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DISCUSSION PAPER*

FINANCIAL INTERMEDIATION SERVICES INDIRECTLY MEASURED

(FISIM)

Of the many debates occasioned by the revision of the SNA, the financial intermediation services indirectly measured (FISIM), the new name for the imputed output of bank services (IOBS) is, it seems, the one that has been the most heated.

The principle of the calculation and breakdown of FISIM was nevertheless approved by the group of experts, then by the Aguascalientes Interregional Conference, and finally by the Intersecretariat (UN, OECD, Eurostat, IMF, World Bank). It was definitively confirmed by the UN Statistical Commission in February 1993.

Paradoxically, opposition came mainly from European countries, who were nevertheless among those most affected by the boom in financial services in the 1980s. Moreover, they did not object to the definition of output of FISIM, the argument being solely about the "impossibility" of making a breakdown.

This paper brings together INSEE's proposals on the subject, which are based on the method of deviations from a reference rate, and provides reasonable technical solutions to each point. It would be better if the discussion were now to centre on the improvements that could certainly be made to these proposals.

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CONTENTS

NOTE:

In an earlier version of the paper dated 1 February, we drew attention to a number of numerical anomalies that appeared during the calculations. These anomalies do not invalidate the methods proposed because they are mainly the result of the figures currently available not being drawn from the future harmonised system of the revised SNA, for example between flows, stocks and interest.

In order to correct some of the anomalies found, in this version of the paper, changes have been made to the current figures from the French accounts for the allocation of interest rate subsidies and of income received from and paid to the Rest of the World. But none of the final figures can be considered definitive for the time being.

1 - Introduction

* The aim of the **change in terminology**, replacing "imputed output of bank services" by "financial intermediation services indirectly measured" is to delimit better the transaction we are seeking to define and measure.

The concept of financial intermediation is introduced. It may be defined very generally as the productive activity, specific to financial institutions (FI), that consists of collecting funds with a view to investing them.

The nature of the services concerned is specified as follows: not the entirety of the currently rapidly growing bank services offered by FIs to their clients, but only those involving financial intermediation. Other bank services are directly invoiced to the user (most frequently in the form of commission) and constitute the "direct" output of FIs. The service of financial intermediation is not generally explicitly invoiced, but is taken into account indirectly in the simultaneous interplay of the borrowing and lending interest rates set by FIs.

The breakdown between invoiced and uninvoiced services varies from one country to another, with a growing trend towards direct invoicing. For example, the management of means of payment (cheques, cards, etc.) is a service that is invoiced in many countries but not yet entirely so in France. International or temporal comparisons need to use all services, invoiced and uninvoiced, to appraise the trend in FIs' activities.

The word "output" no longer appears in the name, because it used to make people forget that there is also a major external trade in FISIM that also has to be measured. Finally, we no longer speak of "imputation" but of "indirect measurement", which is closer to the method proposed.

* The proposed method requires **detailed and coherent series of stocks and interest**. Although the former are generally available in the monetary and financial statistics, it is not always so for the latter. This means that the statistics on financial income in general need to be developed, which is necessary anyway, given that in France, for example, the total amount of interest amounts to nearly 30% of GDP.

* The Annex explains the **method for constructing the series used**.

2 - Accounting framework

Using the groupings and codes of the revised SNA, the balance sheet and interest account for all FIs may be presented as follows:

Table 1: Average stocks and interest (1985, billions F)

ASSETS	Assets stock	Interest received	LIABILITIES	Liabilities stock	Interest paid
Non-financial assets (AN)	139		Net worth (B90)	230	
Sundry financial assets (AF1, AF6, AF7 net)	341				
Shares (AF5)	279	(13)	Shares (AF5)	783	(28)
Long term bonds (AF3)	410	32	Long term bonds (AF3)	1001	99
Loans (AF4)	4419	483	Deposits (AF2)	3345	174
of which RNF	3932	430	of which RNF	3203	159
NRNF	487	53	NRNF	142	15
Transactions between FIs (AF2 + AF4)	4260	416	Transactions between FIs (AF2 + AF4)	4489	435
of which NRF	988	105	of which NRF	1217	124
RF	3272	311	RF	3272	311
TOTAL	9848	931	TOTAL	9848	708

R or NR: residents or non-residents

F or NF: financial or non-financial

3 - Financial intermediation

The particular presentation adopted, in particular the order of the various items, was determined on the basis of the following considerations.

