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## **FINANCIAL INTERMEDIATION SERVICES INDIRECTLY MEASURED (FISIM)**

Note by the OECD Secretariat

### **Historical Background**

1. Banks in most countries finance a large part of their operating by charging higher rates of interest on the loans they make than on the deposits they receive. The pioneers of national accounts soon realized that if they calculated the value added for banks in the same way as for other producers, the operating surplus for banks would be very low and even negative. To avoid "the paradox of a prosperous industry showing a negligible positive, or even negative, contribution to the national product"<sup>1</sup> the convention was adopted of imputing an additional component to the gross output of banks which consisted of the "free" services that Banks were assumed to be providing to their customers.

### **OEEC and 1953 United Nations Systems**

2. The first system of accounts developed by the Organization for European Economic Cooperation (OEEC - precursor organization to the OECD) recommended that these non-market services should be valued as the "excess of investment income accruing to banks over deposit interest accruing to their depositors" and the first United Nations manual on national accounts, which was published in the following year, adopted the same convention<sup>2</sup>. These early systems provided for these imputed services to be shown as expenditures of the two sectors - households and businesses - that were assumed to be consuming them. They considered that all these imputed services were provided to the **depositors** and consisted of services such as cheque clearing and keeping customers informed of their receipts and payments. It is interesting to note that, contrary to the 1993 SNA, these early GE.01-..... (E)

systems did not regard the tasks that banks undertake in connection with their lending activities as constituting the provision of services to lenders; these tasks were presumably seen as intermediate costs of bank production.

3. Both these early systems recommended that the imputed bank services should be allocated to households and enterprises, and to different kinds of activities within the enterprise sector, according to the levels of outstanding deposits. If there was information available only on the split as between households and enterprises as a whole, the allocation of imputed services to different kinds of activities should be made on the basis of value added. If there was no information at all on the ownership of deposits, the whole amount of imputed bank service charges was to be allocated to the enterprise sector with the distribution by kind of activity to be again based on relative shares of value.

4. The authors of these systems did not want the banking imputation to affect savings of the sectors concerned. To achieve this, the banks were shown as paying imputed interest to enterprises and households of the same amount as the imputed services each sector was assumed to be consuming. These imputed interest flows reduced the saving of the banks and increased the saving of households and enterprises to what they would have been without any banking imputation. It should, however, be noted that although the banking imputation did not affect saving it had the effect of raising GDP. This is because the imputed bank services consumed by households were included in their final expenditure.

### **United Nations 1968 System**

5. The 1968 System of National Accounts retained the convention of imputing values to "free" bank services but introduced three changes. First, it gave a more precise definition of the imputed service charge by noting that "the property income [banks] receive as a result of investing their own funds should not be taken into account in calculating the imputed service charge"<sup>3</sup>. It is clear from this that the authors of the 1968 System considered that the non-market services provided by the banks were strictly related to their role as financial intermediaries; the imputed bank services arose from lending out other people's money and not from lending out their own money.

6. The second change introduced in the 1968 System was that the whole of imputed bank services was treated as intermediate consumption of industries. The authors gave three reasons for this: first, they considered that the allocation recommended in the 1953 System had proved impractical; second, industries are the main beneficiaries of the banks intermediation role; and third, allocating it all to industries avoids "inflating" GDP.

7. The third change was to simplify the system of entries need to offset the imputed increase in output. In the 1968 System, the imputed bank services are treated as intermediate consumption of a "nominal industry". In tables showing the contribution of industries to total GDP, the value added of this industry (which is a negative amount equal to the imputed bank service charge) is shown on a separate line and is not assigned to any kind of activity. In the income and outlay accounts, however, the nominal industry is assumed to be a financial institution so that the operating surplus of the financial institutions sector is reduced by the amount of the banking imputation. This simple device ensures that there is no impact on the saving of any sector. As noted above, neither is there any impact on the GDP because no part of the imputed bank service enters into final consumption expenditure, exports or imports.

## 1993 System of National Accounts

8. During the revision process that led to the 1993 System of National Accounts, a great deal of attention was paid to the issue of the banking imputation. In part this was due the position taken by the Luxembourg Statistical Office - STATEC - at national accounts meetings at the OECD. STATEC considered that the 1968 SNA was severely understating the GDP of Luxembourg because the very large imputed bank service charges generated by banks in that country were all being treated as intermediate consumption of domestic producers although, in reality, most of these imputed services were actually being consumed by non-residents. STATEC therefore argued that the next version of the SNA should record imputed bank services as expenditures of the sectors, including the rest of the world, which consume them.

