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Portfolio Investment Flows Harmonisation—ISIN Centralised Securities Database

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



BOP FINANCIAL FLOWS AND STOCKS TASK FORCE

**PORTFOLIO INVESTMENT FLOWS  
HARMONISATION - ISIN  
CENTRALISED SECURITIES DATABASE**

**FULL REPORT**

APPROVED BY THE WORKING GROUP ON STATISTICS  
- OCTOBER 1997 -

and

**ADDENDUM TO THE FULL REPORT**

APPROVED BY THE WORKING GROUP ON STATISTICS  
- APRIL 1998 -



PORTFOLIO INVESTMENT FLOWS  
HARMONISATION - ISIN  
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**PORTFOLIO INVESTMENT FLOWS  
HARMONISATION  
SECURITIES CLASSIFICATION - ISIN**

*Full report of Sub-group 3*

(endorsed by the BOP Financial Flows and Stocks Task Force in September 1997  
and approved by the Working Group on Statistics in October 1997)

INTRODUCTION

1. This final report which was prepared by Sub-group 3, aims to cover in full the scope of the mandate given to the Sub-group by the BOP Financial Flows and Stocks (FFS) Task Force.
2. The report is structured as follows: Part 1 explains some of the background terminology and the interrelationship between the terms since an understanding of both will be important before reading the full report; Part 2 contains a summary list of the optimal data field requirements of the centralised database for the compilation of the balance of payments/International Investment Position, dividing them into one of four established categories; Part 3 investigates data availability via the GIAM network and from the National Numbering Agencies (NNAs), the ISIN master files currently maintained in some Member States, the BIS and various commercial data providers in relation to the optimal data field requirements; Part 4 provides an insight into the coverage which should be possible; and Part 5 contains information on the ISIN UIC application, its proposal for a common database and the Sub-group's view on whether or not this meets the requirements. Finally, Part 6 details the Sub-group's recommendations to the BOP FFS Task Force.

PART 1: BACKGROUND TERMINOLOGY

3. It is important to be familiar with the following background terminology and the connections between the terms before reading the full report. The main terms used are: ISIN, ISO, CFI code, NNA, substitute NNA, ANNA and GIAM. A description of each of the terms and their interconnection is provided in the following paragraphs.
4. ISIN stands for **International Securities Identification Number**. The ISIN code, a twelve-digit alpha code, is an internationally standardised code (ISO 6166) used as a unique identifier for any internationally traded security. The ISIN code will serve as the key identifier for the centralised database.

5. **ISO** (the International Organisation for Standardisation) is a world-wide federation of national standards bodies (ISO member bodies). The work of preparing international standards is normally carried out via ISO technical committees.

6. The **Classification of Financial Instruments Code** (CFI code) is a six-digit alpha code (ISO 10962) developed by the International Standards Organisation for the consistent grouping and classification of financial instruments. This international standard was developed for use in any application in the trading and administration of securities in international securities business. The standard defines and describes codes for an internationally valid system for the classification of financial instruments.

7. The organisations responsible for allocating ISIN codes are the **National Numbering Agencies** (NNAs) which have been set up on most major securities markets. They also operate domestic numbering systems and those numbers form an integral part of the ISIN. For those countries which do not have their own NNA, four National Numbering Agencies act as substitute agencies on a regional basis.

8. **Substitute NNAs.** Some offshore centres are strong issuers on the international markets, but they do not have their own NNA. Instead, they rely on one of four substitute agencies set up to assign ISIN codes on their behalf; for example, the NNA for the United States assigns ISIN codes on behalf of the Netherlands Antilles and the Cayman Islands. For countries without an NNA the designated substitute agency is supposed to allocate an ISIN. An ISIN allocated by a substitute agency normally has to be prefixed with the same prefix as that of the country for which the substitute agency is acting; for example, securities issued by the Netherlands Antilles should be prefixed with AN by the NNA in the United States which is acting as the substitute agency. However, bilateral agreements sometimes exist which can result in different treatment, for example the NNA for France assigns ISIN codes on behalf of Monaco.

9. ANNA is the **Association of National Numbering Agencies** and was formed in 1992 for the purpose of making available a uniform international securities identification number for use by its members and the security industry as a whole in any application in the trading and administration of securities at the international level. ANNA is the official registration authority and maintenance agency for ISO 6166 (the ISIN standard that clearly describes which organisations are allowed to allocate ISIN codes and to which securities) and for the ISO 10962-CFI code.

10. The standard communications vehicle for the rapid dissemination of ISIN information among NNAs and other interested parties is the **Global ISIN Access Mechanism** (GIAM) network. The underlying objective of the GIAM network is to support ANNA in its endeavour to promote the use of ISIN as the unique international standard. The implementation of the GIAM network in 1994 allowed

NNAs to broadcast details of additions, deletions and amendments to ISINs to other NNAs. In addition, the GIAM network enables enquiries to be made concerning data information related to an ISIN of a given security.

## PART 2 (A): DATA FIELD REQUIREMENTS OF A CENTRALISED DATABASE

11. The first aim of the Sub-group was to devise a comprehensive list of the data field information needed to compile the balance of payments/International Investment Position on the basis of ISIN codes and to justify the inclusion of each of the items listed. The inclusion of these data fields would be necessary for the basic compilation of Portfolio Investment and/or in order to check the consistency and reliability of the data compiled.

12. The Sub-group specified the *optimal* data fields for inclusion in the centralised database. Annex 1 contains a summary list of these data field requirements split into four different categories. The purpose of the categorisation carried out, which is described below, was purely in order to achieve some degree of prioritisation. It is to be hoped that information for all data fields will ultimately be included in the centralised database. The four categories of data fields are as follows:

The minimum requirement, i.e. information which is necessary for the compilation of the balance of payments and the International Investment Position.

The broader requirement, i.e. information which is needed in order to perform financial calculations, for example to calculate accrued interest, as well as information which is needed for data checking purposes, for example to establish the validity of data which have already been compiled.

Additional reporting requirements, i.e. to allow the monitoring of the international financial markets.

For the further extension of the database, i.e. data fields which are considered to be useful for the future development of the database.

13. As their definition suggests, the minimum requirement data fields are crucial for the compilation of the balance of payments/International Investment Position. The broader requirement data fields are not crucial in terms of compilation, but are nevertheless very important in order to ensure the accuracy of the data that are compiled. The Sub-group split the broader requirement data fields into two groups: "Financial", i.e. the data fields needed to perform financial calculations, such as those for accrued interest; and "Checking", i.e. the data fields needed for checking purposes. The following two additional categories were created: "additional reporting requirements" and for the "further extension of the database".



14. A description of the justification for the inclusion of each data field is provided. In addition, the Sub-group has stated whether each data field would be needed for balance of payments/International Investment Position purposes, or both - this information can be found in brackets next to each data field. As mentioned previously, both a summary and detailed information at the individual data field level can be found in Annex 1.

◆ Conclusions

*In order to facilitate the basic compilation of the Portfolio Investment Account, accurate country attribution and the correct allocation of capital flows, the following data field requirements of the centralised database were defined:*

- (i) A total of sixteen data fields were included within the minimum requirement category (including the ISIN code) and twenty data fields within the broader requirement category.*
- (ii) The "Financial" group consisted of a total of sixteen data fields, which were divided further into "Income" (eleven data fields) and "Capital" (five data fields). A further five data fields were defined within the "Checking" category.*
- (iii) Two data fields were included in the "additional reporting requirements" category, and a further two data fields were included in the "further extension of the database" category.*

### PART 3: DATA AVAILABILITY

15. The second aim of the Sub-group was to determine whether or not the required data field information was available from any existing sources and - if there were any gaps in the coverage provided - to endeavour to find out how the information might be provided and the gaps filled, for example by supplementing existing data with information from commercial data providers.

16. The Sub-group compared the list of optimal data requirements with:

- (i) the GIAM network, which is responsible for disseminating information among NNAs;
- (ii) the ISIN master files currently maintained by the UIC, the Oesterreichische Nationalbank, the Banque de France and the BIS; and
- (iii) information available from various commercial data providers. Where possible, costs and timeliness were taken into account at this stage, even if such information was not always made available by the commercial data providers.

- (i) The GIAM network via NNAs

17. It is generally agreed that if the process to harmonise statistics were based on ISIN codes, it would be highly advantageous for the balance of payments/International Investment Position compilers to receive the data from the primary source of information, i.e. the NNAs, as the number of

mistakes made and inconsistencies introduced at present would be significantly reduced if information were obtained directly from the originator. The GIAM network is a means of enabling information to be passed between NNAs. GIAM contains information on new issues, but lacks information on outstanding issues (unless the data element related to the underlying security is changed, as GIAM would take such changes into account). In addition, it does not contain all the required data field information, e.g. the "Creation date", "Deletion date" and quotation-related data fields do not exist in GIAM. As for all data sources, a data checking process of the information stored on the GIAM network should be completed before the information is passed to the centralised database.

◆ Conclusions

(i) *The GIAM network would not be a sufficient tool in itself to meet the Sub-group's defined data field requirements: not all of the Sub-group's defined minimum and broader requirement data fields are included in GIAM. In addition, GIAM distributes information relating to new issues and not outstanding issues of securities.*

(ii) *GIAM could be considered as the primary data source and then supplemented by information from other data sources in order to provide countries with a complete picture.*

(iii) *The content of the GIAM network should undergo a checking process before the information is loaded into the centralised database.*

(ii) Comparisons with the ISIN master files currently maintained by the UIC, the Oesterreichische Nationalbank, the Banque de France and the BIS were carried out to determine whether the information held in these existing databases could be used for the centralised database. It was a theoretical exercise and did not assess the extent of coverage (broken down by country) or attempt to ascertain the quality of the information held in the data fields (e.g. data fields can exist in databases but the fields themselves are sometimes empty).

18. Each category of requirements was studied in turn. The comparison revealed the following:

#### MINIMUM REQUIREMENTS

Price-related information - in general information is available from the databases maintained by the Oesterreichische Nationalbank and the Banque de France (apart from the average price and some gaps in historical data by the Banque de France). These data are not maintained by the UIC and the BIS.

Other information - this is good, as at least one institution has each data field available, although a few minor gaps exist with respect to historical information. Historical data are only maintained by the Banque de France with respect to the latest available information for securities linked by the Reference ISIN code.

## BROADER REQUIREMENTS

Availability is generally good, as at least one institution has each data field available, with the exception of minimum and maximum price information. Some information related to financial calculations is maintained by the Banque de France for domestic securities only. Some gaps exist in historical data. Several gaps exist in the data fields in the "Checking" category.

## ADDITIONAL REPORTING REQUIREMENTS

Market of issue - only the UIC did not maintain this, but the UIC could derive it from the GIAM network.

Country of nationality - this is fully available from the BIS database only. Both the Banque de France and the UIC derive the information from other sources for banks and financial institutions.

## FURTHER EXTENSION OF THE DATABASE

Issuer identifier - this is maintained by all institutions, but there is no standard in place.

Issue description - this is only unavailable from the BIS.

### ◆ Conclusions

- (i) *Generally good results have been achieved from the securities databases currently existing at the national level, since most of the data field requirements can be derived from the ISIN master files currently in use in the Member States.*
- (ii) *The content of each of the databases used to provide information to the centralised database should undergo a checking process to evaluate the accuracy of the data field before the information is loaded.*
- (iii) *The inclusion of information already maintained at the national level should be regarded as a starting-point only. These data alone would not be sufficient for the centralised database, both in terms of coverage (by country) and data quality, neither of which have been investigated by the Sub-group.*
- (iv) *The remaining information would need to be obtained from other sources.*

### (iii) Commercial data providers

19. In view of the conclusions reached concerning data availability via the GIAM network and the ISIN master files maintained in the Member States, various commercial data providers were contacted regarding the possibility of supplementing the information with data contained in their databases. The data providers contacted were Bloomberg, Reuters, Telekurs Finanz, Datastream, DRI Marketing, IFR, ISMA, FAME, Swiss and Olsen, Euromoney and EXTEL (Financial Times). Of these,

Bloomberg, Reuters, Telekurs Finanz, Datastream, IFR, ISMA, FAME and EXTEL (Financial Times) returned a completed questionnaire, although the level of comprehensiveness of the responses varied significantly. The Sub-group was therefore reliant on the extent and accuracy of the information provided in assessing whether or not the data field requirements could be met.

20. From the responses, the Sub-group observed the data availability of each commercial data provider for each data field category. The results can be found in Annex 2.

21. The results of the questionnaire revealed that it would be possible to meet the remaining data field requirements in the centralised database by employing the services of a commercial data provider. However, until further investigations are completed no concrete conclusions as to the most suitable commercial data provider(s) could be drawn for the following reasons:

- (i) A further standardisation of the information provided by data providers would need to be carried out. For example, some data providers appear to have an extensive coverage of the data field requirements but some of these are known to be held only in a descriptive footnote in the security display screen of the database, which could cause difficulties for the Database Manager for their inclusion in the centralised database. This would need to be checked.
- (ii) A full evaluation of coverage and data quality aspects, e.g. accuracy of the information stored in the data fields, would only be possible following an installation and testing phase of the prototype of each of the "potential" commercial data providers.
- (iii) In terms of costs, commercial data providers were understandably reluctant to provide detailed information without a clear understanding of the nature and volume of data that would be required for downloading to the centralised database and also details of users.

◆ Conclusions

- (i) *It would be possible to meet the data field requirements by employing the services of one or more commercial data provider(s).*
- (ii) *A prototype of each system should be installed and tested. A full evaluation should be made to check the coverage of financial instruments on all financial markets and the accuracy of the data stored.*
- (iii) *Cost considerations should be taken into account as part of the general evaluation process.*

PART 4: COVERAGE

22. The requirement: in terms of definition, balance of payments compilation of the Portfolio Investment Account requires a split between at least four categories (equity securities, debt securities, money market instruments and financial derivatives). Without these, it would not be possible to meet

the IMF's requirements concerning portfolio investment statistics. The Sub-group investigated the coverage of instruments by NNAs via the GIAM network and their coverage by country.

