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**Electronic version**

URL: <http://journals.openedition.org/comptabilites/226>

ISSN: 1775-3554

**Publisher**

IRHiS-UMR 8529

**Electronic reference**

André Vanoli, « Is National Accounting Accounting? National Accounting between Accounting, Statistics and Economics », *Comptabilités* [Online], 1 | 2010, Online since 10 December 2010, connection on 10 December 2020. URL : <http://journals.openedition.org/comptabilites/226>

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# Is National Accounting Accounting? National Accounting between Accounting, Statistics and Economics<sup>1</sup>

André Vanoli

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- 1 Look at the international System of National Accounts 1993. SNA 93 states in its par. 2.60 “...national accounts.... are based on a principle of quadruple entry....”. However, the title of this paper is interrogative “Is National Accounting Accounting?”. So what?
- 2 In order to try to answer this question and to deal with what could appear as a contradiction, I look firstly at history, secondly at accounting framework issues, thirdly at the use of business accounts in implementing national accounts, fourthly at the big issue of valuation.

## History<sup>2</sup>

### The times of national income estimates

- 3 During the long history of intermittent national income estimates, since William Petty (1665) to, say, Simon Kuznets in the thirties of the twentieth century, accounting plays no role at all. Nor does it play any role in the scarce estimates of wealth. Both types of research work are not at all connected.
- 4 There had been actually a remarkable quasi-exception, soon after Petty (1623-1687). Gregory King (1648-1712), without using the term, prepared some accounts, including an account by social category (“A scheme of the income and expence of the several families of England calculated for the year 1688”), a link between flows and stocks (“The Stock of the Kingdom 1688, Remaining Stock anno 1695, Remaining Stock anno 1698, and Decreases in between”), an annual series of Income and Expence of the Nation from 1688

to 1698 and even an international comparison (Income and Expence, totals and per head, of England, France and Holland, 1688 and 1695).

- 5 On the basis of King's work, the English economic historian and national accounts compiler Phyllis Deane presented King's estimates in a modern format in 1955 showing them as a set of articulated and balanced set of accounts for England and Wales in 1688.
- 6 This was an exception however, and Richard Stone may rightly regret, in his Nobel Memorial Lecture 1984 (p. 9), that "after this brilliant start, all thoughts of balanced accounts seem to have evaporated", and this will be so until the eve of World War II<sup>3</sup>.
- 7 Truly, as long as attention was focussed primarily on the measurement of a single concept, national income, there was no incentive to thinking in terms of accounting and interrelations. In practice, estimating the national income of a country consisted in gathering the largest possible amount of data, processing it ingeniously and filling the considerable gaps in the availability of data. Those were the days of enlightened amateurs. Methods of estimates were diverse, depending on the nature of the available information. Compilers usually combined elements of what will later be called the three approaches for the compilation of national income: output, income and expenditure. However, they were thought of as combined partial methods of estimating national income, not as attempts to measuring three different concepts and aggregates standing for themselves, income, production and expenditure.

### Emergence of an accounting approach in the thirties and the forties

- 8 Concerns about economic and social policy and demand for statistical data widen in the 20<sup>th</sup> century, the 1929 crisis and the Great Depression marking a first turning point. In the thirties, some national income compilers start thinking in terms of accounting, by analogy to business accounting. Earlier actually, Irving Fisher in his theoretical works (1906, 1928) had formerly evoked the extension of the accounting treatment of individuals and businesses to society as a whole and the possibility in principle of obtaining the capital and income of society as a combination of balances of businesses and income accounts of individuals. It was however without any connection with actual quantitative estimates<sup>4</sup>.
- 9 More directly in relation with national income estimates, Morris A. Copeland, an American economist with institutional inspiration, shows (1932, 1935, 1937) the benefits to be expected in the formulation of the problems related to the estimation of national income, if a double-entry bookkeeping system is used<sup>5</sup>. By 1936, another American, Robert F. Martin, from the Department of Commerce, presents the idea of an accounting system for the national economy<sup>6</sup>. This idea was clearly manifesting itself. In France in 1939, André Vincent publishes his first ideas regarding the application of accounting principles to the national economy considered as an entity<sup>7</sup>. In the Netherlands, Ed van Cleeff makes his estimates for 1938 (published in 1941) within a format of a national accounting system<sup>8</sup>. He explicitly sees national accounts "as the business accounts of the nation" and compares the national government "with the directors of a big firm" (Bos, 2006, p. 233).
- 10 One may note, in these first presentations of the idea of a system of national accounting during the thirties, two rather different approaches. The first seems mostly operational (Copeland, Martin), emphasizing the technical advantages of such an approach for

making better estimates of national income. The other one (Vincent, van Cleeff) also conveys, in addition to the former, a concern in a better economic organization for the nation and a certain planning orientation after the disorders of the Great Depression.

- 11 However, in practice, in the sphere of the studies on national income, the 1930s will mainly witness improvements in methods, the beginning of a trend toward official status, regularity in the publication of series, and the emergence of expenditure, representing the use of national income for consumption and capital formation, as a full-scale aggregate.
- 12 Moreover, during the second part of the thirties, the seminal influence that will lead to the use of an accounting format at the macroeconomic level will be macroeconomics itself rather than business accounting. Macroeconomics that emerged in this period of time induces the creation of a new economic object, - the economy of a nation as a whole -, a theory applied to this object and a set of interrelated quantitative measures of basic concepts in monetary terms. The equations that describe their mutual relationship are formulated by John Maynard Keynes in his *General Theory of Employment, Interest and Money* (1936). They will become classical and form the skeleton of National Accounting:

“In summary:

Income = Value of output = Consumption + Investment

Saving = Income – Consumption

Therefore, Saving = Investment” (Book II, Chapter VI)

- 13 This fruitful approach will generate however some ambiguities. Firstly, it leads to emphasize the aggregates and their main breakdowns. Of course, they are three now instead of the single national income of the previous centuries. Nevertheless they will generally be presented as “the three approaches to national income” which, later on, are changed to “the three measures of Gross Domestic Product”. Both formulations are incorrect as the numerical identities, under certain conditions, of the three aggregates do not mean that they measure the same concept.
- 14 Secondly, and this is a bigger inconvenience, the keynesian reference, when closely followed, favors a top-down conception of national accounts and their system as a very condensed accounting scheme, describing mainly the relationship among large aggregates with limited subdivision. The concept of account is then rather far from the concept of accounting.
- 15 As soon as 1941 however, James Meade and Richard Stone, in the first british official publication in the White Book on April 7, 1941, and moreover the technical article soon published in *The Economic Journal*, go far beyond such a narrow view. Their set of tables brings into play businesses, persons, government and the rest of the world. This framework is still incomplete. The sector accounts remain implicit. Neither the structure of the productive system nor the financial transactions appear and of course no balance sheets. Nevertheless this set of tables represents already a rough system of national accounts, in the form of a linkage among a coherent set of macroeconomic totals (totals, not only large aggregates)<sup>9</sup>.
- 16 Some years later, by the end of World War II, Stone presents the proposal of a much more elaborated accounting system. It serves as a basis for a meeting of a subcommittee of statisticians of national income from the League of Nations (Princeton, December 1945). Stone’s memorandum is revised after the meeting and published in 1947 by the United Nations, under the title “Definition and Measurement of National Income and Related Totals”, as an appendix to the subcommittee’s report (referred to below as Stone 1945). À

summary of this accounting framework is provided for in Vanoli, 2005, p. 24-25, the full set of accounts is reproduced p. 32-40.