On the liabilities side, the first two lines (net worth and shares) constitute the equity capital (1013 billion francs). The rest of liabilities may be taken as a **definition of the intermediated funds** (8835).

On the assets side, the presentation adopted suggests that the different liabilities items mainly finance the asset items invested opposite. But there is no reason why the equity capital(1013) should exactly finance the total of the first three lines of the assets side (759). Part of the long term bonds is therefore financed from equity capital (254 out of 410), and only the remainder (156) forms part of the intermediated funds on the assets side. More generally, if the liabilities side dividing line between equity capital and intermediated funds "falls" within another assets item, the same type of proportional correction is made.

The decision to define the intermediated funds on the basis of the liabilities items is justified by the following considerations. The long term bonds on the liabilities side are undeniably all part of the intermediated funds by FIs (it is even the main source of some of them), but on the assets side part of long term bonds is clearly an investment for FIs as it is for other sectors. Moreover, in practice, debts and uses are generally better known than assets and resources, which may be underestimated, especially in relations between residents and non-residents.

This liabilities-based definition of intermediated funds entails excluding from the calculation of FISIM output all "investment fund" type of FIs, since their liabilities consist solely of equity capital, and their services are in any case fully invoiced in the form of commission. This has been done in the table above, which therefore refers not to FIs as a whole, but to FIs not including "investment funds". The latter will therefore appear, but as users of FISIM.

4 - Overall calculation

We can then draw up the table of financial intermediation in terms of stock assets and liabilities and of interest received and paid (the interest received on long term bonds on the assets side, 32, has been divided pro rata with the stocks, 156/410):

Table 2: Financial intermediation

ASSETS	Assets stock	Interest received	LIABILITIES	Liabilities stock	Interest paid
Long term bonds	156	12	Long term bonds	1001	99
Loans	4419	483	Deposits	3345	174
Transactions between FIs	4260	416	Transactions between FIs	4489	435
TOTAL	8835	911	TOTAL	8835	708

In the revised SNA, the **general definition of the measurement of the output of FISIM** is "property income received, net of income from the investment of equity capital, less interest paid". But no further detail is given either of the definition or of the method of estimating the "income from the investment of equity capital". The problem having been solved here by the priority allocation described above, the overall measurement of the net output of FISIM by FIs is quite simply the difference between the interest received and paid on the intermediated funds:

FISIM = 911 - 708 = 203

A few comments can be made:

- **precise definitions of the overall FISIM** and how it is calculated are needed whether or not it is subsequently broken down.

- The present definition uses **no reference rate** and is therefore independent of any reference rate chosen, which may be open to dispute.

- The overall FISIM is calculated from **all FIs** recognised as producing FISIM. If calculations are then made on the basis of subsets of FIs, a small difficulty arises because the proposed calculation is not linear as regards the income received from long term bonds (calculated proportionately to the stocks of long term bonds "intermediated" on the assets side). This makes it necessary therefore to calculate the sum of the interest received on long term bonds by each of the subsets used so as to arrive at the total amount for all FIs.

- This calculation does not require complete balance sheet accounts, but only financial accounts in stocks and interest accounts, showing from whom to whom, in the same degree of detail.

- The output of FISIM was described above as "**net**" because in the foregoing calculation the transactions internal to all resident FIs, which obviously appear with the same amount on the assets (interest received) and liabilities (interest paid) sides, cancel each other out.

- More generally, in relations between two FIs there is both production and consumption of FISIM, and it is impossible to distinguish between the two. We therefore show only the output of each FI, or each subset of FIs, **net** of the intermediate consumption of FISIM vis-a-vis the other FIs.

5 - Detailed calculation

We can also define the FISIM in detail by calculating the difference between the interest actually received (or paid) on an assets (or liabilities) item and an amount of "reference" interest calculated from the stocks and a "reference" interest rate.