Coverage of instruments by NNAs via the GIAM network

23. The Sub-group contacted the major NNAs concerning their coverage and data availability for equity securities, debt securities, money market instruments and financial derivatives. A questionnaire was distributed to all the major NNAs, including those located in Australia, Austria, Belgium, Canada, Hong Kong, Denmark, Luxembourg, Norway, Switzerland, the Republic of South Africa, Ireland, Sweden, the Czech Republic, the United Kingdom, Brazil, Singapore, Greece, Germany, France, Italy, Portugal, the Netherlands, Argentina, Costa Rica, Hungary, Bulgaria, Japan, Spain, the United States and Turkey, as well as EUROCLEAR. The overall outcome of the responses was as follows:

- (i) Equity securities - coverage is good.
- (ii) Debt securities - coverage is good.
- (iii) There are gaps of varying degrees in the coverage of ISIN codes for unlisted securities, money market instruments and financial derivatives, as explained below.

Unlisted securities - coverage is incomplete. Some markets (Australia, Argentina, Costa Rica, the Republic of South Africa, the United States, Turkey, Canada, Japan, Portugal and the Czech Republic) either do not assign ISIN codes or NNAs require legal advice before an ISIN code can be assigned.

Money market instruments - coverage is incomplete. Some important markets (the United Kingdom, Australia, the Republic of South Africa, the United States, Brazil, Hungary, Japan and the Czech Republic) do not assign ISIN codes.

Financial derivatives - coverage is incomplete and considered to be a major problem. The compilation of balance of payments statistics based on the ISIN code is clearly not possible at present, owing to the fact that a large number of NNAs do not assign ISIN codes to these financial instruments.

◆ Conclusions

(i) *The coverage of instruments by NNAs was generally quite good. However, coverage needs to be improved in some areas, as only equity securities, debt securities and the minimal number of financial derivatives to which NNAs have already allocated ISIN codes could be included in a centralised database from its inception. The coverage of money market instruments requires some attention and it would not be possible to include many derivatives in the centralised database in the short term as their coverage by NNAs is extremely poor.*

(ii) *A potential coverage problem could arise in the case of unlisted securities owing to those NNAs which are profit-orientated and reluctant to allocate ISIN codes without payment. These NNAs should be acquainted with the fact that the ISIN code is not only used for cross-border transactions, but also to meet other goals, i.e. for the compilation of statistics.*

Coverage by country

24. Although the ultimate intention was to include information for all countries, the Sub-group wanted to assess the more important countries which should be included in a centralised database at the earliest possible stage, i.e. providing a clear starting-point. For this purpose, the Sub-group carried out two exercises to determine the countries in which the main securities issues take place and to identify those countries which form the top group (individual country rankings would not be relevant). Details of the two exercises are provided below.

Exercise 1

25. The first investigation was undertaken by the UIC and comprised two tests. First, the UIC compared data<sup>1</sup> ranked according to the country of residence of the issuer on the basis of the daily turnover (flows in the balance of payments) of the most actively traded issues of securities in thousands of US dollars for September 1996 and May 1997 with a list of the highest ranking countries, which was provided by the BIS following its investigation of the reporting bank's holdings of international debt securities (all negotiable short and long-term debt instruments in domestic and foreign currency issued by non-residents and all such instruments in foreign currency issued by residents) at a given point in time. The BIS had also repeated the exercise at various dates in order to ensure stability. Second, data on domestic securities (by country of issuer) as at March 1997 and international debt securities (by country of residence) as at June 1997 in terms of both amounts outstanding and net issues, which were also supplied by the BIS, produced a further country ranking. On the basis of the information provided by both the UIC and the BIS, it was possible to infer the

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<sup>1</sup> The data covered bonds, notes and money market instruments issued on both the domestic market and on the Euro-market.

settled amount on the Euro-market and to use this knowledge as the basis for the development of the centralised database.

26. The results of the first test data showed that the fifteen highest-ranking countries at September 1996 were Germany, Denmark, the Netherlands, Brazil, Argentina, France, Mexico, the United States, the United Kingdom, Spain, Italy, Venezuela, Sweden, Japan and the International Organisations). Of these, fourteen countries also appeared in the top fifteen rankings for May 1997. The Sub-group attributed the minor differences to currency movements, interest rate changes and the number of Euro-issues or domestic issues per country. The second test revealed an almost identical country ranking.

#### Exercise 2

27. Although it was generally felt that the results based on stocks and flows would be almost comparable, for the sake of completeness, the Sub-group produced another country ranking list, at the central bank level, which included money market instruments and used data both on stocks and the accumulation of flows. The Banque de France, the Oesterreichische Nationalbank and the UIC supplied data for both flows (during 1996) and stocks (end-1996). The results of the exercise showed a high level of similarity, from which it could safely be assumed that the results of such an exercise for other European countries would not show a marked divergence from the pattern.

28. The outcome of both exercises 1 and 2 enabled the compilation of a preliminary list of the most important countries (with respect to the country of issuer) corroborated by the data from the various tests. The aim of the list was only to provide a good starting-point for the inclusion of information in the centralised database at the earliest possible stage - it does not aim to be exhaustive, but to give a clear priority to the Database Manager. This list of countries was considered as stable (with the sole exception of the emerging markets group which is constantly changing), but it should nevertheless be reviewed to ensure that priority is awarded to those countries with the greatest importance as far as movements in the financial markets are concerned and to take into consideration any new phenomenon on the Euro/global markets.

◆ Conclusions

- (i) *As a starting-point, all country information held on the GIAM network or in the commercial database which would provide the future centralised database with information for outstanding issues should be included in the centralised database.*
- (ii) *After (i), the Sub-group recommends that priority for the inclusion of information by country should be given to the countries appearing on the preliminary list compiled by the Sub-group following its investigations.*
- (iii) *The countries forming the preliminary list were the European Union countries (fifteen countries) and the following: Major markets or issuing countries: United States, Australia, Canada, Japan, Switzerland; Offshore countries: the Cayman Islands, the Netherlands Antilles; Emerging markets: Venezuela, Brazil, Argentina and Mexico; Asian countries: Hong Kong; as well as the International Organisations.*
- (iv) *The Database Manager should review the list of countries regularly, particularly with respect to emerging market countries (the Russian Federation, Croatia and other ex-Eastern block countries), as well as South Korea and Norway. The list should be updated dynamically.*
- (v) *The ultimate intention should, of course, be to include information for all countries. In addition, countries whose data can be derived without incurring further costs or by passing priority from one country to another could be included in the centralised database at an earlier stage.*
- (vi) *The Oesterreichische Nationalbank found that data for government bonds were particularly relevant for Austria and should be included in the centralised database as a priority. Information on government bonds was considered to be equally relevant by the other countries represented on the Sub-group.*

PART 5: EMI/IMF PROJECTS

29. The third aim was to assess whether or not the UIC's proposal met the data field requirements, as defined by the Sub-group. Although the EMI and the IMF have separate securities database projects, there is obviously an overlapping of interest in the two projects.

30. It is well-known that the UIC has compiled a database of securities that are widely traded on the financial markets to facilitate the international comparability of data from the Co-ordinated Portfolio Investment Survey, which is being conducted under the auspices of the International Monetary Fund (IMF) with reference to the year-end 1997. The information contained in the database relates to eight data fields: the "ISIN code", "Issuer name", "BOP country of residence", "Issue description", "Currency of issue", "IMF institutional sector", "Maturity date (for debt instruments)" and "Issue category", which are sufficient for IMF purposes. The IMF Survey only requires a split between equity and debt securities. As a result, the database contains information for equity and debt securities



and, at this stage, is considered to comprise an *initial sample* of the most actively traded securities on the international securities markets.

31. The ISIN UIC application was developed so that securities information held in the UIC database could be viewed by national compilers for use in the IMF Survey. It has an electronic facility to update, revise and add to the information stored. At the time of design (and at present) the UIC application was created under the mandate of a pilot project for exclusive use by IMF Survey compilers and, as such, the UIC had not envisaged a database for use by all balance of payments/International Investment Position compilers. The database was built using Microsoft Access, which is not a sufficiently powerful tool to provide a global database and manage an extensive number of data records. The UIC and IT experts have advised that a more robust system would be needed for the centralised database. Otherwise, access to the database would not be efficient for users and slow response times for interrogation requests could generally be expected. However, via a simple procedure, it would be possible to download the information stored in the ISIN UIC application to a centralised database environment. The front-end of the database could continue to be in MS Access, provided that some re-design work was undertaken to include a visual display of the additional data fields.

32. The EMI and the IMF have maintained close contact throughout their respective projects and representatives of both institutions met on 27/28 September 1997 to discuss issues of common interest. The IMF said that the Sub-group had conducted a thorough investigation into the requirements of the centralised database. The IMF viewed the work of the Sub-group as a positive development and was convinced that work of that nature would improve world-wide balance of payments/International Investment Position statistics. The benefits of having a centralised database managed by an international organisation were clear, but the IMF was not in a position to be the central point for this work, owing to a lack of resources. However, the involvement of the EMI was welcomed and the IMF would support the EMI as much as possible. The IMF maintains a considerable interest in the project and the efforts being made. It would support the further development of the UIC database to meet the EMI's requirements.

◆ Conclusions

- (i) *As it stands at present, the exhaustiveness of the ISIN UIC application would not meet the optimal data field requirements as defined by the Sub-group. The ISIN UIC database contains information for eight data fields and the data field requirements defined by the Sub-group are far more extensive. Therefore, coverage would need to be increased significantly if the UIC database were to be used.*
- (ii) *Data provided from central banks/statistical institutes and commercial data sources would need to be added to the UIC database to improve coverage.*
- (iii) *The data which have been collected by the UIC could provide a good starting-point for the creation of a European centralised database and a source of historical information.*
- (iv) *Once the database environment of the centralised database has been defined, it would be possible to download the information stored in the ISIN UIC application to the centralised database.*
- (v) *A more detailed technical evaluation will not be possible until user requirements have been fully defined.*

CLOSING STATEMENTS

33. The Sub-group considers that it has performed all the tasks laid down in its current mandate, i.e. the theoretical aspects and the general framework of the centralised database have been defined. The Sub-group is concerned that a follow-up should take place and considers that work on the centralised database should continue with a view to its implementation. The implementation phase would need to deal with both organisational and technical aspects, to be carried out either by the Task Force or by the Sub-group (with a new composition and under a new mandate). Alternatively, a database development team could be appointed. The Sub-group has provided some examples of the types of considerations to be taken into account in Annex 3.

34. The first trial of the centralised database might possibly be made with the compilation of the monthly key items data in January 1999. However, if this time scale proves too short, a first test should be made with the compilation of the International Investment Position data for end-1999 which the EMI requires by September 2000 (nine-month time lag), as a more detailed set of data field information would be required from the database for this purpose. This would set both a clear objective and target date for the first trial of the database.

## PART 6: RECOMMENDATIONS

35. The conclusions reached following each of the investigations carried out by the Sub-group appear in italics throughout this report. On the basis of the conclusions reached, the Sub-group also submits the following ten recommendations to the BOP FFS Task Force:

### Recommendation No. 1 (ref: Executive Summary, paragraphs 2 & 3)

The centralised database (based on the ISIN key identifier) should be created primarily for use by EU NCBs, statistical institutes and international organisations to guarantee harmonised information. Such a database would be more beneficial to countries than simply providing access to the GIAM network or relying on the ISIN master files currently in use in the Member States, as not all data field information is available from these sources alone. The adoption of the centralised securities database would help most EU national compilers to achieve a harmonised EU aggregate of Portfolio Investment within the balance of payments/International Investment Position (including a sectoral breakdown) and hence to meet the EMI's statistical requirements.

### Recommendation No. 2 (ref: final report, paragraphs 11, 12, 13 & 14)

The centralised database should include all of the data fields defined by the Sub-group and shown in Annex 1. However, a *starting-point* should be the inclusion of information for those data fields categorised as the minimum requirements of the centralised database (as well as those data fields in other categories which are very easily available). The data fields which are categorised as "broader requirements", "additional reporting requirements" or for the "further extension of the database" or those which are not easily available, should be added to the centralised database gradually, with a delay of preferably no longer than two years from the start of the database. All data field information detailed in Annex 1 should eventually be stored and be available via the centralised database.

### Recommendation No. 3 (ref: final report, paragraphs 17 & 18)

The GIAM network should be the primary data source for the centralised database, and the master files currently maintained by countries should also be used: each EU country maintaining a masterfile (and the BIS, which is particularly important for historical data) should be asked to provide its securities data to the centralised database, preferably by a specified date. The co-operation and active participation of EU countries will be essential for the successful creation of a centralised database for use by balance of payments/International Investment Position compilers. Furthermore, the IMF should be asked to encourage non-EU countries to add data to the database. Following the above, three potential problems remain:

- (i) the GIAM network contains only information on new issues;
- (ii) the possible inaccuracy of the information maintained by GIAM and contained in countries' own master files;

(iii) the possible incompleteness, i.e. lack of coverage or missing information.

Other data sources, i.e. commercial data providers, need to be employed in order to solve these problems.

Recommendation No. 4 (ref: final report, paragraphs 19, 20 & 21)

A prototype of the database maintained by each of the commercial data providers considered by the Task Force to be worthy of further investigation should be installed and tested. A full evaluation should be made to check the coverage of financial instruments on all financial markets and the accuracy of the data stored. The full evaluation should include details of costs.

Recommendation No. 5 (ref: final report, paragraphs 22 & 23)

On behalf of the Task Force, the EMI should contact ANNA and ask ANNA to contact individual NNAs, in order to consider the needs of other potential users in identifying securities, e.g. for the compilation of statistics. In addition, the EMI should impress the need for ANNA to be more proactive and:

- (i) follow the ISIN guidelines for the accurate assignment of ISIN codes;
- (ii) improve coverage in terms of the assignment of ISIN codes to financial instruments and, in particular, the coverage of unlisted securities and financial derivatives;
- (iii) encourage substitute NNAs to carry out their role according to ISO standard 6166, i.e. in the case of offshore centres or countries which do not have their own NNA, the substitute agency concerned should be encouraged to perform its role of allocating an ISIN code. In addition, in cases where an NNA is unable or refuses to achieve full coverage of an allocation according to ISO standard 6166, a substitute agency should perform this role in the same way that it is instructed to act for offshore centres; this appears to be rare at present.

Recommendation No. 6 (ref: final report, paragraphs 24, 25, 26, 27, & 28)

In order to achieve the comprehensive coverage in the database of securities traded on all securities markets, it will be necessary to include information on all securities for all countries. However, to obtain good results from the centralised database at the earliest possible stage, the *starting-point* for country coverage should be the inclusion of all country information held on the GLAM network or in commercial databases which would provide the future database with information for outstanding issues (as well as country information which is very easily available). Following this, priority should be given to all data which relate to countries appearing on the preliminary list compiled by the Sub-group, i.e. the fifteen EU countries in addition to the United States, Canada, Japan, Switzerland, the Cayman Islands, the Netherlands Antilles, Venezuela, Australia, Brazil, Argentina, Mexico and Hong Kong, as well as International Organisations. Thereafter, data should be added to the database for other countries. Activity, particularly that in the emerging markets, should be monitored on an ongoing basis by the Database Manager.

