

THE TREATMENT OF INTEREST AND FINANCIAL
INTERMEDIARIES IN THE NATIONAL ACCOUNTS:
THE OLD “BUNDLE” VERSUS THE NEW “UNBUNDLE” APPROACH

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As is widely recognized both in the literature and by the practitioners, the treatment of financial intermediaries has been one of the most controversial issues in national accounting. This has been so largely because no one up to now has been able to define the output of banks and other financial intermediaries. In the present paper, a theory of services in general and of financial services in particular is used to demonstrate that financial intermediaries produce at least six commodity type services. Furthermore, it is argued that in order to solve the banking imputation problem it is necessary to separate the theory of interest rates from the theory of financial services and examine the interdependence between them. The gross interest rate must be unbundled because it contains three distinct components. These are, first, the pure interest rate, which reflects payment for a factor-type service; second, payments for six commodity-type services, which reflect the output of financial intermediaries; and, third, payments for unilateral transfers. The new unbundled approach is contrasted to the old bundle approach used and/or advocated by standard economic theory, the SNA, Sunga and the Ruggleses. Furthermore, it is recommended that payments for the pure interest rate be considered as part of income of the paying enterprise or sector while payments for financial services by enterprises to other enterprises should be considered as intermediate purchases.

That (revenue) from it (stock) by the person who does not employ it himself, but lends it to another, is called the interest or the use of money. It is the compensation which the borrower pays to the lender for the profit which he has an opportunity of making by the use of the money. Part of that profit naturally belongs to the borrower, who runs the risk and takes the trouble of employing it, and part to the lender, who affords him the opportunity of making this profit. The interest of money is always a derivative revenue, which, if it is not paid from the profit which is made by the use of the money, must be paid from some other source of revenue

Adam Smith, *The Wealth of Nations*, Book I, Chapter VI, p. 52.¹

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¹ According to Adam Smith the interest rate is shaped by the demand and supply of money where “money” stands for financial capital.

In a thriving town the people who have great stocks to employ, frequently cannot get the number of workmen they want, and therefore bid against one another in order to get as many as they can which raises the wages of labour, and lowers the profits of stock. In the remote parts of the country there is frequently not stock sufficiently to employ all the people, who therefore bid against one another in order to get employment, which lowers the wages of labour, and raises the profits of stock.

Adam Smith, *The Wealth of Nations*, Book I, Chapter IX, p. 90.

It may be laid down as a maxim, that wherever a great deal can be made by the use of money, a great deal will commonly be given for the use of it, and that wherever little can be made by it, less will commonly be given for it. Accordingly, therefore, as the usual market rate of interest varies in any country, we may be assured that the ordinary profits of stock must vary with it, must sink as it sinks, and rise as it rises. The progress of interest, therefore, may lead us to form some notion of the progress of profit.

Adam Smith, *The Wealth of Nations*, Book I, Chapter IX, p. 88.

The treatment of financial intermediaries is—and for many years has been—one of the most controversial issues in national accounting If the macroeconomic accounting system is to function as an aggregation of microeconomic accounts, some reconsideration of the treatment of financial intermediaries is needed.

Richard Ruggles and Nancy D. Ruggles (1982, p. 13)

First, the alternative approach sheds no light on what output of banks really is.

S. A. Goldberg (1985, p. 12)

INTRODUCTION

Before claiming that banks and other financial intermediaries generate income and then making the corresponding estimates, it is necessary to show first what the output of banks really is. It is a goal of the present paper to demonstrate that banks and financial intermediaries do indeed have an output, do use factors of production in producing their commodity type financial services, do have intermediate consumption and that economic welfare is augmented significantly by the services produced by them.

Furthermore, the hypothesis is advanced in this paper that banks and other financial intermediaries do produce not only one but many types of output. To be exact they produce six distinct, measureable commodity type services. Although in theory these services and value added when producing them can be distinguished easily, in practice some of these are produced jointly and synchronously. It may, therefore, be difficult to provide a separate measure of their relative contribution to banking output.

The present paper is based on the premise (or advances the hypothesis) that the Theory of Interest Rates, which is one relating to the market of a factor of production, is separate and distinct from the Theory of Financial Services, which is one that relates to the market of a sectoral output and its production conditions. However, neither one of these theories can be understood independently of each other. Interest rates shape the production of financial services and the production of financial services shapes the interest rates.

Above all, if the banking imputation riddle is to be solved and this Gordian knot untied, as I hope to do in the following sections, it is necessary to demonstrate clearly the differences between the Theory of Interest and the Theory of Financial Services. It is also necessary to show how these differences affect the income estimates of the banking and financial sector and of the sectors using, on the one hand, the input “financial capital,” and, on the other hand, the output (commodity type services) of the financial sector.

SECTION 1

THE “BUNDLE” AND “UNBUNDLE” APPROACHES TO THE TREATMENT OF INTEREST AND THE BANKING IMPUTATION

There are two approaches in the literature to the treatment of interest in the national accounts and the banking imputation.

A. The “Bundle” Approach

According to what is called in this essay the Bundle approach, the interest rate basket contains *either* a “factor-type service,” in which case interest payments are always part of the value added generated in the sector using the financial capital, *or* a “commodity-type service,” in which case interest payments are treated as intermediate consumption of and are excluded from income generated in the sector using the financial capital but give rise to income in the *owning* sector.

As already indicated in the preceding paragraph, there are two versions of the bundle approach. According to the first, which is referred to as the “traditional” by Goldberg (1985, p. 6) and is adopted by the United Nations (1968), interest is always factor income either earned by the owners of capital used by an enterprise or earned by the enterprise employing the capital and received by its owners as a transfer. The SNA adopts this version of the bundle approach and views all interest as a transfer. Adoption of this approach gives rise to negative income in banking (since property income received exceeds property income paid out) and makes an imputation necessary.

According to the second, which is referred to as the “alternative approach” by Goldberg (1985, p. 6) and is advocated by Sunga (1967; 1984) and the Ruggleses (1982, p. 15),² interest is considered “as a payment for a commodity-type (non-factor) service” (Goldberg, 1985, p. 6). Adoption of the “alternative” approach would eliminate the need to make a banking imputation and would reduce sectoral income by the amount of interest paid which would be considered as intermediate consumption.

In both versions of the bundle approach it is argued that the interest rate wears only one hat for which it receives payment. The debate is about the nature of this hat as a factor-service or a commodity-type service. One group sees in the interest rate basket only factor-services while the other sees only commodity-type services. The unbundle approach presented in the next section argues that the interest rate basket contains both factor-services and commodity-type services and even unilateral transfers.

Both versions of the bundle approach suffer from deficiencies. The “traditional” one hat version claiming that interest is exclusively the price for a factor-service negates the very existence of the financial sector and its multiple commodity-type services. The “alternative” one hat version claiming that interest is exclusively the price for a commodity-type service negates the very existence of financial capital as a production input.

B. The “Unbundle” Approach

According to the Unbundle or unbundling approach, the interest rate problem in the national accounts exists because we lack a theory on the basis of which we can separate the distinct services contained in the interest rate basket and place these in the accounts where they correctly belong.

