

## CONCEPT AND DEFINITION OF INCOME IN THE NATIONAL ACCOUNTS

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It is a truism that the national accounts have engendered their own concept of income which is different from other contexts such as business accounting, taxation or welfare analysis. Less known are the principles on which this income concept is based. This article is an attempt to specify such principles, investigating in particular the role of the transaction principle, and to derive an income concept therefrom. The crucial point of the argument is whether or not it is appropriate within the system of the national accounts to assign an income to sectors other than the households. The theory is applied to some practical questions which have been discussed in the process of the revision of the SNA.

### 1. SCOPE AND METHOD OF INVESTIGATION

At the XXI General Conference of the International Association For Research In Income and Wealth (IARIW), held at Lahnstein, Germany, in 1989 a session was devoted to the concept and definition of income. The papers presented and the discussion which followed remained in the abstract and scarcely addressed the acute problems which continue to be unresolved in this field, namely:

- (a) How does the distinction, first pointed out by Jean Pêtre (1983) and now to be introduced in the new SNA, between the concepts of consumption and of consumption expenditure relate to the concept of income?
- (b) Are the concepts of income and of product identical? If not in what respect do they differ?
- (c) How does the concept of national income relate to the concept of income of households?
- (d) What precisely is disposable income?<sup>1</sup>

These are theoretical questions, of course, but they bear practical implications. Does or does not, for example, the acceptance of an item called individual consumption, paid for by collective units, require an equivalent entry in the income side of the household accounts? If so, is it part of disposable income? Or, to raise another problem, if national product is adjusted for environmental depreciation is that to affect income, and in which sector?

In addressing such questions we find that it is not possible to treat them in an ad-hoc way simply by adopting some more or less plausible convention for each of them individually. The logical structure of the system of national accounts is so rigid that a problem can be considered solved only if its implications

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<sup>1</sup>For a more detailed assessment see the appendix.

throughout the system have been analyzed and found acceptable. Consequently, the answers to the above questions require that the logical structure of the system of accounts be exposed and drawn upon. Within such structure a certain practical recommendation can be rationalized in either of three ways:

- (a) The recommendation is subsumed under an inherent general rule of the system as a special case. This is the neatest form of an explanation, and in theoretical, especially in mathematical systems it is the only one admitted.
- (b) The recommendation settles a border case. Border cases are typical for empirical systems. They require judgement and not pure logic alone. It is sometimes said that the national accounts are nothing more than a set of measurement conventions, implying that they are subjective or even arbitrary and lack a deeply rooted foundation. This view is wrong, but it is understandable as a generalization of much annoying experience in tackling border problems. They are the ordinary problems of national accounts practice, and in coping with their particularities an element of arbitration is always present. Nevertheless, the national accounts could hardly have gained public recognition had they been merely constructed on the grounds of subjective plausibility.
- (c) A recommendation is recognized as an exception to the principles of the accounts. An exception may be justified on grounds external to the system such as historical accident and continuity, or lack of data etc. Exceptions are admissible of course, but on the condition that they are clearly stated as such. Also one must be careful not to overuse this liberty. If an overwhelming part of a system is ruled by exceptions, its claim to an inherent logical structure loses faith.

Currently the theory of national accounts is not fully developed. The logical structure exists, but it is incorporated in behaviour and intuition of what every national account knows and employs in daily practice rather than in a set of abstract rules. Therefore it is a necessary experiment to formulate such rules and to construct an axiomatic order for them.

In following through the argument a feeling may arise at some points that other theories might be more familiar and more appropriate. Every theory is based on assumptions, and in order to distinguish between them a criterion must be laid down. The criterion adopted here is that that theory is best which allows an explanation of a maximum of national accounts practice as it exists. Put the other way around, the rules of a theory of national accounts should be chosen in a way so as to minimize the need to resort to the argument of exception in order to fully describe existing practice. It seems that the transaction principle has such power. It is evoked again and again in discussions, explicitly favored by many, and not explicitly rejected by any authors in the literature.<sup>2</sup> Naturally, in the context of a theoretical essay it will need precise wording. At this point an example, which will be elaborated more fully later on, may suffice. The convention of including government output in domestic product is an exception

<sup>2</sup>Ruggles and Ruggles (1982) are known proponents of the transaction principle, also Bochove and Tuinen (1986) while Vanoli (1986) is less concerned about it, and Lützel (1986) is caught in between.

under the rule of measuring market output. It is no exception if the rule is to measure all output of paid labor. Consequently the latter rule is recognized as the one applicable in the national accounts and not the first.