Recommendation No. 7 (ref: final report, paragraph 32)

The centralised database should preferably be managed at the supranational level, e.g. by an international organisation, for example the EMI, the BIS or the IMF.

Recommendation No. 8 (ref: final report, paragraph 33)

The Sub-group recommends that work on the construction of the centralised database should begin as soon as possible, with implementation preferably during 1998. A full study of the resources (financial, human and technical) which would be needed to enable this implementation to take place should be carried out and a political decision should also be taken as soon as possible. Some examples of the issues to be considered are listed in Annex 3.

Recommendation No. 9 (ref: final report, paragraph 34)

The Sub-group proposes that a first test of the database should be made, if possible, with the compilation of the monthly key items data in January 1999. If not possible, a first test should be made with the compilation of the International Investment Position data for end-1999 which the EMI requires by September 2000 (nine-month time lag), as a more detailed set of data field information would be required from the database for this purpose.

Recommendation No. 10 (ref: none as not part of Sub-group's mandate)

The needs of other statistical requirements, such as banking statistics/National Accounts and Foreign Direct Investment, could be fulfilled in the longer term with the inclusion of other data fields in the centralised database. For example, in order to meet ESA95 and wider sectorisation requirements. This would, however, add to the overall cost of the project.

**DATA FIELDS REQUIRED FOR A  
CENTRALISED SECURITIES DATABASE**

**Summary**

**Detailed Information**

Summary

MINIMUM REQUIREMENT (16 data fields)

ISIN code (BOP/IIP)

BOP country of residence (BOP/IIP)

CFI code (BOP/IIP)

Issue category (BOP/IIP)

Currency of issue (BOP/IIP)

IMF institutional sector (BOP/IIP)

Creation date (BOP/IIP)

Deletion date (BOP/IIP)

Date of last update (*maintained dynamically*) (BOP/IIP)

Quotation price (x 2 prices)

- average price for the month (BOP)

- closing price on the last working day of the month/last available closing price for the month (IIP)

Quotation currency (BOP/IIP)

Date of quotation (x 2 dates)

- month/year (BOP)

- day/month/year (IIP)

Type of quotation (x 1 amount but expressed for equity securities by unit and bonds by %) (BOP/IIP)

Reference ISIN code (BOP/IIP)

**BROADER REQUIREMENT** (20 data fields)

**Financial calculations** (16 data fields)

**Checking purposes** (5 data fields)

**Income** (11 data fields)

**Capital** (5 data fields)

Maturity date (BOP/IIP)

Type of amortisation (BOP/IIP)

Issuer name (BOP/IIP)

Nominal value (BOP/IIP)

Amortisation frequency (BOP/IIP)

Outstanding amt # (BOP/IIP)

Issuee price (BOP)

First amortisation date (BOP/IIP)

Minimum price:mth/yr (BOP)

Type of interest (BOP)

Last amortisation date (BOP/IIP)

Maximum price:mth/yr (BOP)

Interest rate # (BOP)

Repayment before due date (BOP/IIP)

\* Date from which interest

Interest frequency (BOP)

starts to accrue/settlement

Interest base (BOP)

date (BOP)

Maturity price (BOP)

Interest first payment date (BOP)

First coupon interest rate (BOP)

\* Date from which interest starts

to accrue/settlement date (BOP)

\* This data field appears under both headings owing to the fact that the "Date from which interest starts to accrue" is needed for the calculation of accrued interest, whilst "Settlement date" is used for checking purposes. As only one date is needed, depending on the financial instrument involved, the two data fields have been combined and hence appear in both categories.

# This data field should be maintained dynamically.

**FURTHER EXTENSION OF THE DATABASE** (2 data fields)

Issuer identifier (BOP/IIP)

Issue description (BOP/IIP)

**ADDITIONAL REPORTING REQUIREMENTS** (2 data fields)

Market of issue

Country of nationality



Detailed information

MINIMUM REQUIREMENT

**ISIN Code** - *International Securities Identification Number developed by the International Standards Organisation (ISO Standard 6166).*

The code which uniquely identifies a specific securities issue. It represents the primary key of the centralised securities database.

**BOP country of residence** - *the country of residence of the issuer (except for international organisations which are classified under a specific code).*

This information is necessary for the geographical allocation of transactions and stocks of external assets and liabilities.

**CFI code** - *the Classification of Financial Instruments code developed by the International Standards Organisation (ISO 10962).*

This code enables the grouping and classification of financial instruments in a consistent manner. This information is required in addition to the Issue category data field (as specified below) because it is a unique and developed international standard and could represent the link to the ultimate purpose of classification according to balance of payments/International Investment Position requirements.

**Issue category** - *the broader classification of financial instruments according to the IMF Manual (5th edition).*

The minimum breakdown recommended is as follows: equity securities; bonds and notes; money market instruments and financial derivatives. Although the CFI code is already included in the list of mandatory data fields, the "Issue category" data field is also necessary to link the more detailed classification provided by the CFI code with the broader classification required by the IMF Manual. Moreover, assigning responsibility to the Database Manager for the correct allocation of financial instruments in the proper "Issue category" (according to the classification of the Financial Terminology Database) would ensure the comprehensive harmonisation of statistics.

**Currency of issue** - *the currency in which the security is denominated.*

Although a currency breakdown is not required, information concerning the currency is necessary to deal with data collected on a nominal value basis. A currency breakdown is necessary to quantify any changes in the final position which are caused by exchange rate changes.

**IMF institutional sector** - *the institutional sector breakdown according to the IMF Manual (5th edition).*

The minimum breakdown required in order to build a financial account is as follows: Monetary Authorities; General Government; Banks; and Other Sectors.

**Creation date** - *the date on which the security is entered in the database.*

It is necessary to exercise control and to compile historical series. Although the need for this data field is not sufficient for it to be considered as a minimum requirement in its own right, the Sub-group expressed concern that ISIN codes might be re-used by National Numbering Agencies and that this data field was a means of identifying such cases.

**Deletion date** - *the date on which the ISIN code for the security is cancelled, but not physically removed from the database.*

The date depends on the National Numbering Agency acting as the source. It is necessary to exercise control and to compile historical series. Although the need for this data field is not sufficient for it to be considered as a minimum requirement in its own right, the Sub-group expressed concern that ISIN codes

might be re-used by National Numbering Agencies and that this data field was a means of identifying such cases.

**Date of last update** (*maintained dynamically*) - *the date on which any data element related to the underlying security has changed with the exception of changes to quotation-related data field information.*

It gives historical evidence of a change to information during the life of a security. It is an operative tool needed to deal with information contained in the database. It is used to check the quality of the information.

**Quotation price (x2 prices)** - *the secondary market price of the underlying security. Wherever possible, the price used should be that given on the market in the country in which the company issuing the underlying securities is legally registered/domiciled. In the case of either the suspension of quotation or the non-trading of the underlying securities on the market in the country in which the company concerned is legally registered/domiciled, discretion should be given to the Database Manager to find an alternative price on another market for the same reference period.*

*Two prices are required:* for balance of payments flows the average price for the month (expressed in terms of month/year) and for the International Investment Position, the closing price on the last working day of the month (expressed in terms of day/month/year) but if this price were unavailable, the last available closing price for the month should be used (expressed in terms of day/month/year).

The "Quotation price" is used by countries which compile stock statistics in the context of data collection systems based on nominal value collection or flow data accumulation. Balance of payments compilers need this information in order to quantify the change in the position of stocks owing to market price fluctuations.

**Quotation currency** - *currency in which the Quotation price is expressed. It should reflect the currency of the market in the country in which the company is legally registered/domiciled.*

The "Quotation currency" is needed for quality control purposes and in order to ensure full correspondence with the "Quotation price" information.

**Date of quotation (x2 dates)** - *the reference date of the Quotation price.*

*Two dates are required:* for balance of payments purposes the average price for the month should be expressed in terms of month/year and for the International Investment position, the closing price on the last working day of the month (or if not available the last available closing price for the month) should be expressed in terms of day/month/year.

This is needed to enable historical information to be maintained.

**Type of quotation (x1 amount but expressed depending on the type of financial instrument)** - *the Quotation price expressed in unit terms or percentage terms.*

Usually expressed in unit terms for equities and warrants and in percentage terms for bonds, notes and money market instruments. However, especially in the case of bonds, it can also be expressed in unit terms. Then, if the type of quotation data field is not available, the compiler will check the data collected on that particular security according to incorrect information. Moreover, when valuing flows or stocks at market price, the valuation calculation could be made incorrectly, ultimately resulting in significant errors of compilation. This data field is therefore needed for valuation purposes and in order to avoid significant errors in compilation, especially in the case of borderline cases/exceptions. The rule adopted should be that, in principle, the type of quotation should be expressed in unit terms for all equity securities and in percentage terms for all bonds.

**Reference ISIN code** - *the ISIN code of the reference security to which the security involved is assimilated. It is necessary to link several securities in the database for aggregating the information on these securities in order to produce results.*

This is particularly relevant in order to deal with tranches of bonds or stripped bonds which must be grouped together. Otherwise serious errors can occur if reporters use only one ISIN code and do not realise that the issue is linked to previous issues.

Without this data field the compiler cannot calculate the amount of the stock which is outstanding. The data field would be completed in the record referring to the assimilated ISIN in the event of either assimilation or corporate action events.

## BROADER REQUIREMENT

### Financial calculations:

#### Income

**Maturity date (for debt instruments only)** - *the date on which the security is falling due.*

This is needed to check collected data and to calculate the time remaining to redemption. In addition, it provides the period to which the ISIN code relates and, for historical series, the period to which the security issue relates.

**Nominal value** - *the face value of the security.*

Useful to verify consistency between the amount and number of shares indicated in the statistical senior links.

**Issue price** - *the percentage of par value at which the price is fixed;* **Type of interest** - *expresses the interest rate to be fixed, zero coupon or floating rate;* **Interest rate** - *the rate of the bond expressed in percentage terms (maintained dynamically);* **Interest frequency** - *the periodicity of the interest payment: monthly, quarterly, etc.;* **Interest base** - *base of the floating rate bond/note plus the spread, e.g. LO3 (plus 30 basis points) is three-month LIBOR;* **Maturity price** - *contains the repayment price defined as a percentage of the par value taking into account any premium or discount at maturity.*

These data fields are useful to be able to record investment income and portfolio assets and liabilities accurately on an accruals basis. In the case of zero coupon bonds (and other deep discounted bonds), the issue price (if different from the par value) and the maturity price, as well as the issue and maturity date, are necessary for recording on an accruals basis.

**Interest first payment date** - *first payment date made or to be made*

Useful for the calculation of accrued interest for floating rate notes.

**First coupon interest rate** - *interest rate for the first coupon applicable only to floating rate notes*

Useful for the calculation of accrued interest for floating rate notes.

**Date from which interest starts to accrue/settlement date**

The "Date from which interest starts to accrue" is useful for the calculation of accrued interest.

#### Capital

**Type of amortisation (or known as Redemption type)** - *sinking plan type;* **Amortisation frequency** - *frequency of the sinking plan;* **First amortisation date** - *date from which reimbursement of the issued amount of the bond starts as provided by the amortisation plan;* **Last amortisation date** - *Last date of the reimbursement of the issued amount of the bond as provided by the amortisation plan;* **Repayment before due date** - *date from which a bond issuer can redeem the issued amount of the bond according to the call provision or call feature.*

These data fields are useful to adjust the stock position on the basis of the sinking plan. Further, to verify the consistency between the capital to be reimbursed on the basis of the theoretical amortisation plan and the settled amount, as indicated in the statistical signalling.

**BROADER REQUIREMENT (continued)**

**Checking purposes**

**Issuer name** - *the official registered name of the issuer in the country of domicile*

This data field is useful to check the consistency and the validity between the other information related to the underlying security and the type of the issuer thereof.

**Outstanding amount** - *it represents the total par value of stocks or bonds held by shareholders or bondholders issued and in circulation. This data field corresponds to the issued amount once the record is created. It should be maintained dynamically on the basis of the subsequent tranches of bonds issued, the reimbursed amount provided in the sinking plan as well as the call feature.*

This data field is useful for verifying the validity and consistency of both flows and stocks related to the underlying security.

**Minimum price** - *it contains the minimum market price for the monthly reference period;* **Maximum price** - *it contains the maximum market price for the monthly reference period.*

Both prices are needed to enable a lower and higher boundary to be set for a monthly reference period in order to check the correctness of the flows data reported by respondents.

**Date from which interest starts to accrue/settlement date** - *the "Settlement date" applies to those financial instruments, e.g. warrants, where the date from which interest starts to accrue is not significant.*

The "Settlement date" is the most relevant date to check data collected on portfolio flows when these are compiled on a settlement basis.

## FURTHER EXTENSION OF THE DATABASE

**Issuer identifier** - *Business entities identifier (e.g. SIRENE in France, at present).*

It could be useful to ensure the consistency between Direct and Portfolio Investment compiled on a security-by-security basis. Further it could be used to aggregate the results by issuers for analysis of the balance of payments/International Investment Position statistics. Currently there is no international standard in place.

**Issue description** - *description of the issue.*

It provides immediate evidence of the characteristics of the underlying security. Currently there is no international standard in place to ensure standardisation of the information it should contain.

## ADDITIONAL REPORTING REQUIREMENTS

**Market of issue** - *allows the distinguishing of the market in which the security is issued: domestic, euro or foreign market.*

At present, this data field is used by France for the analysis of aggregates and in order to establish whether a securities issue is domestic or foreign. The BIS needs this information as well, in order to monitor activity on international financial markets. In this respect, balance of payments compilers are committed to providing these data in order to meet BIS data requirements.

**Country of nationality** - *it corresponds to the country of the parent company and the location of the ultimate credit risk*

The BIS needs this information in order to monitor activity on international financial markets. In this respect, balance of payments compilers are committed to providing these data in order to meet BIS data requirements.

## Annex 2

### MINIMUM REQUIREMENTS

(i) Category: Price-related information - new issues, outstanding issues and historical data

Full coverage: FAME (for money market and capital market instruments the price is derived from the DRI/McGraw Hill database).