“In the presentation of the proposed accounting system (see the appendix to this chapter), sectors are the result of aggregation of accounting entities according to their function; these accounting entities are the basic economic units that perform the transactions. For each category of accounting entity it might be necessary to establish more than one account. Transactions are classified according to the nature of the counterpart to the money flows. Five main sectors are identified: productive enterprises; financial intermediaries, insurance and social security agencies, final consumers (including the general government) and the rest of the world. The first four are subdivided: business enterprises and persons (home-ownership); banking system and other financial institutions; insurance companies and societies, private pension funds and social security funds; persons and public collective providers. The list of the five sub-accounts is unique, but their size depends on the sub-sectors, and two of them might in some cases be combined. The main accounts used are the following: an operating account, an appropriation account, a revenue account (for current income and expenses of persons and public collective providers), a capital account, and a reserve account (p. 24-25).”

- 17 The financial transactions are recorded in the reserve account. “Each transaction is entered twice in the system, following the double-entry principle, but there is no systematic description of the bilateral relationship between sectors (dummy accounts are therefore implicit). The link between the accounts of each sub-sector is sometimes a complex issue. For instance, for productive enterprises, the surplus of the appropriation account enters the reserve account and then, once combined with the net financial transactions, passes on to the capital account. Another case is that of realised net capital gains, recorded only for business enterprises, which appear in the reserve account, and are transferred to the appropriation account, from where they return to their point of origin as part of the net result of this account, finally to be sent to the capital account with the other financing means (p. 25)”.
- 18 Though not embracing balance sheets, the proposed system is well in advance of its time. The influence of business accounting can be easily detected. For example, sales and purchases are recorded, an entry is included in respect of bad debts between business enterprises and persons, as well as realised capital gains for business enterprises. It should be stressed also that Stone’s 1945 system includes the idea of conceiving national accounts as the result of aggregation of accounting entities and transactions, at least potentially.
- 19 In spite of this outstanding 1945 contribution by Stone, it is not paradoxically this orientation that is followed in most emerging systems of national accounts at country level or in the first steps of the international standardization by the end of the forties, beginning of the fifties. I said “paradoxically” because Stone himself leads the preparation of the first standardized system (OEEC 1952). For instance, in the 1947 National Income and Product Accounts (NIPAs) of the United States or the 1952 OEEC system, and it was also the case in Meade and Stone 1941, a certain degree of confusion is introduced between the accounting structure and a framework for presenting a convenient summary of main statistical results. As a consequence, a good understanding of what is conceptually a system of national accounting is made uneasy. Paradoxically again, one may find appropriation accounts for persons, government and the rest of the world, when the accounts of enterprises tend to disappear as such and merge into the national product and expenditure account. Any relation between these first schemes of

national accounts and business accounting is made hardly virtual<sup>10</sup>. Moreover, groups of units (sectors) are built up on a functional basis. They not always aggregate complete economic units, when those units may be deemed to keep accounting records in economic life.

- 20 So, at the beginning of the fifties, in the prevalent stream of national accounts, the concept of a system of national accounting seems rather fuzzy and the use of the word accounting almost improper. This perhaps explains why “national accounts” (or social accounts at the beginning) is more often used in English than “national accounting” (whereas “comptabilité nationale” soon becomes familiar in French).
- 21 Basically, it is a period of transition from the traditional national income estimates approach, more or less extended to other aggregates (called significantly “related totals”), toward a national accounting methodology putting institutional sector accounts at the center. Not a short-lived transition indeed. Brief in certain countries, much longer in others, it will take forty years before a really full-fledge system of national accounting is normalized at the world level with the 1993 SNA.
- 22 By the end of the forties, the usefulness of the accounting approach is still questioned. Paul Studenski in *The Income of Nations* (1958) reflects some hesitations of the time. Noting that “The response to [the ‘sector accounts’ or ‘complete Social Accounting Approach’] was generally favorable”, he shows himself some reluctance: “In fact, in some countries it was taken up with such enthusiasm that national income estimates as such were almost completely submerged”, and he adds: “Some national income analysts expressed reservations, however, concerning the extent of usefulness of this new type of presentation of national income data” (p. 154). The reference is made explicit, in a footnote, to the August 1948 discussion between Simon Kuznets and Milton Gilbert and his associates in the U.S. National Income Division (*The Review of Economics and Statistics*).
- 23 Kuznets’ very critical comments to the new Income Series published in the *Survey of Current Business*, Supplement, July 1947, are made from the point of view of a national income compiler and analyst. However, they also point at the ambiguity noted above in the NIPAs approach. For instance, looking at Table 1 in NIPAs, that is entitled “National Income and Product Account”, Kuznets remarks:

“A national income estimator might have compiled a similar table in the days before a ‘system of accounts’ had been developed, but he would have labeled it ‘two estimates of gross national product’” (p. 152).
- 24 Kuznets’ main criticism however (p. 153) is that the system of economic accounts does not solve any problem linked to a proper definition of national income (for Kuznets, the purpose of national income is the measurement of welfare). Nevertheless, Kuznets does not deny the usefulness of a system of accounts in two directions:

“...the basic principle and great usefulness of the system of accounts is that it recognizes distinct group of transactors; calls for a complete census of transactions of such groups through the accounting period; and, under the double entry system, compels a distinction between transactions that represent ‘borrowing’ (in the widest sense of the word) by the given transactor unit from others and those involving ‘lending’ by it to others” (p. 154); “the development of entire families of gross totals of volumes of transactions, without any attempt at the ‘netness’ that is associated with national income” (ibidem). “All students would welcome a detailed set of accounts that would distinguish groups of business, governmental, and family units characterized by different pattern of economic behavior; and that would, therefore, show as fully as data permit the input-output or sale-purchase relations

among different industries and economic institutions. It is in the direction of developing such fuller reflections of the workings of our economy, with whatever gross transaction totals can be derived from them, that the emphasis on a system of accounts naturally leads" (p. 155). Note that, in the same page, Kuznets refers explicitly to Morris A. Copeland for the money approach and Wassily Leontief for the input-output tables.