²Under a treatment similar to that used for rental transactions, interest received by enterprises would be considered a sale of services, and interest paid by enterprises to other enterprises would be considered as intermediate purchase. (Ruggles and Ruggles (1982, p. 15).)

The interest rate basket is not a one service basket. It is a multi-service basket. One service contained in it is the “factor-service” provided by the owners of financial capital. The pure interest rate paid for this factor-service is always part of the value added generated by the sector using the financial capital. In addition, however, the interest rate basket contains six “commodity-type services” produced by the financial sector. The components of the gross interest rate that reflect payments for these commodity type services should never be part of value added of the using sector because these are part of its intermediate purchases.

Where income originates depends on *what* is being used, not *who* uses it. If a financial capital input is being used, the pure interest paid is part of income of the using sector. If a commodity-type sectoral service is used, payment for it reflects an intermediate purchase and is excluded from the income of the using sector.

Thus, if correct national account estimates are to be made and the interest and banking imputation problems are to be solved, we must unbundle the multi-service, multi-component gross interest rate. The term interest rate, as presently used, is a misnomer because it implies payment for factor-services exclusively but in reality, when referring to the bank borrower, it includes also payments for commodity-type services.

The unbundle approach was advanced first by Mamalakis (1983, pp. 148–149, 508–509) (1985, pp. 353–360) and is presented in detail in the present paper. It argues that the term interest rate wears many hats and that these must be separated and treated, one as a factor-service, the second as a commodity-type service and the third as a unilateral transfer.

It should be noted that implicitly and without theoretical justification the SNA methodology of imputing a value added to banking equal to the difference between property income received and property income paid out amounts to *de facto* unbundling. The SNA approach, when it excludes intermediate purchases from the banking imputation, does still differ in major respects from the approach of the present essay (Mamalakis, 1983, 1985) which recommends that value added for the financial sector be estimated in the same fashion as in any other industry producing commodity-type services by deducting from revenues from sales of services intermediate purchases.

Although the actual estimate of value added by financial intermediaries according to the SNA approach (imputed) can be identical to that according to the approach suggested in this paper (actual income estimate), the two approaches are still different. The SNA approach does not deduct from sectoral revenues actual purchases of intermediate financial services to obtain value added, while according to the approach formulated in this paper such intermediate purchases must be deducted. Since the purchases of intermediate financial services are positive and highly uneven among various sectors, sectoral incomes will be overestimated to different degrees unless the approach and methodology advanced in this paper are adopted.

In the sections of the paper that follow, an attempt is made to provide a theoretical justification for unbundling the gross interest and to indicate some of the implications of adopting this approach.

SECTION 2
THE PURE INTEREST RATE:
FACTOR INCOME PAYMENT TO FINANCIAL CAPITAL

First, there is the pure or net interest rate or simply the interest rate. This is the price paid to savers, be they households, firms or government, for transferring the use of their financial assets to debtors, be they banks, other financial intermediaries, households, firms or government. If the gross interest rate is denoted by i , the pure interest rate by i_1^i and the revenues (R) of the financial system generated from the pure interest rate charged to their customers by R_1^i then, if there exist no other costs or financial charges,

$$(1) \quad i = i_1^i = R_1^i.$$

Much, if not most, economic and monetary theory considers gross and net interest rates as synonymous and identical.

According to the United Nations *System of National Accounts* (United Nations, 1968) interest rates are part of property income. Since the concepts and definitions of the United Nations play an important role in the present discussion of interest rate theory, they are presented below.

General Definition of Property Income by the United Nations

7.46. Property income may be defined as the actual and imputed transfers of income resulting from the use by one economic agent of the financial assets, land and intangible assets, such as copyrights and patents, owned by another economic agent. The forms in which property incomes are transferred depend on the institutional structure and arrangements of an economy; and should be reflected in the classification of these transactions in the national accounts for the economy. Common types of property income are interest and dividends, in respect of financial liabilities and assets, and net rent and royalties, in respect of use of land, copyrights, patents and similar rights. (United Nations, 1968, pp. 125–126)

Definition of Interest and Dividends by the United Nations

7.48. Interest comprises property incomes in respect of such financial claims as bank and other deposits, bills, bonds, promissory notes and other loans, accounts receivable and payable, trade advances and consumers' debts, and household equity in life insurance reserves and pension funds. It may be necessary to impute certain flows of interest in part, for example, interest in respect of the household equity in life insurance reserves and pension funds. Dividends consist of transfers of income in respect of the shares and other forms of participation in the equity of private incorporated enterprises, cooperatives and public corporations. (United Nations, 1968, p. 126)

The term "interest rate" should reflect only income generated from owning and lending out the use of financial capital. "Interest" is property income where the property is financial capital. Those who borrow pay those who save an interest rate for gaining access to financial capital.

Interest rates, as the price for the use of financial capital, are not, however, the only cost of borrowing. Borrowers also have to pay banks and other financial intermediaries for the financial services provided to them.

Property income was defined correctly above “as the actual and imputed transfers of income resulting from the use by one economic agent of the financial assets, land, and intangible assets, such as copyrights and patents, owned by another economic agent” (United Nations, 1968, pp. 125-126). However, the income generated by banks and other financial intermediaries while linking up the “owner” with the “user” of financial capital or when putting together the supply and demand of financial capital can under no circumstances be considered as property income. Interest costs are separate and different in nature, origin and function from the financial service costs.

SECTION 3

CHARGES BY FINANCIAL INTERMEDIARIES FOR SERVICES: SECTORAL REVENUES FROM PRODUCTION OF FINANCIAL SERVICES

Second, there are the costs of financial services, denoted by i_2, \dots, i_7 , which include value added plus intermediate consumption by producers of financial services. If the financial service costs, i_2, \dots, i_7 , are added to the pure interest, i_1 , the gross interest rate is defined in equation (2) as the sum of

$$(2) \quad i = i_1 + i_2 + i_3 + i_4 + i_5 + i_6 + i_7.$$

Banks and other financial institutions earn gross revenues (R) and generate income (Y) by buying and selling financial capital, by transforming one type of financial capital into another and by providing other financial services.

Financial capital has as a minimum three dimensions, namely a time dimension, denoted by superscript “ t ,” a quantity dimension, denoted by superscript “ q ,” and a location or space dimension denoted by superscript “ L .” For a discussion of the Theory of Services, including financial ones, and of the theoretical framework of functions of services which is utilized here to distinguish the interest rate transfers from the sectoral revenues and income in financial services see (Mamalakis, 1972 and 1974), (Mamalakis, 1976, pp. 178-179), (Mamalakis, 1983, pp. 4-17) and (Mamalakis, 1985, pp. 353-360). While the pure interest rate, i_1 , is strictly property income and is treated as a transfer, the financial services and intermediation charges, i_2, \dots, i_7 , consist of value added, Y_f , and intermediate consumption, C'_f , of the financial sector. That is,

$$(3) \quad i_2, \dots, i_7 = Y_f + C'_f$$

where Y_f is value added in the financial sector, and C'_f is intermediate consumption of that sector.

SECTION 4

THE SERVICE DETERMINING THE TIME DIMENSION OF FINANCIAL CAPITAL AND VALUE ADDED WHEN PRODUCING IT

Let us start with the “time dimension”. There are two important but distinct aspects of this dimension. The first aspect is related to the pure interest rate (i_1).