Various degree of coverage: Bloomberg, Reuters, Telekurs Finanz, Datastream, EXTEL, IFR

No assessment possible: ISMA

(ii) Category: Other minimum requirement data fields (i.e. non-price related)

The availability of these data fields was not assessed by commercial data providers, as the Sub-group considered that either the GIAM network, or at least one securities masterfile (UIC, BIS, OeNB or BDF), already in existence, should be viewed as potential data sources for deriving this information.

### BROADER REQUIREMENTS

(iii) Category: Financial calculations - income

⇒ New and outstanding issues

Full coverage: Bloomberg, IFR

One gap in information: FAME

Various degree of coverage: Reuters, Telekurs Finanz, Datastream, ISMA, EXTEL

⇒ Historical data

Full coverage: Bloomberg, IFR

Two gaps in information: FAME

No assessment possible: Datastream, Reuters

Various degree of coverage: Telekurs Finanz, ISMA

No historical data: EXTEL

(v) Category: Financial calculations - capital

⇒ New and outstanding issues

Full coverage: Bloomberg, IFR

Various degree of coverage: FAME, Datastream, Telekurs Finanz, ISMA, EXTEL

No assessment possible: Reuters

⇒ Historical data

Full coverage: Bloomberg and IFR

Various degree of coverage: Telekurs Finanz, ISMA,

No coverage: FAME, EXTEL

No assessment possible: Reuters, Datastream

(vi) Category: Checking purposes

⇒ New and outstanding issues

Full coverage: Bloomberg

One gap: Reuters (minimum price - available for bonds not equities)

Various degree of coverage: IFR, FAME, Datastream, Telekurs Finanz, ISMA, EXTEL

⇒ Historical data

Full coverage: Bloomberg

Various degree of coverage: IFR, Telekurs Finanz, ISMA, EXTEL

No coverage: FAME

No assessment possible: Reuters, Datastream

#### ADDITIONAL REPORTING REQUIREMENTS

⇒ New and outstanding issues

Full coverage: Bloomberg, Reuters, IFR, FAME

Various degree of coverage: Datastream, Telekurs Finanz, ISMA, EXTEL

⇒ Historical data

Full coverage: Bloomberg, IFR

Various degree of coverage: Telekurs Finanz, ISMA

No assessment possible: Datastream, Reuters

No coverage: FAME, EXTEL

#### FURTHER EXTENSION OF THE DATABASE

⇒ New and outstanding issues

Full coverage: Bloomberg, Reuters, IFR, FAME, Telekurs Finanz, EXTEL

Various degree of coverage: Datastream, ISMA

⇒ Historical data

Full coverage: Bloomberg, Telekurs Finanz, IFR

Various degree of coverage: ISMA

No coverage: FAME, EXTEL

No assessment possible: Reuters, Datastream



### Annex 3

#### 1. *Organisational issues*

- (i) ISIN copyright issue. Should each Member State be responsible for the information held in the database for the securities issued by its country?
- (ii) How will the merging of different securities database masterfiles be carried out and also maintained?
- (iii) Who will update the database? May a Member State change the data for the securities of its country in a decentralised manner or should these changes be performed locally at the request of a Member State and after some validation/checking procedure has been successfully completed?
- (iv) How will modifications be communicated? Via the network? By mail? Via Electronic mail? The answer to these questions depends on the following: the frequency of changes, the maximum time allowed between the creation/modification of a security and its publication, and the required degree of automatisation.
- (v) What is the level of security needed for the exchange?
- (vi) Who will be responsible for validating the changes?

#### 2. *Queries: which queries are to be performed? Some examples are given below:*

- (i) Select data on a security based on the ISIN code
- (ii) Select all securities issued by a country
- (iii) Select all securities from a specific country having a remaining life of X years
- (iv) Which types of queries are performed concerning the historical data?
- (v) Select all data from this ISIN code
- (vi) Select all data updated between two dates

#### 3. *Size of the database*

How many securities will need to be stored in the database? What is the estimated growth of the database?

#### 4. *Historical data*

- (i) The database must contain historical data. All changes need to be recorded. Users will want to be able to distinguish between a correction and a update. Can this be defined?
- (ii) When the database is populated for the first time will it be necessary or possible to load historical data? If so, from which source and from what date?

#### 5. *Update of price information*

- (i) The database must contain the closing price of the last working day of the month. Some securities instruments (e.g. FLXBIS, FRIBIS, some commercial papers) do not have a market price.

- (ii) How will these prices be calculated? A model usually has to be built in order to obtain missing price information. Is this model part of the project?
- (iii) How will prices be captured? Via one or more data providers? Which ones?

#### 6. *Users*

- (i) How many potential users (NCB, MFI, Wire services, public, IOs) will there be?

#### 7. *Dissemination*

- (i) How will the data be published? The chosen method may have a strong impact on the necessary IT architecture.
- (ii) CD-ROM sent to Member States every X months (at what cost and whose?)
- (iii) Access to the database via the Internet or Intranet;
- (iv) Interrogation and downloads of the database. Some examples are given below:

Based on ISIN codes;

Interrogation of the historical data (ISIN code, starting and ending date);

Download of the content of the database in order to process it locally;

Direct access to the database using SQL query language (via ODBC);

Frequency of database interrogation;

Number of simultaneous users in terms of direct consultation;

Electronic copy of the database sent to all Member States.

Needs concerning the frequency of downloads i.e. weekly, monthly etc. could be established by means of a questionnaire to potential users.

#### 8. *Security*

- (i) Is any of the information contained in the database confidential?
- (ii) If some Members have direct "write access" to the database in order to make some changes or corrections, how will the security be organised?
- (iii) Who will be responsible for the content and integrity of the database?

#### 9. *Legal framework*

- (i) Will there be a legal framework in order to oblige a Member State to send its data and maintain their accuracy?
- (ii) Is the legal framework mandatory?

#### 10. *Cost implications*

- (i) Who will support the implementation and working costs of the database?
- (ii) Will there be any cost repatriation between Member States?

**PORTFOLIO INVESTMENT FLOWS  
HARMONISATION  
SECURITIES CLASSIFICATION - ISIN**

*Addendum to the full report of Sub-group 3*

(endorsed by the BOP Financial Flows and Stocks Task Force in March 1998

and approved by the Working Group on Statistics in April 1998)

INTRODUCTION

1. In October 1997 the WGS expressed its support for the creation and implementation of the centralised securities database for BOP/IIP purposes using a step-by-step approach, as outlined in the Sub-group's report, since it regarded the database as the best harmonisation tool with a view to achieving harmonised and high quality EU aggregate Portfolio Investment BOP/IIP statistics. However, some countries did not envisage using the centralised database within the foreseeable future. The chart below illustrates the views expressed by the WGS in April 1998 (✓= Yes; ✗=No) following the agreement of this addendum to the full report.

Countries	SUPPORT		Comments
	<i>(i)</i> <i>in principle</i>	<i>(ii)</i> <i>in practice and intention to use</i>	
Belgium	✓	✗	Aggregate survey so potential use to be determined
Denmark	✓	✓	Support
Germany	✓	✓	Support
Greece	✓	✓	Need information on costs/technical aspects
Spain	✓	✓	Strong support
France	✓	✓	Strong support
Ireland	✓	✗	Aggregate survey so potential use to be determined
Italy	✓	✓	Strong support
Netherlands	✓	✓	Strong support
Austria	✓	✓	Strong support
Portugal	✓	✓	Strong support
Finland	✓	✗	
Luxembourg	✓	✗	Aggregate survey so potential use to be determined
Sweden	✓	✗	Aggregate reporting so would not use it in the short term
UK	✓	✗	Aggregate survey - maintain a neutral position
<u>Overview</u>			
Pro:	15	9	
Contra:	0	6	
Neutral:	0	0	

2. With a view to implementing the centralised database for BOP/IIP purposes, the WGS decided to extend the mandate and composition of the existing Sub-group under the supervision of the BOP FFS Task Force. The Sub-group was asked to carry out some additional tasks and to provide a report covering these issues as an addendum to its approved report. The tasks to be completed were:

- (i) To provide a clear definition of the potential benefits of the centralised securities database for aggregate data compilers.
- (ii) To broaden the scope of the project by consulting other areas - both statistical and policy areas - concerning the possible additional benefits.
- (iii) A cost-benefit analysis.

3. In order to carry out this mandate, the Sub-group conducted research into each of the three objectives of its extended mandate, including the preparation and distribution of a detailed questionnaire for completion by the members of the WGS. Responses to the questionnaire were received from all Member States and the information obtained has been analysed by the Sub-group and is used throughout the addendum.

4. The addendum is broken down into three parts, in line with the three objectives of the extended mandate. Part 1 relates to the benefits of the centralised securities database for aggregate data compilers; Part 2 details the results of the consultation with other areas within the EMI; and Part 3 covers the cost-benefit analysis. In each part of the report the responses to the questionnaire completed by the members of the WGS are used in conjunction with the outcome of the Sub-group's own research.

#### PART 1: BENEFITS FOR AGGREGATE DATA COMPILERS

5. The Sub-group's full report recognised that the benefits of access to a centralised securities database for those countries operating aggregate surveys are more limited than for those countries with a security-by-security data system, owing to the fact that respondents typically breakdown securities by country and provide the compiler with aggregate data. It was because of this difference that the WGS asked the Sub-group to pay special attention to the identification of possible benefits of a centralised securities database for aggregate compilers. The WGS encouraged the inclusion of representatives of countries operating aggregate surveys in the Sub-group, and although Germany joined the Sub-group, unfortunately the other countries were unable to do so. However, the responses to the questionnaire by the respective members of the WGS have, nevertheless, facilitated this identification.

6. In general, the responses to the questionnaire by the WGS members were moderately positive: all those countries using an aggregate data compilation method saw the benefits of having

the centralised securities database, as opposed to their own collection systems. It was also recognised that harmonisation would only be achieved if all the countries were to use the same data source. The major benefit which could be realised immediately by aggregate compilers concerned the advantages which could be gained from the use of the database by other statistical and policy areas.

7. On the basis of the responses to the questionnaire, the Sub-group identified **four** potential benefits for aggregate data compilers. It should be noted that benefits 1-3 inclusive are based on two assumptions: first, that it would be possible to distribute the contents of the database to respondents reporting to the NCBs/NSIs; and, second, that the external data providers/external data sources currently employed do *not* comply with BOP/IIP requirements, thus leaving room for improvement in the areas of both data quality and the harmonisation of data. Benefit No. 4 relates to areas other than BOP/IIP, such as money and banking statistics, Monetary Union Financial Accounts, etc. The justification behind each of the four benefits is set out below:

**Benefit No. 1: The guaranteed provision of harmonised information**

8. All respondents rely on one or more external data provider, stock exchanges or in-house securities master files who generally do not comply with BOP/IIP requirements. As such, one advantage of the centralised securities database for aggregate data compilers would be the achievement of a harmonised EU aggregate of Portfolio Investment within the BOP/IIP (including a sectoral breakdown). This would, in turn, enable Member States to improve the quality of their data, while also enabling them to meet the EMI's statistical requirements.

**Benefit No. 2 A reduction in the burden on respondents**

9. The centralised securities database would naturally comply with all BOP/IIP requirements and could be used to reduce the reporting burden on respondents (and the ECB in Germany) in various ways, for example by correcting the information received from external data providers. Most countries considered the data fields categorised as minimum or broader requirements of the database to be sufficient for respondents to compile statistics, although the provision of a wider sectoral breakdown was favoured. A reduction in the reporting burden on respondents would be particularly relevant to the major banks.

**Benefit No. 3 Cost savings for respondents/Cost savings for NCBs/NSIs (both in the longer term)**

10. In the longer term the centralised securities database could be advantageous in terms of potential cost savings for both (i) respondents and (ii) NCBs/NSIs in the case of a changeover to a security-by-security collection system.

(i) With regard to *respondents*, information would no longer have to be purchased from external data providers/data sources, as the centralised securities database would perform this

function. It should be recognised, however, that some countries might still need to subscribe to external data sources for other, i.e. non-BOP/IIP purposes. Owing to the fact that respondents require such information not only for statistical purposes but also for other needs, the costs of acquiring information in order to comply with BOP/IIP requirements are difficult to estimate. It can, however, be assumed that costs should be reduced in the longer term, as at least some information would no longer be required from external data providers/data sources. For example, if respondents had to aggregate the information, the centralised securities database might make it possible to automate the processes involved and thus make savings, while at the same time reducing the number of mistakes and corrections necessary.

(ii) With regard to *NCBs/NSIs*, cost savings could be made in terms of reducing the need to check the data submitted by respondents, since the data obtained from the centralised securities database could be assumed to be reliable and correct. The full realisation of this benefit would depend, however, on *NCBs/NSIs* changing over to a security-by-security collection system.

#### **Benefit No. 4 Meeting the needs of other areas**

11. The needs of various statistical and policy areas were identified:

(i) The centralised securities database need not only be used for BOP/IIP purposes. The database could be used for many other purposes, such as accruals recording, the estimation of income, the exchange of data, etc., although in most cases a changeover to a security-by-security collection system would still be required.

(ii) Benefits to other statistical and policy areas were identified, for example in relation to the monitoring of the selection rules applied to marketable eligible assets, in the context of portfolio foreign reserve and own funds management, for the analysis of the structural development of the securities market and financial developments, for money and banking statistics, for the development of the Monetary Union Financial Accounts, etc. (see Annex 1).

(iii) Since the strategy for the database is to store a full range of securities information (both EU and non-EU countries), it could also be valuable in providing further knowledge of the capital markets.

#### **PART 2: CONSULTATION WITH OTHER AREAS**

12. The Sub-group carried out (i) a consultation exercise involving various statistical and policy areas within the EMI concerning the potential usefulness of the centralised securities database. Among the areas consulted were the Money and Banking Statistics Section, General Economic and Financial Statistics, the Stage Two Division's Economic and Monetary Analysis Section, the MPSC Secretariat and the EMS/ECU Section. In the questionnaire, the members of

the WGS were invited to comment on the provisional results of the responses. These comments gave rise to a need for some amendments to the answers provided to the consultation, and a final version of the responses was compiled (see Annex 1). In addition, following the statements made by the WGS during its meeting in February 1998, the Sub-group prepared (ii) a *preliminary* comparability study between the eligible assets database under development within the EMI and the proposed BOP/IIP database (see Annex 2).