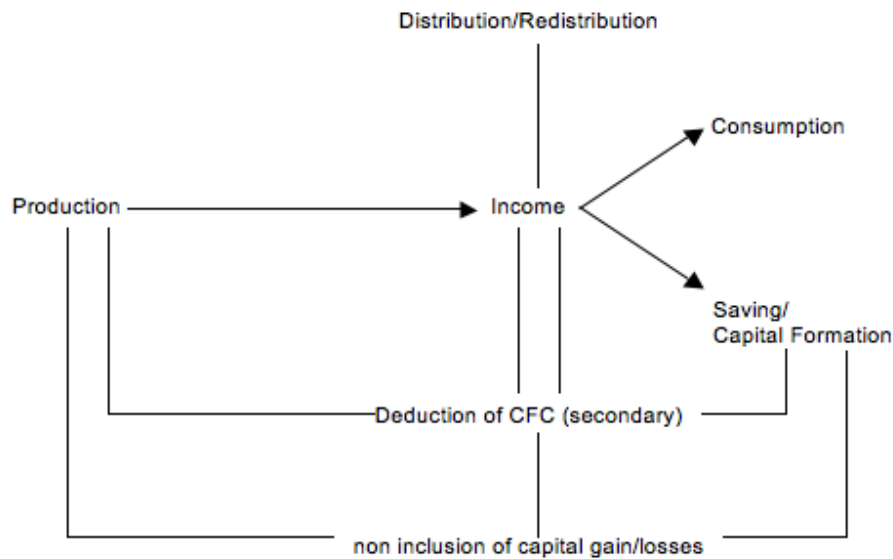
- 25 The last quotation from Kuznets is precisely the program that the development of national accounting will try to fulfil in the second part of the century. It could have been signed, for instance, by those in France who, some years later, designed the French National Accounting system.
- 26 It is clear from this last quotation that Kuznets reservations were not against, but on the contrary obviously in favour of such an orientation. Taken in isolation, his sharp criticisms to the NIPAs, from the point of view of a national income analyst<sup>11</sup>, often led to a certain misinterpretation of his views from a broader perspective.
- 27 Anyway, the understanding of national accounting by many compilers of national accounts will be during a more or less long period of time much narrower than that of Kuznets! This situation can be explained by limited experience, unavailability of data and scarce resources in many countries. It is also due to the fact that the international standardized system, that played a central role as the implementation of accounts extended to an increasing number of countries, lagged during decades behind the stage of development of more advanced national systems (for instance among the Scandinavians, the British, the French). This situation changed progressively. In this respect, two milestones in international standardization were the 1968 SNA/1970 ESA<sup>12</sup>, about which both the approaches followed by Stone 1945 and the French system of the fifties<sup>13</sup> were particularly influential, and moreover the 1993 SNA/1995 ESA<sup>14</sup>. With the latter, the national accounting framework is finally completed, half a century after the British 1941 White Book.

## Accounting Framework

### From a truncated sequence to a complete accounting structure

- 28 In order to best understand the main difference in N.A. between before and after the 1993 SNA, it is convenient to have a look to the two following diagrams<sup>15</sup>.
- 29 The first diagram shows what I called the "traditional truncated sequence of accounts".
- 30 Since their emergence at the beginning of the 1940s until the beginning of the 1990s, national accounts look essentially in practice as a directed, significant but truncated, sequence which goes from production to income and its uses, as shown in figure 1.

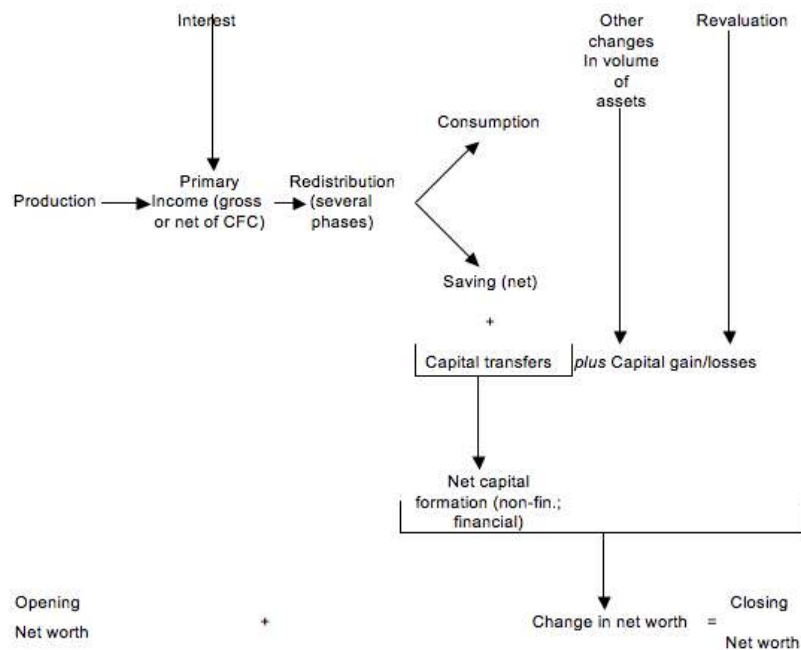
Fig. 1: Traditional truncated sequence



- 31 Very often actually, even this truncated sequence was not totally implemented. When financial accounts were missing, the sequence ended with the net lending/net borrowing of institutional sectors and the national economy.
- 32 For most compilers and users, national accounting was limited to this basic scheme, although many national accountants had, in the back of their mind, the idea that the system should be complemented by balance sheets (which a very limited number of countries had already developed).
- 33 In this diagram, saving appears linked to current transactions, of which it is the balance. Its use for capital formation (non-financial and financial) is shown. On the other hand, its linkage to the change in net worth does not appear, as the latter is influenced by other elements beyond (net) capital formation.
- 34 À more complete scheme is gradually worked out, and emerges with the 1993 SNA. It is represented in figure 2 below in a simplified way (for instance relations with the rest of the world have been left out).

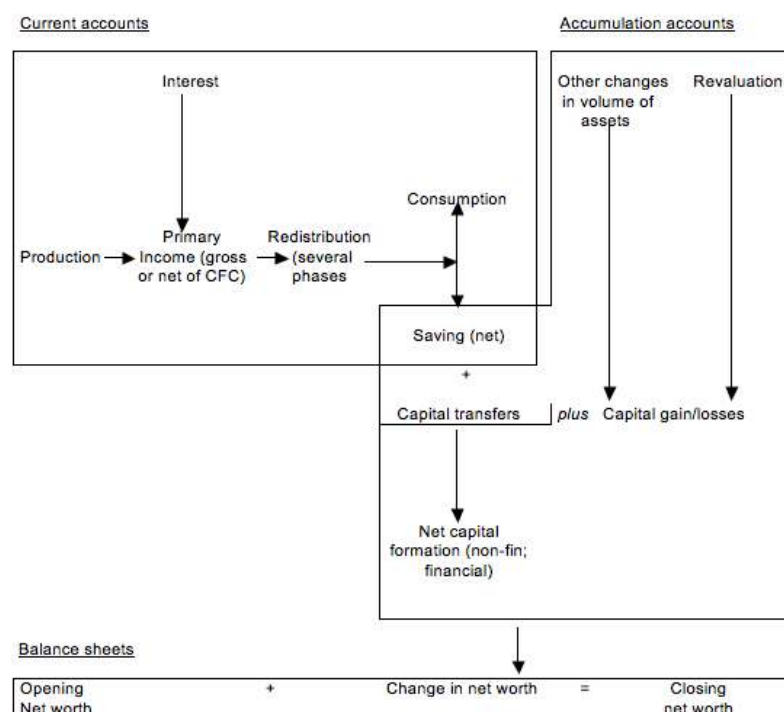


Fig. 2: Accounting framework 1993 SNA/1995 ESA, without relations with the rest of the world



- 35 Actually the accounting structure of the 1993 SNA is made up of three parts: current accounts, accumulation accounts and balance sheets. Balance sheets have been included, as well as two more accumulation accounts, the “other changes in volume of assets” account and the revaluation account. These new parts of the accumulation accounts are shown on the right side of figure 3 below. At the bottom are the balance sheets. For sake of simplicity opening net worth stands for opening assets, liabilities and net worth; change in net worth stands for changes in assets, liabilities and net worth; closing net worth stands for closing assets, liabilities and net worth.

