



**Results of implementing the FISIM calculations by Member States:
1999 and revised 1995-1998 data
- *Council Regulation n°448/98***

SUMMARY OF THE PAPER

A Council regulation of 16 February 1998 defines basic principles of allocating FISIM in national accounts and introduces a trial period. This paper presents a summary of the first results obtained for the years 95 to 99 by Member States in testing the feasibility of allocating FISIM.

First, the availability of data is presented. Information is more reliable on the S122 sector (other monetary financial institutions) than on the S123 sector (other financial intermediaries, except insurance corporations and pension funds), but the latter plays a marginal role in most Member States.

Information on stocks of loans and deposits is available from direct sources, with a breakdown by user sectors. In general, less detailed information is available on interest flows than on stocks. In a majority of countries, information on interest flows is available from direct sources, but with no breakdown between institutional sectors, and it is therefore necessary to estimate interest rates for each institutional sector in order to calculate this breakdown.

Difficulties are met in the calculation of imports of FISIM (exports being better known) and in the breakdown of households' deposits (and to a lesser extent, of households' loans) in order to determine the part corresponding to final consumption and the part corresponding to intermediate consumption.

Most Member States were able to implement the different testing calculations stipulated in the regulation, with relatively stable and similar results. However, the Commission considers that allocating FISIM will be feasible if improvements on data sources continue to be made.

The sum of detailed FISIM allocated to users differs from the "global" FISIM as defined now. The difference – positive or negative in Member States – mainly depends on interest payables less interest receivables by Financial Intermediaries (FIs) on securities other than shares.

According to the FISIM regulation, the output of the Central Banks should be calculated as the sum of costs and most Member States in their reports are in favour of this method.

The impact on GDP of allocating FISIM represents on average 1,3%, this increase being mainly due to the increase of the final consumption of households.

Six reference rates have been tested, the stability of their results was examined and Member States expressed preferences, most of them wishing for a reference rate that is satisfactory from the conceptual point of view. Method 2 (basing the reference rate on resident interbank transactions and on interest on securities other than shares) or Method 1 (basing the reference rate on resident interbank transactions) seem to match best. They are also satisfactory from the point of view of the volatility of results, but it is necessary to complete the exercise on more years, and to know the results of all Member States before being able to assess a strong opinion.

Table of contents

A-Introduction	P 1
B-Summary of the main available data sources	P 2
<i>I Reminder</i>	<i>P 2</i>
<i>II Coverage of S122 and S123 sectors</i>	<i>P 4</i>
<i>III Data available on stocks of loans and deposits</i>	<i>P 6</i>
<i>IV Data available on interest flows</i>	<i>P 12</i>
C-Main problems encountered	P 15
<i>V Calculation of internal reference rate for methods 1 and 2</i>	<i>P 15</i>
<i>VI Calculation of internal reference rate for method 3</i>	<i>P 16</i>
<i>VII Calculation of internal reference rate for methods 4a, 4b and 4c.</i>	<i>P 17</i>
D-Main results	P 18
<i>VIII Comparison between the "global" FISIM as defined in ESA 95 and the sum of FISIM output allocated to institutional sectors</i>	<i>P 18</i>
<i>IX Output of the Central Bank</i>	<i>P 19</i>
<i>X Occurrence of negative FISIM</i>	<i>P 20</i>
<i>XI Analysis of the impact on GDP</i>	<i>P 22</i>
E-General conclusion	P 30
ANNEX 1: 1999 and 2000 FISIM Task Forces recommendations	P 31
ANNEX 2: Member States results provided in 2000	P 35

A-Introduction

This paper presents a summary of the results obtained by the Member States in testing the feasibility of allocating FISIM as defined in the Council regulation of 16 February 1998. The required calculations to be implemented by the Member States are described in Annex III of the same regulation.

At the beginning of the year 2000, Eurostat presented a first synthesis of the test calculations made by eleven EU countries and Slovakia, and based on the 1995-1998 period. Since then, some Member States provided Eurostat with revised 1995-1998 data, based on the recommendations of the FISIM Task Force held in Luxembourg in May 2000.

Article 4 of the regulation indicates that the results for calendar year 1999 as well as revised results for calendar years 1995, 1996, 1997 and 1998 shall be submitted no later than 1 November 2000. The table below summarises the situation of the Member States FISIM test calculations transmitted to Eurostat before the end of the year 2000.

	1999 data	1995-1998 revised data	1995-1998 first results	Data not yet provided
Belgium		X		
Denmark	X	X		
Germany		X		
Greece			X	
Spain	X	X		
France			X	
Ireland				X
Italy	X	X		
Luxembourg				X
The Netherlands	X	X		
Austria			X	
Portugal		X		
Finland	X	X		
Sweden			X	
The United Kingdom	X	X		
Total EU countries	6	9	4	2
Slovakia			X	

At the end of the year 2000, six out of 15 EU countries provided Eurostat with the first 1999 results and the revised 1995-1998 data. Three EU countries provided Eurostat with a new set of 1995-1998 data, but did not achieve the implementation of their first 1999 results. Four EU countries only provided Eurostat with their first 1995-1998 results. Ireland and Luxembourg are the only countries having not implemented the FISIM exercise yet. Eurostat is not in a position to present final conclusions on this exercise, which will continue until April 2002 (with additional years 2000 and 2001).

However, it seems opportune to reconsider some of the problems encountered by countries in doing this exercise, and also to highlight the significant changes obtained based on this new set of data.

B-Summary of the main available data sources

I Reminder

The main decision taken by the Council has been to calculate and allocate FISIM only on loans and deposits granted by Financial Intermediaries (FIs) to users sectors, because the interest rates of those loans and deposits are controlled by the FIs. The calculation of FISIM on loans and deposits should be made on the basis of the difference between the actual interest rates payable and receivable and a "reference" rate of interest.

Annex III of the Council regulation presents the required statistical data for the calculation and allocation of the FISIM produced. It is stated that "For each of the sub-sectors S122 and S123, it is necessary to use the table of average stocks of loans, deposits (split by user sectors) and the securities other than shares issued by FIs for the period (average of four quarters) and the accrued interest, after reallocation of interest rate subsidies to their actual recipients as defined by the 1995 ESA.". These statistical data will allow the test calculation of six internal reference rates and the calculation of one external reference rate for the export and import of FISIM.

Method 1

Interest receivable on loans between S122 and S123
Stock of loans between S122 and S123

Method 2

Interest receivable on loans between S122 and S123 + interest on securities other than shares issued by S122 and S123
Stock of loans between S122 and S123 + securities other than shares issued by S122 and S123

Method 3

To obtain the FISIM output of resident FIs by institutional sectors, two reference rates can be applied, one for short term transactions (calculated as in method 1) and one for long term transactions (using published rates for securities other than shares whose maturity reproduces that of the liabilities in the balance sheet with a long maturity).

Method 4a

To obtain the FISIM output of the resident FIs by institutional sector, the 'internal' reference rate is calculated, as an average of lending and deposits rates which are undertaken with all resident user institutional sectors (S124, S125, S11, S13, S14, S15) (except with the central banks).

Method 4b

To obtain the FISIM output of the resident FIs by institutional sector, the 'internal' reference rate is calculated, as an average between the average of lending and deposits rates which are undertaken with the resident user institutional sectors (S124, S125, S11, S13, S14, S15) (except with the Central Banks), and the implicit interest rate calculated as in method 1.

Method 4c

To obtain the FISIM output of the resident FIs by institutional sector, the ‘internal’ reference rate is calculated, as an average between the average of lending and deposits rates which are undertaken with the resident user institutional sectors (S124, S125, S11, S13, S14, S15) (except with the central banks) and the implicit interest rate calculated as in method 2.

External reference rate (for import and export of FISIM)

To determine FISIM imports and exports, the reference rate used is the average interbank rate weighted by the levels of stocks in the heading “loans between S122 and S123 on the one hand, and non-resident FIs on the other hand” and “deposits between S122 and S123 on the one hand, and non-resident FIs on the other hand”, which are included in the balance sheet of financial intermediaries.

In order to identify part of the FISIM to be allocated to final consumption, and thus to evaluate the impact on the GDP, it is also necessary to have a further decomposition of the stocks and interest on loans granted to the households sector by distinguishing:

- Dwelling loans (intermediate consumption).
- Loans to households as owners of unincorporated enterprises (intermediate consumption).
- Other loans to households (final consumption)

A similar breakdown is necessary for the stocks of deposits and interest payable to households as individuals or as owners of unincorporated enterprises.