## 2. THE FLAWS OF THE HICKSIAN CONCEPT OF INCOME

In theorizing about income, the concept developed by Sir John Hicks has gained widespread recognition. Hicks has succeeded in creating definitions which are short and easy to remember while arming them with a thorough critique of their applicability. In this tradition the usual argument begins by quoting a sentence of Hicks as representing the ideal concept one is to search and investigating existing or alternative practical approaches as to how close they come to realizing the ideal. Economic theory first, and statistical realization second has been the way of rationalizing the national accounts ever since they have come into being.

In applying the method introduced above this order of argument is partially reversed. If a theory is sought under the criterion of minimizing explanation by exception, statistical standards assume more prominent a role. They are accepted as the one and only possible realization of macroeconomic concepts to which all economic theory must adapt, at least in as much as it claims to be operational. National accounts theory, in particular, acquires a new role. It is to interpret rather than to prescribe what is being measured. In the world of standard and well established national accounts the Hicksian method of grasping an income concept out of the blue of economic theory and matching different kinds of practical concepts against it was adequate when the national accounts were in a state of infancy and provisional guidelines for their development were needed. Today the national accounts have reached adulthood and the naive approach is no longer adequate. One must be more critical in assessing whether a concept is operational or not. The Hicksian concept needs some theoretical dismantling in this regard.

As far as Hicks himself is concerned, he enters into the debate about income only with reluctance. He would rather have it avoided, and in the end of his investigation finds indeed the concept of income to be one which the "positive theoretical economist only employs in his arguments at his peril" (Hicks, 1946, p. 180). If it is to be used at all, it is in statics and only as a rough practical precept not needing an exact definition. It is surprising that in spite of the secondary role Hicks put to his income concept and its definitions in his own theory, these have been taken so much at the absolute. They were not made for it and they don't deserve it.

"Define a man's income as the maximum value which he can consume during a week, and still expect to be as well off at the end of the week as he was at the beginning" is a famous Hicksian formula (Hicks, 1946, p. 172). It is proposed as the "central meaning" of the concept of income to which in practice only approximations are possible. This short argument raises doubts. If income is not really measurable, it is a fuzzy concept even for theory. Given that income is thoroughly implanted as a concept in the national accounts, is there not a theoretical counterpart which suits it more fully?

A more important point to be raised against the Hicksian concept is that it is not operational. "To be well off" is its defining quality. This is sufficient for Hicks' own speculative purposes, but not for the purposes of the national accounts. It is clear today that national accounts do not measure welfare, that welfare has many more implications and dimensions than can be mirrored in one indicator even if one is interested only in its economic part. If welfare is not measurable "well offness" is not either. The concept lies outside the realm of national accounts. It may work the other way around. Under certain circumstances, the concept called income reflects what one would consider welfare in certain contexts. However, this needs to be established, and the corresponding process is usually not a scientific one, but a political one by nature.

Hicks proceeds by developing several approximations to his ideal concept. The first approximation is framed in the formula not less famous than the one previously cited, that income is the "maximum amount which can be spent during a period if there is an expectation of maintaining intact the capital value of prospective receipts." The formula is often abbreviated to the meaning of that spending which keeps capital intact. It is appealing indeed. For, it catches a practice everybody knows and is used to in dealing with real economic units. The balance sheet and the profit loss-account are connected by this definitorial identity. However, this bookkeeping rule does not define what is meant by income. It simply connects it to another concept named capital. The formula of "capital intact" is meaningful only in as much as we know what capital is before we know what income is. Strangely enough, Hicks in the book entitled "Value and Capital" does not bother himself with a definition of capital. Its meaning is taken for granted. In the tradition, however, we find definitions such as the following: "The value of capital must be computed from the value of its estimated future net income, not vice versa" (Fisher, 1969, p. 40). As a result, we are caught in a logical circle. What income is, is determined by capital, and what capital is, by income.