Fig. 3: Accounting framework 1993 SNA/1995 ESA, without relations with the rest of the world



## National accounting versus business accounting: accumulation issues

- 36 A significant difference between national accounting and business accounting is easily perceivable. National accounting (N.A.) excludes all capital gains/losses from the balancing item of its current accounts. The latter (saving, net) is situated for corporations in between Business accounting (B.A.) operating income and net income from continuing operations, less dividends payable. Excluded capital gains/losses cover both realized gains/losses, various allowances, like for bad-debt (I turn later to this point), and extraordinary gains/losses. This N.A. treatment is linked on one hand with the emphasis put on production (evidently a difference with the national income estimates tradition) and the income derived from production. On the other hand, it is rooted in the long lasting principle of excluding capital gains/losses from income (a position already taken by national income compilers).
- 37 Of course, one may understand the reason why the conventional basic identity was introduced in B.A. between the balancing item of the profit and loss account and the change in the owners' equity, before any transaction between the owners and the firm is recorded. Both magnitudes are in principle the result of all events, except the latter, that happened during the accounting period and led to the new value of equity at the end of it (in principle, because in practice this is subject to a number of qualifications - see IV valuation).
- 38 National income and national accounts compilers asked in substance: "Well, these two magnitudes are important and significant, but why to call them measures of income? If a

natural disaster happens, the wealth of a country is reduced, but why to say that its income is reduced, if income has to be a measure connected with, say, the economic current performance of an economy?"

- 39 So, behind the different views between B.A. and N.A. in this respect there are various ideas about the relation between income and wealth. Of course not all cases are as simple as the natural disaster example. There has been and there still exists a lot of controversies among economists and national accountants about the concept of income, often taking in the last decades John Hicks 1939 definition as a starting point<sup>16</sup>. Insofar as N.A. is concerned, the borderline between capital gains/losses and current transactions is debatable in some respects and could change in the future, for instance in relation with the extraction of non-renewable natural resources<sup>17</sup>.
- 40 By introducing the accumulation accounts as one of the three main components of its accounting structure, N.A. achieves two purposes. The first one is to complete, in addition to saving, the measurement of changes in net worth with those due to changes in volume of assets<sup>18</sup> and holding gains/losses. The second one is to give a description of the changes occurred in the composition of assets and liabilities by type<sup>19</sup>.
- 41 In contrast, when B.A. financial statements are limited to the income statement and the balance sheet, certain items that are indispensable for economic analysis, like gross fixed capital formation, are less easy to grasp. The difficulty for estimating GFCF from two successive balance sheets only is well known by statisticians. Of course, when a well designed statement of changes in financial position (or a statement of cash flows) is also available, the difficulty vanishes. However such a statement is not always produced.
- 42 In short, in N.A., no acquisition or disposal of assets and liabilities and no change in their value is recorded directly in the balance sheet. All flows are first entered in the accumulation accounts.
- 43 In spite of the differences stressed above, and leaving aside for the time being the valuation issues, the foundations of N.A. and B.A. insofar as balance sheets and accumulation accounts/statement of changes in financial position are concerned, are very similar.

## National accounting versus business accounting: current accounts issues

- 44 The conclusion is different when N.A. current accounts and B.A. income statement/profit and loss account are looked at. In this case, the differences in the economic functions performed by the various types of economic agents have consequences on the optimal structuring of their current transactions. For market producers, the first purpose is to measure operating surplus. There is no equivalent balancing item for non-market producers as a measure of their performance. In addition the economic functions of government are much wider than the provision of non-market products. Its role is central in the redistribution of income. For households as consumers, the principal function is consumption. Operating surplus is not relevant for them whereas disposable income and saving are essential concepts.
- 45 Historically micro accounting systems for various types of economic agents, when developed, followed different, often inconsistent patterns. However, as soon as N.A. started, in the forties, the choice was made to design only one accounting frame, common

to all types of economic agents. At least one alternative approach could have been preferred. It would have consisted in restricting the scope of national accounts to a limited set of coherent large aggregates and their main interrelations (in fact this has long been in practice the case of the simplified accounts for the nation, when they were considered self-sufficient). Detailed accounts for the various institutional sectors, if needed, would have followed the specific requirements of these sectors, closely linked to actual sectoral accounting standards, if any.

- 46 The flaws of such a choice would have been twofold. Firstly, the analytical uses of national accounts would have been limited, for instance as a basis for model-building. Secondly, their operational usefulness for checking the consistency of the estimated figures and guiding the development of statistical information in a coordinated way would have been low graded. As a matter of fact, no system of N.A., as such, would have existed.
- 47 Anyway the choice was in favour of an integrated N.A. system. This means that, at the country level, a single accounting frame had to be designed, with a unique sequence of accounts, common classifications, and identical rules of recording, including methods of valuation. The same orientation was followed regarding international harmonization. Such an orientation implied some kind of compromise. There was a price to be paid as a counterpart of the integration process. It must be recognized that the loss of specificity felt mostly on non-financial enterprises, banks and insurance corporations. The way their operations are depicted in N.A. are less convenient for them than for other sectors, like households, government or the rest of the world.
- 48 Paradoxically the prominence given in N.A. to the measurement of output, as the starting point in the sequence of accounts, does not reflect immediately the content of the business accounts of those transactors that are precisely the main producers in the economy. For non-financial market producers, B.A. recording is in terms of sales, purchases and changes in inventories. At the very beginning N.A. hesitates. Stone 1945 also records sales and purchases. However, soon (OEEC 1952, but already Meade and Stone 1941), the emphasis is put on value added. Later on it will be on output and value added. Output, the result of the production process, is considered more basic than exchanges. The connection is more direct with input-output tables.
- 49 Thus for non-financial market producers, N.A. concepts of output and intermediate consumption are more compacted than items directly recorded in B.A. However, for banking and insurance activities, it is the other way round. Interest and insurance premiums are composite items, more heterogeneous than sales. Then N.A. breaks them down in various components, one of which is output. In order to get a better representation of production activities, N.A. is thus obliged to deviate from the usual perceptions of agents active in these fields.
- 50 More generally, an integrated N.A. system must use a classification of transactions, assets and liabilities which is common to all economic agents. As regards transactions, they have to be necessarily classified by type according to their nature. The nature of a bilateral transaction for instance is the same for both transactors concerned. Wages, taxes, interest, etc.... are economic objects recognizable by all transactors. Afterwards they can be analysed according to the purpose they serve. B.A. view is different when a functional classification of expenses is given preference in the income statement, which happens most commonly in anglo-american B.A.. In that case, wages (more generally compensation of employees) for example are scattered among composite items like cost of goods sold, selling expenses and general expenses. Possibly a part of them can also be

entered directly in the balance sheet when own account capital formation takes place. Obviously such a functional classification of business expenses, directed to internal management purposes, cannot fit the requirements of a classification of transactions common to all economic agents.

- 51 When, on the contrary, the B.A. income statement gives priority to a classification of expenses by nature, which is the case for instance in the French Chart of Accounts (Plan comptable général), there are no major divergences between N.A. and B.A. classifications of current flows. Under such circumstances, the SNA sequence of accounts, beyond mainly differences in terminology, is significant also for businesses. Without entering into details, a look at the 1993 SNA sequence of balancing items for non-financial corporations is illuminating:

Value added

Operating surplus

Entrepreneurial income (after property income receivable and interest and rent payable)

Balance of primary incomes (after property income payable to shareholders; that is, basically, retained earnings before tax)

Disposable income, equal to saving (basically, retained earnings after tax)

By convention, in the 93 SNA, all these balancing items are measured both gross and net.

Differences between the measures of retained earnings by N.A. and B.A. are mostly due to the treatment of capital gains/losses, already touched upon, and the issue of valuation to which I turn in part IV of this paper.

- 52 Now it is useful to review briefly some rules of recording. I look at three of them.