When not feasible, alternative methods for the breakdown of the households sector have been presented in the regulation, which are described in this paper.

II Coverage of S122 and S123 sectors

Information is in general more reliable on the S122 sector (other monetary financial institutions) than on the S123 sector (other financial intermediaries, except insurance corporations and pension funds). Some countries had problems in identifying clearly units producing FISIM from the units that do not generate FISIM, mainly under the S123 sector. Once identified, the next step consists in excluding from the FISIM exercise the non-producing units that do not consume FISIM. Indeed, as stipulated in the FISIM Task Force agreements of May 2000 (annexe 1), non-producing but consuming units of the S123 sector should be isolated in a separate line, in order to calculate their FISIM consumption. The following paragraphs give a snapshot of the coverage of S122 and S123 sectors in each country.

Belgium considers financial leasing corporations, enterprises granting consumer credits and enterprises granting mortgage credits as producing units of the S123 sector. The activities of other units of sector S123 have been considered as not producing FISIM and, in fact, the financial instruments they use do not consist of credits and deposits. Furthermore, by lack of reliable information, securities held and issued by the units of sector S123 have been excluded from the average of stocks and accrued interest of securities.

Denmark states that 95% of the FISIM producing part of the S122 sector are covered by the financial institutions' reports to their supervisory authority. But half of the S122 sector deals with mortgage banks not producing FISIM, and therefore have been excluded for the FISIM exercise. Indeed, these mortgage banks finance their loans by issuing bonds with a maturity of 20-30 years. All interests on loans are paid directly to the holders of the bonds. Hence, the mortgage banks do not produce FISIM but receive all their income as direct payments. The units producing FISIM in the S123 sector are generally corporations engaged in financial leasing or consumer credit, and different kinds of funds engaged in long-term financing. In general information for sector S123 is available on an annual basis. However, for consumer credit, new quarterly statistics starting in 1998 have been compiled and used for the FISIM exercise with estimates for the back years. To refine the estimates, special calculations have been implemented for financial leasing of ships and aeroplanes, using information collected through different kinds of statistical surveys made by Statistics Denmark and from annual reports of the financial lessors.

Germany has excluded non-producing FISIM units, both in the results and the calculation of the reference interest rate. For the purpose of the FISIM exercise, insurance corporations have been removed from the "Financial institutions and insurance" sector of German Banking statistics, therefore from the S123 sector.

Spain has used the financial accounts information (which may be considered to be closed and complete under ESA95 criteria) as the basis for the new 1995-1999 FISIM test calculations. The units belonging to the S123 sector have been excluded from the FISIM exercise, as they do not produce FISIM. They are entities whose economic behaviour is very similar to that of portfolio investment institutions and their revenue stems essentially from charging commissions.

Greece excluded from the S122 sector investment companies and mutual funds, as they do not produce FISIM. The S123 sector involves only leasing activities, as no data are available for the other small units dealing with consumer credit and mortgage loans.

France had to deal with the so-called “Organismes de placement collectif”, or mutual funds. The latter have been considered as neutral, that is neither producing nor consuming FISIM. Therefore they have been excluded from the resident FIs (S122 and S123 sectors).

The Netherlands observed a discontinuity in time series from 1998 onwards, with a considerable impact. This break is due to the process of harmonisation of monetary statistics, which leads the Central Bank to change its statistics from January 1998. These changes had an effect on both the delimitation of the population of the S122, S123 and S124 sectors and the classification of stocks of loans and deposits on the balance sheet.

- The population of S122 was extended with the mortgage banks and money market funds, which formerly belonged to the S123 sector.
- Besides this extension, the activities of the monetary institutions not aiming at money creation have been isolated from the S122 sector and included in either S123 or S124 sectors.
- The units of sector S123 that do not produce FISIM have been isolated in a specific “S123 consuming sector”, in the tables and 4 of the annexes. Therefore, these “consuming units” have not been used for the calculation of the internal reference rate of methods 1-3.
- Changes in the classification of stocks mainly impact with the non-resident user sectors.

Austria restricted for the moment its first FISIM testing calculation to the S122 sector, as the S123 one plays a marginal role.

Sweden has data on loans and deposits to and from the S122 sector on a quarterly basis, with a breakdown by sectors. The same information is available also for the S123 sector, with regard to the asset side. Information on the liability side is collected from other less detailed quarterly statistics.

It is thought that estimates about FISIM generated by resident producers are underestimated because of the difficulty of distinguishing between FISIM producers’ and consumers’ components within most of the available data covering S123.

United Kingdom has excluded from the calculations any irreducible series of stocks and interest flows between FISIM producers and other sectors whenever the consistency of the coverage of the series was unclear. But also when it was uncertain that the series cover only instruments on which a deposit-taking or lending services is generated.

Information collected about the S122 sector is obtained through census-type surveys, mainly balance sheet-based. These surveys have recently been revised as far as possible to accord with the latest EC classification systems, including ESA 95. The main types of institutions within category S123 are subject to sample-based surveys. Comparison of amounts of interbank transactions between S122 and S123 highlighted a gap in the coverage of the S123 sector. Accordingly, for the purpose of the FISIM exercise, the S122 sources have been used in priority. The S123 sources have been used only for the coverage of their business with non-bank domestic sectors and the rest of the world.

III Data available on stocks of loans and deposits

3-1 Stock of loans and deposits by resident institutional sectors

In most cases requested information on stock of loans and deposits is available from direct sources, with a breakdown by main domestic users sectors –S124, S125, S13, S14 and S15. In the Netherlands, Italy, Austria and Portugal, the NPISH sector (S15) has been merged into the Households sector because of the impossibility to isolate this sector. Given the relatively low level of FISIM consumed by NPISH, the consequences on the data should be limited. Furthermore, the comparison of the GDP impact might not be altered as it is likely that a large part of the FISIM allocated to the S15 sector will be allocated to households as consumers. A rough and brief overview of the availability of stocks data is given below, for each country:

Belgium has information on the stocks of financial instruments by institutional sector through the reporting scheme that credit institutions have to fill out for statistical and supervisory purposes. But the stocks of credits granted to and deposits held by the general government sector are evaluated with the financial accounts information of the Ministry of Finance.

Denmark has information about residents' bank stocks of loans and deposits, on a quarterly basis, with a breakdown by domestic users sector. For the FISIM exercise, additional quarterly and daily information on loans and deposits, broken down by DKK and a total of other currencies, have been used by Statistics Denmark. In the new Money and Banking Statistics, an agreement has been made with the banks has been made to report average daily observations of loans and deposits instead of an average of end-of-quarter observations, given the large fluctuations observed for the latter. For the non-bank institutions (of S122+S123), information on both stocks and interests are only available on an annual basis and, in most cases, with no breakdown by sectors. To address this problem, it has been assumed that these institutions are generally conducting their business in one or two specific institutional sectors: consumers, non-financial enterprises or general government. Finally, contrary to the first delivery, provision for bad debts have been added to the stocks of loans.

Germany has information on the assets and liabilities of resident credit institutions available on a monthly basis and then aggregated to obtain annual average stocks. The banking statistics system is also able to provide a satisfactory allocation of the resident assets and liabilities to customer groups. These data are used in the first step calculation of FISIM but, for the allocation of loans and deposits vis-à-vis building societies, insurance companies and the Bundesbank, they are replaced by the “mirror” data shown in the balance sheet of the latter.

Greece has no information about stocks of loans and deposits broken down by users sector. Thus, estimates had to be done to obtain this breakdown.

Spain used information on ESA79 to prepare the stocks of loans, deposits and fixed-income securities. Changes are not expected to occur within the ESA95 framework since the definitions of these instruments essentially coincides in both systems, except for the reclassification under securities instruments of certain short-term securities previously considered as deposits. The financial assets

and liabilities come from the Financial Accounts prepared by the Bank of Spain. To achieve the FISIM exercise, the balance sheet and the profit-and-loss accounts of the institutions have been used, also the balance of payments data for the estimation of the imported FISIM. Both the financial and non-financial accounts are prepared first on a quarterly basis, and then converted on an annual basis.

France has information about stocks of loans and deposits, deriving from “balance sheets” and “profits and losses accounts” that are regularly transmitted by the FIs to the Banking Commission, and also the Balance of Payments data for the relationships with the rest of the world. The stocks presented in the FISIM exercise are “end of year averages”, but a full quarterly calculation is planned for the future revisions in 2001.