For a loan, and more generally for an FI assets item, the interest received is greater than the reference interest:

$$s = IR(C) - r \times C$$

Conversely, for a deposit, and more generally for an FI liabilities item, the interest paid is less than the reference interest:

$$s = r \times D - IV(D)$$

Are other assets or liabilities items required for the detailed calculation of FISIM? We explained above why relations between resident FIs have to be eliminated and relations between resident and non-resident FIs consolidated. In the latter case it might be agreed to calculate the service with the reference rate chosen and then, depending on the sign obtained, decide who is a net producer and who a net consumer, that is, who exports and who imports.

The **definition adopted for deposits** is quite broad since it includes money market securities which are, at least in part, substitutes for certain types of deposit. This breakdown could be revised, for example by taking only deposits and "monetary" securities, other deposits and securities being added to long term bonds.

The latter require special treatment. Although necessarily taken into account in the overall calculation as described in paragraph 3 above, **long term bonds** were excluded from the calculation of the detailed breakdown of FISIM for two reasons of principle: the first is that FIs have no control over the rate on the long term bonds they buy, but they do have control over the rate on the loans they finance, and the second is that it seems difficult to call the mere possession of a security a service, whereas the management of a deposit or loan clearly is one. Moreover, in practice a from-whom-to-whom table is rarely available for long term bonds.

Including long term bonds in the overall calculation but not in the detailed calculation is only an apparent paradox and we believe rather that we have correctly represented the behaviour of a banker as regards on the one hand all the items of his profit and loss account and on the other his options on those matters that depend on his own decisions.

6 - Determining the reference rate

We therefore have two measurements of the FISIM, the overall measurement with all the interest on the intermediated funds, and the detailed measurement with the interest differentials on the "service-bearing" items only. The **choice of reference rate** will now enable the two measurements to be reconciled, the detailed measurement then appearing as the breakdown of the overall measurement.

The table of intermediated funds shown above, with obvious algebraic notation, is written in the following form:

Table 2bis: Financial intermediation

ASSETS	Assets stock	Interest received	LIABILITIES	Liabilities stock	Interest paid
Long term bonds	OA'	I(OA')	Long term bonds	OP	I(OP)
Loans	C	I(C)	Deposits	D	I(D)
Transactions between FIs	OIFA	I(OIFA)	Transactions between FIs	OIFP	I(OFP)
TOTAL	FI	IR	TOTAL	FI	IV

Here, OA' is only that part of the assets side long term bonds included in the intermediated funds: it is obtained by resolving the previous balance. The interest I(OA') is calculated proportionately. OIFA is assumed to be a loan and OIFP a deposit.

We therefore have by definition:

$$\text{Overall FISIM} = I(OA') + I(C) + I(OIFA) - I(OP) - I(D) - I(OIFP)$$

and

$$\begin{aligned}\text{Detailed FISIM} &= [I(C) - r \times C + I(OIFA) - r \times OIFA] \\ &\quad + [r \times D - I(D) + r \times OIFP - I(OIFP)] \\ &= (I)C + I(OIFA) - I(D) - I(OIFP) - r\,[C + OIFA - D - OIFP] \\ &= I(C) + I(OIFA) - I(D) - I(OIFP) - r\,[OP - OA']\end{aligned}$$

These two expressions of FISIM are equal if and only if

$$r = \frac{I(OP) - I(OA')}{OP - OA'}$$

In our case, for 1985:

$$r = \frac{99 - 12}{1001 - 156} = 10.3\%$$

This reference rate is close to the 9.9% money market rate in 1985. Table A1 in the Annex allows us to compare the two rates for the period 1977 - 1990: as might be expected, the reference rate looks like a smoothing of the money market rate, even though it is calculated only from the apparent long term bond rates.

Notes:

- The method requires **calculation** of the reference rate. It is not the result of an arbitrary choice between different variable rates, which was an argument put forward by those opposed to a breakdown of FISIM.

- The reference rate must be calculated for **FIs** as a whole, even if they are then broken up.