## National accounting rules of recording

### Terminology for the two sides of the accounts: from debit/credit to uses/resources

- 53 In the beginning of N.A., it seems natural to use the B.A. terminology. It can be found for instance in Kuznets 1948, Aukrust 1949, the OEEC Standardised System 1952 or Ohlsson 1953. However, Stone 1945 does not use these terms and simply speaks of the left-hand side or the right-hand side of the accounts. In the first chapter of the 1968 SNA also, drafted by Stone, he uses incomings and outgoings. However, the description of the actual 1968 system of accounts is for current accounts in terms of receipts and disbursements. Obviously standardized N.A. hesitates and uses ambiguous terms, reflecting different practices among countries. Nevertheless the trend is in the direction of no longer referring to B.A. terminology. N.A. increasingly prefers a terminology which, though being conventional, speaks by itself, instead of being purely formal. The European System 1970 (ESA 1970) introduces, under a French influence, the words uses and resources for the sequence from production account to capital account, and changes in assets/changes in liabilities for the financial account.
- 54 The 1993 SNA/ESA 1995 systematizes a similar orientation at the world level for the three parts of the accounting structure designed. Resources and uses are utilized in the current accounts. "The SNA utilizes the term *resources* for the side [the right side by convention] of the current accounts where transactions which add to the amount of economic value of a unit or a sector appear... The left side of the accounts, which relates to transactions that reduce the amount of economic value of a unit or a sector, is termed *uses*" (1993 SNA, 2.54).

“Balance sheets are presented with liabilities and net worth (the difference between assets and liabilities) on the right side and assets on the left” (2.55).

“The accumulation accounts and balance sheets being fully integrated, the right side of the accumulation accounts is called *changes in liabilities* and net worth and their left side is called *changes in assets*” (2.56).

### Accrual basis versus cash basis

- 55 There has been a lot of ambiguity and confusion in the history of N.A. before the issue is fully clarified. It was sometimes because of the terminology used. For instance, the presentation of the system of accounts in Stone 1945 utilizes the terms receipts and payments that are used throughout. This gives the impression of recording transactions on a cash basis. However, Stone clearly states concerning sales: “the mode of presentation here adopted [i.e. receipts and payments] must not be allowed to obscure the fact that a ‘receivable-payable’ system of entries is necessary for social accounting purposes just as it is universally adopted in private accounting” (p. 54). The same indication is given for purchases (p. 58). However, Stone speaks of “interest payments”, “payments to employees” (p. 56, etc....)<sup>20</sup>.
- 56 Sometimes, the conceptual principle and the practical implementation due to the type of data available were confused. This was especially frequent when dealing with government accounts, because during decades public accounting data were established on a cash basis. In this case, the confusion was also a consequence of the first 1986 Government Finance Manual of the IMF recommending the recording of government transactions under a cash basis (this was changed in the second, 2001 version of this Manual, when harmonized with the 1993 SNA).
- 57 The lack of clarity was perhaps a consequence of tackling the issue under the discussion of “the time of recording transactions”. The general principle is formulated in the 1952 OEEC Standardised System: “The magnitudes appearing in the system must therefore in principle be considered not as actual payments and receipts but as flows of payables and receivables in respect of the economic activity of each accounting period” (p. 45). Then the recommended treatment is elaborated further for various types of transactions. This procedure is followed later on by the 1968 SNA/ESA 1970. However what is recommended is sometimes intermediary between recording on an accrual basis and recording on a due to be paid basis (which leads at a time to the misleading distinction between full accruals and accruals). The case of interest provides a good case in point. ESA 1970 states... “interest.... is recorded at the time it falls due. If the interest relates to several accounting periods it is not necessary to distribute it among the different periods” (ESA 708). The 1968 SNA tells the same in substance, in a firmer way “no attempt should be made to apportion these flows to each of the periods [to which interest relates]” (1968 SNA 7.47).
- 58 The 1993 SNA tries to clarify, on the ground of principles, the ambiguity that was conveyed by the terms payables/receivables: “The general principle in national accounting is that transactions between institutional units have to be recorded when claims and obligations arise, are transformed or are cancelled - that is, on an accrual basis” (1993 SNA, 2.64). In order to cover also internal, or intra-unit, transactions (2.25), a more general formulation is used farther on: “Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred or extinguished” (3.94; see also 2.24). A straightforward application to interest of the principle as it is now formulated changes the 1968 SNA/ ESA 1970 treatment: “Interest is recorded on an

accrual basis, i.e., interest is recorded as accruing continuously over time to the creditor on the amount of principle outstanding” (1993 SNA 7.94).

- 59 There remain practical difficulties of course, notably when the available data do not follow strictly the principle. More substantial difficulties may arise in situations where the probability to not recover the full amount of certain claims can be estimated (see part IV - Valuation).

### Single, double or quadruple entry principle?

- 60 By assumption this question is not directed to the daily practice of national accounts compiler. There is no “big accountant brother” keeping the records of the nation from exhaustive, elementary events certified by supporting documents. National accountants behave neither as business accountants nor as government accountants. From this viewpoint, they are not at all accountants. The question raised may make sense only for the conceptual national accounting framework itself.
- 61 Since the beginning of the fifties, it was usual to state that N.A. was based on a double entry principle of accounting. However this view was generally trivial, meaning that, in the set of balanced accounts how limited in scope it was, an item in an account had always a counterpart in another account. To illustrate this, it was a current practice to indicate after a given item the code of the counterpart item. See for example the OEEC 1952 Standardised System of National Accounts (p. 38-43). It is stated (p. 12) that “the accounting system.... Is drawn up on an articulated or double-entry principle....”. However the simple basic accounting structure ends up with net lending. No financial transactions are included.
- 62 Commenting inter alia on the works by Stone, from the 1945 memorandum to the 1952 OEEC System, Ohlsson 1953 stresses the point that “Most frequently only single-entry accounting has been used for *each* sector in NA-works”. He concedes though that “The NA may, however, be seen as accounts for the nation as a unit. In that case they may be considered as constituting double-entry accounting....” (p. 123). This is doubtful in the case of the 1952 system and links up with the trivial view characterized above.
- 63 Aukrust 1949 was also critical, along the same line, to Stone’s 1945 memorandum. Without using the expression single-entry accounting for each sector, he thinks that among the authors he refers to, including Stone, “the principles of double-entry book-keeping are misinterpreted, or rather incorrectly applied to the problems considered” (p. 170). Whereas this is true in my view in respect to the 1952 system, it may be based, as far as the 1945 Stone’s accounting system is concerned, on a... misinterpretation of the latter which is said by Aukrust to follow a “money-flow approach”<sup>21</sup> in social accounting (p. 170).
- 64 Aukrust 1949, as well as Ohlsson, both following Ragnar Frisch approach<sup>22</sup> makes a basic distinction between *real* transactions, flows, assets (real objects) and *financial* transactions, flows, assets (financial objects). Aukrust designs a system of accounts according to which, for each sector, real and financial objects are distinguished. It thus introduces real current accounts, real capital accounts, financial current accounts, financial capital accounts, income accounts. This structure allows him to explicitly record every real flow and its financial counterpart (every flow twice). For instance households purchases to private enterprises are recorded in their real current accounts (as a debit) and in their financial current accounts (as a credit). At the end, the “net increase in



claims against other sectors” balances both the current financial account and the capital financial account of each sector (on two different sides of course).