Hicks' idea of encompassing expectations about the future in his income concept literally destroys its usefulness for measurement in the national accounts. Nobody states that more clearly than Hicks himself. Expectations, by definition, need not be consistent, each individual forming his own picture of the future event. Consequently in terms of expectations there is no unique social value of an event. In trying to adapt to the fact that "social income plays so large a part in modern economics" Hicks introduces the distinction between income *ex ante* and income *ex post*. The latter is in a way contradictory to the first in that expectations which form the substance of the theoretical income definition (income *ex ante*) are deliberately excluded in the income *ex post*. Income *ex post* is then defined as the sum of consumption and saving, which is the third famous formula in the tradition.

It also has its flaws. Certainly, it resolves the issue of operationalization in an amazingly simple way. However, in terms of logic the meaningfulness of the definition depends on whether the concepts of consumption and of saving are defined. This may be the case for consumption but there are two definitions for saving, one calls it the balance between income and consumption, the other the net increase in capital. Both statements turn into a logical circle. In addition there is a more substantial handicap. If income is defined as the sum of consump-

tion and saving, it is made dependent on expenditure. The definition implies that income cannot be determined unless one knows how it has been spent. In economic decisions as well as in economic theory income is supposed to be known before a decision about its spending is being taken. It seems unreasonable that a magnitude known to the economic agents should escape direct statistical definition, independent of the way in which it is being used, at least in theory. There must be a definition which makes income the primary and saving the derivative concept if the normal economic order of concepts is to be respected.

Not impairing this position the formula of income equals consumption plus saving may have a practical meaning, of course. In terms of statistical data one may have access accidentally to consumption and saving, and by adding arrive at the corresponding income. However, a method of compilation cannot replace, and must not be confused with, a definitorial statement within an axiomatic system.

All the approximations which are proposed by Hicks to his income concept show that there is a principal cleavage between the Hicksian concept and the national accounts. As long as revaluation items range outside the income accounts, the two cannot possibly coincide. National accountants should look for a different theory in defending their income concept.

### 3. THE CONSTITUENT ELEMENTS OF THE NATIONAL ACCOUNTS

In proposing a theory more suited to the national accounts, we begin by naming the primitive events from which the national accounts are constructed. For the theory they must be assumed as given. They are the transactions occurring in an economy.

*Definition.* Let a transaction be defined as an event where a pair of claim and liability of equal value and coincident time arise between two economic units.

There are three fundamental types (Statistical Office of the European Communities, 1979):

- transactions in goods and services,
- distributive transactions
- financial transactions.

Transactions in goods and services are those where the value of the transaction is proportionate to some product rendered in exchange (sale and purchase). Financial transactions are those where two opposite claims of equal value are coupled so that the net financial balance does not change in the event. Acquisition of a loan is a typical case with the cash balance increasing on the assets' side and the debt increasing on the liabilities' side.<sup>3</sup> All other transactions are distributive (wages, interest, taxes, premiums etc.). The unparalleled advantage of transactions is that they solve the valuation problem. Value as a subjective category is

<sup>3</sup>The premium for life insurance is more delicate a case. It is treated as a financial transaction (saving) at present, because in exchange for the premium an asset accrues to the insured client. However, the value of this asset is not specified at that point in time. It is not equal to the payment, and consequently in terms of the transaction principle the premium is a distributive transaction and expenditure like other private insurance premiums.

not observable because of mutual inconsistency, similar to preferences. However when two economic units agree in terms of a contract, preferences are revealed and the valuation entered in the accounts is consistent between the two agents. It has become a social value.

On the other hand national accounts would remain rather sterile were they to restrict themselves to a recording and aggregating of transactions only. Claims and liabilities as such have no economic meaning. The national accounts become articulate (Vanoli, 1986) when transactions are associated with production and consumption of goods and services. We call these processes transformations (Müller, 1984). They occur not between but within economic units. Consequently they are not observable directly. In order to know the value of the output of an economic unit, its turnover or at least its purchases must be known. It is from such transactions that the accountant makes inferences to the underlying economic transformations.

