IMPUTATION OF BANKING SERVICES IN NATIONAL ACCOUNTING

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1.

It has been more than twenty years since the United States Department of Commerce adopted special treatment for the seemingly free services provided by financial intermediaries in the national income accounting.[1] Since this treatment was accepted into the United Nations' standard system of national accounts,[2] many countries have put it into practice partly because of the convenience of international comparison. Nevertheless, the concept of imputed interest or imputed service charge involves some ambiguity as yet, and some analytical and practical questions still remain. In recent international discussions on the revision of the United Nations System, this treatment seems to have been one of the complicated subjects.

Why does this concept involve ambiguity? Is it necessary and indispensable to introduce it into the national income accounts? Is there a more reasonable procedure? The aim of this paper is to examine these problems thoroughly.

2.

The treatment of imputed interest or imputed service charge was induced so that income originating in financial intermediaries are valued negligible or even negative by the ordinary procedure, that is, deduction of factor income receipts from factor income payments. The procedure of imputation is different according to the types of financial intermediaries, and the most typical case is one concerning commercial banks. Let's take a very simple fictitious example in order to show the nature of this problem.

Now suppose that the receipts of banks consist of loan interest 100 and service charges 5, and their expenditures consist of deposit interest 10, wages 60 and current purchases from other industries 15. Then profits will be 20. According to these actual transactions, net payments of factor income are -10: for details, 10 plus 60 plus 20 minus 100. To avoid this negative income, banking transactions are assumed as follows. Banks pay out the sum total of loan interest to their depositors, therefore depositors receive both deposit

1) Dwight B. Yntema, "National Income Originating in Financial Intermediaries," in Conference on Research in Income and Wealth, *Studies in Income and Wealth*, Vol. 10, (National Bureau of Economic Research, New York, 1947), pp. 23–50.

2) United Nations, *A System of National Accounts and Supporting Tables*, (Studies in Methods, Series F, No. 2, New York, 1953, revised ed. 1960), p. 31.

interest 10 and a hypothetical interest of 90. While depositors are provided services such as handling currency, clearing checks and posting accounts by banks, they never or hardly ever pay the charges. Then banks are supposed to receive a hypothetical charge of 90 which is equal to the difference between loan interest and deposit interest. Though these hypothetical transactions are offset in banks, imputation is required in order to express them explicitly.

The characters of services provided by banks will be quite different according to kinds of the depositors who receive them. If the depositor is a consumer, the service is considered as the final product—consuming service and while the depositor is a producer, it is considered as the intermediate product—productive service. In the division of imputed banking services between a consuming one and a productive one, furthermore the latter among industrial sectors, it is generally carried out in proportion to the share of each depositor. Now suppose that the depositors of banks consist of households and enterprises in A and B industrial sectors and each share is 4 : 3 : 2. Then 40 of the imputed interest 90 is added to personal income and to private consumption. The other 50 are deduced from incomes caused by actual transactions at the ratio of 3 to 2 in each industrial sector.

These hypothetical transactions completely rely on the assumption that receivers of imputed interest never fail to receive the same amount of free banking services for depositors. But for this assumption the offset in banks cannot be concluded. Is it possible for us, however, to think that the imputed interest always corresponds to the imputed service charges in value ? We must examine four points. First, banks funds for investment do not always depend upon only depositors. According to the theory that those who supply funds to banks should receive all the investment income of the funds, it is natural that founds-suppliers besides depositors should also receive imputed interest from banks. As they are not depositors, however, they cannot enjoy banking services for depositors at all. In practical procedure the imputation is usually limited only to depositors. But the reason for this has never been clearly defined.

Secondary, it's still doubtful that every depositor is qualification to take in the distribution of investment income. Deposits of borrowers from banks are derived from the loan and differ from original deposits of funds-suppliers. That is, depositors can be divided into those as borrowers and those as lenders. There seems to be no good reason why the former are qualified to receive the banks' investment income just as the latter do. It can be said to be a principle of odd equality. Thirdly, even if the value of such services as handling currency, clearing checks and posting accounts, rises or falls because of fluctuation in their costs, it is unreal that loan interest can effect the value of services. This means that sometimes it is rather difficult to approve the quantitative correspondence of the fluctuation of imputed interest—namely a part of investment income of banks—and the variation of free banking services to depositors.[3]

Fourthly, the balance and turnover of deposits has a different significance for imputation. The contribution of deposits as investment funds can be thought to depend on the average balance for a given period, but the amount of banking services maybe rather depends on turnover. It is one of the practical difficulties in many countries that the basic data to allocate imputed interest among industries is not available. Even if it is available, there still remains a hard problem if the same criteria of allocation can be adopted in both imputed charges and imputed interest.