- 65 As Aukrust 1949 system does not proceed beyond this point, it is difficult to see the benefit gained from introducing this double recording of real and financial flows (both are in monetary values of course). The logical implication would have been to push the recording toward an analysis of the monetary and financial counterpart, *by type of financial instrument*, of the real (non-financial actually) flows, *themselves by type* (goods and services purchased by households etc....)<sup>23</sup>. Claude Gruson in the fifties in France had in mind an objective of this type. However it did not prove feasible.
- 66 The conclusion to be drawn from these reflections is that Stone’s 1945 system, by introducing financial transactions by type of instrument in its revenue account, built up a system based in principle on the double entry bookkeeping principle. This conclusion holds in spite of the absence of balance sheets because his capital and reserve accounts covered changes in assets and liabilities (capital gains/losses being left out).
- 67 It comes from the previous paragraph that the ultimate criterion for judging if a set of integrated accounts follows virtually a double entry principle of recording is the presence of an account for financial transactions in which the financial counterparts of all flows from the production account to the capital account are indistinctly reflected in changes in financial assets and liabilities by type, in combination with purely financial transactions and their counterparts.
- 68 As a matter of fact, B.A balance sheets and statement of changes in financial position do not provide more, that is, they do not provide a cross-classification between types of financial instrument and types of non-financial transactions, though the full set of individual accounting entries potentially could.
- 69 After some countries had introduced financial accounts, like the United States, France, the United Kingdom, they were included in the 1968 SNA/ESA 1970 sequence of accounts, at the same time that the institutional sector accounts were given a noticeable impulse.
- 70 The 1993 SNA/ESA 1995, by introducing balance sheets, completing the accumulation accounts and unambiguously defining the accrual basis of accounting, made the whole picture clearer. For the first time probably in an official handbook on N.A, it was explicitly stated: “In principle, national accounts - with all units and all sectors - are based on a principle of quadruple entry, because most transactions involve two institutional units. Each transaction of this type must be recorded twice by the two transactors involved” (SNA 1993, 2.60). The idea of four entries, as reciprocal double entries, when double entry accounts for each sector are established, is present in the literature for a long time (Aukrust 1949, p. 172; Ohlsson 1953, p. 123). Richard Ruggles would have used the term quadruple entry book keeping for the first time in 1949, according to Postner 1994. Morris A. Copeland did it also in 1949, however in the somewhat different context of its money-flows accounting. Stone never utilizes the term which often remains implicit in the N.A. literature (Postner, p. 237).
- 71 This quadruple entry principle provides the conceptual basis for the consistency of national accounts. N.A. however cannot take full advantage of this characteristic.
- 72 Firstly, as already stressed above, national accountants are not in a position to keep the records of the nation starting from individual elementary events. They must rely on information data from many sources. Not all economic agents keep themselves microeconomic accounts. When they do, these accounts are not always each other



consistent. Furthermore, very often, especially regarding businesses, they are not individually accessible to statisticians. Practical difficulties are innumerable.

- 73 One of the main types of practical difficulties is of special importance because it concerns the criterion itself for checking the existence of double entry accounting at the sector level. The problem is that the information used for preparing the non-financial accounts and that used for building up the financial accounts are, for most economic agents, mainly households and businesses, coming from different sources. Between these different sources, coming on one hand from financial institutions and on the other hand from a great variety of non-financial providers, there is no direct relation whatsoever based on any double entry bookkeeping principle. The reconciliation between these two bodies of data sometimes is not even pursued until it is completed, and global adjustments between non-financial and financial accounts are shown. In this case, the quadruple entry principle is obviously frustrated, possibly even when business accounts are utilized (see part III).
- 74 Less important perhaps numerically, but more embarrassing conceptually, is the fact that, in so far as valuation is concerned, the principle itself of reciprocal identical entries in different units/sectors accounts may in certain circumstances be questioned (see part IV).
- 75 Before leaving the bookkeeping issues, it is useful perhaps to stress the fact that the working of the double entry/quadruple entry principle of recording is not always straightforward in N.A. (something that may happen also in B.A.). Let's take the case of output. Output of goods produced by a non-financial corporation is recorded as a resource in the production account of this corporation. Its counterpart is an entry in the capital account as a positive change in inventories. When the output is sold, there is a negative change in inventories, that is, a negative change in assets balanced by a positive acquisition of assets, as a claim against purchasers under Trade credits and advances (I refer to the 1993 SNA classification of financial instruments). When a claim is settled (it may be immediately of course), there is a decrease in Trade credits and advances and an increase for instance under Currency and deposits. It is not the full story though, if there is a time lag between the time a part of the output enters inventories and the time it leaves them, and there is a change in prices in the meanwhile. In such a case, the revaluation account comes into play and a holding gain or loss is recorded under inventories. Of course, many -but not all- of these entries have counterparts in the accounts of the purchasers.
- 76 This rather complex example allows us to illustrate a number of points:
  1. recording in N.A. is based on the underlying principle of the perpetual inventory method. My own view, not shared by many national accountants I suppose, is that, insofar as output is concerned, this principle conceptually applies also to services
  2. as a consequence of this principle, revaluation happens also continuously. An implication of this statement is that a truncated system of N.A., ending with the financial account, is a balanced but not a complete system, contrary to what some people probably have in mind
  3. many steps in the chain of entries described above are virtual; they are not visible at the level of the accounting framework. The last is true also for B.A. financial reports. However, when B.A. applies the perpetual inventory method, the micro entries are actual ones (subject to conventions of valuation), when in N.A. they remain virtual. Perceiving the full picture is nevertheless indispensable for a good understanding of N.A.

## Uses of actual business Accounts for Compiling national Accounts

- 77 B.A. was one of the main sources of inspiration for the conception of N.A. In spite of many differences between them, the potentialities of using directly business accounts for compiling national accounts were obviously large. It was even possible to conceive of national accounts for businesses as being the result of a process of actual aggregation of individual business records, of course with a number of adjustments.

### A complex issue

- 78 Surprisingly however, the number of countries who actually engaged in such a process is very small, at least for non-financial businesses (government units, as well as financial institutions records, are frequently aggregated by government accounting offices, central banks or other regulatory bodies). This explains the difficulty met by most countries in implementing the institutional sector accounts, even after the latter had become a major component of the 1968 SNA/ESA 1970. In effect, after the accounts for government, financial institutions (including insurance companies) the rest of the world (through the Balance of payments) and possibly some large non-financial public corporations are established, the finalization of the breakdown of the private sector between households and non-financial corporations depends on the preparation of accounts for the non-financial corporations sector.
- 79 During the first decades of the history of N.A., little attention was paid to complete accounts of corporations or enterprises as such. Attention was focussed on the estimate of value added by industry, generally on the basis of industrial statistics, like economic censuses. At that time the estimate of aggregates, in the tradition of national income estimates though extended to other main aggregates, attracted most attention, not the building up of a full system of accounts.
- 80 When the sector accounts were given more prominence, two difficulties prevented a direct and integrated use of business accounts: the lack of standardization of B.A. and the unavailability of individual business accounts for statisticians.
- 81 As a consequence, three types of situations were met: countries where business accounts were not accessible neither directly nor indirectly; countries where they were not directly accessible to statisticians but they were processed in order to get general information statistical results (USA, UK for instance); finally countries, very few in number (France notably), where they were directly accessible on an individual basis to statisticians who were able to process them by themselves, applying all statistical editing procedures.
- 82 The last situation referred to above was and still is exceptional. However, as soon as 1945/1946, Stone had understood the potentialities of using business accounts. He developed an extensive collaboration with Frank Sewell Bray, an accountant who provided him with a detailed knowledge of accounting. Bray and Stone arranged a series of meetings (over 20) from June 1946 to June 1947 between accountants and economists (the members from the economists' side were John Hicks, James Meade and Stone). The intention of the economists was to make business accounts more useful for the purpose of

macroeconomic management (not only macroeconomic accounting). Eventually all company accounts would have been centralized in a standard form. However the economists tried to exert a too much direct influence on corporate accounting (something the French did also at a time), neglecting the conventions of business accounting and supposing their reform. Finally the project did not succeed (the reform of the government accounts was more successful). The history of this failed attempt is reported in Suzuki 2003.

