) as instruments with coupon and/or principal payments which are linked to a specific price index, to the price of a commodity or to an exchange rate index, or the like. The objective, as well as to earn investment income, is to conserve purchasing power during periods of inflation.

71. With respect to the interest income on indexed bonds, the BOP Manual (paragraph 397) states: *“When coupon payments are index-linked, they are treated as interest income, as is the case with any financial asset that has a variable interest rate. When the value of the principal is indexed, the issue price of the security is recorded as the principal, and the change in value resulting from indexation - periodically and at maturity - is treated as interest income. The change in value related to indexation should be estimated and recorded as interest income over the life of the security, and the offset should be recorded under debt securities in the financial account”*. A similar treatment is proposed in SNA 1993 (paragraphs 11.78 and 7.104), in ESA 1995 (paragraphs 4.46-c) and in the Financial Terminology Database.

72. A settlement reporting system can record the payments of indexed coupons, although often only on an annual basis rather than on a quarterly accruals basis. However, the accrued income derived from the indexation of the principal value cannot be measured by a settlement reporting system. Calculations of both parts of the quarterly accrued income (indexed coupon and indexation of the principal value) should be made by using the index to which the coupon and the principal value are linked. The results of these calculations should be recorded as investment income for the period under study, instead of the reported payments of the indexed coupon. The corresponding offsetting entry should be recorded in the financial account under portfolio investment - bonds and notes, according to the underlying instrument.

73. Due to the variety of indices, problems appear when a global approach is followed, in particular in determining a benchmark index which is sufficiently representative. Presumably, only by using information on a security-by-security basis, is it feasible to estimate the accrued income. If this is regarded as too ambitious, however, a more global approach which classifies all bonds linked to the same index into homogeneous groups could be followed.

74. In addition, in some cases there is a derivative product embedded in the bond, such as caps and floors which limit the indexation effect. Similar to the BOP treatment of caps and floors on interest rates proposed in the Financial Terminology Database (e.g. collared FRNs), it could be argued that, if the cap/floor is exercised, the entire indexation (without taking into account the effect of the cap/floor) should be recorded as investment income and should be partially offset by a second entry under financial derivatives, which represents the exercise of the cap/floor. Alternatively, it could be preferable to record the net amount directly, including the effect of the cap/floor under investment income. The Sub-group feels that this issue is related to the treatment of financial derivatives and does not fall within its scope. The current treatment of the income of these bonds as recommended by the Financial Terminology Database might be revised in order to bring it into line with the new treatment recommended for these derivative instruments.

Junk bonds

75. High-yield or junk bonds are publicly traded securities rated as non-investment grade by at least one of the main independent rating agencies. Given the level of speculative risk, investors demand yield premia to compensate for the risk taken. The yield spreads are often between 200 and 750 basis points higher than comparable long-term government securities. The most important category of junk bonds is the publicly issued high-yield securities which are straight, non-convertible and comprise no special features.

76. Due to the fact that these bonds are differentiated from other bonds solely on account of their high yield, no special BOP treatment seems, in principle, to be required for the recording of investment income on an accruals basis. However, problems may arise in the following cases:

a) Junk bonds can be traded on the secondary market with a significant discount which is often, to a large extent, the result of a change in the market perception of the risk of the issuer. Therefore, compilers should apply the market value method by using a market interest rate as benchmark that is sufficiently representative. Ideally, the yield to maturity should be calculated on the basis of separate information for each instrument. When a more global approach is followed, compilers should ensure that the benchmark interest rate used sufficiently reflects the market perception of the risk of the issuer, otherwise the market value method may underestimate the investment income.

b) It was concluded that the nominal value method proposed by the former sub-group cannot be used to estimate the accrued interest for junk bonds as it does not take into account any discount. Discounts may, indeed, be substantial in the case of junk bonds.

c) Owing to the high risk of the issuer, the probability of a default is higher for junk bonds than for any other bond. Defaults often take the form of arrears in interest payments. Even in the case of arrears, compilers should continue to record interest on an accruals basis. It should be noted that this treatment of arrears is not particular to junk bonds but also applies to all types of financial instruments.

Floating rate notes

77. Standard floating rate notes (FRNs) are long-dated and medium-dated debt securities, the coupon of which is refixed periodically on a refix date by reference to an independent interest rate index (such as the six-month LIBOR). There is a large variety of FRNs which incorporate a coupon calculation designed to tailor the product to meet investors interest rate expectations, the so-called structured FRNs. The following are some examples: Reverse FRNs, Collared FRNs and Set-up Recovery FRNs (SURFs).

78. With regard to the estimation method, it is recommended that the market value method should be applied, as proposed by the previous sub-group. It would not make any sense to apply either the nominal value method or the historical cost method (both methods use the interest rate at the time of issuance), given the interest rate is revised periodically for these types of bonds.

79. Again, the most important problem is to find an interest rate benchmark which is sufficiently representative. The lack of the necessary information about the characteristics of the various FRN issues makes it difficult to find a good benchmark, unless a security-by-security approach is taken. However, in some cases a more global approach which makes a distinction between broad categories of FRNs - such as those which are linked to short-term interest rates and those which are linked to long-term interest rates - can also produce good results.

80. The distinction between investment income and financial derivatives for those instruments which incorporate derivative features, such as Reverse FRNs, Collared FRNs and SURFs, is treated in the Financial Terminology Database and is not considered as an issue falling under the mandate of the Sub-group.

Convertible bonds

81. A convertible bond is a fixed rate bond which may, at the option of the investor, be converted into equity of the borrower or its parent. The price at which the bond can be converted into equity is set at the time of issue and will be at a premium to the market value of the equity at the time of issue. The option to convert the bond may be exercised at a specific future date or within a range of dates. This conversion option cannot be separated from the debt. The coupon rate will generally be higher

than the dividend rate of the underlying equity at the time of issue, but lower than the rate of a comparable bond without a conversion option.

82. As the market value of a convertible bond not only reflects changes in interest rates, but also changes in the value of the embedded conversion option, the market value method proposed by the previous Sub-group will not produce good results for accrued income. It is therefore proposed that calculations be made on the basis of the nominal value of the bond and the interest rate prevailing at the time of issuance. It would seem that either a instrument-by-instrument or a global approach could be taken.

83. With regard to the interest rate to be used, there are two possible options. At first sight, the interest rate of the convertible bond would seem to be the most relevant. However, it could also be argued that the interest rate of a comparable bond without a conversion option should be used in order to calculate the (notional) investment income, and that the result of this calculation should partially be offset under the underlying financial instrument by the difference between the notional interest income and the income actually paid or received. The entry under the underlying financial instruments would then represent the implicit payment of a premium for the conversion option. In the latter case, the same interest rate could be used as benchmark as for normal bonds, whereas the first approach would require a specific benchmark for convertible bonds.