An economic agent lends directly to another agent an amount of financial capital, K , for a period t to $t+n$. As an example, household A buys from firm B a two-year promissory note worth \$5,000. The financial capital of the beginning of the two-year period is not the same as that available at the end of the two years because of distinct time dimensions of the financial property. As financial property travels through time it may earn or is imputed an income which we have called the pure interest rate.

In the aforementioned case it is implicitly assumed that the “time dimension” of the supplier’s (owner’s) financial capital is identical to the time dimension of the financial capital required by the borrower (user). What agent A wants to lend for two years agent B wants to borrow for two years.

However, in reality the “time needs” of suppliers of financial capital do not always match the “time needs” of those demanding financial capital. A lender may want to supply \$5,000 for two years while a borrower needs \$5,000 for either only one year, or for three years or for more than four years. Here is where the financial service of time transformation of capital enters. In order for the market of financial capital to clear, a “firm” (bank, financial intermediary) accepts the two-year \$5,000 worth of financial capital as a certificate of deposit or in some other form and transforms its time dimension to two one year loans or some other combination. As the time dimension of the financial capital entering (supplied to) the financial intermediation system is transformed and a financial capital with a different time dimension is produced and delivered to the agent borrowing it, value is added. Gross and net income are generated in addition to and above the pure interest earned by the financial property traveling through time. There is a surcharge imposed on the pure interest rate in order to cover the costs of the financial service of transforming the time dimension (time period it can be used by borrower) of financial capital. This surcharge is not property income and even if it is incorrectly called an interest rate, it is nothing but the cost of providing a needed time transforming financial service. Thus, whenever the time transforming service is offered, a second charge is made by a financial intermediary, that is

$$(4) \quad i_2 = i'_2 = R'_2$$

where i_2 is the second charge for the production of the service transforming the time dimension of financial capital, denoted by i'_2 , and R'_2 stands for revenues generated.

This surcharge consists of two parts, that is

$$(5) \quad i'_2 = Y'_f + C'_f = R'_f$$

Where Y'_f is value added in the financial sector when providing the service of transforming the time dimension of financial capital, and C'_f is the related intermediate consumption. Thus, financial intermediation has at least one cost component, namely that of time transformation denoted by i'_2 . As described above, the i'_2 charge arises only when the time-use dimension of the financial capital being “traded” changes. In reality, and for national accounting purposes, i'_2 is or should be any surcharge imposed by the financial intermediation system whenever it is entrusted to mediate between lenders and borrowers. This should

be the case irrespective of whether the financial capital changes its second time aspect or not. An example here would be useful.

As already mentioned, one of the services provided by financial institutions is that of “linking” the financial capital of the lender to that needed by the borrower. Thus, if a borrower needs \$1 million for one day in the city of Milwaukee the financial intermediary will try to find someone in Milwaukee who wants to lend \$1 million for one day or vice versa. The financial intermediary buys from the lender the financial capital with the promise to sell it back in one day at a price that includes one day’s interest. In turn, the financial intermediary sells the financial capital to the lender with the requirement that it will buy it back in one day. The sale price is equal to \$1 million plus interest rate plus the price of the financial service.

Assuming that the borrower pays \$1 million plus \$1,000 to the bank at the end of the first day and the bank pays \$500 to the lender, the cost of the financial intermediation service is \$500. Part of this \$500 reflects the cost of intermediate consumption such as telephone calls, use of electricity, pencils, paper and so forth. Assuming the cost of intermediate consumption is \$50, then value added generated by the provision of this financial service is \$450. Part of it will be compensation of employees, part of it consumption of fixed capital and part of it operating surplus.

The surcharge imposed for transforming the time dimension of financial capital is normally indistinguishable from the surcharge imposed for trading financial capital between buyers and sellers. Total revenues of the financial system once the first financial service is performed are equal to the sum of charges for the pure interest rate ($i_1 = R_1^t$) and for the production of the service transforming the time dimension of financial capital ($i_2 = i_2^t = R_2^t$), that is

$$(6) \quad i = i_1^t + i_2^t = R_1^t + R_2^t.$$

SECTION 5

THE SERVICE DETERMINING THE QUANTITY DIMENSION OF FINANCIAL CAPITAL AND VALUE ADDED WHEN PRODUCING IT

A second service provided by the financial intermediation system is that which transforms the “quantity” dimension of financial capital. Banks and other financial institutions buy financial capital in small or large quantities and sell it in large or small quantities. They buy at the retail level (accept small denomination time and saving deposits) and sell at the wholesale level or vice versa. In other words, financial institutions trade in financial capital and earn income for trading in different quantities.

In transforming the quantity dimension of financial capital banks supply a service and earn income. They impose a surcharge on the pure interest rate, i_1^t , in addition to and beyond the surcharge they had imposed to cover the costs of the time transforming service. The surcharge imposed to cover the costs of the service transforming the quantity dimension of financial capital is denoted by i_3^q .

If the cost of transforming the quantity is added to the pure interest rate and the cost of transforming the time dimension of financial capital, total charges

by financial institutions are equal to

$$(7) \quad i = i_1^i + i_2^i + i_3^i = R_1^i + R_2^i + R_3^i.$$

The surcharge for transforming the quantity dimension of financial capital consists of two parts, that is

$$(8) \quad i_3^q = Y_j^q + C_j^q = R_j^q$$

where Y_j^q is value added by the financial sector when providing the service of transforming the quantity dimension of financial capital, and C_j^q is the related intermediate consumption.

It would be inconsistent with national accounting theory and practice to argue that income is generated when intermediate and final goods are bought in large (small) and sold in small (large) quantities by the wholesale and retail trade sector but refuse to accept the idea that income is generated when financial intermediaries buy large (small) and sell small (large) amounts of financial capital. In both instances a service transforming the quantity dimension of a commodity is generated. The criteria used in determining the generation of income are, first, that a service (of transforming the quantity dimension of a commodity in this instance) is generated, and, second, that factors of production and intermediate consumption are required to produce it. The nature of the good or service traded is not and should not be used as a criterion of whether income is generated.

To the extent, and it is indeed a significant one, that financial intermediaries act as traders transforming the quantity dimension of financial capital, their income generating trading services are visible and measurable. In this instance, national accounting consistency does not create but instead solves a problem. One of the most visible hats worn by financiers is indeed that of a trader and their trading services contribute to the final output, factor income and total welfare that national accounts attempt to measure.

The trading service supplied by wholesale and retail trade, as well as in part by the financial sectors, which transforms the quantity dimension of goods and services, is a commodity-type service subject to standard production features that is distinct from the factor of production "service" supplied by financial capital. The one is a commodity-type sectoral *output* service, the other is a factor *input* "service." Revenues earned when the commodity-type trading service is sold reflect payment for *sectoral* output. Revenues earned by financial capital reflect payment to a *factor of production* utilized in a sector.