The means used for this purpose is the imputation. The term imputation has come to be used rather loosely in the art of national accounts. Often it is taken to mean any sort of unreal or fictitious transaction, i.e. something which should not really be there. It is more appropriate to the working of national accounts to attach a positive meaning to the concept in recognizing in it a conscious act of the accountant by which he assigns a value to a certain economic transformation. Cost accounting is the common example. In compiling the cost incurred in production, a part of observed purchases is determined as belonging to a certain product. There are other categories. Consumption is a transformation, while consumption expenditure on the basis of which it is calculated is the corresponding transaction. Capital consumption is the result of imputing capital expenditures to a certain production etc. In short, imputations are the ordinary tool of the accountant and not excuses for exceptional treatments.<sup>4</sup>

The distinction between transaction and transformation is reflected in the historical process in which the art of accounting developed. The first accounts of economic units were simple and pure transaction accounts. They recorded receipts and expenditures, the balance being the surplus or loss of cash. This so-called cameralistic bookkeeping did not connect outflows to inflows, and thus did not allow an assessment of the productive performance of a unit. A flow-of-funds system reflects this view today. The new fashion evolved when the republics of Northern Italy invented the concept of cost. A certain sale was associated with a product and with a certain value of goods and services consumed in producing the product. Hence there are always two types of accounts, the transactions

cameralistic bookkeeping		modern economic bookkeeping	
purchases financial balance	sales	costs profit	product

<sup>4</sup>The use made here of the word imputation follows closely the way in which Neumann and Morgenstern (1944) have introduced it in game theory.

account, and the transformation or functional account yielding the information about economic performance, and derived from the first.

In the national accounts the two types of recordings are intertwined. It would be cumbersome to do quadrupole bookkeeping and record all four, sales and output, purchases and costs. Usually the sales and the purchases are ignored. However, in the realm of distributive transactions where there is no underlying transformation to analyse, the transaction approach dominates. Broadly speaking one can say that input-output tables and the production accounts are showing transformations, and the income and outlay accounts show transactions.

Between transactions and transformations there is a third category which has similarities with both, and hence is an easy cause of confusion. They are transactions in kind. What is their precise role? Normally transactions as have been defined above are monetary. This follows from the definition that they have equal value, and value is measured in terms of money in modern societies. For transactions in kind, this value must be imputed. However, this does not imply that every change of ownership of a good is a transaction in kind. There must be mutual agreement between the two parties about the value of the good handed over.

The nature of transactions in kind is such that they require a double entry in the accounts. The remuneration in amounts of coal, for example, received by workers of a coal mine is recorded as wage and as private consumption expenditure at the same time. The rule under which such event is admissible in the accounts is that the double entry corresponds to the economic content of the contract concluded. In the case of the wage in kind the purpose on the side of the payer is to pay a factor remuneration and the purpose on the laborers' side is to spend this part of income for coal. The transaction in kind is a true short-cut for two intended monetary transactions. A counter-example is social transfers although these depend on the precise arrangement. The gift of a winter coat to a poor person may deliberately avoid a monetary transfer on the side of the paying institution because of distrust in what the recipient would do with the money. As there are divergent opinions on the two sides, the change of property of the coat is not economically equivalent to two monetary transactions. It is not a transaction in kind in the accounts, but remains government consumption. The famous asymmetry in the treatment of social and of private security schemes can be explained in this way. Social security benefits if they are in kind are so, because the scheme is obligatory and the intention of spending are expected to diverge between giver and receiver. Private insurance schemes have a more congruent contractual basis. Consequently, payments in kind can be expected to have only a formal purpose in replacing the double transaction of purchase and refunding. The double transaction is not fictitious ("imputed" in the loose meaning of the word), but is to appear in the accounts under the transaction principle.

If transactions in the sense defined above form the primitive events of the national accounts, from which values can be observed, and if transformations are the economic processes for which such values are to be articulated this implies a two-level structure of the national accounts, and we must ask where within the structure the concept of income must be placed and what inferences are to be made for its conceptual content.

#### 4. THE RELATIONSHIP BETWEEN INCOME AND PRODUCT

National accounts collect a manifold of macroeconomic variables, but if one were to name the most prominent one there would be general agreement. National accounts are compiled above all in order to establish the gross domestic product (GDP) of an economy. Gross domestic product shows the result of the total productive activity in a year. Clearly, its meaning depends on what one defines as a productive activity. It is said that the definition of the production boundary determines what is considered income in the national accounts. However, if one studies the production boundary as it is applied in the standard national accounts, the rule describing present practice most precisely is this:

*Definition.* All activities are production which pay out a compensation either to employees or to self-employed.