- 83 This frustration is probably one of the reasons why the Stone's 1945 system of accounts appeared to be during twenty years an isolated proposal in Stone's contributions to the international standardization of N.A.

## French specific experience and the concept of an intermediate system

- 84 In contrast, the French national accountants, who elaborated at the beginning of the fifties their own N.A. system, with an explicit micro/macro linkage<sup>24</sup>, were able to implement their ideas, of course with many adjustments. Fortunately, they had not to argue in favour of business accounting standardization. An official standardized chart of accounts (CoA - in French Plan comptable général or PCG) yet existed since 1947 (after a first attempt in 1942, in a very special context of course)<sup>25</sup>. This CoA has from the outset provided for general economic information requirements, in particular by recording expenses by nature. In 1965 a decree decided that the tax authorities should use the CoA language, classifications and codes. Soon after, in 1967, INSEE statisticians were given access to data from tax returns (and thus based on the CoA) for each reporting business.
- 85 Because of these three factors, French national accountants have been able to make especially intense use of the individual business accounts of non-financial firms, both directly and indirectly, insofar as the system of annual business surveys itself uses CoA concepts and categories (for financial firms, the sources are different).
- 86 The experience led French statisticians to develop the concept of an intermediate system of business accounts. Here, CoA categories are reorganised in line with the conceptual framework of national accounting, but the data are still from the firms' own accounts. These intermediate accounts are then adjusted, either in the aggregate or by sector of activity, in order to add additional information, such as an estimate of tax avoidance, or to alter valuation methods, as in the case of changes in inventories and the calculation of fixed capital consumption. The individual business accounts are then combined with the survey results in a data base which includes about three millions units since the end of the sixties.
- 87 Later on, the influence of statisticians and national accountants, who were associated to the B.A. standardization process, led to an interesting, though limited in scope, innovation in the 1982/1986 version of the CoA (PCG). Optionally, businesses had the possibility in the context of a developed version of the system of accounts to prepare, on a complementary basis, a table of intermediary balances for management purposes (tableau des soldes intermédiaires de gestion), including output and value added (see Conseil national de la comptabilité, Plan comptable général, 4<sup>e</sup> Edition, 1986, P. II.110).

## Late U.N. move in this direction

- 88 Quite late, this experience gained some recognition on a world level. In 2000, in a series of handbooks on national accounting, the United Nations published a remarkable volume on the Links between Business Accounting and National Accounting. Its introduction makes a distinction between the Anglo-American tradition and the German-French one. Under the latter the formulation of common standards for business accounting, and for public information in particular, makes it much easier to use business accounts to compile national accounts. In contrast, the general Anglo-American format, while useful for analysing costs by function in business analysis, “hides the information required by national accounts behind functional terms like selling and administrative expenses” (0.10). The paper also notes the complications stemming from the lack of standardisation (differences from one country to another, but also from one business to another, difference between accounting systems for tax purposes and those for business analysis or public information) (0.8, 0.15 and 0.16), and difficulties arising from the consolidation of accounts (0.17 and 0.18). The strong preference of the business community and the accounting profession in the United States and Canada for flexibility in both the format and content of accounts is highlighted (0.14). The paper presents an intermediate-system approach, the concept of which is introduced explicitly (Chapter 1: Compilation of National Accounts from Business Accounts: Non-Financial Corporations, by Vu Quang Viet of the United Nations Statistics Division who coordinated the work and prepared the final draft). Useful for users in their own right, intermediate accounts constitute a first step towards national accounts. Writing in the general context of Anglo-American accounting, the author, taking a highly analytical approach, shows how to define an intermediate system, and then the series of adjustments needed to move on to national accounts. In practice, however, the use of such an approach to compile national accounts requires highly detailed information on corporate accounts which is not normally available in a public form<sup>26</sup>.
- 89 These different approaches taken by accounting methods - and in particular the fact that Anglo-American accounting does not present expenses by nature - explain why most countries, including large developed ones, cannot make direct and integrated use of business accounts to compile their national accounts. Moreover, statisticians in these countries do not have access to individual accounting data themselves. The aforementioned UN publication contains a presentation of American practices (Chapter V, Use of Business Accounts in the Compilation of United States National Economic Accounts, by Robert P. Parker). US national accountants make extensive use of statistical data processing by the tax authorities (including reports on income statistics prepared by the Internal Revenue Service on the basis of a statistically controlled sample). In contrast, little use appears to be made of financial reporting data, except in respect of public enterprises and certain information collected by supervisory authorities and statistical services. The above data, and many others as well, are used to estimate national accounts item by item, but they cannot serve as the basis for comprehensive and integrated analysis and use of business accounts.

## Valuation Issues

### Historical cost versus up-to-date valuation

- 90 The general principle for valuing assets and liabilities in the SNA balance sheets is clearly formulated in the 1993 SNA (it was implicit before): "... a particular item in the balance sheet should be valued as if it were being acquired on the date to which the balance sheet relates including any associated cost of ownership transfer...." (1993 SNA, 13.25). Asset transactions are recorded at their transaction prices, whether these are actual market prices or one-off transaction prices. Later on, after the time of acquisition, the issue is less simple in practice. Insofar as only a fraction of existing assets, following their external acquisition or initial internal constitution, are the subject of transactions in any given accounting period, the establishment of balance sheets requires that other assets be estimated indirectly, which implies an always questionable modeling. This prompted John Hicks to write that "the values of the goods which enter into the capital stock are characteristically imputed values"<sup>27</sup>
- 91 The SNA thus never followed the traditional business accounting rule that assets be carried at historical cost, less accumulated depreciation, whenever relevant, and any recognised impairment.
- 92 From the very beginning this valuation principle was adopted by N.A. in order to measure output, intermediate consumption, value added, operating surplus, and subsequent income concepts more significantly. On the contrary, due to the existence of inflation, B.A. rules led to results that were strictly speaking uninterpretable. In certain circumstances revaluation of balance sheets was allowed or imposed, either intermittently or, under high inflationary conditions, permanently. However, in spite of an extensive discussion at the time of two-digits inflation in OECD countries by the end of the seventies, first part of the eighties, the basic historical cost rule was not abandoned by B.A. Attempts were made though in the US (SFAC 3) and the UK (FRS 3) to go beyond the historical cost approach in the direction of introducing an economic result (comprehensive income in SFAC3, 1979, and SFAC 5, 1984; total recognised gains and losses in FRS 3).
- 93 In the last decade, the institutional and conceptual picture changed drastically with the official recognition in the European Union of the IASC (now IASB) international accounting standards -IASs- (re-dubbed international financial reporting standards -IFRSs) as a set of standards to be followed, beginning in 2005, by listed companies when compiling their consolidated accounts. In parallel, IASs and US GAAPs are being brought closer.
- 94 Insofar as valuation is concerned, the present period is obviously transitional. The IASB pushes the concept of fair value for the valuation of assets and liabilities ("Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in a arm's length transaction"). This concept is fairly close to the SNA valuation principle for balance sheet items.
- 95 Concerning non-financial assets however, IAS recommendations are still of a mixed type. In the case of tangible assets, the "revaluation model" (estimated market value or, in its absence, e.g. for production facilities, replacement cost net of depreciation) is identical to

the conceptual N.A. treatment. Nevertheless, IAS 16 *Property, Plant and Equipment* (2004 version) leaves open the use of the “cost model” (historical cost, etc....).