(i) The EMI's internal consultation exercise

13. The general tone of the views expressed was very positive and all respondents, from both statistical and policy areas, identified a use for the database within their area of responsibility (see Annex 1). All statistical areas considered the database to be of use in either the short or longer term since, in principle, it would be possible to derive all forms of statistics from the database. The harmonisation of breakdowns (breakdowns by instrument, sectoral and geographical breakdowns) is, of course, equally relevant to all forms of statistics.

14. The EMI's Money and Banking Statistics Task Force (M&BSTF) has adopted a short-term approach for the provision of securities issues statistics, with NCBs providing blocks of aggregated information on domestic issues and a separate data provider being used to supply the aggregates on international issues. In the context of this short-term strategy, a centralised securities database is not required. However, *in the longer term the M&BSTF has requested that sufficient provision be made to allow both M&BS needs and those of other statistical areas to be covered.* The M&BSTF considers that the centralised securities database remains the best choice in the longer term, as regards the comprehensive nature, consistency and quality of data for securities issues statistics. *The MUFA area is far from able to make a decision but, nevertheless, would like to request that its requirements also be taken on board in the longer term.*

15. The responses provided by the members of the WGS to the questionnaire reflected the fact that a common approach to the securities issues projects under way within the EMI was favoured and that both co-ordination between the different areas and the needs of the various units within the EMI should be integrated. Concern was expressed that if a common approach was not taken, this could lead to the setting-up of different databases containing common information and thus result in duplication of the human and technical resources required to clean the data and perform quality control checks.

(ii) Preliminary comparability study

16. Following the responses received to the questionnaire and the statements made by the members of the WGS at its meeting in February 1998, the Sub-group conducted a preliminary comparability exercise involving all the securities issues database projects currently under way within the EMI, i.e. the eligible assets (ELs) database and the proposed BOP/IIP database (see Annex 2). This comparability exercise did not fall within the extended mandate of the Sub-group.

17. The preliminary comparability exercise revealed that strong similarities exist between the ELs database and the BOP/IIP database. Both databases contain information on a security-by-security basis; both use the ISIN code as the key identifier; and both cover almost all the most important data fields (with the exception of "Quotation price", "Date of quotation" "Quotation currency" and "Reference ISIN code") identified for inclusion in the BOP/IIP database as minimum requirements. Although the starting-points, focus/logic and timetable for implementation are different for the two databases (the ELs database depends upon the quality/financial soundness of assets, while the BOP/IIP database aims to cover the most actively traded securities), it seems that a large proportion of the instruments involved in both databases will be the same, at least in the case of debt securities. This is due to the importance, in terms of the volume of both eligible assets and cross transactions, determined mainly by securities issued by governments and banks. Using published data provided by the BIS, information on the outstanding amount of external holdings from the IMF BOP Yearbook<sup>1</sup> and information supplied by the MPSC on the potential volume of tier one instruments as at December 1997, *it was calculated that approximately 54% of bonds and notes issued by the (EU) general government sector and of importance to BOP/IIP compilers would be held on the eligible assets database* (see Table 1).

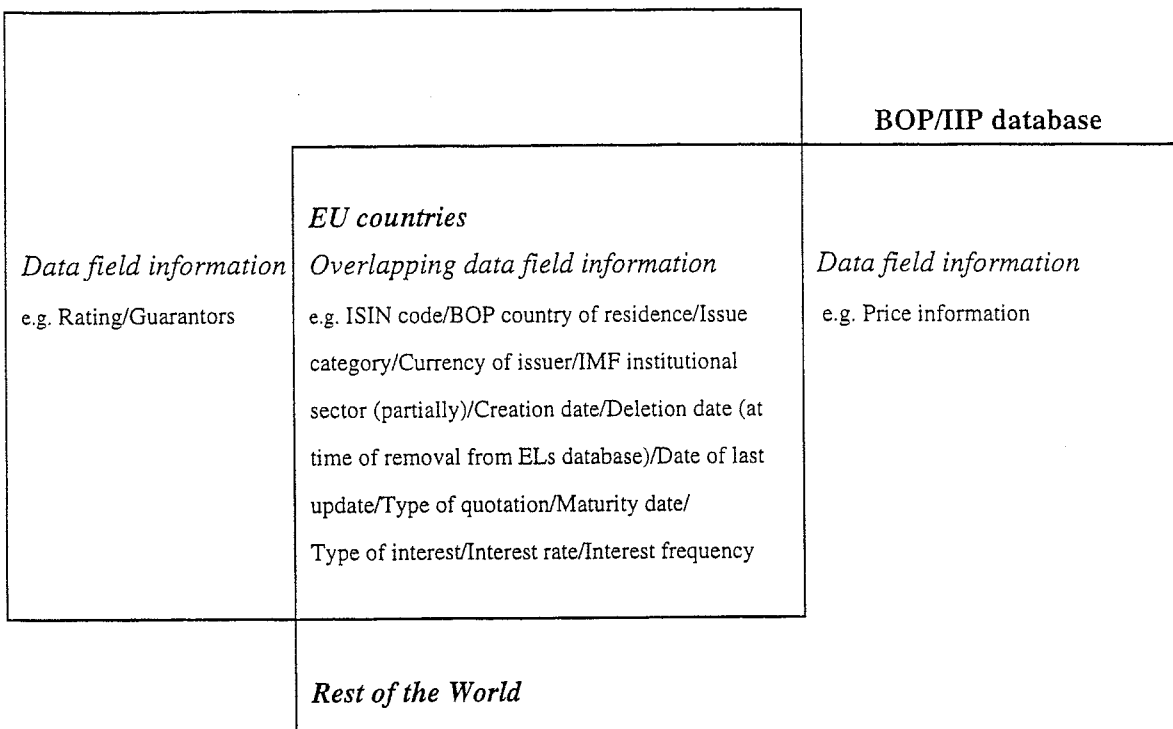
18. As illustrated by the diagram below above, a definite overlap exists between the ELs database and the BOP/IIP database in terms of coverage and the individual data field information stored on the two databases.

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<sup>1</sup> Data for Greece, Ireland, Portugal and Luxembourg are not included in the IMF Yearbook.



## ELs database

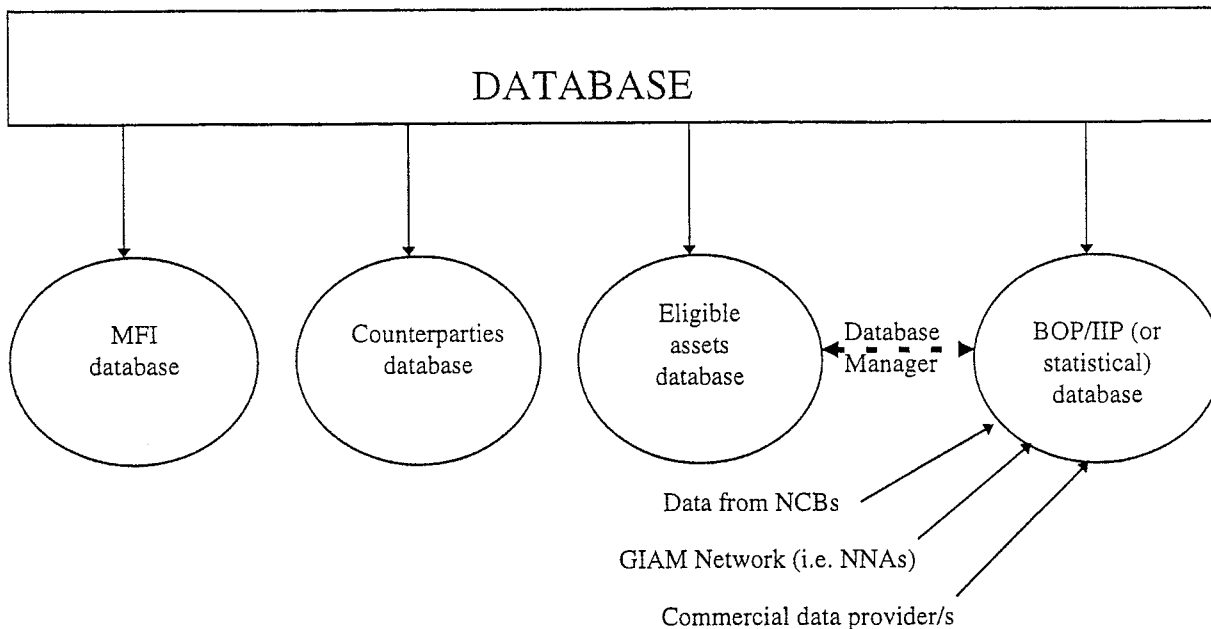


19. Despite this common core of information, some potential problems encountered when using the ELs database for BOP/IIP purposes should also be mentioned. For example, it would be necessary to ensure that the same underlying concepts are applied in both databases (the same definition of money market instruments, debt securities, etc. should be applied) and that certain standards are adopted for classification, such as ISO 6166. The Sub-group identified five types of potential problems inherent in using the ELs database:

- (i) Country coverage - this is not fully consistent as only securities issues by EU countries are covered.
- (ii) Data fields - not all minimum and broader data field requirements (as defined for BOP/IIP) are covered. Some information contained does not adhere to international standards, e.g. the "Reference market" data field does not comply with ISO 3166. Also, there is not always full consistency between the data fields in both databases.
- (iii) Data availability - this relies on contributions from NCBs via CEBAMAIL.
- (iv) Accuracy of data - contributions at the first stage rely on NCBs so a validation procedure would be necessary.
- (v) Key variables - in general, the ISIN code identifier is used, but not all NCBs are in possession of the ISIN code for all securities.

20. On the basis of the results of the preliminary comparability study the ELs database alone would not be able to meet the needs of BOP/IIP compilers. However, providing the overlapping areas are confirmed and taking account of the potential problems, the Sub-group recommends that the creation of an *interface* between the BOP/IIP database and the ELs database should be given

serious consideration. *One potential danger of not utilising the link which exists between the two databases would be that ALL general government bonds issued by ALL EU countries would be stored twice, i.e. on both the eligible assets database and the BOP/IIP database.* An example of how an interface could be envisaged is given below:



21. The diagram above shows three of the EMI/ECB's databases which are already under development: the MFI database, the counterparties database and the eligible assets database. Providing that the technical specifications were suitable, the BOP/IIP database could interface with the eligible assets database so that all overlapping information would only be requested/stored once. Any corrections to overlapping information would only need to be made once as the other database would be automatically updated. In order to achieve a fully comprehensive coverage, the BOP/IIP database would also need to receive data from other sources, namely the NCBs, the GIAM network and commercial data providers (as identified in the Sub-group's full report). In order to avoid complex technical solutions, an interface with the ELs database would be established on the assumption that the location of the BOP/IIP database would be within the EMI/ECB. The technical specifications for such an interface would need to be investigated.

22. It would be most desirable for the centralised securities database to be designed as a "statistical database" and serve the needs, not only of BOP/IIP statistics, but also of money and banking statistics and Monetary Union Financial Accounts statistics. Support of these areas is sought for the creation of a general statistical securities database (interfacing with the eligible assets database).

23. The Sub-group reached the following conclusions as a result of the two consultation exercises:

(i) The creation of a unique centralised securities database would not be feasible in the short term, but implementation of the database in the longer term would be the most viable and efficient solution.

(ii) All areas consulted appreciate the usefulness and gains in efficiency which are to be obtained from the creation of a centralised securities database in the longer term.

(iii) It is generally accepted that all statistical areas could derive the necessary information from the database as all breakdowns (breakdown by instrument, geographical and sectoral breakdowns) would be available (although a more detailed sectoral breakdown would need to be added).

(iv) The extent of overlaps between the ELs database and the proposed BOP/IIP database should be confirmed, after which an interface between the two databases should be seriously investigated. The needs of other statistical areas could be encompassed at a later stage.

### PART 3: COST-BENEFIT ANALYSIS

#### (i) COSTS

24. As a starting-point, the members of the Sub-group provided detailed analyses of either the costs borne by their respective institution in relation to (i) maintaining a securities database or (ii) purchasing information from an existing database and data provider, or the anticipated costs of (iii) changing to a security-by-security reporting system. For each country, based on the reported data acquisition and human resource costs, a price per outstanding security was calculated. The data price varied from ECU 0.04 to ECU 1.13. The human resource price varied from two minutes of human intervention per year per security to 77 minutes. On the basis of a sample of the present situation in six institutions, the Sub-group devised two methodologies to be followed: the first according to three different scenarios and the second according to four different scenarios, in order to obtain a range of the costs which might be anticipated for the *maintenance* of the centralised database.

25. Both methodologies chosen were based on the following assumptions:

(i) All fifteen EU Member States would participate in the implementation of the centralised database, and implementation would be based on a contribution<sup>2</sup> from each of the fifteen EU Member States;

(ii) the non-harmonisation of the data record layout would be recognised;

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<sup>2</sup> Contribution means the provision of data and responsibility for its quality.

- (iii) the analysis would be based on the current situation in each participating country, i.e. France, Germany, Italy, Portugal, Austria, and at the BIS.
- (iv) the condition of the contract with data provider/s or other external data sources are fairly homogeneous among the various countries.

**Methodology No. 1:** the three scenarios were based on a *cost per security* and were as follows:

- (i) A labour-intensive scenario based on the situation prevailing in Portugal and Italy (Scenario 1).
- (ii) A data-intensive scenario based on the situation prevailing in Germany, France, Austria and at the BIS (Scenario 2).
- (iii) A more realistic scenario based on the situation prevailing in Germany, France and Austria, where the securities databases which are maintained contain price information (Scenario 3).

**Methodology No. 2:** the four scenarios were based on the *cost of original data*. With the exception of Scenario 3(b), economies of scale were applied in the maintenance of securities, i.e. higher weight for countries with a higher database coverage and lower price per security.

- (i) A labour-intensive scenario according to a weighted average and based on the situation prevailing in Portugal and Italy (Scenario 1).
- (ii) A mixed process of the acquisition of data (labour-intensive/data-intensive) according to a weighted average based on the situation prevailing in Germany, France, Austria, Portugal, Italy and at the BIS (Scenario 2)
- (iii) A data-intensive scenario according to a weighted average based on the situation prevailing in Germany, France and Austria (countries mostly representative of the type of information maintained in the securities masterfile):
  - (a) weighted average (Scenario 3a);
  - (b) based on an arithmetic average of data acquisition costs and human resource costs per security - costs per security were not affected by the number of securities maintained in the master file (Scenario 3b).

26. Under both Methodology No. 1 and No. 2, a human and financial price was calculated by a group of countries for databases containing details on 200,000 and 300,000 securities. Some examples of the calculations made are included in Annex 3.