The definition of production is linked to a set of transactions. This axiom is not derived from Hicksian theory, but it is the one which present practice follows. It explains the inclusion of all non-market production by government and non-profit institutions, it also explains the exclusion of other production. The famous asymmetry between paid and unpaid housework is consistent with this rule, the exclusion of all environmental "production" or "consumption" likewise. And the military, the police or other "regrettable necessities" are included on this principle. In short, it is what society measures as productive activity by paying income that is acknowledged as production in the national accounts.

There are two exceptions to the rule of the transactions boundary that seem to disqualify the stated rule. However, they are exceptions which can be explained on non-systematic grounds. Owner-occupied housing is an exception to the transactions boundary rooted in tax systems, which historically preceded the national accounts. The idea was installed as an approach to equity in consumption standards. However, it is not obvious that, instead of creating a fictitious income on the side of the owner, such equity could not also have been achieved by subtracting paid rents from taxable income. At any rate, as much as in terms of consumption the addition of owner-occupied housing to rented housing may be warranted, it is an exception to the transaction principle on historic grounds. Own account production follows a similar argument where it should be recognized that withdrawals in kind are compound transactions in the sense elaborated above. They are not exceptions.

There is no room here to assess the proposals which have been made for the new SNA in respect of their compatibility with the transaction principle. Roughly speaking it can be said that the old SNA has been fairly strict in applying the transaction principle as stated above, where seeming exceptions are not always true exceptions and certainly cannot serve as precedent for other concepts which are now contemplated under the excuse that the SNA has always taken license from the transaction principle.

The problem with the present SNA is this. While the occurrence of an income flow to employees or to self-employed is taken as the indicator of the fact of production, such payments are not regarded as measuring its size. The SNA distinguishes between income and product, and the product is different in value

than the income. It is the central thesis of this paper that that distinction is well-founded conceptually, but that it has not been well operationalized in practice.

Distinguishing between product and income is necessary because of the two-level structure of the national accounts. When speaking of production, consumption or investment, at the level of transformation of goods and services in new products, a concept of product as an overall measure of economic performance is clearly desirable. When speaking of transactions, and their distributive types, in particular, a concept of income is needed. The distinction in concept of product and income is also not derived from Hicksian theory but is deeply embedded in national accountants' thinking. One would not speak of national "income and product" accounts if the two terms did not carry inherently distinct connotations. The question is what precisely the differences are.

The present convention distinguishes between product and income in terms of certain transactions crossing the national boundary. Add to domestic product the compensation of employees and property income received from abroad, subtract the corresponding amounts paid, and you arrive at the national product which is equivalent to national income, gross or net depending on whether capital consumption is allowed for or not. Superficially, this seems to be a reasonable procedure, but considered in depth it is not. Probably the structural implications of this terminology were not visible at the time when it was agreed.

The present definition of national income is inconsistent with the definition of disposable income. As the second includes indirect taxes which the first excludes, "disposable income" is always higher than "national income." This is not in line with common sense. On the sectoral level, the parts which make up national income are sometimes hard to interpret, economically. Income of the government sector is defined as the balance of property income received and property income paid. This balance is useful as an accounting device, but it has no significance for the government. Government would probably consider all taxes as part of its income, and not just this special transactions balance. A similar argument applies to the enterprise sector. The income assigned to this sector are called undistributed profits. The term is a misnomer, because these profits have been distributed. They represent the balance of what is treasured in an enterprise after it has paid and received interest, dividends and other property income. The only thing one can say is that this value has not been distributed outside the enterprise sector, but this does not imply that the profit shows at the enterprise where it has been generated. Also it is questionable whether this balance is a meaningful income concept for the enterprise sector. It may be so for tax purposes, but national accounts have a different zeal. Income in the national accounts sense means a value which can be expended for consumption or not. The decision to spend is what income analysis tries to capture. Undistributed profits cannot be spent, they have been. There are no undistributed profits which could be turned into consumption. By definition they are investment. Thus they lack an important characteristic of the income concept.