9. The 1993 SNA defines imputed bank services in the same way as the 1968 version but gives them what the authors considered to be a more precise description, namely “intermediation services indirectly measured” (FISIM). Significantly they dropped the word "imputed" in order to emphasise that, just like the bank services directly charged for, these free services really are being produced and consumed; the only difference is that they have to be measured by indirect methods.

10. As regards the allocation of FISIM, the 1993 SNA recognizes the difficulties in allocating FISIM and allows countries the option of retaining the 1968 solution of allocating all FISIM as intermediate consumption of a notional industry. This is however regarded as the worst solution and the 1993 SNA expresses a strong preference for allocating FISIM to the consuming sectors - i.e. to enterprises, households, government, NPISHs and the rest of the world. The problem is how should this be done? The preferred solution is the “reference rate “ approach, described below. However because the reference rate approach was quite new at the time the 1993 SNA was being written, the authors felt obliged to recognize that it may not be possible for all countries to use it. “If [information to apply the reference rate approach] is not available or not appropriate, the total value of FISIM could be allocated using different indicators. For example, it could be allocated in proportion to the total financial assets and liabilities that exist between financial intermediaries and various groups of users, or in proportion to other relevant financial variables.”<sup>4</sup>

### Reference rate method

11. The theory behind the reference rate method is simple and intellectually appealing. There is assumed to be a pure rate of interest in every country which measures the average preference of its citizens for consuming today instead of tomorrow and this interest rate is termed the “reference rate”. The non-market services that banks render to **depositors** is the amount of interest that banks would pay depositors if they paid them this pure interest rate less what they actually do pay them (nothing or a very small amount in most cases); the non-market services that banks render to **borrowers** is the amount of interest borrowers actually pay on their loans less what they would have paid if they had been charged the pure interest rate.

12. Although the basic idea behind the reference rate approach is rather simple, attempts to apply it in order to allocate FISIM have revealed several practical difficulties. What follows on “problem areas” is based on practical experiments and theoretical studies undertaken by several national statistical offices and international organizations over the past four years. Among the former, the Australian

Bureau of Statistics and INSEE of France have been particularly active, while Eurostat has played the main role among international organizations.

## Problems areas

### 1) Central Banks

13. Central banks differ from commercial or “clearing” banks in that their liabilities consist mainly of currency issued rather than deposits and their assets are loans to government or the rest of the world rather than to domestic enterprises. The reference rate method produces a very large FISIM which is difficult to justify in terms of the services which these banks actually perform. There is now general agreement among OECD countries that despite the recommendations of the 1993 SNA which specified that their FISIM should be calculated in the same way as for other banks, Central Banks should be treated as non-market producers and their gross output and value added calculated by reference to cost. (If central banks do perform commercial operations, these operations should be separated and measured using the reference rate approach.)

### 2) Own funds

14. Like the 1968 SNA, the 1993 SNA specifies that lending a bank’s own funds is not part of financial intermediation and is excluded from FISIM. In practice, however, it is not possible to determine what part of a banks loans are made using own-funds and it is now generally agreed that “FISIM” rendered to borrowers should cover all loans regardless of the origin of the funds provided as loans.

### 3) Transactions in securities

15. Banks raise money by issuing bonds and may hold bonds in their asset portfolio. Both the issuing and acquisition of bonds can be seen as acts of financial mediation, but it is now generally agreed that there are no services involved in dealing in bonds which need to be indirectly measured. The main reason is that banks cannot charge indirectly for services provided on these instruments by manipulating the interest rates. An additional reason is that transactions in securities can be undertaken between any institutional sectors and do not require intervention by banks.

### 4) What is FISIM?

16. Since the 1968 SNA it has been widely accepted that the non-market services provided by banks consists of **financial intermediation**. Indeed, the term “FISIM” was coined for the 1993 SNA to make this clear. However, the treatment of own funds (2 above) means that these non-market services now **include** services that do **not** involve intermediation and the treatment of transactions in bonds (3 above) means that services that **do** involve intermediation are **excluded**. As now understood by most OECD countries, therefore, FISIM refers not to financial intermediation services as such but rather to the services rendered by banks to depositors and borrowers.