27. The results of the calculations under Methodologies 1 and 2 (and the various scenarios within each) are shown in Table 2 (which is attached).

In summary, under Methodology No. 1, Scenarios 2 and 3 revealed similar results in that the maintenance cost of a centralised database containing details on 200,000 securities would cost

in the region of ECU 150,000 and, in terms of human resources, would require four people per annum. If an additional 100,000 securities needed to be stored in the database, i.e. to increase the number to 300,000 securities, the maintenance costs would increase by around ECU 70,000-80,000 and by two additional people per annum. According to Scenario 1, the maintenance cost of a database containing details on 200,000 securities would be estimated at around ECU 20,000, but in this case forty people per annum would be needed; a database containing 300,000 securities would increase by only ECU 10,000 under Scenario 2, but human resource costs would escalate to fifty-nine people per annum.

Under Methodology No. 2, Scenario 1 reveals a heavy labour intensive limitation which is probably not viable for the centralised securities database (the same applies under Methodology No.1). Probably the most representative scenarios are Scenario 3a and Scenario 3b. Under these scenarios, the maintenance cost of a centralised database containing details on 200,000 securities would cost between ECU 62,208 and ECU 180,000 with human resources costs of between 1-5 people per annum. This increases to a cost of between ECU 93,312 and ECU 270,000 for a database containing 300,000 securities which would also require between 2-8 people per annum.

28. The Sub-group could not derive costs for the *implementation* of the centralised securities database because the available data elements were not sufficient for this purpose. For example, the user and technical requirements of the database have not been defined; the required size of the database in terms of the number of securities to be held is undecided; and hardware/software/programming costs are unknown, etc. In broad terms, however, it could be expected that countries would incur rather high costs in the first year of implementation, which would be largely attributable to purchasing the necessary hardware and software. The particular costs which should be borne in mind are as follows:

- (i) Cost of a merger of the existing securities databases currently in use in Member States, including the human resources needed to complete the process;
- (ii) Transmission, mainframe or network costs;
- (iii) Cost of redistributing the database;

29. Cost savings could be envisaged if the BOP/IIP (or centralised statistical database) were to be interfaced with the eligible assets database, since some data would already be available, which would reduce the need to acquire data from external data providers and generate savings in terms of human resources. This is already the case in some Member States, e.g. Austria, where one database is used for various purposes and each area sharing the information held in the database is assigned responsibility for updating certain data fields. The creation of a database purely for BOP/IIP (or statistical) needs would result in the need to meet the full range of costs.

30. As a first step, a merger of the three/four securities databases currently in use in France, Italy, Austria and the BIS would help to reduce costs dramatically, whilst aiding the objective of

creating a securities database containing 200,000-300,000 securities, representing those most actively traded securities. The costs of such a merging process were not calculated owing to the impossibility of quantifying the human and technical resources which would be involved.

31. *It should be acknowledged that if a centralised securities database is not created, an opportunity to minimise considerable costs would be lost* since it is known that some Member States already maintain their own domestic securities database at present and that some Member States have stated that they would need to set up their own individual domestic securities database in order to be able to fulfil EMI data requirements.

(ii) BENEFITS

32. The benefits to be obtained from the creation of the centralised securities database were identified in terms of benefits for (i) aggregate data compilers and (ii) the entire financial community.

(i) Aggregate data compilers

33. The benefits for aggregate data compilers are defined in detail in Part 1 of this addendum. In brief, the benefits would be as follows: the possibility of guaranteeing the provision of harmonised information; reducing the reporting burden on respondents; in the longer-term providing cost savings for respondents/cost savings for NCBs/NSIs; and meeting the needs of other statistical areas. Please refer to Part 1 for further details.

(ii) The entire financial community

34. Since the strategy of the database is to include information for both EU and non-EU countries, the ECB and NCBs/NSIs will be in a position to have access to harmonised information for a full range of securities. The reporting burden on NCBs/NSIs will be reduced and greater knowledge of the capital markets will be obtained. In the longer run the reporting burden on all respondents in the single currency area could also be reduced if, for example, the money and banking statistics area were to opt to retrieve data directly from the database and not from individual NCBs. Full consistency and harmonisation of data used by all statistical areas could be achieved and data quality, in turn, could be improved. Benefits could also be derived from establishing a link with the ELs database.

35. The answers provided by the members of the WGS to the questionnaire indicated that ten out of fourteen countries (Belgium and Luxembourg are regarded as one Member State for this purpose) would be prepared to make use of the centralised database, at least in the longer term. Various benefits were identified, including the full range of securities which would be covered by

the database, a reduction in the reporting burden on respondents and a reduction in the data collection burden on NCBs/NSIs. The setting up of the centralised database could result in some economies of scale for those countries making use of the database instead of their own securities master file. In fact, given a realistic time frame, six countries would be prepared to replace their database with the centralised securities database provided that the concerns expressed in relation to data quality, coverage, the frequency of updates, the cost of acquiring information, the extent of checking involved and maintenance requirements were taken in to consideration.

36. In addition, the responses to the questionnaire revealed that some members of the WGS could foresee benefits in terms of monetary policy analysis, since consistent EU-wide statistics on securities markets were considered to be essential for the monitoring of market activity in the euro area. Information on securities prices and yields form the basis of a broad range of monetary policy indicators. In Stage Three of EMU particular emphasis will probably have to be placed on interest rate spreads between different markets and securities. With respect to volume figures, statistics on securities holdings by groups of investors provide important supplementary information for monetary analysis. In addition, benefits could be foreseen in the following areas: the compilation of monetary and financial statistics so as to measure the aggregate "financing amount" raised by non-financial agents; the estimation of the balance between financial intermediation and financial disintermediation; and the creation of a better understanding of the transmission mechanism. It would clearly also be of interest for MUFA as, at the national level, it could be used to compile national Financial Account statistics, to follow the national debt of the EMU countries and to calculate financing aggregates.

37. *It should be acknowledged that if a centralised securities database is not created, all the potential benefits which have been identified will either be lost or will have to be achieved by alternative means.* For example and apart from those identified previously, the benefit to be gained from the centralised database in that it would form an essential part of the "building of bridges" (i.e. the establishment of harmonised standards and principles) between national data collection systems would be sacrificed.

38. The number of respondents in each Member State was calculated in order to give an idea of the potential market for the redistribution of information to them, i.e. these respondents would need to receive the database in order to enjoy the benefits outlined above. In total, there are approximately 14,615 respondents in the fifteen EU Member States, of which approximately 7,047 are banks, 1,693 are financial intermediaries and 5,875 other respondents. As these figures are only approximate, a gross figure of 15,000 respondents could be estimated. A country-by-country breakdown of the number of respondents can be found in Annex 4.

## RECOMMENDATIONS

39. Following its investigations and the fulfilment of its extended mandate, the Sub-group would like to submit the following four general recommendations (in addition to those contained in its full report):

**Recommendation No. 1:**

A centralised statistical securities database could be developed in order to meet all statistical needs, i.e. BOP/IIP, money and banking statistics and Monetary Union Financial Accounts statistics. Until such time as the other statistical areas reach the same stage in the development of their requirements as BOP/IIP, however, development of the database for BOP/IIP purposes should proceed.

**Recommendation No. 2:**

The BOP/IIP database (or centralised statistical securities database) should be implemented at the first step by merging the information contained in the securities databases currently in place in France, Austria, Italy and at the BIS. In the longer term, however, it should be the responsibility of each participating country to transmit its own data to the database.

**Recommendation No. 3:**

Provided that full consistency between the standards adopted is ensured, an *interface* between the BOP/IIP database (or centralised statistical securities database) and the eligible assets database should be given serious consideration, so as to avoid the duplication of information and reduce costs.

**Recommendation No. 4:**

The implementation of the database for BOP/IIP purposes should begin immediately, as it is estimated that it will take a minimum of two years to create a database of sufficient coverage and quality. It will be possible to encompass the needs of other statistical areas as soon as they have finished defining their requirements.



CENTRALISED SECURITIES DATABASE  
RESULTS OF THE EMI'S INTERNAL CONSULTATION PROCESS

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In line with item (ii) of the Sub-group's extended mandate, a consultation on the centralised securities was distributed to various areas within the EMI: the Money and Banking Statistics Section, General Economic and Financial Statistics, Stage Two Division - Economic and Monetary Analysis, Financial Markets Group, Stage Three Division - Monetary Framework Section, MPSC Secretariat and the EMS/ECU Section. This note provides a summary of the responses received.

Money and Banking Statistics Section

*The following views aim at providing the best contribution possible at the present stage, but they must be seen as provisional given the present state of progress in the area of Money and Banking Statistics.*

Short term opinion

The M&BSTF presented a report to the Working Group on Statistics (WGS) in its December 1997 meeting on "Data requirements for securities issues - WGS/97.49a" dated 24/11/98. The WGS was supportive of the short-term approach proposed by the MBS TF, i.e. a decentralised database project, with NCBs providing blocks of aggregated information on domestic issues and a separate data-provider, presumably the BIS, for the aggregates on international issues.

Since December 1997, the M&BSTF has continued to define its short-term strategy as regards the development of MU statistics on securities issues in the field of MBS. In particular, priority has been given to the finalisation of the definition of aggregated blocks of information expected to be provided by NCBs. An Issue Note entitled "Data requirements on securities issues - follow-up - MBS/98.04" dated 7/1/98 has been discussed in the M&BSTF January meeting. The Task Force is still developing the last pending conceptual issues in its data requirements.

Priority within the Task Force having been given to the finalisation of the short-term approach (deadline June 1998, decentralised database, aggregated blocks of information), the definition of MBS statistics on securities issues at the level of the individual pieces of information, security issue by security issue, which is relevant for the centralised securities database project, still need to be studied. In the context of the short-term strategy, the centralised securities database issue is irrelevant.

### Long term opinion

The MBS section and the M&BSTF have not envisaged so far to develop, but have also not ruled out a long-term approach which would, in due course, aim to construct a centralised security-by-security database, meeting inter alia MBS purposes. Indeed, in the long run a centralised securities database project might represent also for the MBS needs the most appropriate option for deriving comprehensive harmonised statistics of good quality. As a consequence MBS would suggest that sufficient provision is made to allow the encompassment of MBS needs (for example, as regards the sectorisation) that might be identified on a provisional basis, and perhaps those of other statistical areas.

In MBS timetable, the assumption is that MBS data requirements will be finalised by mid/end-February 1998, then endorsed by the M&BSTF in March and by the WGS in April 1998. Later in 1998 a quality assessment of the results of the MBS short-term approach will need to be undertaken, to assess the need to switch from a decentralised database to a centralised database, or for maybe a "mixed" strategy.

For the time being the basic MBS assumption is that a centralised securities database probably remains the best opportunity for the long run, in terms of comprehensiveness, consistency and quality for securities issues statistics. Such a project would, however, only pay off if the statistical needs of a large range of users and statistical areas are met.

### Preliminary assessment of MBS requirements

In the light of the short and long-term opinions above, the following paragraphs tentatively summarise the main conceptual requirements of MBS statistics identified at this stage, and carries out a tentative assessment of the coverage overlap between MBS and BOP approaches. As a general introduction, it could be recognised that the BOP data field coverage fits with most of MBS potential data requirements, even if it is still unclear where, for MBS purposes, the line should be drawn across "minimum" and "broader" requirements.

### *Issues coverage*

The MBS requirements in terms of issues coverage target a wide coverage of aggregated debt concepts, as follows:

- a MU geographically-based debt concept: the NCBs will be requested to submit to the EMI data necessary to build up a consolidated aggregate of all debts issued in MU, by MU residents and by

residents of the Rest of the World (RoW), denominated in Euro as well as in other currencies. For this purpose it is essential to identify the “country of nationality”, as proposed in the BOP project.

- a Euro currency-based debt concept: all the debt denominated in Euro, either issued by MU residents or by residents of RoW, in MU or outside MU where possible, with a further breakdown by MU local currencies denomination, is expected to be compiled. The data field of “currency of issue” is then a strong requirement, not only for BOP but also for MBS.
- a MU residency-based debt concept: all the debt issued by the MU residents different sectors, in Euro and in non-Euro currencies, in MU and outside MU borders, will also form a basic requirement for MBS. For this purpose a world-wide coverage, as proposed in the BOP project (the list of countries envisaged to be data providers), is appropriate from an MBS point of view.

Apparently the BOP project guarantees to achieve the minimum set of financial aggregates as required by the MBS users. However MBS is concerned by the orientation given in the two security-by-security projects within the EMI (i.e. BOP centralised securities database and eligible assets database). We understand that the BOP centralised securities database project as it stands aim at collecting information on “the more traded issues”, which is not the “comprehensiveness approach” of MBS. We understand also that the coverage of the provisional database on eligible assets (tier 1 and tier 2) is based on the “financial soundness” of the security issuers, which is by definition a criterion implying a moving selection of the securities coverage.

#### *Breakdowns coverage*

The MBS requirements in terms of issues coverage are intended to be broken down following a number of additional dimensions, which are partly covered within the BOP project. Some insight for further discussion with BOP can be given by a provisional list of issues:

- by instruments (the foreseen CFI code seems, as a provisional assessment, fairly comprehensive for MBS needs),
- by sectors (the sectoral breakdown foreseen in the current project seems far too reduced for MBS requirements, as it is based on the minimum IMF institutional sector: i.e. Monetary Authorities; General Government; Banks; and Other Sectors),
- by nominal/market value (some data fields listed in the BOP project , but in the so-called “broader requirements”, would allow to meet these needs),
- by outstanding issues, new issues and redemptions amounts (here again some data fields listed in the “broader” requirements may be essential, like the maturity date for the redemption amounts).

### General Economic and Financial Statistics

In view of Monetary Union Financial Accounts (MUFAs), the centralised securities database project is potentially useful for the development of the MUFAs. The "IMF institutional sector" data field (Monetary Authorities/Other MFIs (Banks)/General Government/Other) is an interesting starting-point but in the longer-term a further sub-classification of the IMF sector "Other" would be welcome in order to fulfil ESA 95 requirements.

### Stage Two Division - Economic and Monetary Analysis Section

In general, the creation of a centralised securities database is supported and considerable benefits in terms of the quality and reliability of data needed to build the Portfolio Investment Account are envisaged. Stage Two Division has expressed that the database should be as comprehensive as possible: the minimum requirement data fields are viewed as particularly important (country of residence, currency of issue, issue category and the IMF institutional sector in order to distinguish the private sector from monetary authorities and the general government - note: private sector securities issuance is expected to grow strongly in the integrated securities markets generated by EMU and detailed information on government issues is also relevant), but the broader requirement data fields are also considered extremely useful.