7 - Breakdown by institutional sector

The reference rate so determined can then be used to obtain the breakdown of FISIM not including transactions between resident FIs.

In Table 3 on the following page, as in similar tables in the rest of this paper, the first two columns show the stocks and interest given in the initial accounts, the third column (reference interest) is calculated by multiplying the first column (stocks) by the reference rate, and the fourth column is given by the difference between the second and third columns for the assets and between the third and second columns for the liabilities.

Note that the total 203 (31 + 172) is found again.

Table 3: Breakdown of FISIM

	ASSETS RF	INTEREST RECEIVED I	REFERENCE INTEREST IO	SERVICE = I - IO
Loans RNF	3932	430	405	25
NRNF	487	53	50	3
Transactions between FIs				
NRF	988	105	102	3
TOTAL	5407	588	557	31

	LIABILITIES RF	INTEREST PAID I	REFERENCE INTEREST IO	SERVICE = IO - I
Deposits: RNF	3203	159	330	171
NRNF	142	15	15	0
Transcations between FIs				
NRF	1217	124	125	1
TOTAL	4562	298	470	172

We then have to detail the calculations for non-financial residents. It is also necessary to break down the service imputed to households by distinguishing what is consumed by unincorporated entreprises (UE) and households as owners of housing for which it is an intermediate consumption, whereas the balance is final consumption. This tricky point is particularly important since it determines the impact of the FISIM breakdown on GDP.

This breakdown presents no problem on the assets side of FIs because loans to UEs and housing loans are normally isolated in the various loan breakdowns given by the monetary and financial statistics. The difficulty lies in the breakdown of deposits. In France, monetary statistics, like the national accounts, make a distinction within households between "individuals" and "UEs": in 1985, the national accounts attribute 103 of the 2,361 billion household deposits to UEs.

The results are given in Table 4 on the following page.

The two anomalies pointed out in the previous version of this paper (on loans to households and loans to the rest of the world) have been corrected by re-allocating the interest rate subsidies.

Table 4: Detailed breakdown of FISIM

	ASSETS RF	INTEREST RECEIVED I	REFERENCE INTEREST IO	SERVICE = I - IO
Total RNF	3932	430	405	25
of which:				
S42 Other FIs	0	0	0	0
S50 Insurance enterprises	1	0	0	0
S60 General government	801	82	82	0
S70 Private non-profit institutions	4	0	0	0
S10 Corporate enterprises	1720	189	178	11
S80 Households	1407	159	145	14
of which: UEs	320	35	33	2
housing	970	110	100	10

	LIABILITIES RF	INTEREST PAID I	REFERENCE INTEREST IO	SERVICE = IO - I
Total RNF	3203	159	330	171
of which:				
S42 Other FIs	87	8	9	1
S50 Insurance enterprises	67	3	7	4
S60 General government	224	17	23	6
S70 Private non-profit institutions	21	1	2	1
S10 Corporate enterprises	443	20	46	26
S80 Households	2361	110	243	133
of which: UEs	103	5	11	6

UEs' deposits could be calculated by assigning to them an amount of deposits representing the same percentage of value added as for corporate enterprises and by making a detailed calculation by branch, the proportion of UEs, like the liquid assets/value added ratio, varying greatly from one branch to another: this second method would give UE deposits of 164 billion in 1985, a figure not adopted in the rest of this paper. The matter will naturally have to be made the subject of a further study.

Table 5: Calculation of UE deposits, 1985, billions francs

BRANCH	VA Corporate enterprises	VA UE	Deposits Corp. ent.	Deposits UE
Agriculture	11.8	173.9	1.7	25.1
Energy	102.3	0.1	10.2	0.0
Food ind.	115.0	23.9	14.5	3.0
Intermediate goods ind.	268.3	7.8	34.6	1.0
Capital goods ind.	251.5	5.5	42.5	0.9
Household goods ind.	11.7	0.1	1.2	0.0
Motor vehicles	76.3	0.4	10.0	0.0
Consumer goods ind.	217.9	15.9	28.1	2.1
Construction	149.5	81.5	29.6	16.1
Commerce	407.7	139.3	107.4	36.7
Transport, telecom	110.6	18.6	17.0	2.9
Market services	416.7	240.9	128.2	74.1
Rental	33.8	6.8	8.4	1.7
Total	2172.9	714.9	433.4	163.6

Exactly the same calculations can be made for non-resident FIs, taking only their loans to residents and their deposits from residents, which give rise to imports of services, whereas their transactions with resident FIs have been dealt with above and constitute exports.