17. This is a clear departure from the 1993 SNA and its predecessors. All these systems have started by defining the "free" services, i.e. "FISIM" or the "imputed service charges" of banks, at a **global** level and then recommended how it should be allocated among those who are deemed to be

making use of these services. The reference rate approach as now understood by most OECD countries use a **bottom-up** approach by calculating the value of the services that are provided to those depositing money or incurring liabilities with financial institutions. Total "FISIM" is then obtained by addition of these individual services; for the reasons explained in the previous paragraph, total FISIM obtained in this way is not identical to the difference between property income paid and received on intermediated funds.

## 5) Reference rate

18. As viewed in the 1993 SNA, the reference rate is a "pure" interest rate. The 1993 SNA suggests that it might be taken as the interest rate on short term loans between banks - e.g. LIBOR or London Inter-bank Overnight Rate. Such loans are virtually risk free and have negligible transaction costs. In practice, using interbank rates can lead to negative FISIM for some sectors in some countries. This can happen, for example, if certain kinds of loans - e.g. housing loans - are offered at low rates in order to attract depositors. More generally, negative, or implausibly high, FISIM can be recorded when inter-bank rates are volatile while average actual interest rates move sluggishly because they are mainly determined by interest rates on fixed interest loans negotiated several years before.

19. The problem of negative, very high and volatile FISIM can be avoided, to a large extent, by using an average of deposit and borrowing rates as the reference rate. One that works well is the mid-point between the average deposit rate and the average borrowing rate with the two average rates being calculated as interest payable divided by outstanding deposits and loans averaged over the period. Separate reference rates are required for each type of financial institution - savings banks, credit unions, commercial banks, etc. While this is a good practical solution, the original theoretical justification for using as reference rate - namely that it represents the pure cost of borrowing - no longer applies.

## 6) Household sector FISIM

20. Deposits and loans of households may be in their capacity as consumers or as producers. It is necessary to distinguish between the two because in the first case FISIM would enter into final consumption and so contribute to GDP, while in the second case FISIM is treated as intermediate consumption. There is no practical way of distinguishing between these two roles of households and it is necessary to adopt an arbitrary convention. One which has been suggested as a rough means of allocation is to assume that all **loans** to households are made to them in their capacity as **producers** - i.e. as owners of dwellings or as proprietors of other unincorporated enterprises - and that all **deposits** by households are made in their capacity as consumers. The allocation can be improved by using any additional information - on personal loans for example - that may be available.

## 7) Constant price FISIM

21. Constant price FISIM is obtained by multiplying stocks of deposits and loans at constant purchasing power by the base year "price" of FISIM. The stocks of deposits and loans are converted to constant purchasing power by deflating the current year values by a general price deflator such as the implicit price deflator for GDP or domestic final demand. The base year "price" of FISIM is taken as the difference between the reference rate and the actual interest rate in the base year. Annex 2 contains a worked example of how current price FISIM can be converted to constant prices.

## 8) Basic data

22. Application of the reference rate method requires information on the end-period **stocks** of **bank loans** and **deposits** and **flows of interest** for different types of **financial institutions** *vis-à-vis* the institutional sectors - **non-financial enterprises, general government, household, non-profit institutions serving households** (NPISHs) and the **rest of the world** and the **subsectors of the financial institutions**. No Member country of the OECD presently has information on all these flows and stocks for all these sectors and subsectors. Data gaps are particularly serious for transactions with the rest of the world, for households and for NPISHs. Surveys or administrative procedures can be established to fill most of these data gaps for the future. However, most countries are under pressure from users to provide lengthy time-series and it is not at all clear how they will devise historical series for FISIM.

## Future developments

23. In 1998, the European Commission decided that for the official national accounts of its Member states, FISIM will continue during the next four years to be treated as in the 1968 SNA and will not be allocated to using sectors. This four-year period will be used to refine the method and reach agreement on outstanding issues and develop new sources for missing data. By 2002, however, the EU Commission expects Eurostat to propose a detailed method for allocating FISIM by the reference rate method. In the past, Eurostat has been careful to consult with other international agencies - notably OECD and the IMF - and with interested non-member countries - notably the United States, Australia and Japan - on all issues affecting the implementation of the 1993 SNA.