SECTION 6

THE SERVICE DETERMINING THE LOCATION DIMENSION OF FINANCIAL CAPITAL AND VALUE ADDED WHEN PRODUCING IT

A third, distinct service provided by banks and other financial intermediaries is that of transforming the "space" or "location" dimension of financial capital. Banks buy financial capital in Milwaukee and sell it in New York and vice versa. They buy financial capital in Japan or Kuwait and sell it in Chile, Mexico or Argentina. Or they buy financial capital in one city or region and they sell it in another one. In other words banks perform a transportation service. In order to

perform this service they hire employees, who are paid wages and salaries, they use up physical capital and they earn a surplus. They also impose a surcharge denoted by i_4^L .

Financial capital can be transported physically or electronically or through some other means. Either way a production function is used and there are costs involved. In order to cover these costs, financial intermediaries add a i_4^L charge on the pure interest rate, i_1^i , on the “time” charge, i_2^i , and on the “quantity” charge, i_3^q . The total interest plus financial intermediation cost is then equal to

$$(9) \quad i = i_1^i + i_2^i + i_3^q + i_4^L = R_1^i + R_2^i + R_3^q + R_4^L.$$

Once again, the surcharge for transforming the location dimension of financial capital consists of two parts, that is

$$(10) \quad i_4^L = Y_f^L + C_f^L = R_f^L$$

where Y_f^L is value added by the financial sector when providing the service of transforming the location dimension of financial capital and C_f^L is related intermediate consumption.

As long as banks have offices in different locations and funds (financial capital) are transported between them, income is generated. As long as different banks operate in distinct cities, regions and countries and funds are transported (transferred) among them, value added arises. If these transport services are provided by the transport sector, value added is credited to that sector. Why should we not accept the fact that value added is generated by the banking sector when it provides internally all or part of these transport services? Offering these services requires factors of production and intermediate consumption and gives rise to “things which, while physically identical, are economically different” (Pareto, 1971, p. 224).

Actually, many, if not all, financial intermediaries have divisions entrusted with the manual, physical, electronic or other forms of changing the space dimension (transporting) of financial capital. Sample surveys could be relied upon to determine the share of income of financial institutions generated while producing such transportation services.

Even though the value of transport services produced by the financial sector may be small compared to the value of trading services by the same sector, these services are by no means negligible; they are an indispensable component of the basket of services produced by the financial sector and their production requires factors of production as well as intermediate consumption.³

³ The transport cost of financial capital is by no means small. As the following quotation indicates, the Federal Reserve System’s payments processing operation costs \$500 million a year. “How can float be eliminated? Since private clearing systems don’t tolerate it—indeed can’t afford it—the ideal solution is for the Fed to close its \$500 million a year payments processing operation and leave this activity entirely to the private sector.” (Watson, 1985, p. 16) “Some corporations agree to pay each other by wire, leaving the Lear jet on the runway. While an improvement, this is still an expensive solution since a wire costs about \$10 while clearing a check through normal channels costs much less than a dollar.” (Watson, 1985, p. 16) A significant amount of resources are used in such transport. “The clearing of checks from other banks is expedited through the use of a sophisticated and expensive network of jets, helicopters and couriers.” (Watson, 1985, p. 16) As Watson shows in his article, some of this transport is dictated by outdated institutional regulations. “The volume of such (massive and wasteful, though legal, financial) churning is truly staggering. The nation’s cash managers and

SECTION 7 FURTHER EMINENTLY FINANCIAL SERVICES

In the three preceding sections the financial services transforming the time (storage and use), quantity (trade) and location (transport) dimensions of financial capital were discussed.

However, there are three additional services produced by the financial sector which are eminently financial in nature. These are the unit-of-account, denoted by the superscript “u,” the instrument-of-transactions, denoted by superscript “n,” and the store-of-wealth services, denoted by the superscript “w.” These originate from and define the financial sector. They give rise to economic welfare and to income by utilizing land, labor, and financial capital.

The Unit-of-Account Service and Value Added When Producing It

There is demand for unit-of-account services in an economy and income generated when supplying these services. For an object to be called money it must generate unit-of-account services. However, not every object that generates unit-of-account services is money.

The unit-of-account service permits measurement of values. It exists and is produced in every modern economy. Even though it is an eminently financial one, it is not produced exclusively by the Central or other Banks issuing notes. Unit-of-account services can also be and are produced by the national government, by autonomous state agencies, by international agencies such as the International Monetary Fund as well as by foreign governments or banks that mint or issue gold, silver or other metallic coins and notes providing unit-of-account services abroad. As an example, the United States dollar provides unit-of-account services throughout the world and also generates instrument-of-transactions and store-of-wealth services in such countries as Panama where it is legal tender.

Actual production of unit-of-account services becomes most visible when they are produced separately and apart from legal tender. In multi-unit-of-account economies such services are supplied by a variety of entities. Each unit-of-account service is produced by using factors of production and intermediate consumption. Income is generated as the supply of unit-of-account services requires continuous adjustment.

In Chile there exist at least five units-of-account generating the respective service: the new peso, which replaced the escudo which had replaced the old

bankers transact more than \$600 billion a day in wire transfers alone. . . . This daily dollar volume is triple the federal budget for this year and annually amounts to more than \$170 trillion, which makes our annual gross national product of close to \$4 trillion look like a pittance. . . . Something must be wrong when the nation's money supply literally turns over every few hours, and when checks account for less than 5% of the dollar value of that turnover.” (Watson, 1985, p. 16) These resources used for the transportation of financial capital (“churning” according to Watson) are, once again according to Watson, “tremendous”: “The elimination of check and wire float, combined with the total abolition of Reg Q, could cut the dollar volume of wire and check transfers to little more than the current dollar volume of checks alone. Annual financial churning of as much as \$170 trillion could be eliminated, and the *tremendous resources associated with such churning* could be released for more productive uses.” (emphasis added) (Watson, 1985, p. 16) The aforementioned cost of check-churning arises not only from the phenomenal transformation of the location dimension of financial capital but also of its time and quantity dimensions.

peso, the “indexed unit” (unidad readjustable), the “saving share for housing,” the “development unit” (unidad de fomento) and the “tax unit” (unidad tributaria.)⁴ Each of these objects provides unit-of-account services. All, except the peso, provide only unit-of-account services. All, except the peso, are calculated and updated continuously by teams of specialists. Their production requires factors of production and intermediate consumption and gives rise to income. The income generated may not be large but is positive, visible and measurable.⁵

Whenever a unit-of-account service is offered by the financial sector an additional charge is made for it. This charge can be denoted by $i_5^u = R_5^u$, that is the segment of the gross interest rate covering the costs of the unit-of-account service (u). To the extent that $i_5^u = R_5^u$ is charged to lenders and borrowers at large, it is an integral part of the interest spread. Once the charge for unit-of-account services is added, the total interest plus financial intermediation cost is equal to

$$(11) \quad i = i_1^i + i_2^i + i_3^q + i_4^L + i_5^u = R_1^i + R_2^i + R_3^q + R_4^L + R_5^u.$$

The revenue from unit-of-account services consists of two parts, that is

$$(12) \quad i_5^u = Y_f^u + C_f'^u = R_f^u$$

where Y_f^u is value added by the financial sector when producing the unit-of-account service and $C_f'^u$ is the related intermediate consumption.