The Netherlands presented, in its first delivery, “structural” negative FISIM vis-à-vis the “insurance and pension funds sector” (S125), on both the loans and deposits sides and for the whole 1995-1998 period. In the revised 1995-1998 and the 1999 Dutch data, no FISIM have been generated towards the S125 sector, in line with the agreement expressed in the last FISIM Task Force (May 2000).

Finland has information about the stocks of loans, deposits and securities from direct sources. But these stocks are based on an average of yearly data, that is an average of the stocks at the beginning and the end of the annual period.

Sweden has made no separate calculation of FISIM consumption for the S124 sector, but plans to do it later on when the business register will be improved. For the moment, Sweden has included all entities actually classified under S124 into the non-financial corporation sector (S11).

The United Kingdom has provided Eurostat with revised 1995-1998 data together with the first 1999 results. This new set of data includes now estimates about the total amount of FISIM generated towards the financial auxiliaries sector (S124). Only the deposit made by the S124 sector in the UK banks and the borrowing from the latter have been used for the estimate of FISIM “consumed” by the financial auxiliaries sector. Therefore, the FISIM output allocated to this sector is likely to be underestimated. Furthermore, because of the lack of reliable data, no estimates of imports of FISIM by the S124 sector have been planned. For the same above-mentioned reasons, estimates made for the financial corporations sectors are also underestimated.

3-2 Breakdown of the households sector

The data availability on the stocks of loans and deposits with households as consumers and with households as owners of dwellings or unincorporated enterprises is fundamental for the analysis of the FISIM impact on GDP. As it will be shown in the results part, FISIM allocated to households as consumers is the main factor explaining the impact on the GDP. The results indicate various situations among the Member States, which are briefly portrayed below:

Belgium has a complete split of credits and deposits to the household sector into households as consumers, owners of dwellings and unincorporated enterprises, but only for the 1995-1997 period.

Because of changes in the reporting scheme that credit institutions have to fill in, some estimates had to be made for the year 1998.

Denmark considers the breakdown of the households sector as being one of the main problems encountered in doing the FISIM calculations. Very limited information is available on loans to households in their capacity as owners of dwellings, but improvements will occur in the near future as soon as information from the Money and Banking Statistics is available. Furthermore, households are classified as unincorporated enterprises if registered in the Danish business register, otherwise as consumers. Nevertheless, households classified as unincorporated enterprises can also consume. The Danish solution is to attribute all loans to owners of unincorporated enterprises as loans held by households in their capacity as producers, and all deposits held by unincorporated enterprises as deposits held by households in their capacity as consumers.

Germany has information from banking statistics, which allows the allocation of loans and deposits to the self-employed and sole proprietorships. The sector "Private persons" in banking statistics distinguishes between economically independent and dependent persons, and other private persons. The Bundesbank considers that the banking statistics are able to provide a reliable overall picture of loans obtained with a view of consumption.

Greece is able to identify the stocks of households in their consuming function, or as owners of dwellings. Assumption had to be made for households as owners of unincorporated enterprises.

Spain sees the distribution of interest received and paid by households according to their consuming or investing function as being one of the weakest estimates. This problem is more accurate on the deposits side, for which no information is available.

France has information on stocks of loans and deposits broken down by resident users sectors and, for the households sector, with a further distinction between individual entrepreneurial and other households. Loans granted to households in their capacity as owners of dwellings are estimated on the basis of the long-term credits granted to the whole households sector, excluding those granted to individual entrepreneurial.

The Netherlands has no separate information on households in their capacity of owners of dwellings. The Netherlands has tried to solve this problem by using the amount of mortgage loans, but they cannot assume that the entire amount is fully used for investment purposes. Given the specificity of the Dutch system, it is likely that part of the mortgage loans have been used for consumption purposes, and the deduction of this part needs some assumptions. Concerning households as owners of unincorporated enterprises, there is only marginal information based on a pilot project.

Austria has available data only for loans granted to households as owners of unincorporated enterprises, and for the 1995-1998 period. A complete breakdown of loans granted to the households sector is available from 1999 onwards. Thus, the 1999 structure has been used to estimate the 1995-1998 breakdown. As regards deposits, Austria has no information at all, and assumed that the

breakdown of deposits between deposits held by households as consumers and the rest (households as owners) would be the same as for loans.

Finland and **Portugal** are not able to split for the moment the deposits of the households sector according to their consuming or investing function. Therefore, all the deposits have been assumed to belong to households as consumers.

Sweden has data on households as owners of enterprises, based on the business registers. Once a household is classified as an owner of an enterprise, all its loans and deposits fall into this category. The population of households as owners of enterprises is not stable over time, because the classification is based on the amount of VAT paid. The only data available for households as owners of dwellings comes from the mortgage credit institutions, but part of it is probably used for other purposes.

United Kingdom has data on stocks, which are deemed to be most reliably reported by the banks since they are subject to strenuous checks prior to being used in the monetary aggregates. The UK banks' returns give counterpart information on deposits and lending by residence and sector. Additional categories of lending products are identified in the case of NPISHs and the households sector (lending secured on dwellings, bridging finance, credit card lending). The problem for the UK data in this area is the identification of borrowing secured on dwellings which is used directly or indirectly for consumption. For the FISIM exercise, all borrowing secured on dwellings have been allocated to intermediate consumption. However, the UK thinks that an expansion of the use of the so-called "mortgage equity extraction" for final consumption might be possible.

Slovakia has no information on dwelling loans for the moment. Only the breakdown of the Household sector into households as consumers and households as owners of unincorporated enterprises was feasible.

3-3 Resident FIs stock of loans and deposits vis-à-vis non-residents entities and non-resident FIs stock of loans and deposits vis-à-vis residents entities

The data needed for the calculation of imports of FISIM are more difficult to obtain than that needed for the calculation of exports, thus leading Member States to less reliable estimates for imports.

Germany does not have the required information for the calculation of imported FISIM, as stipulated in the regulation. Concerning exports, the Bundesbank assets and liabilities statement vis-à-vis non-resident makes no distinction between non-resident non-FIs and non-resident FIs, and also between corporations and private persons. The same applies to cross-border interest income and expenditure in the context of the balance of payments.

Greece does not have the necessary information to calculate imports and exports of FISIM for the moment.

Spain had to estimate the imports of FISIM given the lack of reliable data for this calculation.

Finland does not have information on transactions between resident and non-resident FIs. Furthermore, it is impossible to know which sectors make the deposits to foreign FIs and from which sectors the loans are taken. Therefore, imported FISIM cannot be calculated until the Balance of Payments statistics will be improved.

France has information about its stocks of loans and deposits vis-à-vis the non-resident non-financial sector from 1998 onwards, and estimates had to be made for the years before.

The Netherlands cannot divide its stock vis-à-vis the rest of the world into non-resident financial and non-financial institutions, and therefore this breakdown is estimated. As already indicated, the harmonisation process of monetary statistics that have been implemented by the Central Bank in January 1998 also influenced the classification of assets and liabilities vis-à-vis non-resident sectors.

Sweden has only information on loans and deposits with non-resident non-financial institutions, for the 1995-1997 period. From 1998 onwards, the breakdown of the rest of the world sector is available with the distinction between non-resident non-FIs and non-resident FIs.

United Kingdom has information about transactions between UK banks and non-resident banks and non-banks. But a more detailed desegregation of the non-resident non-banks counterparts is difficult to obtain, making impossible a direct measure of the non-resident non-banks producers/consumers. For the purpose of the FISIM exercise, it has been assumed that 20% of the conventional loans and deposits exported by UK banks to non-resident non-banks, and the whole repo-business were made with non-resident FISIM producers.

On the import side, the main source of data for UK non-bank residents' deposits with and borrowing from banks in the rest of the world comes from information collected by the Bank of International Settlements (BIS). These data provide a split between sterling and foreign currency components, but uncertainties remain on the global coverage by this source. The UK assumed that the BIS sources do not cover transactions with UK building societies and security dealers, which have been taken into account for the purpose of the FISIM exercise. Furthermore, banking institutions in the offshore islands have been added to the population of rest of the world banks.

For the FISIM exercise, the UK assumed that 70% of imported FISIM were destined to the non-financial corporation sectors, 10% for the household sector, and the remaining 20% to the financial corporations of S123 and S124 sectors. More precisely, the latter amount has been split 50/50 between the "insurance corporations and pension funds sector" (S125) and FISIM producers of S123.