### Financial Markets

The creation of a centralised securities database could be a useful tool in the analysis of the development in the financial markets, e.g. the analysis of the structural development of the securities market as well as the financial development. In this sense, the broader requirements would be of importance as well. Furthermore, Financial Markets support the view expressed by the EMS/ECU Section that the database could also be of interest for the own funds management in the selection of eligible assets and their characteristics.

### Stage Three Division - Monetary Framework Section

Among the sixteen data fields defined as the minimum requirements of the BOP/IIP database, the following ones may be used in relation to the monitoring of selection rules applied to marketable eligible assets: the quotation prices and the relating dates (since they are not included in the Eligible Assets database). The data fields for financial characteristics, such as the "type of amortisation" or "amortisation frequency", which are defined as broader requirements of the BOP/IIP securities database, might also be useful but most probably only occasionally, for example when it is necessary to assess the level of haircuts on eligible assets. A more extensive use of the centralised securities database might be found in relation with the regular assessment of the population of the marketable eligible assets relative to a potentially larger list of marketable securities, i.e. to make comparisons between each national market or to investigate some possible extensions of the eligible assets by using looser criteria. However, this would not justify an on-line access to the centralised securities database.

NCBs are engaged in the transmission of security-by-security data for the eligible assets database already and would therefore appreciate co-ordination between this database and the one under consideration by the BOP FFSTF. However, integration could be difficult, particularly in view of the different targets of each project. If the eligible assets database were to use some of the data in the BOP/IIP database for reference purposes, or for the purpose of alleviating some of the workload of national central banks, the requirements of the eligible assets database relating to accuracy of information, updating frequency (at least weekly) and ad-hoc changes (in cases of sharp moves in asset quality) would have to be considered by the BOP/IIP database development team.

Finally, the following are general comments on the data fields of the BOP/IIP database:

- The distinction between income and capital is blurred for an increasing number of assets, including assets traded on regulated markets: this may create problems to gather the data in the suggested form for these assets.
- For an increasing number of assets the cash flow schedule is relatively complex, resulting from particular amortisation schemes, complex or hybrid floating coupon indexation rules (mortgage-indexed bonds, etc.), and/or embedded options for partial or full redemption or conversion into another asset (convertibles, etc.). In these cases, many front/back/middle office management systems offer the possibility to describe instruments using a table for the expected dates and amounts of cash flows paid by an asset, and even sometimes the relationships between cash flows and other factors (interest rate index, previous cash flows, etc.). Depending on the use of the BOP/IIP database, it may therefore be useful to foresee the possibility to have such a facility available.

It should be noted that the views of the Stage Three Division are shared by the MPSC Secretariat.

#### EMS/ECU Section

The centralised securities database could be of interest in the context of portfolio management, e.g. in the selection of eligible issues and their characteristics. The use of such a database would potentially be the same for own funds management as for foreign reserve management as although the latter operations would almost exclusively cover securities denominated in foreign currencies issued by non-EU borrowers, the proposed database would focus on securities issued by both EU and non-EU borrowers.

PRELIMINARY COMPARABILITY EXERCISE  
EMI SECURITIES ISSUES DATABASE PROJECTS

This annex examines two securities issues database projects currently underway within the EMI. Part 1 of the annex provides information about each of the databases under review and Part 2 attempts to highlight the similarities/differences between them. Suggestions on how to proceed are put forward for consideration in Part 3.

The two databases involved in this preliminary comparability exercise are as follows:

1. The provisional **eligible assets database** (under development within Stage Three Division/MPSC)
2. The **BOP/IIP database** (under consideration within Sub-group 3 and the BOP Financial Flows and Stocks Task Force)

PART 1

1. Eligible assets database

Introduction

The purpose of the eligible assets database is to assess the eligibility of assets offered by counterparties in ESCB credit operations (monetary policy operations and intra-day credit). A distinction is made between the two types of eligible assets, Tier 1 and Tier 2 respectively.

Tier 1 consists of marketable debt instruments fulfilling uniform Monetary Union-wide eligibility criteria specified by the ECB. The ECB will establish and maintain a list of Tier 1 assets and this list will be available to the public.

Tier 2 consists of additional assets, marketable and non-marketable, which are of particular importance for national financial markets and banking systems and for which eligibility criteria are established by NCBs, subject to the minimum eligibility criteria established by the ECB. The specific eligibility criteria for Tier 2 applied by the respective NCBs are subject to approval by the ECB. The NCB's will establish and maintain national lists of eligible Tier 2 assets. Again, these lists will be available to the public. The EMI/ECB maintains a centralised Tier 2 database.

Structure

Currently the database is built in an MS-Access environment but this is only a provisional solution. The longer-term solution is for the database to be operational (during the course of 1999) on an SQL server located in the ECB, providing access to multiple users. Data acquisition, updating and the ESCB distribution processes as well as dissemination via CD-ROM and the Internet will be automated

in the longer-term solution. In the meantime, a mix of semi-automated data acquisition and automated dissemination will take place.

The database contains information on both Tier 1 and Tier 2 assets.

#### Coverage

The database covers many types of assets such as long-term debt instruments (bonds), medium-term notes, treasury bills, commercial paper, bank bills, trade bills, private loans to government, private claims, equities (and other share certificates) and other assets.

For Tier 1, NCBs are responsible for providing detailed information to the ECB on those assets which fulfil the criteria for Tier 1. For Tier 2, the type of assets for which information will be contained in the eligible assets database depend on the proposals made by the NCBs. These proposals will be formed, inter alia, on the basis of the quality or "financial soundness" of Tier 1 and Tier 2 paper. Changes to the content of the database will take place as a result of new issues and/or the maturation of assets.

It is expected that circa 20,000 securities eligible in Tier 1 and 150,000 securities and other assets in Tier 2 will be included in the database.

#### Data fields

55 data field variables are identified so far for both Tier 1 and Tier 2 assets. Not all data fields are mandatory as the requirements can depend in some instances, for example in the case of the Coupon definition data field, upon classification as Tier 1 or Tier 2. Among the data fields identified for inclusion in the eligible assets database are:

**ISIN code** and, if not assigned, another registration classification code (usually the country code and registration number of each Member State defined on an asset-by-asset basis).

**Asset type** (Bonds/Notes/TBs/commercial paper etc. (denominated in Euro only for Tier 1, and other EEA currencies for Tier 2 - possibly USD, CHF and YEN).

**Issuer name and/or guarantor**

**Issuer group** (sector breakdown into: central bank, general government plus supranational issuers, corporate sector, credit institutions).

**Reference market**

**Currency denomination**

**Coupon definition** (zero, pre-fixed floating, post-fixed floating, fixed).

**Type of price quotation**

**Total amount outstanding**

**Country of residence of the issuer and/or guarantor** (all EEA countries, and residual ROW code).

**Ratings** (from one of the recognised ratings agencies or NCB's internal rating/ranking for some Tier 2 assets)

### **Valuation haircuts**

No information on market price is foreseen for inclusion in the eligible assets database since the database will not be updated on a daily basis and, at least for the moment, is not intended for operational pricing purposes. It is the responsibility of each NCB to find the most representative price for each market.

Other non-rated issues, for example issues by regional and local governments (there are also many others), may be included in the database on a case-by-case basis.

### Data source/s

All data will be forwarded to the EMI/ECB by the NCBs on a security-by-security basis.

### Database management

The database will be installed and managed by the EMI/ECB. The eligible assets database is not a distributed database but a centralised database fed by data coming from NCBs. (A distributed database means that data are stored in four different databases located in different locations. The users see the distributed databases as only one database).

### Updating policy

Updates to the database are intended on a weekly basis.

### Dissemination

Data acquisition from NCBs will be facilitated by use of Cebamail or telephone until sometime in 1999 upon which time another automatic link using the H3 infrastructure is envisaged (ENSD will not be used to transfer eligible assets data due to the fact that the data volume is too high). The EMI/ECB will update the database on a weekly basis and transmit the records in the database to which changes have been introduced since the previous week to the NCBs. This weekly transmission of all the updated records in the database would be carried out, at least to begin with, using the same methods as for acquiring the information from the NCBs, i.e. Cebamail or telephone. Once every two months, the ECB would disseminate the full database to NCBs via CD-ROM, the Internet, paper copies or NCB-specific systems all of which are to be available from the beginning of Stage Three. Urgent changes in the eligibility status of individual assets might also be communicated by the ECB to NCBs on an ad hoc basis.

### Status of implementation

Endorsement of the eligible assets database by the Council of the EMI is expected in March 1998.



Cost/budget

This information cannot be specified.

2. BOP/IIP database

Introduction

The purpose of the BOP/IIP database is to facilitate the correct identification of securities issues and, in turn, to allow the compilation of a harmonised and high quality aggregate of Portfolio Investment flows at the European level.

The need for a precise definition of a centralised securities database stemmed from the complexity and large volumes of securities transactions and related information. The identification of individual securities and their many attributes can be a tremendously difficult and laborious task, making the compilation of good quality and consistent statistics both difficult and time-consuming. For these reasons, and given that all EU countries have agreed to the EMI's harmonisation proposals for Portfolio Investment statistics (including the need for a sectoral breakdown and a MUMs/non-MUMS split), the storage of securities information in a centralised database is being considered.

Structure

Not yet determined.

Coverage

It is presently anticipated that circa 300,000 securities will need to be included in the database. The database will cover securities traded on all securities markets by all countries (hence both EU/non-EU).

As regards country coverage, the *starting-point* is defined as the inclusion of all country information which is held on the GIAM network<sup>1</sup> or in the commercial databases which are employed. Following this, priority has been attributed to all data which relate to the following countries: the fifteen EU countries, United States, Canada, Japan, Switzerland, the Cayman Islands, the Netherlands Antilles, Venezuela, Australia, Brazil, Argentina, Mexico and Hong Kong. The International Organisations are also included. Following this, data should be added for other countries.

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<sup>1</sup> The GIAM network is a standard communications vehicle for the rapid dissemination of ISIN information amount National Numbering Agencies (organisations responsible for allocating ISIN codes set up on most major securities markets). The underlying objective of the GIAM network is to promote the use of ISIN as the unique international standard.

The database will include, for each security, information on all of the data fields defined as being required (see below) but a starting-point will be the inclusion of information for those data fields categorised as minimum data field requirements as well as those data fields in other categories which are very easily available. Other data fields per security will be added to the database gradually.

#### Data fields

Groups of data fields have been identified: minimum requirement, broader requirements etc. Sixteen data fields are identified as being minimum requirements of the database. These are: **ISIN code, BOP country of residence, CFI code, Issue category, Currency of issue, IMF institutional sector, Creation date, Deletion date, Date of last update** (*maintained dynamically*), **Quotation price** (x 2 prices): average price for the month and closing price on the last working day of the month/last available closing price for the month, **Quotation currency, Date of quotation** (x 2 dates): month/year and day/month/year, **Type of quotation** (x 1 amount but expressed for equity securities by unit and bonds by %) and **Reference ISIN code**.

A further twenty data fields have been identified as being broader requirements of the database. These are: **Maturity date, Type of amortisation, Issuer name, Nominal value, Amortisation frequency, Outstanding amt, Issue price, First amortisation date, Last amortisation date, Minimum price:month/year, Maximum price:month/year, Type of interest, Interest rate, Repayment before due date, Date from which interest starts to accrue/settlement date, Interest frequency, Interest base, Maturity price, Interest first payment date and First coupon interest rate**.

#### Data source/s

The GIAM network will be the primary data source. Also, masterfiles currently maintained by NCBs will be used. The IMF will also be asked to encourage non-EU countries to add data to the database. Furthermore, commercial data providers will need to be employed in order to achieve the coverage which has been defined.

#### Database management

The database should be managed by an international organisation. It is not clear whether the database will be located within the EMI or the BIS. Whilst the IMF fully supports the project it has stated that it does not have either an operational need for the centralised securities database or the resources to develop and maintain it.

#### Updating policy

Minimum: monthly; Ideal: weekly

#### Dissemination

To be determined.

### Status of implementation

Work of a theoretical nature is still being carried out by the EMI's Sub-group 3 on securities harmonisation under the direction of the BOP FFS Task Force and Working Group on Statistics (WGS). The Sub-group is expected to report to the BOP FFS Task Force in March 1998 who, in turn, will report to the WGS. The WGS is expected to make a final decision on the principal of implementation in spring 1998. Realistically, it is not expected that a sufficiently comprehensive database as defined by the Sub-group will be available for use before the year 2000. The development of such a database requires, however, that work should begin now.

### Cost/budget

Not yet determined. The impetus of the project would be increased dramatically if the database could be seen to serve a wide range of needs perhaps other statistical needs such as money and banking statistics, financial accounts, etc. and/or needs of policy-makers.

## PART 2

### Comparison between the two databases

#### *Focus*

1. The starting-points and focus/logic of the eligible assets database and the focus of the proposed BOP/IIP database are different: the eligible assets database depends upon the *quality/financial soundness* of assets whilst the BOP/IIP database aims, at a first step, to cover the *most actively traded* securities. However, using the data shown in Table 1, it seems that the a large proportion of the instruments involved in the eligible assets database and the BOP/IIP database will be the same, at least concerning debt securities (bonds and notes). This is because of the importance both in terms of the volume of eligible assets and cross-transactions determined mainly by securities issued by the government and by banks.

#### *Coverage*

2. The BOP/IIP database currently proposes a coverage of around 300,000 internationally traded securities whilst the eligible assets database would contain around 20,000 securities eligible in Tier 1 and 150,000 (maybe 200,000) securities and other assets eligible in Tier 2. Securities held on the BOP/IIP database would not necessarily also qualify as eligible assets. Similarly, some securities qualifying as eligible assets might not be included in the BOP/IIP database if they are not frequently traded on the international markets.

3. Taking into account the data shown in Table 1, it would be reasonable to assume, however, that such an extensive storage of information on individual securities for BOP/IIP compilation purposes may not be necessary. For example, the table shows that 54% of eligible assets qualifying as Tier 1 can be attributed to the (EU) general government. Since it can be assumed that paper issued by the general government is usually of high quality and hence traded cross-border, it would be reasonable to conclude that 54% of bonds held on the eligible assets database are also likely to be of interest to BOP/IIP compilers. As such, it *might* be feasible to suggest a reduction in the necessity to store a whole range of securities and instead to obtain this information from the eligible assets database.