Apart from the difficulty in interpreting the so-called income of the government and the enterprise sectors, there is a structural implication which is hard to follow. Both items lack a fundamental quality; they are not necessarily positive.

Depending on the allowance made for capital consumption, the undistributed profits of the enterprises may turn out negative. The balance of interest received and interest paid by government usually is so. However, if income is counted to be a result of production it cannot possibly be negative on a macroeconomic scale. More precisely, it is hard to figure how the income of a sector (households) should be higher in value than the income of the total economy, which is what occurs if the negative items of the other sectors are added.

In short it seems that while there is a wide-spread feeling that product and income are different concepts in the national accounts, the bridge between has not been thoroughly developed. It is an ad-hoc structure, and in all probability it was constructed in such a way so as not to destroy the measure of production. Consequently, it is on the income side where a reformulation might be considered.

## 5. A THEORETICAL DEFINITION OF INCOME

In order to avoid misunderstanding of our purpose, one remark is at place. If we now proceed to formulate a concept of income with its ensuing definitions, it is not intended to change present national accounts, i.e. we are not proposing new names for old aggregates. One can always live with wrong names as long as the meanings are clear. What we intend is rather to replace the theoretical formula of "capital intact," which does not appear in the national accounts as such but is claimed as a guiding principle, by a more fitting concept.

This being said we are free to apply strict logic. This means that the definitions of income and its subcategories should be such that the qualified income is a subset of the general income and not another type of income. With this purpose in mind read the following definitions:

- Income are all distributive transactions received by a household.
- Primary income is all income earned as a remuneration for productive activity.
- National income is the sum of primary income.
- Net income is the balance of income and all distributive transactions emanating from a household.

These definitions have a logical order with the specific terms being derived from the general ones. We explain each of them in turn.

The important break with Hicksian theory is contained in the first definition. The concept is based on the transaction principle and not on the notion of keeping capital intact. This is done on the assumption that the field of application of the Hicksian formula is production and not income theory. We propose to disentangle the income concept from the concept of net product, in theory. The reason is that production is a phenomenon in the realm of transformations, while distribution, the main application of the concept of income, takes place through transactions. It might be noted that he who does not agree with a differentiation of product and income must consequently plead for the abolishment of one of the two terms as being superfluous.

More important than a break with Hicksian tradition is what seems to manifest a break with the tradition of national accounts, the difference being that

we have given the definition of income a sectoral specification. Only households receive income and not other sectors. Why should this be so? The basic argument is that the national accounts logic is improved by working with these definitions, a logic which is already in place but has not been fully explored. We have found that production is defined as any activity generating a compensation to employees or to self-employed. It is only logical that this type of transaction is called income from production or, what is the same, primary income. It is a characteristic of compensation of employees and withdrawals of self-employed that these functions are only practiced by private households. This distinguishes them from other forms of income (interest, dividends, taxes) which are distributed between sectors, and which therefore might be called secondary.

The reason why it makes sense to restrict the concept of income to households economically is this. In macroeconomics income is a monetary variable on which households decide whether to spend on goods and services or not. The difficulty of the national accounts in complying with micro-models is rooted here. Micro-models consider households and their income and not overall production of the economy. To the degree that the purpose of measuring production can be sufficiently served by the concept of GDP, the national accounts are free to adapt their notion of income more closely to its micro foundation. Even on conventional economic grounds it can be argued that neither enterprises nor government agencies retain income from production because neither of them is a factor of production.

The last definition describes what is normally called disposable income. The advantage of the re-naming is terminological. This aggregate is not disposable in the true sense of the word. The word would fit if taxes and social security premiums were the only expenses recorded on the income and outlay accounts. However, the standard is to record interest on consumers' credit, payments to private insurance, and to relatives abroad here as well, all of which are least as disposable as some of the expenditures incurred under the heading of consumption. Also it is doubtful what the term "disposable income" means in respect to the government and the enterprise sectors. The balances shown do not deserve that name. Probably the standard wording has historic origin and was taken as a quick label to express a rough meaning and was never adjusted to its precise content. Net income is a term which makes the structure of this income aggregate as clear as net value added does for production. For reasons of methodological clarity it should be added that net income is an analytical term developed on the basis, but not representing a subset, of income transactions. It is not a transaction itself, but a first accounting result in the direction of income analysis.