The Instrument-of-Transactions Service and Value Added When Producing It

Modern economies cannot operate unless instrument-of-transactions services are offered. When these services are offered value added is generated.

If an object is to function as and be called money, a necessary condition is that it must generate instrument-of-transactions services. This is not, however, a sufficient condition. For an object to be accepted and function as money it must also generate unit-of-account and store-of-value services. An instrument-of-transactions does offer the respective service at a particular time, quantity and location. However, while the original instrument-of-transactions service is a purely financial one, the prosthetic services transforming its time, quantity and location dimensions are not.⁶

⁴ For a detailed description and analysis of the units-of-account in use in Chile in recent years see Mamalakis (1983, pp. 6-17).

⁵ Furthermore, monetary history is replete with instances where objects that originally generated unit-of-account services become obsolete, have to be abandoned and then replaced by new ones. Production of new marks, francs, drachmas, pesos and escudos to replace old ones becomes necessary whenever rampant inflationary movements deprive the latter of their ability to generate unit-of-account as well as other services.

⁶ Production of instrument-of-transactions services is subject to continuous change, as the following sections of a Wall Street Journal article titled “Banks Moving to Phase Out Cancelled Checks” by Robert L. Rose indicates:

Early each morning in the basement of Marine Midland Bank’s New York headquarters, a long, narrow machine kicks the personal checks of thousands of customers into a “pocket,” never again to be seen by their writers.

The value added or cost associated with the instrument-of-transactions service can be understood most easily if a distinction is made between perishable and durable money. Perishable money is the type which is consumed and extinguished along with and after it has provided the necessary instrument-of-transactions financial service. Deposit or check money is generally of the perishable type because, as pointed out correctly in banking language, it is cancelled once debited to the issuer's account. Issue, collection, deposit and cancelling of checks requires factors of production and intermediate consumption. Thus, it gives rise to income in the financial entity that provides the instrument-of-transactions service embodied in check writing.

There is either an explicit or implicit price or charge paid by the person utilizing, through check writing, the instrument-of-transactions service. An explicit price exists whenever there is a charge per check or per month per account or a combination of the two. Implicitly, the price paid by buyers of instrument-of-transactions services is measured by and is equal to the pure interest rate earned by the bank on the average balance of a checking account which is not paid to the depositor.

A bank could charge a price for every financial service its customers use and could pay interest on all balances of financial capital deposited with it. Complete financial deregulation could indeed lead to separation and distinct pricing between the input market for financial capital and the markets for the many financial services offered by the financial system. Under such circumstances, value added by the financial sector would be equal to total revenues from the sale of financial services less intermediate purchases. The alternative proposed in the present essay is to calculate the revenues from the sale of financial services by deducting from gross financial revenues the interest payments to depositors.

The fact that the markets for financial capital and financial services appear intermingled within the financial system does not mean that the market for financial services does not exist, that these services are free, costless or cannot be measured, that they do not require factors of production and intermediate consumption, or that they do not generate income. It also does not mean, however, that the market for financial capital does not exist and that all interest payments are exclusively for "services" by the factor financial capital as argued by Sunga (1984, p. 385). To the contrary, they are alive and mostly well and their value added is visible, tangible and measurable.

In contrast to perishable money, durable money provides or is capable of providing a continuous flow of the instrument-of-transactions service. Durable money is not consumed, cancelled or destroyed when it provides financial services.

Banks call this process "safekeeping," by which they mean that canceled checks aren't returned to account holders with their monthly statements. Relatively few people know about safekeeping, but more banks are trying to create a demand for it by persuading customers that it eliminates the chore of filing and storing canceled checks, without sacrificing their potential use as evidence of payment.

Under safekeeping, banks microfilm the canceled checks, as they have for years, and then destroy them. When a customer requests a check, the bank sends a photocopy, usually within a few days—sometimes for a fee. The copies are typically available for at least seven years. (Rose (1985, p. 29).)

Its services can be utilized over and over again. Production of such durable money as bank notes, bullion and so forth involves measurable costs and value added.

Durable money can be transferred without being destroyed because it does not reflect a liability of the owner but of a third party, possibly a government, bank or other institution. Perishable money is a liability of the party issuing it and must perish in order to become an asset (for ownership to be transferred) of the receiving party. Perishable money “creation” and destruction are at the core of the modern banking and financial systems which attempt to provide financial services tailored to the exact time, quantity (value) and location needs of economic agents.

One of the achievements of modern banking and financial innovation is creation of perishable money, and the conversion of perishable into durable and durable into perishable money. Electronic money is the ideal perishable one permitting the instantaneous transfer of the ownership of funds.

Production of perishable and durable money can be subject to technological progress which changes (1) the durability, (2) the perishability, (3) the ability of money to provide instrument-of-transactions services, (4) the ability of durable financial assets to provide store of wealth services. Technological progress can affect the input-output relationship in the production of financial services and thus the markup imposed by financial intermediaries on the pure interest rate.

The present approach provides some novel insights into the nebulous concept of velocity of money which will hopefully clarify the notion of income generated by the financial sector. To talk of velocity of durable and perishable money as if these were one and the same thing is like talking about machines, which are used for years, and tickets to a game, which disappear with the game, as if they are one and the same thing. In the case of durable money, velocity means and is measured by the number of times its ownership changes hands within a time period. In the case of perishable money, velocity means and is measured by the number of times an object generating the instrument-of-transactions service has been produced and destroyed within a time period. Perishable money is owner-specific, debtor-specific, time-specific, quantity-specific, and location-specific. Durable money is owner-neutral, time-neutral (can last “forever”), its quantity (value) is predetermined and is location-neutral. In either case, there are costs involved in the production of the objects used to generate the instrument-of-transaction service.

To the extent that R_6^n is charged to lenders (depositors) and borrowers at large it can be denoted by i_6^n . It stands for total revenues and costs, including surplus arising from production of instrument-of-transactions services.

Once the charge for instrument-of-transactions services has been added, the total interest plus financial services cost is equal to

$$(13) \quad i = i_1^i + i_2^t + i_3^q + i_4^l + i_5^u + i_6^n = R_1^i + R_2^t + R_3^q + R_4^l + R_5^u + R_6^n.$$

The charge for instrument-of-transaction services consists of two parts, that is

$$(14) \quad i_6^n = Y_f^n + C_f'^n = R_f^n$$

where Y_f^n is value added by the financial sector when producing the instrument-of-transactions service and C_f^n is the related intermediate consumption.

The Store-of-Value Service and Value Added When Producing it and Definition of Money

A pivotal feature of modern economies is that there exists a strong demand for store-of-wealth services. When these store-of-value services are offered, income is generated. For an object to be called money it must generate store-of-value services. As stated before, it must also provide instrument-of-transactions and unit-of-account services.

In accordance with the ideas about services presented in this essay, an object can be considered as money if it serves explicitly one hundred per cent as an instrument-of-transactions, implicitly at least as a unit-of-account, and, if and as long as needed, as a store-of-value. Money can be defined as that object that can provide all three unit-of-account, instrument-of-transactions and store-of-wealth services *and* provides the instrument-of-transactions service all the time, that is one hundred per cent.