The most unacceptable point of imputation is to regard the distributed part for enterprises as intermediate products. In the above example, imputed interest is alloted 30 to A sector and 20 to B sector and offsets actual income in each sector. But there is no satisfactory reason why their income decreases. Actual interest receipts are deduced from factor payments in each sector, for the former is involved in some items of the latter. In other words, the deduction is necessary in order to avoid double accounting. Imputed interest receipts, however, are never involved in any actual payment of factor income. And free banking services to enterprises are not into their current costs, nor form any part of the value of other products. So it is quite doubtful if free services are intermediate products. It's a strange causal relation that the more the lending of banks increase, the more the net products of the enterprises which hold deposits in banks decrease.

In order to avoid this strange result, some countries adopt different methods on the allocation of imputed service charges from that of the United Nations System. In France and Italy, for instance, a lump-sum adjustment at the end of the industry culculation is made without deduction of intermediate banking services in every industrial sector. And in Denmark, they are allocated according to the value of production in each sector. In Norway and Australia, all of them are allocated to the household sector, but in the latter country financial services are valued by only administrative costs of financial intermediaries.[4]

The method in Denmark rests on an ingenious assumption that the amount of receipts of deductive intermediate services depend on the relative scale of

[3] On these second and third points, more detailed examination and comments are given by Prof. Kawaguchi. Hiroshi Kawaguchi, "On the Treatment of Imputed Interest and Imputed Charges in National Accounts" (in Japanese), in *Essays in Commemoration of the 80th Anniversary of the Chuo University,* (Tokyo 1965), pp. 44-51.

[4] United Nations, *National Accounting Practices in Sixty Countries,* (Studies in Methods, Series F, No. 11, New York, 1964), especially pp. 11, 72, 93, 115 and 163.

business activities. But some questions are still left on the consistency of two criteria: one is to divide between enterprises and households and the other is to allocate among industries. The method in Australia is superior in the valuation of services independent from the fluctuation of investment income, but according to this, financial intermediaries will get no profit from the production of services. Moreover there is no acceptable reason to assume that all the free services are provided to households as that of Norway. As his private opinion, Mr. Jaszi of the United States Department of Commerce suggests that the whole sum of free services provided by banks, that is both for households and for enterprises, should be added to national income as same as the treatment of free services provided by general government in stead of the present system of the Department of Commerce.[5] The analogy between general government and banks seems to me far from reasonable not only formally but also substantially. Can it be said that banking services are really free as the same meaning of free governmental services?

3.

Why is the income originating in financial intermediaries negligible or even negative? Because their earnings that almost consist of factor income generated in other industrial sectors are quite different from those of other enterprises. According to the above example, the selling receipts of banks is only one of 5 actual service charges. As current purchases from other industries are 15, net receipts become -10. Is it true that banks don't cover their administrative costs?

The value of free banking services was estimated 90 in above example, i. e. wages 60 plus current purchases from other industries 15 plus profits 20 minus actual service charges 5. This means that banks render their depositors all the services produced by the labours of the bank clerks and current usage of resources except the part actually paid. Clerks' labours and resources should also be put into their lending activities. It is irrational that all the free services of 90 are imputed to depositors. And at least a part of them should be imputed to borrowers. These free services to borrowers, however, cannot be imputed, for borrowers have no reason to receive from banks imputed income which can offset imputed service charges different from the depositors.

One interpretation is this: someone pays the charges in the place of borrowers. As banks render certain lending services to borrowers and at the same time don't ask them for the charges, someone else has to pay them for

5) George Jaszi, "The Conceptual Basis of Accounts: A Re-examination," in *A Critique of the United States Income and Product Accounts*, (National Bureau of Economic Research, *Studies in Income and Wealth*, Vol. 22, 1958), p. 67.

the borrowers. We cannot help thinking that they are the depositors. If so, why do depositors have the duty to pay charges of banking services for borrowers? The plausible answer is to assume as follows: in lending the funds, depositors make banks their proxies in spite of their duty to render services to borrowers by themselves, in other words, depositors purchase banking services and supply them to borrowers. According to this assumption, service charges paid by depositors are, so to speak, the costs required to get loan interest. Therefore they cannot be regarded as consumption even if depositors are households.