Slovakia does not have the necessary information to calculate imports and exports of FISIM for the moment.

For the remaining countries, it is not always clear whether the requested data are available or not:

Belgium highlights some problems encountered to calculate the imports and exports of FISIM, mainly the fact that the “currency” composition of loans to non-resident non-FIs differs from the “currency” composition of loans between resident and non-resident FIs.

Denmark has quarterly information on deposits from and loans to non-resident financial institutions, in Danish Kröne and a total of foreign currencies, but also a direct observation of residents’ outstanding with non-resident FIs.

IV Data available on interest flows

In general, less detailed information is available on interest flows than on stocks. In fact, a majority of countries have information on total interest flows coming from their profit-and-loss accounts, but with no breakdown between institutional sectors. Therefore most of them were obliged to derive estimates vis-à-vis each users sectors, by combining interest rates (obtained from various studies or other official sources, in general sources from the concerned users sectors) with the level of stocks. Below is a brief summary of the key points provided by the Member States on this issue:

Germany indicates that the construction of the matrix of interest flows consistent with that of the stocks is done at a very detailed level. Interest flows broken down by institutional sector are not obtained from direct sources, but by using stocks of assets and liabilities of the resident credit institutes and the published average interest rates available from banking and balance of payment statistics. Estimate of interest flows is the second step of the model calculation, the first step being the evaluation of annual average stocks of loans and deposits. At the end of the process, flows of interest receivable and interest due are then adjusted in line with the total actual interest flows recorded in the banks' profit-and-loss accounts. This adjustment is done by applying a coefficient, once the profit-and-loss accounts are compiled according to the "host country principle", that is by deducting the net operating surplus of foreign branches and adding the estimated results of German branches hold by other EU Member States. A similar model calculation (in three steps) is also performed separately, albeit in reduced form, for the building societies.

Greece uses the average interest rates multiplied by the stocks to estimate interest flows received/paid by the NPISHs sector and the households as owners of unincorporated enterprises.

Italy indicates that indirect sources were used to estimate interest flows broken down by resident sectors. The main problem was in constructing a matrix of interest flows (received/paid) consistent with that of the stocks.

The Netherlands has information on interest flows, but with no breakdown by institutional users sector and by type of assets. For such details, it has been necessary to use observed counterpart information, like for example statistics on household savings and balance of payments data, published interest rates and calculation of "theoretical" income flows. For interest flows received from the rest of the world, it has been assumed that non-resident non-FIs pay 0.5% more than non-resident FIs. For interest flows paid to the rest of the world, it has been assumed that non-resident non-FIs receive 0.5% less than non-resident FIs.

Finland has no information on interest flows. Therefore, interest flows have been estimated using the average interest rates and the stocks. For the years 1995 and 1996, the interest rates cannot be split by users sector, therefore average rates for all users sectors had to be used. The balance sheet and the profit and loss account of the Central Bank have been changed from 1999 onwards according to the ECB regulation. Therefore, some information is not fully comparable with the previous years - even though the figures provide a very good estimate.

Sweden uses published interest rates from the Swedish Central Bank to estimate interest flows among sectors. However these rates cannot be applied automatically and the distribution is made with the aim of keeping the total and of following the common belief of the credibility of different sectors. All interest data are estimated from sector distributed stocks, total interest and, as a guide, the above mentioned interest rates. For the calculation of imports, there is no information of interest flows or interest rates.

United Kingdom has information on interest flows coming from the UK banks' reporting income and expenditure. But in any period, there is no information on interest flows broken down by institutional sectors. Only a breakdown of interest flows into resident and non-resident is available. Estimates had to be made by means of interest rate x stock calculations and the UK also used data from building societies, which have available data, on accrual basis, for interest earned on commercial assets. The figures cover both lending secured on dwellings and unsecured lending. As already stated in paragraph III, 3.1, the FISIM used by S124, like that of S125, is likely to be underestimated because of the use of single data series for interest rates on deposits from and for lending to these sectors. In addition, the United Kingdom has made new assumptions in the calculation of interest flows between offshore banks (classified in the rest of the world) and the UK non-bank sectors. These new assumptions are based on the fact that the average transaction amount handled by the "offshore banks" is rather larger than the average amount of transactions handled by the mainland banks. Thus it has been assumed that offshore banks offer slightly higher interest rates on deposits than UK banks, and lower interest rates on lending than UK banks.

On the other side, Belgium, and to some extent France and Denmark could be seen as countries having a banking information system which allows not only the total but also a direct measure of interest flows received/paid vis-à-vis some specific users sub-sector. However, the data collection system differs in these three countries:

Belgium has information about interests flows coming from the reporting scheme that credit institutions have to fill in for statistical and supervisory purposes, but with no breakdown by institutional sectors. Therefore additional information on interest flows is collected by means of the so-called structural survey. In this survey, the credit institutions are not obliged to fill out the part relating to interest flows, and the Belgium Central Bank thinks that 75% of the information on interest received and paid is covered by the structural survey. Therefore, unlike the treatment observed in a majority of countries, interest flows by users sectors are estimated on the basis of real flows, and not by applying the "stocks x interest rates" formula. Another problem in Belgium is that credit institutions report profit and loss accounts including the results of their foreign branches. Thus, some adjustments were made based on the stocks of credits and deposits relative to the activities of resident Belgian credit institutions.

Denmark has quarterly supplementary information on interest flows concordant with the average of daily observations of stocks. Interest flows is also available with a breakdown by domestic users sectors, but the institutional breakdown does not correspond to the one requested for the FISIM exercise. The lack of consistency between the "average of daily observations of stocks" and interest flows has resulted in the establishment of an agreement with the banks to report interest flows

according to the required institutional breakdown. The reports of these data will be integrated in the Money and Banking Statistics, and will be available on a quarterly basis from the first quarter 2001. Unlike the stocks, information on interest flows received/paid vis-à-vis non-resident FIs are not available, and therefore have been estimated on the assumption that the same conditions apply whether the financial institution is resident or not. The new Money and Banking Statistics will allow a direct observation of interest flows between resident and non-resident FIs, but not between resident non-FIs and non-resident FIs. For the non-bank institutions of the S122+S123 sectors, information on interest flows is available on an annual basis, but with no sectoral breakdown. As already said for the stocks, Denmark assumes that these other institutions generally conduct their business with one or two specific institutional sectors.

France has information (twice a year) about interest received and paid, in particular with a distinction between financial and non-financial sectors. Furthermore, the total interest received/paid by users sectors, excluding the households sector, is available together with the total interest flows received/paid vis-à-vis the rest of the world.

C-Main problems encountered

V Calculation of internal reference rate for methods 1 and 2

5-1 Match between assets and liabilities

In principle, between resident FIs of S122 and S123 sectors, the amount of interbank transactions assets should be the same than the amount of interbank transactions liabilities. In practice, the total of loans hold by resident FIs vis-à-vis the other resident FIs (and the corresponding interest payable) do not match the total of deposits held by resident FIs vis-à-vis the other resident FIs (and the corresponding interest receivable). This point is important for the calculation of methods 1 and 2, and has been described in detail in the Belgian, Danish and Swedish studies. An overview of the solution adopted by each country is presented in the following pages:

Belgium has solved this problem by choosing the liabilities side, which is more reliable as a reference. Consequently, the amount of interbank credits granted to Belgian credit institutions and the corresponding interest have been adjusted, the difference being allocated to transactions with non-resident FIs.

Denmark has excluded mortgage banks in its new delivery, but still have a discrepancy between the assets and liabilities. Therefore, the following formula “Interest receivable on loans between S122 and S123 + Interest payable on deposits between S122 and S123” divided by “Stocks of loans between S122 and S123 + Stocks of deposits between S122 and S123” has been used to solve this problem.

Germany uses the (higher) liabilities-side item as a reference for credit granted by resident credit institutions to other resident credit institutions.

Greece considered the assets side as more appropriate for the FISIM exercise, which contains also the highest values. For the reference rate of method 1, Greece adopted the 3 months Athibor rate as for the moment no information is available on financial accounts (more precisely on the balance sheets of the banks).

Sweden has used the annual average stocks of loans and deposits to solve this problem.

The remaining countries have made no detailed comments on this particular point for the moment. However, it might be helpful to know in the future if there were significant adjustments made before obtaining a consistent table 1.