There exist objects that provide only one of the aforementioned services. These are not money, however. If an object is to serve as money it must be poly-functional or, more precisely, tri-functional.

If an object provides the store-of-wealth services all the time but the instrument-of-transactions service only some of the time, it is quasi- or near-money. It is a role of the financial system to produce as wide a variety of near-money as is needed by economic agents. Thus, the financial system can produce an object generating only store-of-value services, e.g. a long term saving account. Or, it can produce an object that generates store-of-value and instruments-of-transactions services, e.g. a checking account earning no interest but with unlimited check writing privileges. It can also produce an infinite variety of store-of-value services in terms of time, value and location.

As a consequence, the financial sector generates income, earns revenues and utilizes resources for transforming the time dimension of financial capital (pure storage), for matching the time, value (quantity) and location needs of the lessors (lenders) and lessees (borrowers) of financial capital and for producing objects providing different combinations of unit-of-account, instrument-of-transactions and store-of-wealth services.

The economic value, income and costs of providing store-of-wealth services are quite separate from those associated with production of the simple "time transforming" service which can be interpreted as "storage" through time. The store-of-value services arise above all from the performance by the financial sector of the critical function of ascertaining that the financial capital deposited with it and lent out is used in a manner that guarantees not only repayment but also earning of the pure interest rate. The financial sector carries the responsibility of guaranteeing the existence and maintenance of the store-of-value service not only in nominal but also in real terms.

In order to provide, in addition to the simple financial function of nominal store-of-wealth services, the more sophisticated and fundamental function of real

store-of-wealth services, the banking and non-banking financial intermediaries make use of an elaborate network of loan managers, market specialists, pension fund managers, forecasters and other experts.

Income earned by the financial sector in the production of store-of-wealth services can be estimated as the difference between interest rates earned on the wide variety of purely and partially store-of-wealth deposits and the rates charged on loans. Unfortunately, because of space limitations, specific criteria for estimating income separately for the six commodity-type services produced by financial intermediaries will have to be presented in another paper.

To the extent that R_7^w is charged to lenders and borrowers at large, it can be denoted by i_7^w . It stands for the total revenues and costs, including surplus, arising from the production of store-of-wealth services. Once the charge for the store-of-wealth services has been added, the total interest plus financial services cost is equal to

$$(15) \quad i = i_1^i + i_2^i + i_3^q + i_4^L + i_5^u + i_6^n + i_7^w = R_1^i + R_2^i + R_3^q + R_4^L + R_5^u + R_6^n + R_7^w.$$

The charge for store-of-wealth services consists of two parts, that is

$$(16) \quad i_7^w = Y_f^w + C_f'^w = R_f^w$$

where Y_f^w is value added by the financial sector when producing the store-of-wealth service and $C_f'^w$ is the related intermediate consumption.

SECTION 8

TOTAL INCOME GENERATED BY THE FINANCIAL SECTOR

Thus value added in the financial sector, Y_f , is equal to the total revenue from providing the time, quantity and location transforming, the unit-of-account, instrument-of-transactions and store-of-wealth services less intermediate consumption (and the excess of indirect taxes over subsidies which is an item not treated here), i.e.,

$$(17) \quad Y_f = (i_2^i + i_3^q + i_4^L + i_5^u + i_6^n + i_7^w) - (C_f'^i + C_f'^q + C_f'^L + C_f'^u + C_f'^n + C_f'^w)$$

or

$$(18) \quad Y_f = Y_f^i + Y_f^q + Y_f^L + Y_f^u + Y_f^n + Y_f^w.$$

Thus, the role of the financial sector is to transform the financial capital produced or made available by savers or its owners into a new financial capital with time, location and quantity dimensions fitting the needs of the (final) borrower and to produce the unit-of-account, instrument-of-transactions and store-of-wealth services.

The financial sector does not produce financial capital in a way distinct from that of any other economic agent. Its role is to produce services that transform

financial capital of one type into another type and to produce the other services described in preceding sections.

SECTION 9

CHARGES BY THE FINANCIAL SECTOR FOR UNILATERAL TRANSFERS

The present discussion of interest rates and financial intermediaries in the national accounts would be incomplete if no mention were made of the unilateral transfer component of the "gross interest rate" charged to borrowers. This charge is designated by

$$(19) \quad i_8 = i_8^z = R_8^z$$

where z stands for unilateral transfers or allowance for nonrecovery of loans to households, firms and government.

Once the charge for unilateral transfers (extended risk factor) has been added to the pure interest rate and the financial services charges, the total cost or gross interest paid by the borrower is equal to

$$(20) \quad i = i_1^i + i_2^i + i_3^q + i_4^L + i_5^u + i_6^n + i_7^w + i_8^z \\ = R_1^i + [R_2^i + R_3^q + R_4^L + R_5^u + R_6^n + R_7^w] + R_8^z$$

where R_1^i and R_8^z do not give rise to sectoral income and do not arise from the production of a commodity-type financial service.

The i_8^z component is the premium paid by the borrower, beyond and above the pure interest rate and the financial intermediation and related charges described earlier, to cover that part of "loans" which in reality reflects explicit or implicit unilateral transfers and cannot be repaid. Implicit unilateral transfer is that part of debt by firms, households and government which has been or is used "unproductively" on consumption or investment and cannot be repaid. The i_8^z component of financial charges can be perceived as an insurance premium against unilateral transfers to households, firms and governments, nationally as well as internationally. The revenues from this premium can be held internally and administered as a reserve against losses or be paid to an outside agency such as the Federal Deposit Insurance Corporation.

The presence of unilateral transfers and their mingling with credit and capital markets was recognized even by Adam Smith, as the following quotation indicates:

A defect in the law may sometimes raise the rate of interest considerably above what the condition of the country, as to wealth or poverty, would require. When the law does not enforce the performance of contracts, it puts all borrowers nearly upon the same footing with bankrupts or people of doubtful credit in better regulated countries. The uncertainty of recovering his money makes the lender exact the same usurious interest which is usually required from bankrupts. Among the barbarous nations who over-ran the western provinces of

the Roman empire, the performance of contracts was left for many ages to the faith of the contracting parties.

Adam Smith, *The Wealth of Nations*, Book I, Chapter IX, p. 95.⁷

The i_8^z allowance for anticipated or unanticipated unilateral transfers is for losses in the real value of financial assets/liabilities because of misuse (fraud, theft), poor use (bad loans), inflation or any other cause. The annual operating surplus and income of the financial sector are reduced by the value of losses exceeding accumulated reserves and are increased by the value of surplus accumulated reserves that are not needed and are, therefore, withdrawn. Three major solutions are possible to the presence of a unilateral transfer component in the capital markets.⁸

⁷ The unilateral transfer problem was of an unprecedented magnitude in both the United States and the world financial system in 1986, as the following quotations from a Wall Street Journal article indicate:

“... a look at the U.S. financial system reveals tens of billions of dollars of deferred losses snowballing across the balance sheets of banks, thrifts and other lenders. Increasingly, the losses are winding up in the arms of Uncle Sam—at a time when overall debt in the economy is ballooning.

... the top 10 U.S. banks are carrying at 100 cents on the dollar about \$55 billion in loans to five major Latin American nations and the Philippines. The true worth of those loans could be 20% to 50% less than their face value, many bankers and analysts believe.