4. The sectorisation of the Portfolio Investment Account for BOP/IIP distinguishes not only the "general government" sector however but also three additional sectors - "monetary authorities", "banks" and "other sectors" so it would be necessary to establish, particularly for "banks" and "other sectors", the extent to which coverage of these sectors would be missed.

5. The eligible assets database covers securities issues in the EU-area only whereas at its starting-point the BOP/IIP database has been defined to cover securities issued in the fifteen EU countries as well as the emerging market countries, major markets/issuing countries, offshore countries, Asian countries and the international organisations. As such, the geographical scope intended for the BOP/IIP database is far more extensive than for the eligible assets database.

6. The data field coverage of the eligible assets database currently under development and the proposed BOP/IIP database show certain significant overlaps, especially as regards the most important data fields for BOP/IIP compilation purposes, i.e. country of issuer, the domestic sector of the issuer, the outstanding amount, the maturity date and the currency. In this respect, the BOP/IIP database could probably be interfaced with the eligible assets database in order to reduce the burden on NCBs to transmit their data to the EMI/ECB twice. Supplementary data field information needed for BOP/IIP purposes from other sources would then be added to the database. It should be noted that the eligible assets database does not store price information.

#### *Timetables*

7. The timetable for the development of the eligible assets database and the BOP/IIP database is not compatible. Acceptance of the eligible assets database by national compilers already exists and some NCBs are already engaged in the transmission of security-by-security data to the database. The "provisional" eligible assets database is expected to be fully operational by March 1998. The "new" database developed in the scope of the N13 project will be fully operational in 1999. The N13 will be developed in two phases. Phase 1 which concerns the dissemination aspects of the data will be operational before the start of Stage Three. Phase 2 which concerns the development of a more robust database and the automatic data acquisition process will be developed after the start of Stage Three. A

decision concerning the principle of implementation of the BOP/IIP database has not yet been taken by the WGS and detailed user requirements are still to be defined.

### PART 3

#### The way forward - the identification of five possible options

8. The different starting-points, focus/logic and targets of the eligible assets database and the proposed BOP/IIP database are clear but so are the overlaps which exist between the data field information and the advantages which can be obtained from maintaining only one database serving multi-purposes. The following paragraphs put forward six possible options which seem to be available (although both options 3 and 4 require input from other statistical areas). It should be remembered, however, that the user requirements of the BOP/IIP database still need to be defined and the answers to the questions contained in Annex 3 of the Sub-group's full report are likely to have an impact upon the most ideal IT solution.

#### OPTION 1: An *interface* between the eligible assets database and the BOP/IIP database

9. An interface could be developed which would enable both databases to feed from the same databank so as to ensure consistency of information whilst at the same time facilitating their own independent organisational/operational structures. Furthermore, as the majority of data fields are foreseen for public dissemination, countries compiling security information in aggregate could transform the information via the National Numbering Agencies to the reporting entities either by using the ISIN code or by publishing the data. A co-ordination between the eligible assets database and the BOP/IIP proposed database is likely to be favoured by NCBs/NSIs.

10. As acceptance of the eligible assets database is at a more advanced stage than acceptance of the proposed BOP/IIP database, any scope of an interface would imply that there should be a full reconciliation between the two different data record layouts. Since the most important data fields are covered by the eligible assets database the data field categories (minimum requirements, broader requirements etc.), which have been defined for the BOP/IIP database would be put to one side for the time being and the overlapping data fields would be regarded as the first step towards implementation. Additional data fields could be added to the databank and downloaded to the BOP/IIP database at a later stage. Under this option savings could be made on implementation costs.

11. If this option were to be taken, it is clear that the BOP/IIP database should be located at the EMI/ECB and not at the BIS, IMF etc. since it would be linked to the eligible assets database.

OPTION 2: The development of two *separate* databases: eligible assets database and BOP/IIP database

12. A second option would be to maintain separate databases for eligible assets and BOP/IIP purposes. This would mean that the BOP/IIP database would be developed according to the minimum, broader etc. data field requirements as defined by the Sub-group and would not involve co-ordination with either the eligible assets database or with any other statistical areas. However, Member States would be asked to submit quite a large percentage of data to both the eligible assets database and the BOP/IIP database, for example all Government bonds issued by all EU countries would be stored on both databases. In addition, the needs of money and banking statistics and monetary union financial accounts (not yet defined) would need to be met by alternative means. Under this option, the full range of implementation costs would be incurred.

13. Following this approach, the decision would remain open as to which institution should manage the BOP/IIP database.

OPTION 3: The development of two separate databases: eligible assets database and a "*statistical*" securities database

14. A third option would be to maintain separate databases for eligible assets and BOP/IIP purposes but to develop the BOP/IIP database in a wider statistical context, i.e. in order to cover the needs of money and banking statistics and financial accounts statistics.

15. Unfortunately, the needs of the aforementioned statistical areas could not be taken into account in this preliminary comparison exercise because their requirements are not at the same stage of development. However, it is likely that their needs will be similar to those identified for BOP/IIP. Again, under this option the full range of implementation costs would be incurred.

16. If this option were to be taken, the "statistical" securities database would also *probably* be located at the EMI/ECB.

OPTION 4: An interface between the eligible assets database and the "statistical" securities database

17. A fourth option would be to interface the eligible assets database with the statistical securities database covering not only BOP/IIP statistics but also money and banking statistics and monetary union financial accounts (not yet defined). Under this option savings of implementation costs could be made.

18. If this option were to be taken, it is clear that the BOP/IIP securities database should be located at the EMI/ECB as it would be linked to the eligible assets database.

OPTION 5: Creation of a database containing the eligible assets database and the BOP/IIP database in the same database.

OPTION 6: Creation of a database containing the eligible assets database and the "statistical" securities database in the same database.

19. Once detailed user requirements have been defined these options might prove to be possibilities. In this case, the data could be physically stored in the same database but be logically completely independent. Under this option, cost savings could be made.

Note:

*At this stage it would be impossible to select either options 3 4 or 6 since the needs of the areas mentioned, namely money and banking statistics and monetary union financial accounts have not yet been defined. It is recommended that these two areas should compare their statistical requirements with the definition of the BOP/IIP database. The inclusion of some additional data fields or a recategorisation of minimum/broader requirements taking into account the requirements of these areas could then be borne in mind in the overall design and implementation of a "statistical" securities database rather than pure BOP/IIP database.*

FINAL STATEMENTS

20. The design and development of the eligible assets database is now fixed and will remain fixed for the foreseeable future. If the data requirements for either the BOP/IIP database and/or the statistical securities database could be met by the eligible assets database then this database/s would also be located within the EMI/ECB. If not, the BOP/IIP and/or statistical securities databases could be located elsewhere.

21. Some overlaps between the proposed BOP/IIP database and the eligible assets database have been identified in terms of coverage and individual data field information. If the extent of this overlap is confirmed, the feasibility of the creation of an interface between the eligible assets database and the BOP/IIP database should be thoroughly investigated (option 1 or 4). However, some potential difficulties in establishing a link between the two databases can also be foreseen. For example, it would be necessary to know if all assets are stored in the databases. If an asset is deleted from the eligible assets database for monetary policy purposes this asset would need to be transferred to the BOP/IIP database. The synchronisation between these two databases may be difficult to realise especially if all of the variables are not the same. In addition, country coverage of the two databases is not fully consistent, not all minimum and broader requirement data fields are covered or international standards adopted in the eligible assets database etc. However, most of the difficulties which have been identified are considered possible to overcome.

22. On the basis of the information supplied by the Sub-group in its full report and subsequently in its addendum on cost/benefits, benefits for aggregate compilers and benefits to other statistical/policy areas, the WGS will be expected to make its final decision concerning implementation of the centralised securities database for BOP/IIP purposes in April 1998. If the response is positive towards the implementation of the database, the WGS will be asked for a preliminary view on the method of implementation which should, in principle, be adopted. However, it will be pointed out that detailed user requirements still need to be defined which could have an impact on the most suitable IT solution.



COMPARISON OF DATA	in ECU billions			issue: EU countries		
	Total outstanding	eligible assets	external holdings	of total outstanding/sectors	% coverage of total outstanding/public sector only	of total assets/general government
<b>Comparison one: total outstanding - eligible assets</b>						
debt securities, <u>outstanding as of June 1997</u> , published by the BIS (summary of international debt securities and domestic debt securities (Tab 9 and Tab 15)	9,563					
of which by the public sector, outstanding as of June 1997, published by the BIS (Tab 10c and Tab 15)	5,265			55%		
tier one eligible assets, <u>volume of potential instruments as of December 1997</u> Confidential paper by the EMI MP/024/98 (draft), 26 January 1998 (*1)		3,888		41%		
of which: bonds and medium term notes (*1)		3,622		38%		
of which: general government (including supra-national issuers)		2,665			51%	
<b>Comparison two: total outstanding - external holdings</b>						
debt securities, <u>outstanding as of December 1995</u> , published by the BIS (summary of international debt securities and domestic debt securities (Tab 9 and Tab 15)	11,014					
of which by the public sector, outstanding as of December 1995, published by the BIS (Tab 10c and Tab 15)	6,144			56%		
debt securities, <u>outstanding amount of external holdings as of December 1995</u> , published by the IMF, BOP Yearbook, 1997, country pages concerning IIP (*2)			2,507	23%		
of which: general government			1,449		24%	54%

(\*1) confidential, not for public use

(\*2) all EU countries except Greece, Ireland, Luxembourg and Portugal (no IIP data available)

METHODOLOGY: SOME CALCULATION EXAMPLES:

Methodology No. 1

For Scenario 1, with respect to a database containing details on 200,000 securities, was calculated in the following manner:

$$\begin{aligned} & ((0.94 * 6,357) + (0.04 * 97,063)) / (6,357 + 97,063) * 200,000 = 19,677 \text{ ECU per annum} \\ & (((77 * 6,357) + (17 * 97,063)) / (6,357 + 97,063)) * 200,000 / (220 * 8 * 60) = 40 \text{ man-days per annum.} \end{aligned}$$

Methodology No. 2

For Scenario 1, with respect to a database containing details on 200,000 securities, costs were calculated in the following manner:

$$\text{Data acquisition: } 6,000 * \frac{((6,357 / (6,357 + 97,063)) + 4,175 * (97,063 / (6,357 + 97,063)))}{6,357 + 97,063} * 200,000$$

$$\text{Human resources: } \frac{5 * (6,357 + 97,063) + 16 * (97,063 / (6,357 + 97,063))}{6,357 + 97,063} * 200,000$$

The figures for Scenario 3b, with respect to a database containing details on 200,000 securities, were calculated in the following manner:

$$\text{Data acquisition: } \frac{0.68 + 0.89 + 1.13}{3} * 200,000$$

$$\text{Human resources: } \frac{((2/140,000) + (1/70,000) + 2/40,000)}{3} * 200,000$$

Maintenance costs (ECU-year)	Institution 1	Institution 2	Institution 3	Institution 4	Institution 5	Institution 6	Institution 7
Data acquisition costs (ECU-year)	25,000	95,000	62,000	45,000	22,500	6,000	4,175
Human resource costs (man-year)	-	2.0	1.3	2.0	1.0	5.0	16.0
Human resource costs (man-day)	-	440	295	400	270	1,022	3,480
- Administrative	-	-	220	-	220	660	2,970
- Technical	-	-	75	-	50	362	440
- Support	-	-	-	-	-	-	70
Securities outstanding	-	140,000	70,000	40,000	51,177	6,357	97,063
Data acquisition cost per security (ECU-year)	-	0.68	0.89	1.13	0.44	0.94	0.04
Human resources cost per security (man-minute)	-	2	2	5	3	77	17

## METHODOLOGY No. 1

## Maintenance costs (ECU-year)

	Scenario 1	Scenario 2	Scenario 3
<b>Database containing 200,000 securities</b>			
Data acquisition costs (ECU-year)	19,677	148,082	161,600
Human resource costs (man-year)	40	4	4
<b>Database containing 300,000 securities</b>			
Data acquisition costs (ECU-year)	29,516	223,623	242,400
Human resource costs (man-year)	59	6	6

## METHODOLOGY No. 2

## Maintenance costs (ECU-year)

	Scenario 1	Scenario 2	Scenario 3a	Scenario 3b
<b>Database containing 200,000 securities</b>				
Data acquisition costs (ECU-year)	8,291	25,699	62,208	180,000
Human resource costs (man-year)	30	3	1 or 2	5
<b>Database containing 300,000 securities</b>				
Data acquisition costs (ECU-year)	12,436	38,549	93,312	270,000
Human resource costs (man-year)	44	10	2	8

ESTIMATED NUMBER OF RESPONDENTS

The Sub-group studied the responses to the questionnaire - in respect of the number of respondents reporting to the NCB/NSI - in order to obtain an impression of the potential uses of the centralised securities database in the event of the redistribution of information by the Database Manager.

Belgium/Luxembourg	Banks	circa 340
	Financial intermediaries	circa 400
	Other	2,000
Denmark	Banks	circa 100
	Financial intermediaries	between 10-50
	Other	between 100-500
Germany	Banks	circa 3,517
	Financial intermediaries	circa 37 (MMFs)
	Other	circa 34 (building and loan associations)
Greece	Banks	circa 50
	Financial intermediaries	circa 100
	Other	0
Spain	Banks	circa 250
	Financial intermediaries	circa 30
	Other	circa 100
France	Banks	circa 350
	Financial intermediaries	circa 100 (at present) (UCITS); circa 3000 (as of 1/1/1999) (UCITS).
	Other	circa 750
Ireland	Banks	circa 70
	Financial intermediaries	circa 300
	Other	circa 500
Italy	Banks	circa 600
	Financial intermediaries	circa 200
	Other	circa 300
Netherlands	Banks	circa 80
	Financial intermediaries	circa 100
	Other	circa 400

Austria	Banks	circa 900-1,000
	Financial intermediaries	circa 100
	Other	circa 100
Portugal	Banks	circa 60
	Financial intermediaries	circa 16
	Other	circa 11
Finland	Banks	circa 30
	Financial intermediaries	circa 30
	Other	120
Sweden	Banks	circa 120
	Financial intermediaries	circa 30
	Other	circa 100 (financial institutions)
United Kingdom	Banks	circa 480 (NCB)
	Financial intermediaries	circa 50 (NSI)
	Other	circa 860 (NSI)