5-2 Securities other than shares (for method 2)

The calculation of the reference rate according to method 2 also takes into account stocks and interest on securities other than shares issued by S122 and S123 sectors. It seems that no specific problems have been encountered by the Member States for the calculation of the internal reference rate for method 2. In some countries, interest on securities other than shares issued by S122 and

S123 sectors were not available, but have been estimated with apparently no specific difficulties and in line with the guidelines stated in the Council regulation:

Belgium has included, for the calculation of reference rate 2, interest received on securities held by the financial intermediaries. Furthermore, the so-called “bons de caisse” have not been considered as securities. These "bons de caisse" have been considered as deposits since the credit institutions can influence the interest rates. In addition, derivatives have been excluded from securities. Due to lack of reliable information, Belgium has also excluded from the calculation securities held and issued by the units of sector S123.

Denmark does not have information on the accrued interest on securities other than shares issued by FISIM producers from direct source. Since the amount of bonds issued by Danish FISIM producing FIs is limited, the lack of information on interest flows has a minor impact on the calculation of reference rate according to method 2. Furthermore, only the amount of securities other than shares issued by FISIM producers and held by FISIM producers is included in the calculation.

Germany generally classifies bonds as deposits instead of recording them under securities. Unlike other securities, the bonds issued by the banks are not negotiable, thus do not have to be written off in the event of losses in value. Another problem is the identification of settlements relating to swap transactions under German accounting rules. It is not clear how these settlement payments can be separated out from other flows.

United Kingdom has excluded identifiable series on mutual investment funds in order to obtain the appropriate coverage for calculation of reference rate 2. Furthermore, the United Kingdom indicated that interest flows reported since 1998 on an accrual basis are thought to be of adequate quality, although subject to definitional uncertainties, particularly as regards non-inclusion of interest swap payments.

Greece and **Spain** and **France** have made no specific comments about the calculation of the reference rate according to method 2.

VI Calculation of internal reference rate for method 3

Calculation made?

<i>BE</i>	<i>DK</i>	<i>DE</i>	<i>GR</i>	<i>ES</i>	<i>FR</i>	<i>NL</i>	<i>IT</i>	<i>AT</i>	<i>PT</i>	<i>FI</i>	<i>SE</i>	<i>UK</i>	<i>SK</i>
<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Seven of the fourteen countries provided an evaluation of an internal reference rate for method 3, namely Belgium, Denmark, Greece, Spain, the Netherlands, Italy and Austria.

- **Denmark** calculated its long-term reference rate for method 3 based on 5-year general government bonds.
- **Spain** indicated the weakness of estimates of maturities for the calculation of FISIM under this method.
- **Greece** adopted the “10 years bond interest” as the best proxy for the long-term interest rates.

- **Italy and the Netherlands** clearly indicated that method 3 gives less reliable results than the others, or is less appropriate for the FISIM exercise.

The other seven countries-Germany, France, Portugal, Finland, Sweden, the United Kingdom and Slovakia- have not calculated the internal reference rate for method 3, in most cases because of the absence of any adequate body of information on the maturity structure of the liabilities of FISIM producers. In other words, it was either impossible or difficult to make a reliable split between short and long term loans and deposits.

- **France** stated that the long-term/short-term breakdown was not economically appropriate for inter-bank transactions, which are “de facto” short-term transactions.
- **Germany** sees serious drawbacks to this method, considering that this method “artificially” separates short and long-term business.
- **Finland** does not know the original maturity of the loans.

VII Calculation of internal reference rate for methods 4a, 4b and 4c

This chapter will mainly concentrate on the main problems encountered in the calculation of reference rate for method 4a, as methods 4b and 4c are just averages of method 4a with either method 1 or method 2. It seems that no major difficulties have been met in the calculation of an internal reference rate for these methods.

Belgium and Spain have expressed some doubts concerning the pertinence of these methods from a theoretical point of view, as their economic sense does not appear clearly.

France considers the testing calculations proposed under methods 4 as being rather strange, because they are based on a simple average. A weighted average would have been better, but also closer to methods 1 and 2.

Denmark indicated that the three reference rates of methods 4a, 4b and 4c are too high because they include a risk element. In comparison with the first results, changes in the reference rates under method 4a are mainly due to the use of new financial leasing calculations, the use of new consumer credit statistics and the inclusion of provisions for bad debts.

United Kingdom pointed out that the reference rates calculated for method 4a vary according to the averaging method used. The United Kingdom has combined at the most aggregated level the loan and deposit balances for S11, S125, S13, S14 and S15 with domestic FISIM producers, and the interest payable and receivable on them. Then, a single average interest rate has been derived for the entire business. At a more disaggregated level, averaging the implied rates on deposits and lending for each consuming sector and taking an average of these averages gave results up to 0.5 percentage points lower.

D-Main results

The results presented in this chapter are based on:

- The first testing calculation made by Greece, France, Austria, Sweden and Slovakia, for the 1995-1998 period.
- The revised 1995-1998 data provided by Belgium, Germany and Portugal.
- The first 1999 results and the revised 1995-1998 data provided by Denmark, Spain, Italy, the Netherlands, Finland and the United Kingdom.

VIII Comparison between global FISIM as defined in ESA 95, before the FISIM regulation, and the sum of FISIM output allocated to users sectors, as defined in the FISIM regulation

Comparison done?

<i>BE</i>	<i>DK</i>	<i>DE</i>	<i>GR</i>	<i>ES</i>	<i>FR</i>	<i>NL</i>	<i>IT</i>	<i>AT</i>	<i>PT</i>	<i>FI</i>	<i>SE</i>	<i>UK</i>	<i>SK</i>
<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>

Ten of the fourteen countries that provided their first test calculations to Eurostat have made a comparison of the "global" FISIM, as defined by the ESA 95, with the FISIM output calculated according to the methods 1-4c defined in the Council regulation. With the exception of method 3, the results of methods 1-4c are, in most countries, quite similar. In addition, apart from the French results and to some extent the German ones, there is a gap between the results of these methods and the "global" FISIM calculated according to ESA 95, paragraph 3.63.

- In Belgium, Denmark, Italy and Portugal, the "global" FISIM calculation produces higher amounts of FISIM than the calculations made according to the regulation methods. In general, this has been observed for all years and all reference rates. The main reason is that the ESA method includes the interest on securities other than shares. In the regulation method, interest on securities other than shares issued by FIs are used only for the calculation of the reference rate 2, but the FISIM are produced only on loans and deposits. Furthermore, some countries have included the FISIM produced by the Central Bank in their global calculation.
- In Spain, the level of "global" FISIM regularly increased over the whole 1995-1999 period, and slightly exceeded, for the first time in 1998, the total FISIM calculated according to the regulation which, on the contrary, is decreasing.
- In the Netherlands, the results show for all years a lower level of "global" FISIM compared to the FISIM calculated through the regulation methods. The lower level of "global FISIM" is due to the fact that interest receipts and interest payments on securities other than shares, which were included in the global data but excluded from the regulation methods, showed a strong deficit of about 6 billion guilders. A substantive part of the interest receipts on bonds is yield on net worth and thus not producing FISIM, and this deficit decreases the result of global FISIM.
- In Sweden, the global FISIM produced is always lower than the amount of FISIM produced using any other methods except method 2.

- In the United Kingdom, the total FISIM output allocated to domestic consuming sectors and the rest of the world indicate very little variation in the results as between the various methods. The amount of global FISIM produced regularly decreased since 1995. This falling rather than rising trend of the global data was mainly due to a falling net income on interest flows with the rest of the world financial institutions.

IX Output of the Central Bank

Calculations done?

<i>BE</i>	<i>DK</i>	<i>DE</i>	<i>GR</i>	<i>ES</i>	<i>FR</i>	<i>NL</i>	<i>IT</i>	<i>AT</i>	<i>PT</i>	<i>FI</i>	<i>SE</i>	<i>UK</i>	<i>SK</i>
<i>Yes</i>	<i>Yes*</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Yes*</i>	<i>Yes</i>	<i>Yes*</i>	<i>No</i>

** Only the calculation using the sum of the costs has been done.*

Ten of the fourteen above-mentioned countries have calculated the FISIM produced by their Central Bank, at least by using one of the two suggested methods. These two methods are the sum of costs, according to the Regulation, and the definition of the so-called “global” FISIM as defined in ESA95, before the FISIM regulation. More precisely:

- Belgium, Germany, Spain, France, The Netherlands, Portugal and Sweden have made the comparison of the FISIM output of their respective Central Bank using the two proposed methods.
- Denmark, Finland and the United Kingdom presented the results of the FISIM output of their Central Bank using the method defined in the regulation (sum of costs).