And the \$70 billion Farm Credit System is in trouble...

“It comes down to ‘peace in our time,’” says Alan M. Schreiber, a vice president at T. Rowe Price Associates Inc., a big investment firm. “We’ve got a bunch of Neville Chamberlains running the financial system.”

In addition to the Farm Credit System’s debt warehouse, the Federal Home Loan Bank Board wants to shift billions of dollars of troubled thrift assets to a special corporation for collection. And Latin American debt is being warehoused, in effect, on banks’ own balance sheets, with rates set and maturities rolled over *en masse*.

Warehousing may be the only choice. “There’s no way to recognize all the losses... in one fell swoop without having a collapse,” says Thomas R. Bomar, the president of Amerifirst Savings & Loan Association in Miami. Mr. Shilling, the New York economist, comments: “Is there any merit facing the music now? Probably not.”

The more optimistic observers believe that debt warehousing will afford time to work out many of the credit problems, especially if interest rates continue to drop and stay lower for some time.

Bank loans to less developed countries represent huge potential losses. The exposure of the 10 biggest U.S. bank holding companies to Mexico, Brazil, Argentina, Venezuela, Chile and the Philippines averages more than 150% of their stockholders’ equity, according to Donaldson, Lufkin & Jenrette Securities Corp.” (Bailey, 1986, pps. 1, 19)

⁸ Two news reports related to the unilateral transfer or risk component of the gross interest rate appeared in just one day (June 5, 1985) in *The Wall Street Journal*. One was related to Bank America’s plunge in profit for 2nd quarter:

Bank America Corp., its problems apparently far from over, announced that second-quarter net income will tumble to “near the break-even point,” mainly because of a higher loan-loss provision and certain overseas write-offs....

Bank America said losses in several sectors of its loan portfolio, especially in foreign, agricultural and commercial real estate loans, “will be higher than anticipated.” It said those parts of its business were affected by the strong dollar and “disinflationary forces and haven’t responded to the general trend of economic recovery.”

Other factors contributing to lower earnings are: an increase in the allocated transfer risk reserves for loans in foreign countries; a write-down of a partially owned foreign affiliate; and higher charges for the valuation and selling of real estate acquired through foreclosure. (*The Wall Street Journal*, Wednesday, June 5, 1985, pp. 3, 18.)

A. *Financial adjustment, including bankruptcy, and market clearance for firms, households and governments.*

In the case of firms, the existence of implicit unilateral transfers is corrected through financial adjustments, including bankruptcy. The creditor loses part or all of his loans *ex post* and *ex post* default clears the market. Outright default by firms occurred in Chile during the financial panic of January 13, 1983.

The same can happen with households. Borrowed financial capital becomes nonrepayable when used unproductively. The markets clear through financial adjustment, including bankruptcy, and the financial system suffers losses. Outright default by households also happened in Chile on January 13, 1983.

Outright default by government has also been common in history, although not in recent years.

Type A solution of financial adjustment would lead to a reduction in revenues and possibly value added and the operating surplus of the financial sector. It would, or at least it should, also lead to a reduction in the pure interest rate banks would be willing to pay depositors.

B. *Inflation, which converts "unproductive" debts into unilateral transfers.*

In this back door solution, inflation converts *ex ante* "loans" into *ex post* unilateral transfers. In this particular case the borrower experiences a gain and the lender a loss equal to the change in the real value of the financial instrument used for financial intermediation. Income of the rentier class declines as real interest rates fall. However, money and real income of the financial sector would still be determined by the difference between the real pure interest rate paid to depositors and real revenues earned from (real gross interest charged to) borrowers.

C. *Debt of the United States or another Government rises as a substitute for and to prevent solutions A and B.*

According to the third alternative, the burden of solving the unilateral transfer problem is passed on to future generations as government directly or indirectly pays or guarantees payment of the bad (nonrepayable) debts of households and firms, including banks. The United States Government has assumed, through its borrowing, the role of preventing financial panics and market adjustment both domestically, in the household and business debt markets, and internationally, by guaranteeing repayment of unilateral transfer-created debts of foreign governments.

The second deals with the unilateral transfer component in Venezuela:

The Venezuelan government took control of the operations of Banco de Comercio, one of the nation's largest banks, and ordered an investigation of possible criminal mismanagement of its affairs.

According to the government, the move was made "to preserve the solidity of the national banking system and the rights of depositors or creditors."

Presidential Secretariat Minister Carmelo Lauria said Banco de Comercio has losses equivalent to more than \$146 million at the official exchange rate.

Under a new deposit insurance law, the bank will remain open for business, and depositors will be able to move their accounts at will. The government will guarantee deposits until it decides, within 180 days, to either liquidate the bank or to rescue it with loans. (*The Wall Street Journal*, Wednesday, June 5, 1985, p. 5.)

In this particular case, factor income of holders of financial capital receiving interest payments is overstated by an amount equal to nonrepayable debts whose payment has been transferred to future generations through the government debt mechanism. And, furthermore, sectoral value added and operating surplus of the banking sector are overstated by the amount of debt incurred to pay for financial services that is nonrepayable but is being rolled over for payment to future generations through the government debt mechanism. Solution C is adopted whenever political authorities decide that the social, economic and political costs of solutions A and/or B to the present generation are too high and therefore can be passed to future generations that are not represented or only inadequately represented in the political process.

A number of questions arise here. Do financiers, including bankers, have the capacity and ability to distinguish between, on the one hand, loans to firms, households and government, that is funds used productively to augment their respective capital stocks and repayment capacities, and, on the other hand, explicit or implicit (*de facto*) unilateral transfers, that is funds used unproductively, for consumption, speculation and so forth, rather than to augment their capital stocks, and which therefore cannot be repaid? The answer is, not necessarily. Furthermore, even if they have this ability, is it possible for government to force them not to distinguish between the two and make “loans” which are in reality unilateral transfers? The answer is yes. Under these circumstances it is not only all or part of the interest on the public debt but also part of the interest on business debt that does not reflect and is not generated from the production of commodity and therefore should be excluded from income.

SECTION 10

THE TREATMENT OF INTEREST, BANKS AND SIMILAR FINANCIAL INTERMEDIARIES BY THE UNITED NATIONS AND RECOMMENDATIONS FOR CHANGES

According to United Nations (1968, p. 97):

6.32. Charges for services account for a small proportion of the income of commercial and saving banks, saving and loan associations, and similar financial institutions. The activities of these institutions are largely financed by the excess of the property income they receive over the property income they pay out. The property income involved consists essentially of interest. If the transactions of banks and similar financial institutions were treated like the transactions of other industries, their operating surplus, and perhaps their value added, would therefore be negative.

As already stated elsewhere (Mamalakis, 1983, p. 192) the above “current approach of estimating value added of financial institutions according to the SNA is theoretically defective and practically unnecessary.”