## 6. APPLYING THE THEORY

The proof of a theory is its practice. Whether the income concept developed on the basis of the transaction principle will be more useful in the working of the national accounts than the concept of well-offness or of capital intact is a matter of experience. We advocate the transactions concept of income in opposition to the Hicksian concept, because to the latter the national accounts have never been able to comply. The transactions' definition, on the contrary, is of

help in deciding practical cases, some of which have been evoked in the introduction. We finish the article by referring to them.

- (a) The pair of concepts of consumption and consumption expenditure is matched by the pair of product and income, more generally speaking by the two level structure of transformation and transaction. The two levels are neither identical nor independent. They are related in that the values for the first are taken from observations at the second level.
- (b) Income and product are not identical in concept. This does not concern the distinction between domestic and national product, but the point where the concepts are observed. Product is compiled for enterprises, income for households. The two approaches do not yield identical results, because in the economic circuit of value government interferes by means of indirect taxes and subsidies and enterprises retain profits from distribution.
- (c) The cleavage between national income and income of households, often defined as the lack of micro-macro linkage is eliminated in the transaction approach. National is the sum of individual incomes, simply. There is no collective income. The problem of the relationship between collective and individual economic results is translated into the relationship between product as a collective effort in the division of labor and individual remuneration by means of income.
- (d) Disposable income is a misnomer in the national accounts. The proper term would be net income if this term were not already in use for income taken as net product i.e. net of capital consumption. It is income after distribution, and for disposability quite a different analysis would have to be undertaken.

Many more questions have to be answered before the transactions approach to the income concept is well established. We did not address the definition of real income, of wealth nor did we mention many problems of detail which are of importance. Such developments are due after the general concept has been criticized.

#### APPENDIX

Seven papers were prepared for the session on concept and definition of income of the XXI General Conference of IARIW at Lahnstein. Three of them are positioned at a general level, treating income in the abstract, the meaning of which is determined within the whole system. Markos J. Mamalakis in his "Definitions and Concepts of Income" has a revolutionary approach in formulating a new theory of production based on the concept of multidimensional transformation of composite commodities. Consequently his interest lies in restructuring the national accounts in this direction rather than in explaining the actual practice, and his focus is value added rather than income. Similarly Frieder Müller in "Individual and Collective Income" does not really address the problematic distinction insinuated in the title, but sets out to extend the conventional transaction approach to transformations, because in this view the concepts commonly applied to define income, production and wealth do not suffice to describe economic reality carefully and thoroughly. Consequently he creates a new system

of “integrative accounts.” Frits Bos presents “A Systems View on Concepts of Income in the National Accounts,” of which the title demonstrates that the question about the uniqueness or non-uniqueness of the concept of income has been decided in favor of plurality. Income concepts are considered many-fold and depend on different purposes, all of which are to be satisfied in the accounts. The danger here is that such reluctance in making choices will deprive the income concept of any intrinsic meaning, and eventually the accounts of a systematic structure.

Among the authors with a more specific interest John W. Kendrick proposes “Concept and Measures of Full Income and Product.” Hence the argument for this extension is the purpose of the paper rather than a clarification of the present income concept. Preetom Sunga, “Income and Other Issues in the Restructuring of the SNA,” also argues for a change in the present SNA even beyond the coming revision. He develops a broad perspective, but focuses on some specific types of income and developments in the present accounts in respect to capital and the financial side of the economy. Consequently, these modules, rather than the general income concept in the core, are studied. With “The Concept of Income in the SNA,” Peter Hill has most closely touched on the topic of the session. Yet, he concentrates only on the specific problem of the deviation of the present system of accounts from the Hicksian theory. He neatly describes the deviation, but as he does not pose the fundamental question of whether the Hicksian concept is appropriate for the national accounts. He cannot justify the divergences nor ponder over a concept which might suit better.

Two papers are empirically oriented. Ildikó Ékes elaborates on “The Invisible Income of the Population of the Hungarian Economy,” and Utz Reich and Klaus Schüler present an exercise on “Netting Our Income Taxes for Different Types of Income of Households.” To summarize, none of these papers addresses the divergence between consumption and consumption expenditure or the other issues called upon above.

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