As expected, and except Portugal for the years 1995 and 1996, the total FISIM produced by the Central Banks, as measured following the first ESA 95 recommendations, is higher than the output of the Central Banks measured according to the sum of the costs:

- In Germany, Spain, the Netherlands and Sweden, differences between the two methods are extremely high, the results based on the sum of the costs never exceeding one fourth of the total output calculated according to the first ESA95 recommendations.
- In Belgium, the same ratio fluctuated between 36% and 41%. Furthermore Belgium has expressed its preference for the calculation by the sum of the costs, as suggested by the regulation, which represents better the real value of the production of Central Banks.
- In France, the total FISIM produced by the Central Bank, and measured according to the first ESA95 recommendations, is slightly higher than the output of the Central Bank measured as being the sum of its costs. France would prefer to keep the measure of the output of the Central banks as for the other FIs.
- Finland has calculated the FISIM output of the Central Bank according to the sum of its costs. The appliance of the ESA 95 paragraph 3.63 was not feasible because the amount of own funds

to the Finnish Central Bank is not clear. In addition, the exchange reserves cannot be broken down into financial assets.

- The United Kingdom has not made the comparison with the ESA 95 rules, but indicated that the global method will have greatly exceeded the cost basis figures, because the Bank earned large sums from investment, in particular from those backing the note issue. The United Kingdom has also calculated the FISIM output of the Central Bank using the reference rate 2 of the regulation, and the results are much lower than the ones obtained by the sum of the costs.

X Occurrence of negative FISIM

Negative FISIM can occur as allocated FISIM are calculated on the basis of the difference between interest rate receivable by FIs and the reference interest rate (for loans), and on the difference between the reference interest rate and the interest rate payable (for deposits).

Most Member States are reluctant to have negative FISIM, putting forward the difficulty of presenting a service with a negative value. Other Member States admit the possible existence of negative FISIM, arguing that revenues of the S122/S123 sectors are not generated only by the differential of interest receivable/payable, but also by the fees and commissions.

During the FISIM Task Force of May 2000, the Member States agreed that:

- When rare and sporadic, negative FISIM does not reopen the question of the reliability of the methods proposed in the regulation.
- In the case of “structural negative FISIM” towards an institutional sector, but either on the loans side or the deposits side, the figures should be kept unchanged for the moment.
- In the case of “structural negative FISIM” towards an institutional sector on both sides, loans and deposits, no FISIM should be allocated to this sector.

10.1 Negative FISIM vis-à-vis resident institutional users sectors

France, Austria, Greece, Italy and Finland are the only EU countries having provided the FISIM results with no negative FISIM allocation towards resident users sector. As already said in the first reports, the Netherlands was the only country having encountered “structural negative FISIM”, towards the insurance corporations and pension funds sector (S125), both on the loans and the deposits sides. In the Netherlands, the insurance corporations and pension funds sector (S125) is strongly intertwined with FIs. To solve this problem, the Netherlands followed the FISIM task force recommendation of May 2000, and presented the new data with no FISIM allocation to the S125 sector. But the new Dutch series allocate FISIM to “non-producing units of S123”, and significant amounts of negative FISIM generated on loans granted to these units have been observed in 1998, for all methods.

Except in Germany, negative FISIM occurred rarely on the deposits side. Germany will investigate in the near future the insurance corporations’ deposits with credit institutions, as negative banking service incomes have been observed for all years. Germany suspects an excessively low level of the

annual average stocks of the S125 deposits, given the fact that insurance corporations reduce their deposits with credit institutions as of the balance sheet date.

If we except the “sporadic cases”, negative FISIM is observed mainly in the case of loans granted to mutual funds, financial auxiliaries (S124), insurance corporations and pension funds (S125) and the general government sector.

Almost all Member States have encountered negative FISIM with the General government sector (S13), but with generally very small amounts involved. Therefore, it is likely that the impact of the negative FISIM on GDP might overall be marginal.

10.2 Negative FISIM vis-à-vis the rest of the world (on imports and exports)

In a majority of EU countries, the FISIM transactions between resident FIs and non-resident FIs are structurally negative, on both loans and deposits. In such a case, a negative sign does not correspond to negative exports, but to positive imports of FISIM. Such a situation has been observed on the Danish, German, Spanish, French, Dutch, Austrian and UK figures. However, except Germany for all years, Sweden for the year 1997 and the United Kingdom for the year 1999, the positive FISIM (loans + deposits) generated between resident FIs and non-resident non-FIs always exceeds the negative FISIM sometimes observed between resident FIs and non-resident FIs. The German situation is more extreme as between 1996 and 1998, exported FISIM were also negative, both on loans and deposits sides and for the total non-resident non-FIs users sectors.

Negative exported FISIM towards non-resident non-FIs have been encountered only on the Swedish and Belgium data, and on the 1996 UK data.

Negative FISIM have also been observed on the FISIM imports, but given the reliability of the data, in most cases estimates, no comments can be made on this issue.

XI Analysis of the impact on GDP

Before strictly focusing on the FISIM impact on GDP, it might be interesting to have a slight overview of the relative importance of FISIM, when compared to the total commissions and fees directly charged by the S122 and S123 institutional sectors. As agreed during the FISIM task force held in May 2000, six EU countries (Denmark, Germany, Italy, the Netherlands, Finland and the United Kingdom) have transmitted to Eurostat supplementary data about commissions and fees charged by their resident FIs (of S122 and S123). A rough comparison is made between these preliminary data with regard to the total amount of domestic FISIM produced. The latter corresponds to the total domestic FISIM produced and allocated to resident users sectors (yearly average of methods 1, 2, 4a and, when available, method 3) plus the total domestic FISIM allocated to the rest of the world. The results are summarised in the following table:

Domestic FISIM produced divided by total commissions and fees charged by S122 and S123.

	<i>Denmark</i>	<i>Germany (*)</i>	<i>Italy</i>	<i>Netherlands</i>	<i>Finland</i>	<i>United Kingdom</i>
<i>1995</i>	<i>1.76</i>	<i>2.85</i>	<i>0.88</i>	<i>3.44</i>	<i>4.66</i>	<i>2.45</i>
<i>1996</i>	<i>1.46</i>	<i>2.70</i>	<i>0.73</i>	<i>3.10</i>	<i>2.87</i>	<i>2.38</i>
<i>1997</i>	<i>1.33</i>	<i>2.24</i>	<i>0.68</i>	<i>2.58</i>	<i>2.68</i>	<i>1.93</i>
<i>1998</i>	<i>:</i>	<i>1.80</i>	<i>0.53</i>	<i>2.36</i>	<i>2.72</i>	<i>1.51</i>
<i>1999</i>	<i>:</i>	<i>:</i>	<i>0.49</i>	<i>2.45</i>	<i>2.33</i>	<i>1.29</i>

(*) Only commissions income of credit institutions.

For all countries, the ratios' seem to indicate a declining importance of FISIM over time in the total output of credit institutions. Spain, in its last report, also confirms the decreasing trend of FISIM over the 1995-1999 period, as FIs directly charge commissions and fees for an increasing part of their output. The Netherlands mentioned a regular increase of the commissions and fees charged by the S122+S123 between 1995 and 1999, but this trend cannot be compared to the Dutch FISIM evolution, because of the discontinuity of the FISIM time series in 1998. The German report also indicates a regular and significant upward trend of the commission income charged by its resident credit institutes (+40% over the 1995-1999 period), in comparison with the relative "stability" of the domestic FISIM produced.

Apart from Italy, these ratios are always over 1, confirming the importance of FISIM in absolute terms. In other words these first results indicate that, even now, units of the S122+S123 sector generate more than half of their output in the form of implicit charges on users, via interest rates. In Germany, the Netherlands and Finland and for the recent years, the total FISIM still represented at least double the total commissions and fees charged by the credit institutions.

These first results confirm the importance of allocating FISIM given the "size" of the latter and to improve consistency with the treatment of the commissions and fees, which are allocated to user sectors and therefore taken into account in the GDP calculation. As the part of FISIM on the output of FIs remains significant and differs strongly among Member States, allocating FISIM should lead to a more complete and accurate intra-EU comparison of GDP levels, as the entire value added generated by the activity of FIs would be taken into account.