Table 6: Imported financial intermediation

	ASSETS NRF	INTEREST RECEIVED I	REFERENCE INTEREST IO	SERVICE = I - IO
Loans: RNF	150	20	15	5
S60 General government	11	1	1	0
S10 Corporate enterprises	139	19	14	5

	LIABILITIES NRF	INTEREST PAID I	REFERENCE INTEREST IO	SERVICE = IO - I
Deposits: RNF	91	5	9	4
S60 General government	4	0	0	0
S10 Corporate enterprise	9	1	1	0
S80 Households	78	4	8	4

There are some problems with the figures for **foreign deposits of non-financial residents**. They are recorded by the BIS and have by convention been assigned to households. Then, these 78 billion deposits abroad by households do not bring any interest according to the Balance of Payments. The interest is probably capitalised, so the same circuit would have to be described as for savings-bank books or for reinvested income, that is, impute an income, then a deposit, which does not change the overall balance for the Balance of Payments, but does increase the current account balance. Moreover, there must surely be a like phenomenon involving deposits by non-residents with French FIs. Pending a more in-depth study, we have ascribed to these deposits a remuneration at a rate of 5% for all the period.

The calculations of FISIM output by non-resident FIs have been made using the same reference rate as for resident FIs. It would obviously be better to have reference rates for each country and then to deduct from them an overall rate weighted by different amounts for each country. Apart from the simplification afforded by a single rate, this can be justified by saying that non-resident FIs adapt to the market on which they operate.

9 - Balance of resources and uses

Finally, we can draw up the following table:

Table 7: Balance of resources and uses of FISIM
(in billions of francs and in %)

Output	203	95.8
Imports	9	4.2
Total	212	100.0
Intermediate consumption	72	34.0
S42 Other FIs	1	0.5
S50 Insurance enterprises	4	1.9
S60 General government	6	2.8
S70 Private non-profit institutions	1	0.5
S10 Corporate enterprises	42	19.8
S80 Households	18	8.5
Final consumption S80	133	62.7
Exports	7	3.3

Table A2 in the Annex gives this balance of resources and uses for the period 1977 - 1990.

The percentage breakdown shows that for the period as a whole intermediate consumption accounts for just over one third of FISIM resources. In this case, not to break down the FISIM seems a particularly unfortunate option.

The main consequence of breaking down the FISIM is that it reveals a final consumption (133), an external balance (-2) and intermediate consumptions (7) of general government and private non-profit institutions that **increase GDP**. In all, this is increased by **138** (133 - 2 + 7) or **2.9%** for 1985.

Table A3 in the Annex shows that this value is the highest for the whole period 1977-1990. This corresponds precisely with the years of financial boom in France.

10 - Correction of interest

The "actual interest" line then has to be corrected to take account of the FISIM: the interest paid by non-financial sectors is reduced by the service, the interest received by those sectors increased by the service, the contra of these reductions and increases then being carried forward to the interest respectively received and paid by the resident or non-resident FIs who produced the service. Table 8 sets out the results for 1985.

This interest correction has its contra in the balance of resources and uses of FISIM, which modifies the current account balances of all sectors, but leaves their **saving unchanged**. The rest of the sequence of accounts is also unchanged, in particular the financial account. Table 9 sets out the results for 1985.

11 - Breakdown by branch

It is also necessary to break down the intermediate consumption by branches in the Input-Output Table (IOT).