Another interpretation is that borrowers pay them actually. Borrowers pay the sum of net interest of funds and charges of services under the name of loan interest. This interpretation, of course, is against the traditional concept which regards interest as factor income. The partial difference between pure theoretical term of factor income and actual term of their payment is generally approved in the present national income accounting. The compensation for labour services can't be treated as wages when the receivers are enterprises. And the rents received by enterprises are not factor income. Therefore, on interest also the practical form would have to be different from the theoretical form.

In view of the economic functions of banks, is it unreasonable to interpret that the loan interest involves the charges of banking services to borrowers? No, not ever. It is more realistic than interpretation that depositors themselves invest through the mediation of banks and get the investment income directly and after that pay a commission. The procedure to make free services imputed to depositors seems to regard the econmic functions of banks as that of mere mediators or agents of investment. In fact the banks themselves plan and manage investment and take risks. It can be said to be a distorted view of reality for financial markets to consider banks' investments in a direct connection with depositors' behaviors. Messrs. Speagle and Silverman said "a messenger-boy or post-office concept of banking"[6] as a critique on the method of the United States Department of Commerce. And that is quite right.

We can draw a realistic picture of the relation between banks and depositors as follows. Depositors can invest their funds directly or put them in banks. In the latter case, they want liquidity and safety more than returns. Or their funds may be too small to invest effectively. Banks collect these small funds on a wide scale. They guarantee liquidity and safety to them and unite funds which are too small individually and create a large loan-fund with funds except deposits together. And the investment and management

[6] Richard E. Speagle and Leo Silverman, "The Banking Income Dilemma," *Review of Economics and Statistics*, Vol. 35 No. 2, (May 1953), p. 131.

of loan-funds are performed by the own judgement and responsibility of banks, and not by the requests or orders of depositors. Depositors want no more than such a guarantee and predetermined deposit interest. Therefore deposit-funds are, so to speak, a kind of raw material of loan-funds. Banks process these raw materials and complete them to finished products. Economic activities of a bank as an enterprise does not differ essentially from that of enterprises in other sectors, even if the kind of products dealt with are not same. This seems to me a quite realistic view on the present economic world.[7)]

The last problem left is how to interprete the fact that depositors receive services from banks without sufficient payment. As mentioned above, it is an obvious overestimation to value the services at the difference between loan interest and deposit interest. But we can not deny the fact that unpaid useful services exist and the users are clearly conscious of them. Without the explicit valuation will national income and private consumption be underestimated? Now we must judge it from the view-point of consistency with similar cases. There are many other enterprises that render free services to consumers. All of them, however, are not taken into consideration in national income accounting. Now a certain enterprise, for example, renders free services to individual A and covers the cost within the cost of goods sold to individual B. Thus consumption of A cannot be valued directly but measured in a lump on selling to B. Such a procedure is derived from the operational postulate that the valuation in the present national accounts is essentially based on market transactions. As it does not show correctly the real place and the actual form of consumption, it is an insufficient expression, indeed. But this is mainly the matter of allocation of consumption not of underestimation on the sum total. The most important problem here is the inconsistency between the treatment of free services provided by enterprises except banks and that of free banking services.

Is it possible for enterprises to render free services not in the purpose of charity? They are the very free services from the standpoint of those who enjoy them but they are not necessarily free from the standpoint of enterprises who render them. For the costs of services should be covered completely, since the enterprises actually get the positive operating surplus. It must be quite strange to interpret that an enterprise whose own business is to pursue profits continues to render really free services, setting aside non-profit institutions. From the viewpoint of banks themselves, costs required

7) Such a opinion is maintained by Prof. Kawaguchi and Mr. Sunga. Hiroshi Kawaguchi, *op. cit.*, pp. 53–54. Preetom S. Sunga, "The Treatment of Interest and Net Rents in the National Accounts Framework," *Review of Income and Wealth,* Series 13 No. 1, (March 1967), pp. 27 and 32.

to render services are covered by interest receipts, of cource. Therefore, tracing the actual process of covering, charges of services to depositors will be involved within loan interest. In order to get loan interest, it is necessary for banks to collect deposit funds and they must render some kinds of services to depositors for such collection. As it is unfavorable for banks to levy the service charges sufficiently on depositors, they must ask someone else for them. In other words, banks ask only borrowers for the total amount of service charges both to borrowers and depositors. Thus, the imputation to depositors rather leads to double accounting.