11.1 Average impact on GDP by country

Eurostat estimates are based on:

- The 13 EU countries having already implemented the FISIM exercise.
- For each country the impact of FISIM is estimated based on the (simple) average of all years and all methods (tables 2,3 and 4 provided by the Member states).
- The following formula has been used to ensure consistency among Member States:
$$\text{Domestic FISIM allocated to General government (S13) + Households (S14) as consumers + NPISHs (S15)} \\ + \text{Exported FISIM (when available) - Imported FISIM allocated to intermediary consumption (when available)}$$

Total GDP at market prices (provided in most case by the Member States)

- The EU13 average has been calculated using the average GDP at market prices of each EU13 countries divided by the average EU13 GDP, over the 1995-1999 period.

The figures in the next table (p 24) also present whenever possible the impact on GDP due to:

- The increase of final consumption of households (including the NPISHs when the latter cannot be presented separately), corresponding to services provided by resident FIs.
- The increase of final consumption of non-market services (General Government and NPISHs when the latter is shown separately), corresponding to services provided by resident FIs.
- The net exports minus imports of FISIM used only for intermediate consumption, as FISIM imported for final consumption are neutral on the GDP. Imports and exports of FISIM are not only based on loans and deposits between FIs and non-FIs entities. They are also based on interbank loans and deposits (between resident FIs and non-resident FIs) which are treated as imports or exports depending of the sign of the result. Imports of FISIM by resident non-FIs users have, in most cases, a marginal negative impact and was significant (around -0.1%) only for Belgium, Denmark, Spain, the United Kingdom and Italy.

Following this procedure, the allocation of FISIM by users institutional sectors would have increased the GDP by about **1,3%** (table p24).

More than 80% of this is due to the impact on the households' final consumption, that is by the FISIM on loans and credits allocated to households as consumers. The results are in fact closely linked to the data and the estimation methods used by Member States to break down the Household sector. Compared to others, Austria is the only EU country having observed a relatively minor impact of the households sector (one third of the total impact on GDP). The latter has used the breakdown observed on the loans side to split the deposits of households into either their consuming or investing functions. The FISIM Task Force held in Luxembourg in May 2000 clearly assessed common rules on this issue (see annex 1).

Apart from Greece for the non-market services, and Germany for the net exports of FISIM, the impact on the GDP due to the FISIM allocation in these two above-mentioned user sectors is relatively marginal (never exceeding 0.3%).

Country	Impact on GDP (in %)	Of which increase of final consumption of households	Of which increase of final consumption of non-market services	Of which net exports – imports allocated to IC
Belgium	1,6	1,1	0,2	+0,3
Denmark	1,3	1,3	0,1	-0,0
Germany	1,3	1,6	0,3	-0,6 (1)
Greece	1,6	1,1	0,5	n.a
Spain	1,3	1,3	0,2	-0,1
France	1,3	0,8	0,2	0,2
Ireland	n.a	n.a	n.a	n.a
Italy	1,1	1,0	0,1	+0,0
Luxembourg	n.a	n.a	n.a	n.a
The Netherlands	1,4	1,2	0,1	0,2
Austria	1,2	0,4	0,4	0,4
Portugal	1,9	1,7	0,3	-0,1
Finland	1,3	1,0	0,1	0,3 (1)
Sweden	1,2	1,0	0,1	0,0 (1)
The United Kingdom	1,6	1,4	-0,0	0,2
EU 13 (weighted av.)	1,3	1,2	0,2	-0,1
Slovakia	1,5	0,9	0,6	0

NB: Values have been rounded, so in some cases the total impact on GDP is slightly different from the sum of the components.

(1) Germany, Finland and Sweden have not implemented any calculations on imports of FISIM.

11.2 Average impact on GDP by method

Impact on GDP by method and country (average of all years, in %)

	<i>Method 1</i>	<i>Method 2</i>	<i>Method 3</i>	<i>Method 4a</i>	<i>Method 4b</i>	<i>Method 4c</i>
<i>Belgium</i>	1.44	1.75	1.69	1.57	1.50	1.66
<i>Denmark</i>	1.22	1.23	1.28	1.45	1.33	1.34
<i>Germany</i>	1.07	1.28	n.a.	1.42	1.24	1.35
<i>Greece</i>	1.76	1.27	1.93	1.60	1.68	1.43
<i>Spain</i>	1.25	1.46	1.28	1.32	1.28	1.39
<i>France</i>	1.20	1.44	n.a.	1.15	1.18	1.29
<i>Ireland</i>						
<i>Italy</i>	0.99	1.11	1.12	1.07	1.03	1.09
<i>Luxembourg</i>						
<i>The Netherlands</i>	1.35	1.55	1.32	1.35	1.35	1.45
<i>Austria</i>	1.20	1.16	1.19	1.19	1.20	1.16
<i>Portugal</i>	1.50	1.54	n.a.	2.47	1.98	2.01
<i>Finland</i>	1.29	1.37	n.a.	1.34	1.32	1.36
<i>Sweden</i>	1.16	1.33	n.a.	1.09	1.13	1.21
<i>United Kingdom</i>	1.59	1.49	n.a.	1.74	1.67	1.61
<i>EU13 (weighted average)</i>	1,23	1,36	1,28	1,37	1,30	1,36

Method 1 based on the inter-bank rate corresponds on average to an increase of 1,23% of GDP.

Method 2, which also includes the rate of bonds, has on average a higher effect (1,36% of GDP): as, for the years under study, the long term rates were higher than the inter-bank rates, the reference rate in method 2 is higher than the reference rate in method 1. As the stocks having an impact on GDP (mainly loans and deposits of households as consumers) are higher on the deposits side than on the loans side, the impact on GDP of allocating FISIM increases when the reference rate increases. This is due to the fact that the increase on the deposits side (FISIM on deposits) is higher than the decrease on the loans side (FISIM on loans).

Method 3 has a lower impact, but could not be implemented by six Member States as they can not break down loans and deposits according to their maturity. Moreover, as it introduces two reference rates (one for long term transactions, another for short term transactions) this method has the disadvantage to systematically eliminate the “matching benefits”, which is the use by FIs of short term deposits to finance loans with longer maturity.

Method 4a has an impact on GDP higher than the impact of method 1, but of the same magnitude as the impact of method 2 (in average 1,37%). This method measures only the gap between loan and deposit interest rates, neither of which has any measurable relationship to the pure interest concept (both include an element of service charge, but the size of this service element within each is unknown).

Methods 4b and 4c are a mixture of method 4a and of methods 1 and 2, respectively.

From a methodological point of view, the reference rate should measure the pure cost of funds appropriate to a borrowing or lending transaction, without any element of service charge or of risk. Therefore, methods 1 and 2 are conceptually better than methods 4, but methods 4 were introduced in the regulation because it was supposed they would bring more stable results.

11.3 Index of “volatility”

To verify the stability of the results, an index of “volatility” of each method has been defined as follows:

Index of “volatility” of the allocation of FISIM, based on the results by country and by method

$$= \frac{\left| \text{impact on GDP year } n + 1 - \text{impact on GDP year } n \right|}{\text{impact on GDP year } n}$$

Example (fictitious figures for country X and method Y):

Year	Impact on GDP	Index of “volatility”
1995	2%	
1996	1,9%	$\left 1,9 - 2 \right / 2 = 5\%$
1997	2,3%	$\left 2,3 - 1,9 \right / 1,9 = 21\%$
1998	2%	$\left 2 - 2,3 \right / 2,3 = 13\%$

Average “volatility” by country (average of methods 1, 2, 4a, 4b, 4c)

BE	DK	DE	GR	ES	FR	IT	NL	AT	PT	FI	SE	UK
11%	15%	14%	20%	15%	14%	12%	9%	6%	15%	16%	5%	16%

The implementation of these calculations for each Member State highlighted different levels of "volatility". For the average of the five methods (method 3 is not included as this method could not be implemented by several countries), the average index of volatility was estimated at 20% for Greece; between 10% and 16% in Belgium, Denmark, Germany, Spain, France, Italy, Portugal, Finland and the United Kingdom. The average index of volatility did not exceed the 10% threshold in only three countries, namely the Netherlands (9%), Austria (6%), and Sweden (5%). But it should be borne in mind that these two last countries have not provided Eurostat with their 1995-1998 revised figures, and their 1999 results.