For this we use the accounts of the intermediate system of enterprises (corporate enterprises and unincorporated entreprises) by subsectors of activity, available at levels 16, 40 or 90. In the subsector detail chosen, the balance sheets give us the amounts of liquid assets on the assets side and the amounts of debt on the liabilities side. Assuming that the "rate of FISIM" is the same for all subsectors, we can then distribute the service on deposits and the service on loans in proportion to these stocks, then deduce from it by addition the breakdown of intermediate consumption of FISIM by subsector of activity of corporate enterprises and UEs. It is rounded up for the other subsectors (housing, insurance, FIs, non-market services). Theoretically, we ought then to make a sector/branch conversion, but we did not do so in this brief, undetailed exercise. Table 10 sets out the results analysed at level 16 for 1985.

TABLE 8

CORRECTION OF INTEREST (1985, billions francs)

Uses								Resources						
S10	S40	S50	S60	S70	S80	S90	TOTAL	S10	S40	S50	S60	S70	S80	S90
268	708	2	135	0	164	177	Actual interest 1 454	42	967	39	38	1	179	188
							Correction of interest							
	172						FISIM produced: on deposits 172	26	1	4	6	1	133	1
-11					-14	-6	on loans -31		-31					
						4	FISIM imported: on deposits 4						4	
-5							on loans -5							-5
-16	+172				-14	-2	Total +140	+26	-30	+4	+6	+1	+137	-4
252	880	2	135	0	150	175	Corrected interest 1 594	68	937	43	44	2	316	184

TABLE 9

CHANGES IN BALANCES (1985, in billions francs)

Uses								Resources						
S10	S40	S50	S60	S70	S80	S90	TOTAL	S10	S40	S50	S60	S70	S80	S90
						+7	Exports							+9
							Imports							
							Output		+203		+6	+1		
+42	+1	+4	+6	+1	+18		Intermediate consumption							
							VA and GOS	-42	+202	-4	0	0	-18	
-16	+172				-14	-2	Interest	+26	-30	+4	+6	+1	+137	-4
							Disposable income	0	0	0	+6	+1	+133	
			+6	+1	+133		Final consumption							
							Saving	0	0	0	0	0	0	0

ANALYSIS OF INTERMEDIATE CONSUMPTION (1985, in billions of francs)

BRANCHES	STOCKS				FISIM					
	CE deps	CE loans	UE deps	UE loans	CE deps	CE loans	UE deps	UE loans	Other	Total
Agriculture	1.7	6.7	25.1	98.7	0.1	0.1	0.9	0.4		1.5
Energy	10.2	58.4	0.0	0.1	0.6	0.7	0.0	0.0		1.3
Food ind.	14.5	70.7	3.0	14.7	0.9	0.8	0.1	0.1		1.9
Intermediate goods ind.	34.6	199.3	1.0	5.8	2.1	2.3	0.0	0.0		4.4
Capital goods ind.	42.5	124.6	0.9	2.7	2.5	1.4	0.0	0.0		4.0
Household goods ind.	1.2	8.2	0.0	0.1	0.1	0.1	0.0	0.0		0.2
Motor vehicles	10.0	71.2	0.0	0.4	0.6	0.8	0.0	0.0		1.4
Consumer goods ind.	28.1	93.5	2.1	6.8	1.7	1.1	0.1	0.0		2.9
Construction	29.6	48.6	16.1	26.5	1.8	0.6	0.6	0.1		3.0
Commerce	107.4	206.2	36.7	70.5	6.4	2.4	1.3	0.3		10.4
Transport-telecom	17.0	66.3	2.9	11.1	1.0	0.8	0.1	0.0		1.9
Market services	128.2	405.0	74.1	234.1	7.7	4.6	2.7	1.0		16.0
Rental	8.4	37.9	1.7	7.6	0.5	0.4	0.1	0.0	10.0	11.0
									4.0	4.0
Insurance									1.0	1.0
Financial institutions									7.0	7.0
Non-market services										
Total	433.4	1396.6	163.6	479.1	26.0	16.0	6.0	2.0	22.0	72.0

12 - Price and volume measures of FISIM

One way would be to link the notion of volume to the **change in stocks**. But this would require defining the notion of change in volume for any given financial stock. If E0 is the average stock for the previous period and E1 the average stock for the current period, the trend E1/E0 can be calculated, but obviously this ratio does not allow us to define a volume index because it includes the effect of the general trend in prices over the period.