I would recommend that the above statement by the United Nations be changed as follows:

6.32. Charges for financial services account for a large proportion of the income of commercial and saving banks, saving and loan associations and similar financial institutions. The activities of these institutions are largely financed by the excess of revenues from sales of financial services and property income over property income they pay out. The property income involved consists essentially of interest. It is recommended that only the portion of total revenues equal to property (interest) income paid out by financial institutions be considered as property income received by owners of financial capital. Transactions of banks and similar financial institutions should thus be treated like the transactions of other industries because, under present guidelines, neither their operating surplus nor their value added would be negative. Revenues of banks and similar financial institutions should be divided into property income and revenues from financial and non-financial services.

The United Nations manual continues as follows:

6.33. This anomaly may be avoided by imputing a service charge in addition to the charges actually paid. The imputed service charge should, in principle, be equated to the excess of the property income received by the banks and similar intermediaries on loans and other investments made from the deposits they hold, over the interest they pay out on these deposits. The property income they receive as a result of investing their own funds should not be taken into account in calculating the imputed service charge. In practice, it will generally be necessary to include all the property income received in the calculation.

6.34. The imputed service charge is to be treated as intermediate consumption of industries for a number of reasons. A key service performed by banks and similar institutions is to channel the savings of other economic agents into loans to industries. The serious difficulties of allocating the imputed service charge among industries, general government services and households are avoided. And, the value of the gross domestic product, and of the operating surplus of industries to an equivalent amount, is not inflated by assigning part of the service charge to final consumption expenditure. The extent to which imputations for service charges and interest would otherwise be included in the transactions of households and general government is also substantially reduced. Classifying the imputed service charge as the intermediate consumption of industries is tantamount to sub-dividing the charges of banks and similar institutions for loans to industries into two elements—a service charge and “pure” interest.

6.35. Because it is not feasible to allocate the imputed service charge among the various industries, the charge is to be treated as the intermediate consumption of a nominal industry. The negative operating surplus of the nominal industry, all its value added, is of course

equivalent to the imputed intermediate consumption. The nominal unit is to be classified as a financial institution in the case of the income and outlay accounts of the system. The negative operating surplus of the nominal financial institution will be counterbalanced by the difference between the property income actually received and the interest actually paid out by banks and similar institutions. Imputations of property income paid out by these financial institutions will therefore be avoided. (United Nations, 1968, p. 97-98)

As already mentioned in Mamalakis (1983, p. 192), the imputation of a service charge is unnecessary and should be avoided.

It will not be possible to understand the relationship between financial services and economic development unless we develop adequate statistics on the allocation of the presently imputed financial service charges among industries, general government and households. At the same time it is necessary to develop statistics on the allocation of interest income received by financial institutions from and paid out to industries, general government and households.

It is recommended here that the notion of final consumption expenditure of households be defined correctly to include all financial services provided by commercial and saving banks, savings and loans associations, and similar financial institutions that are omitted from section 8.5 listed below. According to the United Nations, only the following financial services are considered to be final consumption expenditure by households:

8.5 Financial services, n.e.c. (S)

Service charges for life insurance and for insurance against civil responsibility in respect of injuries to other persons or other persons' property not arising from the operation of personal transport equipment; actual charges for bank services; fees and service charges for brokerage, investment counselling, household finance company loans and services of similar financial institutions; charges for money orders and other financial services provided by the post office; and administrative charges of private pension schemes. (United Nations, 1968, 108)

The following sentence should be added to section 8.5:

All charges added to the pure (deposit) interest rate by commercial and saving banks, saving and loan associations and similar financial institutions when extending loans to households. Financial service charges should be estimated as the difference between the bank deposit interest rate and the consumer loan "interest" rate.

Financial revenues of enterprises should be divided into pure interest (property income) receipts and revenues from the sale of financial services. Financial expenditures by enterprises should be divided into expenses on (property use) pure interest and intermediate purchases of financial services. Pure interest receipts would be excluded from income generated by an enterprise or sector. Pure interest outlays would be included in income generated by an enterprise or sector. Revenues from the sale of financial services should be

included as part of the output revenues of an enterprise or sector. They are intermediate consumption by the enterprise or sector paying them. Intermediate purchases of financial services should be excluded from the income generated in the enterprise or sector paying them. They give rise to income in the enterprise or sector producing and selling them.

Interest expenses on public debt should also be divided into pure interest and intermediate purchases of financial services by government. The intermediate purchases of financial services by government would give rise to revenues and income in the financial sector. The pure interest rate on public debt would be treated as a transfer.

CONCLUSION

An attempt has been made in the present paper to solve the banking imputation problem. First, by developing and using a theory of financial services, the gross interest rate was unbundled into (a) the pure interest rate, (b) charges for financial services and (c) other (unilateral transfer) charges. Second, it was demonstrated that the charges for financial services are totally separate and distinct from the property income called (pure) interest. Third, it was shown that a “banking imputation” equal to the difference between property income received and property income paid out, as recommended by the United Nations, overstates income generated by the financial sector by an amount equal to reserves for future losses (estimated unilateral transfers).

The pure interest rate can be regarded as a reward for the abstinence of the saver. The financial services charge reflects the revenues of financial institutions generated from the production and sale of the six commodity type financial services described in the text. Specific recommendations were made for improving the treatment of financial services and value added therein in the national accounts.

A traditional and widely accepted axiom in monetary theory is that the pure money rate of interest is equal to the marginal productivity of capital plus the rate of inflation. It is also frequently stated that the long term equilibrium pure real interest rate is equal to three per cent. If inflation is three per cent then the pure money rate of interest would be six per cent.

It is argued here that equilibrium exists or is reached when the net, marginal profit rate of a financial investment is equal to the marginal financial cost. Furthermore, the additional tentative hypothesis is advanced that the long term real cost of financial intermediation is approximately three per cent. This three per cent cost of providing financial services can be considered as the threshold level of the “loan interest rate” or the “financial services rate.”

If the aforementioned arguments are accepted as valid, the following axioms of monetary theory can be formulated. First, the pure interest rate can be zero. Second, even if the pure or deposit money interest rate is zero, we can expect the financial services (loan interest) rate to be equal to three per cent. In other words, the loan interest rate or the charges for the provision of financial services cannot fall below the cost of providing them which averages around three per cent. Thus, even if the cost or price of obtaining financial capital (saving) were zero, the “interest” charged to debtors by the financial system would be positive

because of the cost of financial intermediation. The financial sector would generate income as long as it exists, that is produces commodity type services.

Third, if the pure money interest rate is equal to three per cent, then the total financial charge can be expected to be six percent. Fourth, the total nominal financial charges on a loan can be expected to be equal to the sum of the pure interest rate (e.g. 3 percent) the cost of financial services (e.g. 3 percent) and of the rate of inflation and of unilateral transfers (e.g. 3 percent), that is 9 percent.

It is recommended that the term "interest rate" be used exclusively for the income earned by and paid to owners of financial capital. The term "interest rate" should not be used to describe the revenues of the financial system or the charges on loans. Instead, these should be described as "loan rates," "loan charges," "price of financial services" or "loan costs." I would also recommend that as part of a "Universal Truth in Lending Principle" banks and other financial institutions be required to show separately on bills to their customers (a) the pure interest rate, (b) the financial intermediation charge and (c) other charges. This would make it possible to separate the price of financial capital (pure interest rate) from the price of financial services. It would also facilitate making estimates of value added by banks and other financial intermediaries.

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