4.

As mentioned above, imputation of banking services rests on an unacceptable method of valuation and an unrealistic representation on banking business. At the same time it distorts input-output relation among industries, and furthermore, mars the consistency of present national income accounting. We should abolish such an odd treatment. But when it is done, the "banking dilemma" of negative income originating will be left. The Central Statistical Office of the United Kingdom approved negative income, saying "It is felt that a purely hypothetical distribution of these imputed charges……would be more misleading than the paradox of financial concerns appearing to make a steady annual loss".[8] What way can we solve, so to speak, the dilemma or paradox without imputation?

We want to propose three alternative procedures in place of the present method.

The first proposal: factor income, which is paid from other industrial sectors to the financial sector, is deducted not from the latter but from the total amount of all sectors in a lump. The implication of this method is to adjust merely the double accounting wholly, keeping the traditional concept of interest. Therefore, in appearance it seems to be the same method adopted now in Italy and France with imputation of banking serviecs. More accurate to say, it is same except that products of the finance industry rise by the amount of deposit interest and the adjustment item swells. But the implication is quite different. For the present method of Italy and France approve the hypothetical transactions, that is, depositors receive investment income from banks and pay service charges to banks. On the contrary our proposal is the introduction of a balancing item without such an unrealistic assumption. And this differs from the arrangement of a dummy account in

[8] United Kingdom, *National Income Statistics—Sources and Methods,* (Central Statistical Office, London, 1956), p. 145.

the proposal of the revision of the United Nations System.[9] It seems rather fruitless and roundabout to approve imputed banking services and then treat them as intermediate products for a dummy sub-sector, which produces no output, within the financial sector.

The second proposal: the total amount of that is paid to households and reserved in enterprises in each industrial sector are treated as national income by industry. This is the "income derived from the industry" that Mr. Warburton has proposed before.[10] Mr. Yntema is opposed to this because of technical difficulties and uselessness.[11] But we can't approve his opposition. Indeed it is difficult to measure the income derived from industry accurately. But this is no more difficult than the accurate allocation of imputed banking services. From the view that factor income consists of the payment to households and the reservation in enterprises, the common treatment of all the industries may clear up the meaning of national income by industry. It will be much less misleading than the deduction of imputed banking services for enterprises in each industry. This proposal is not necessarily opposite to the present method. The underlying rationale of the present national accounts is that factor income is what is paid to households finally, and not what is paid from one enterprise to another. Our proposal is nothing but a thorough application of this rationale.

The third proposal: loan interest paid from enterprises to banks are regarded as purchases of intermediate products and those from households paid to banks as purchases of consuming products. This method has been proposed by Prof. Kawaguchi and Mr. Sunga.[12] This is a new thought in opposition to the traditional concept of interest and is based on the characterization of banking business just as considered in the previous section. The merit of this proposal is, of course, a very realistic interpretation of the economic functions of financial intermediaries.

It is not easy to choose the most superior one of these three proposals and it is not our intention to do so. For each of them has a different implication than the other. Here we intend to suggest that the negative income of financial intermediaries is never such a paradox or dilemma that it can not be solved easily.

9) As I have not read *Proposals for the Revision of the SNA, 1952*, (United Nations, E/CN. 3/356, 1967), I depend on the explanation of *National Accounts Statistics Quarterly*, No. 18, (Economic Planning Agency, Tokyo, Feb. 1968), pp. 37–38.

10) Comment by Clark Warburton on Yntema's Paper, in *Studies in Income and Wealth*, Vol. 10, pp. 69–70.

11) Reply by D. B. Yntema to Warburton's Comment, *ibid.*, pp. 80–81.

12) Hiroshi Kawaguchi, *op. cit.*, pp. 54–55. Preetom S. Sunga, *op. cit.*, p. 34. Mr. Sunga regards a part of consumer debt interest as unproductive. Judging from his opinion to think interest and rent analogously this is halfway. It seem to me that he is standing at the middle point between the new thought and the old one.