A better definition of the volume index (Ivol), if p. is the rate of growth of a general price index, might be:

$$Ivol = E1/E0(1+p)$$

If we accept this definition, we can assign to each element of FISIM the change in volume of the corresponding stock, giving a **valuation "in volume at the previous year's price"**.

Table A4 in the Annex gives the FISIM price and volume measures for the period 1978 - 1990.

ANNEX

CONSTRUCTION OF THE SERIES

IMPORTANT NOTE

The estimated figures given in this paper were derived from the **existing series of stocks and interest for the present French national accounts**. It must be stressed that they are not consistent with the concepts of the new SNA.

Complete chronological series were prepared for the period 1977-1990 using the same method and published in the previous version of the paper. Figures appear here and there "with the wrong sign", as on two occasions in 1985 (on loans by resident FIs to non-financial non-residents and on loans to households).

One explanation is that neither the interest nor the stocks used here are entirely suitable. Instead of the interest accrued of the revised SNA, which is the only one consistent with the stocks, the interest is the **actual interest** of the present accounts, and it does not include all the interest rate subsidies either. The **average stocks** are calculated as the mean of the two ends of year, although the year-end for many financial stocks is known to be highly seasonal in nature. But it is not easy to decide the direction of the biases created by these two approximations.

There are other possible explanations: it could be due to the fact that the interest account has hitherto been drawn up without reference to the stocks, as it was before there were tables of financial transactions (TFT) in stocks. **Harmonization** could only improve the quality of the two tables.

Attention has also been drawn to the underestimation of interest received from and paid to the Rest of the World, which does not appear in the Balance of Payments in the case of **capitalized income investments** even though tying in with the balance of payments is a major constraint on preparing the interest account.

In the present version, **corrections** have been made based on an estimate of the income from households' investments abroad and a fuller allocation of interest rate subsidies to those in receipt of them. In fact, in the present French accounts, only those subsidies paid to clearly identified beneficiaries are allocated directly, the rest being classified as subsidies to FIs. An approximate allocation of this second part of interest rate subsidies was made for the revised version of the paper. Because the initial breakdown of interest was unsatisfactory, the changes have in fact been made only to households not including UEs and non-financial non-residents.

CONSTRUCTION OF THE SERIES

* Among Financial Institutions (FI) we confine ourselves to subsector S41, that is "investment funds", which in France are called Undertakings for Collective Investment in Transferable Securities (UCITS: subsector S42), are excluded from the output of FISIM. But they become consumers of FISIM.

* The contra-sector breakdown of deposits, loans and transactions between FIs is made using the detailed lines of the present Table of Financial Transactions (TFT) in order to **distinguish among financial and non-financial non-residents**:

- deposits (with FIs by non-financial agents):
  F11 + F21 + F22 + F25
- loans (by FIs to non-financial agents):
  F61 + F62 + F71 + F72 + F74
- transactions between FIs (the deposit/loan distinction is not relevant in this case):
  F02 + F12 + F23 + F24 + F30 + F63 + F64 + F73

These lines are not completely "pure", for example F30 (money market securities) also includes transactions with non-financial agents (treasury bills) and some reclassifications are then necessary. It will be noticed that short term securities F30 are classified with deposits and not with long term bonds F40, which does not tally with heading AF3 of the revised SNA which combines the two.

The Treasury is considered as a financial agent in the TFT, but not in this paper. Perhaps a specific output of FISIM by the Treasury ought to be introduced because of its role in managing postal cheque accounts.

The other transactions of the present TFT correspond to the "sundry financial assets" of the above balance sheet:

F00 - F02 classed as AF1 Gold and SDR
F80 = AF6 Insurance reserves
F65 + F75 + F66 = AF7 Other amounts payable/receivable.

* From-whom-to-whom interest accounts are available in the same transaction detail and they distinguish all the sectors at the first level, combining the criteria resident/non-resident and financial/non-financial.