**Annex 1. An example of FISIM calculations**

	FISIM on Loans					FISIM on Deposits					Total FISIM
	Interest received by banks on loans (\$m)	Average balances on loans (\$m)	Effective interest rate (%)	Margin on loans (%)	FISIM on loans (\$m)	Interest paid by banks on deposits (\$m)	Average balances on deposits (\$m)	Effective interest rate (%)	Margin on deposit s (%)	FISIM on deposits (\$m)	
	1	2	3 = 1 / 2	4 = 3 - RR	5 = 2 * 4	6	7	8 = 6 / 7	9 = RR - 8	10 = 7 * 9	
<b>1994</b>											
<b>Financial sector</b>											
Central bank	0	0				0	0				
Banks	0	0				0	0				
Other deposit-taking institutions	0	0				250	4800	5.21	1.62	78	78
Pension funds	10	100	10.00	3.17	3	325	7600	4.28	2.55	194	197
Insurance corporations	20	200	10.00	3.17	6	130	3100	4.19	2.64	82	88
Other financial institutions	180	1600	11.25	4.42	71	105	2100	5.00	1.83	38	109
<b>Non-financial sectors</b>											
Private trading enterprises	6360	62200	10.23	3.40	2115	1560	33600	4.64	2.19	736	2851
Public trading enterprises	145	1400	10.36	3.53	49	130	2800	4.64	2.19	61	110
General government	340	3800	8.95	2.12	81	280	6000	4.67	2.16	130	211
Households											
Persons	3660	21300	17.18	10.35	2205	4525	128100	3.53	3.30	4227	6432
Unincorporated businesses											
Dwellings	9545	117300	8.14	1.31	1537	0	0				1537
Other	2005	18600	10.78	3.95	735	410	13200	3.11	3.72	491	1226
<b>TOTAL</b>	<b>22265</b>	<b>226500</b>	<b>9.83</b>	<b>3.00</b>	<b>6795</b>	<b>7715</b>	<b>201300</b>	<b>3.83</b>	<b>3.00</b>	<b>6039</b>	<b>12834</b>
<b>Reference rate (RR): Mid-point</b>			6.83					6.83			
**											

**1995****Financial sector**

Central bank	0	0				0	0				
Banks	0	0				0	0				
Other deposit-taking institutions	0	0				270	4500	6.00	0.83	37	37
Pension funds	27	200	13.50	6.67	13	385	9100	4.23	2.60	237	250
Insurance corporations	25	200	12.50	5.67	11	210	5700	3.68	3.15	180	191
Other financial institutions	185	1500	12.33	5.50	83	105	3000	3.50	3.33	100	183





\*\* The mid-point reference rate is calculated as the simple average of the effective interest rate on total loans and the effective interest rate on total deposits.

## ANNEX 2

### An example of the derivation of constant price FISIM

Assume a base year of 1994.

	Margin (%)	Balances : Current price (\$m)	Implicit price deflator: Domestic final demand	Balances: Adjusted for purchasing power (\$m)	Constant price FISIM (\$m)	Current price FISIM	Implicit price deflator for FISIM
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4=2/3</i>	<i>5=1(1994)*4</i>	<i>6</i>	<i>7=6/5</i>
<b>Loans</b>							
1994	3.00	226500	100.0	226500	6795	6795	100
1995	2.78	251500	102.6	245127	7354	6992	95.1
1996	2.84	282700	105.0	269238	8077	8029	99.4
<b>Deposits</b>							
1994	3.00	201300	100.0	201300	6039	6039	100
1995	2.79	218100	102.6	212573	6377	6085	95.4
1996	2.85	231200	105.0	220190	6606	6589	99.7
<b>TOTAL</b>							
1994					12834	12834	100
1995					13731	13077	95.2
1996					14683	14618	99.6

## REFERENCE NOTES

- <sup>1</sup> OEEC, **A Standardized System of National Accounts**, p.52, Paris 1952.
- <sup>2</sup> United Nations, **A System of National Accounts and Supporting Tables**, p.32, New York, 1953.
- <sup>3</sup> United Nations, **A System of National Accounts**, p. 97, New York, New York, 1968.
- <sup>4</sup> Commission of the European Communities, International; Monetary Fund, Organization for Economic Co-operation and Development, United Nations, World Bank, **System of National Accounts 1993**, p.140, New York 1993.