Average “volatility” by method and country (average of all years, in %)

	Method 1	Method 2	Method 3	Method 4a	Method 4b	Method 4c
Belgium	16.8	9.8	10.6	8.6	12.4	9.2
Denmark	16.4	15.7	15.1	13.7	14.9	14.6
Germany	15.6	14.7	n.a.	12.3	13.9	13.6
Greece	25.8	30.0	27.5	10.9	18.4	13.0
Spain	18.1	13.9	13.4	14.6	16.4	14.3
France	17.4	11.5	n.a.	13.6	15.0	12.3
Ireland						
Italy	8.8	11.5	12.3	14.6	11.8	12.9
Luxembourg						
The Netherlands	8.5	9.1	12.3	9.7	9.2	9.1
Austria	4.9	8.7	4.4	4.2	4.6	8.7
Portugal	18.0	32.7	n.a.	5.3	7.7	11.8
Finland	19.2	15.9	n.a.	14.4	17.0	15.3
Sweden	6.1	5.7	n.a.	5.4	3.6	5.1
United Kingdom	18.0	18.2	n.a.	13.1	15.5	15.5
EU13 (Weighted average)	14,9%	13,9%	12,56 (*)	12,45%	13,4%	12,9%

(*) Weighted structure based on seven countries.

Leaving aside method 3, the method 4a is, not surprisingly, the least volatile one. However, the difference with method 2 is not significant: less than 2 percentage points.

At this stage of the trial period, it seems that method 2 is the best method as this method is more satisfactory from a conceptual point of view than method 4a. Also because method 2 represents a qualitative advance over method 1 as a rate applicable to transactions over a wide maturity band, therefore producing generally more stable results.

Classification of EU countries according to the average index of volatility of methods 1, 2 and 4a.

	<i>Volatility of M4a<M2<M1</i>	<i>Volatility of M4a<M1<M2</i>	<i>Volatility of M2<M4a<M1</i>	<i>Volatility of M2<M1<M4a</i>	<i>Volatility of M1<M4a<M2</i>	<i>Volatility of M1<M2<M4a</i>
<i>EU countries</i>	<i>BE, DK, DE, FI, SE</i>	<i>GR, AT, PT, UK</i>	<i>ES, FR</i>			<i>IT, NL</i>

Eight of the thirteen EU countries obtained a lower volatility under method 4a, with five of them fully in line with a “theoretical assumed order”: m4a is less volatile than m2, which is less volatile than m1. If we concentrate only on method 1 and method 2, it should be pointed out that seven of the thirteen EU countries obtained a lower volatility in their results by using method 2 compared with method 1 (addition of the first and the third columns). Portugal is the only country whose volatility index for method 2 is nearly double its volatility index for method 1. In general differences in the average volatility index are small when comparing these two methods, never exceeding 7 percentage points. On the other side, Italy and the Netherlands presented more volatile results under method 4a compared with methods 1 and 2.

Thus, the use of method 2 would mean that, on average, the impact on GDP of the allocation of FISIM differs from $1,36\% \times 13,9\% = 0,19\%$ of GDP, which is the average difference on GDP between one year and the following year.

It would be useful to know if the average “volatility” comes from stock changes (expressed in % of GDP) or from interest rate changes.

An index of “volatility” based on the total of the resident stocks of loans and deposits (in % of GDP), plus the total exported stocks of loans and deposits (in % of GDP), minus the total imported stocks of loans and deposits (for intermediary consumption, in % of GDP) has been calculated.

$$= \left| \frac{\text{stocks of loans + deposits year } n+1 - \text{stocks of loans + deposits year } n}{\text{stocks of loans + deposits year } n} \right|$$

These amounts were expressed in terms of GDP, to be consistent with the general index of volatility previously presented.

The result of the index of volatility of the stocks having an impact on the GDP is close to 5%. This means that – if interest rates remained unchanged – the volatility of FISIM having an impact on GDP would be 5% and not 14%. This means that the volatility of FISIM having an impact on GDP (14%) is likely to be explained mainly by the changes in interest rates. It can be observed that, in some years and for some countries, the gap between interest on loans and interest on deposits quickly changes. If this gap deeply decreases from one year to another, FISIM on loans and deposits, calculated as a margin on the basis of the reference rate, will also decrease significantly.

The fact that the reference rate is sometimes either closer to the interest rates on loans or closer to the interest rates on deposits is less relevant because the volatility of method 4a, which avoids such a situation, is not significantly lower than the volatility of other methods, and particularly method 2.

11.4 Countries' preferences

Concerning the choice of the method, some Member States expressed their preferences. A majority of countries have excluded method 3 from their preference list. For the remaining five methods, eight of fourteen countries –Belgium, Denmark, Spain, France, Italy, the Netherlands, the United Kingdom and Slovakia- have expressed in a more or less precise way their choice.

- Denmark seems to favour method 1. Method 2 is questionable since the Danish FISIM producing FIs are virtually not issuing bonds, and methods 4 are also questionable because of the inclusion of a risk element. Furthermore, methods 4 leads to negative FISIM results on loans for several sectors and, in comparison with methods 1 to 3, give higher amounts of FISIM output.
- The United Kingdom presented a list of preferences, with a classification of all methods. Method 2 ranks first, followed by methods 1, 4c, 4b, 4a and 3 respectively.
- Belgium, Spain, Italy and the Netherlands expressed their preference in providing a restricted list of methods: methods 1, 2 and 3 for Belgium, method 1 for Spain, methods 4a and 4c for Italy, methods 2 and 4a for the Netherlands.
- France implicitly indicated that methods four, based on simple averages, were rather strange.
- Finland indicated that, at this stage of the calculations, neither no single method of calculating the reference rate can be preferred nor can any method be excluded.
- Sweden indicated that, at this stage of the calculations, it was too early to give an opinion. If so, the Swedish choice would fall on method 2 or one of the reference rates combined with method 4a, preferably method 4c.
- Slovakia after consideration of the results of experimental calculations, has chosen the procedure based on method 1 for the application in national accounts.

At this stage of the calculations, the criteria used to express the preferences are:

1. Reference interest rate that is free of service charge and risk.
2. Reference interest rate that gives more reliable results.
3. Reference interest rate that gives more stable results.
4. Reference interest rate keeping the “transformation gains” (this is a problem with method 3).
5. Reference interest rate that is simple to be calculated.
6. Reference interest rate through which the sum of detailed FISIM will approach best the global FISIM.

Only six countries have expressed for the moment their preferences on criteria to be used. These countries are Belgium, Denmark, Spain, Italy, the Netherlands, and the United Kingdom. Almost all of them seemed to favour the first criteria (Reference interest rates free of service charge and risk), which also indicates a choice from a conceptual point of view. Furthermore, a majority of countries have stressed the importance of having reliable results (criteria 2), and pointed out the fact that the quality of the estimates made might significantly alter the results. Italy and the Netherlands have also used the criteria of the stability of the results. Spain pointed out another advantage of method 1,

which is the simplicity of its calculation. The criteria of “best approaching” global FISIM has been expressed only by the Netherlands.

11.5 FISIM at constant prices

Annex III, point 3 of the regulation specifies that FISIM at constant prices should be evaluated, on both the loans and deposits sides.

The following formula should be used (on the loans side):

$$\begin{aligned} & \textit{FISIM on loans granted to the institutional sector at constant prices} = \\ & (\textit{FISIM on loans granted to the institutional sector} / \textit{price index}) \times \\ & (\textit{base period margin} / \textit{effective margin}). \end{aligned}$$

During the last FISIM task force meeting, it was decided not to implement these calculations in 2000. However, Denmark has already provided Eurostat with their first FISIM tables results at constant prices. Germany has not performed the calculation of FISIM at constant prices, but pointed out the lack of clarity of the regulation, especially with regard to the formula form presented and the brief explanation text preceding this formula. The formula is not contested but the wording of the text was inspired from an Australian paper distributed during the NAWP of June 1996, and this wording could be improved.

Therefore, no conclusion can be drawn for the moment concerning the possibility of allocating FISIM at constant prices, and Member States should be encouraged to implement this exercise as soon as possible.

E-General conclusion

Most Member States were able to implement the different testing calculations stipulated in the regulation, with relatively stable and similar results. However, the Commission considers that allocating FISIM will be feasible if improvements on data sources continue to be made.

Preferences expressed by the Member states have put forward two criteria for the identification of relevant reference interest rates. These criteria are the need to have an interest rate fairly close to the concept of “pure interest rate” and giving the most reliable results with regard to available data. The analysis of the impact on GDP, at this stage of the study, has put forward method 2, which seems to bring best results.