There is no from-whom-to-whom for long-term bonds and shares, nor for stocks, nor for interest and dividends.

TABLE A1

COMPARISON OF REFERENCE RATE AND MONEY MARKET RATE

Year	Reference rate %	Money market rate %
1977	7.5	9.1
1978	7.5	8.0
1979	8.1	9.0
1980	8.6	11.8
1981	9.8	15.3
1982	9.8	14.9
1983	9.4	12.6
1984	9.3	11.7
1985	10.3	9.9
1986	9.5	7.7
1987	8.7	8.0
1988	8.6	7.5
1989	8.7	9.1
1990	8.8	10.0

TABLE A2

BALANCE OF RESOURCES AND USES OF FISIM (billions of francs)

Year	Output	Imports	Total	Intermediat e consump tion							Final consumption	Exports
				Total	S42	S50	S60	S70	S10	S80		
1977	67.1	2.2	69.3	29.1	0	0.7	2.5	0.6	15.8	9.5	37.9	2.3
1978	77.3	2.6	79.9	34.5	0	0.9	4.2	0.6	17.0	11.8	41.2	4.2
1979	90.4	3.9	94.3	38.7	0	1.0	4.6	0.6	19.8	12.7	49.6	6.0
1980	105.4	5.4	110.8	46.5	0	1.0	2.9	0.6	28.1	13.9	53.9	10.4
1981	120.4	8.5	128.9	58.1	0	1.0	9.7	0.8	35.9	10.7	57.3	13.5
1982	134.4	11.8	146.2	59.7	0	1.0	5.7	0.8	38.4	13.8	73.4	13.1
1983	159.0	11.3	170.3	79.2	0	1.6	16.3	0.7	40.1	20.5	79.8	11.3
1984	183.4	11.4	194.8	88.7	0	2.1	12.3	0.8	48.5	25.0	92.3	13.8
1985	203.0	9.3	212.3	71.8	0.9	4.0	5.6	0.9	42.6	17.8	133.7	6.8
1986	226.7	11.1	237.8	84.2	1.1	4.7	3.3	0.8	44.2	30.1	150.0	3.6
1987	236.3	11.3	247.6	99.8	1.8	2.3	6.6	0.9	47.5	40.7	139.6	8.2
1988	232.5	9.2	241.7	91.5	2.5	-2.0	4.3	0.5	40.7	45.5	140.2	10.0
1989	256.7	6.8	262.5	95.2	4.6	-5.7	4.6	0	44.9	46.8	163.7	3.6
1990	260.7	0.0	260.7	110.7	1.9	-3.0	5.9	0	52.1	53.8	146.6	3.4

TABLE A3

VARIATION IN GDP CAUSED BY THE FISIM BREAKDOWN

(current prices)

Year	ΔGDP billions francs	GDP billions francs	ΔGDP/GDP %
1977	41	1 918	2.1
1978	47	2 183	2.2
1979	57	2 481	2.3
1980	62	2 808	2.2
1981	72	3 165	2.3
1982	81	3 626	2.2
1983	96	4 007	2.4
1984	108	4 362	2.5
1985	138	4 700	2.9
1986	146	5 069	2.9
1987	144	5 337	2.7
1988	145	5 735	2.5
1989	168	6 159	2.7
1990	156	6 492	2.4

TABLE A4

TREND IN OUTPUT OF FISIM

Year	Value billions of francs	Change in value %	Change in volume %	Change in price %
1977	67.1			
1978	77.3	15.2	4.6	10.1
1979	90.4	16.9	4.5	11.9
1980	105.4	16.6	2.4	13.9
1981	120.4	14.2	2.0	12.0
1982	134.4	11.6	1.1	10.4
1983	159.0	11.8	1.8	9.8
1984	183.4	15.3	3.0	11.9
1985	203.0	10.7	2.3	8.2
1986	226.7	11.7	1.0	10.6
1987	236.3	4.2	4.6	-0.4
1988	232.5	-1.6	5.8	-7.0
1989	256.7	10.4	4.1	6.1
1990	260.7	1.6	3.8	-2.1