- 96 As regards intangible assets, that play an increasing economic role and were, for part of them, included in fixed assets by the 1993 SNA, IAS 38 *Intangible assets* (2004 version) is still highly conservative, both in terms of initial recognition of such assets and application of the revaluation model, which is subject to very stringent conditions.
- 97 It is interesting to highlight the fact that, at this stage, IAS 16 and IAS 38 do not lead towards across-the-board authorisation of revaluation via more direct use of the theoretical asset valuation method (present value of expected future economic benefits). Such an approach is called for, by IAS 36 *Impairment of assets*, only to check whether the recoverable value of an asset has fallen below its carrying amount in the balance sheet (in which case an impairment loss entry must be made). Recoverable value is the higher of the asset's estimated net selling price, or its value in use. The latter is the present value of the future cash flows expected from continuing use of an asset and from the proceeds of its ultimate disposal. The very interesting, lengthy methodological discussion that IAS 36 then devotes to assessing value in use (1998 version 26 to 56, 2004 version 30 to 57) illustrates the complexities of an approach that seeks to apply theoretical admonitions in an uncertain environment, as well as the inaccuracies and subjective elements inherent in estimating future flows.
- 98 Actually the challenge to fair value estimates for B.A. is much more difficult at a single entity level than N.A. meso or macro estimates of the value of stocks of fixed assets and the related calculation of consumption of fixed capital. N.A. uses the perpetual inventory method based on historical series of fixed capital formation, statistical series of price indexes for capital goods and a modeling procedure. At a time, discussions about possible revaluation of assets in B.A. were considering resorting to price indexes, a procedure actually followed by intermittent revaluations after long periods of high inflation.
- 99 Insofar as potential intangible fixed capital expenditures are concerned, N.A. can be more open to their recognition as gross fixed capital formation because it often adopts a statistical point of view. By and large it is assumed that for instance R & D expenditures, mineral exploration costs or film making expenses are leading to the creation of assets at the meso or macro level, though they may be successful or unsuccessful at the micro level, that is, the level of individual undertakings. Even at the level of large business entities, both successful and unsuccessful attempts may be deemed to contribute to the eventually obtained positive outcome.
- 100 In general, N.A. equates capital expenditures with the creation of assets of the same value, as does B.A. In the context of imperfect expectations however, this assumption does not necessarily holds. Conceptually there may be a case for distinguishing the value of capital expenditures in a given period and the value of the corresponding created assets. Practical reasons however make it unfeasible.
- 101 In the absence of generalized markets for the existing assets, subsequent measurement of the value of non-financial assets supposes in most cases applying a modeling procedure. This is already the case, in the context of the historical cost approach, when calculating depreciation and possibly estimating impairment. Modeling plays necessarily a wider role when N.A. applies the present-day rule of valuation or when B.A. tries to estimate the fair value of assets.

- 102 Nevertheless, from an economic point of view, the historical cost approach seems indefensible. On the other side, the fair value measurement in B.A. is obviously a much more complex exercise, open to margins of approximation and possible manipulation attempts. Analysing how it will be handled in the future, especially if it has to become the prevalent method in use, will be fascinating from the point of view of economic observation.
- 103 The measurement at market fair values of financial assets and liabilities seems at first glance easier, because of the much more frequent existence of active markets. However, this issue was the most debated in the last decade in financial circles in relation with the introduction of the IASs in the European Union.
- 104 The difficulty here is in a sense opposite to the one met when the measurement of non-financial assets was concerned: too many, too frequent prices available in financial markets with day to day variations. In substance, the following question was raised: does applying systematically market prices as of the end of the accounting period to each single type of financial instruments permit to get the fair value of the net worth of a financial business as a whole (a bank, an insurance corporation) and consequently a significant measure of its performance (basically, possible increased volatility is questioned)? The last question permits to stress the point that, behind the difficulties involved in the fair value estimates of assets, possibly liabilities, at an entity level implicitly lies the broader issue of trying to estimate the “true value” of a business, a corporation or a group of corporations as a whole.

### **The issue of bad debt allowances: a difficult challenge for national accounting**

- 105 I will not go any deeper in this issue<sup>28</sup>. I limit myself to some remarks concerning N.A. in respect of its measurement of financial assets and liabilities. Here N.A. is sometimes in a difficult position in front of B.A. The main problem is due to the fact that N.A. does not record bad debt allowances, because they are considered of a contingent nature, when B.A. adopts in a way a more statistical attitude. Even at an entity level, especially a financial entity, it is possible to estimate in advance the probability for a certain part of its financial claims not to be recovered. Everybody agrees that the N.A. treatment is unsatisfactory as regards the compilation of lenders' accounts. An intense international discussion took place in recent years on the problem of “non-performing loans”. However, no change will probably be made in the international system of national accounts in the near future.
- 106 This conservative attitude may look surprising. The problem is however more far reaching than it may seem at first glance. The obstacle to a more satisfactory solution is indeed.... the quadruple entry principle of accounting itself! An integrated system such as SNA/ESA imposes, as a matter of principle, symmetrical methods of recording and valuation for creditors and debtors.
- 107 Under this rule, recording loans carried by banks at the probable amounts recoverable would imply valuing debtors' liabilities at the same amounts even in the absence of any agreement between creditors and debtors.
- 108 B.A. is not facing the same difficulty. In the context of accounting for individual entity following the double entry principle, nothing obliges B.A. to require symmetrical



valuation by creditors and debtors, after the initial transaction values. There is little chance anyway that the views and estimates of lenders and borrowers will coincide for subsequent valuations except in case of negotiation about debt forgiveness.

- 109 In any case, there is for the time being a lot of uncertainties as to the extent of the application of fair value estimates to financial liabilities. The general rule in IAS 39 is valuation at amortized cost. The possibility of designating a financial liability at fair value through profit and loss seems narrowly limited according to the June 2005 wording of IAS 39. Nonetheless, it would be hard to imagine that B.A. standards would recommend that debtor entities carry purely and simply their borrowings or other debts at merely the amount they deem capable of paying back in the future.
- 110 N.A. for its part is facing a dilemma. Either keep the present unsatisfactory treatment and have in addition memorandum items somewhere. Or drop the rule on compulsory symmetrical recognition of identical values by creditors and debtors for subsequent valuations, after initial recognition at transaction amounts. If this alternative solution were adopted - I personally favour it - an adjustment of the SNA accounting structure would be required. Formal balance for the line "loans" for instance would be ensured by introducing a notional unit, outside the accounts of institutional sectors. A little speciously perhaps, such a treatment could fit a somewhat enlarged interpretation of the quadruple entry principle. Not so speciously maybe, as subsequent valuations by creditors and debtors are not the result of transactions between them. They are internal entries.
- 111 N.A. is also challenged by the last decades evolution of B.A. toward an exhaustive coverage of all types of an entity's commitments to pay certain amounts in the future, for instance retirement pensions to their employees, or more generally any commitment which reduces an entity's net worth (like employee stock options). In such a context, even traditional contingent liabilities are called for inclusion in the BA at their estimated present value as soon as the probability of the occurrence of certain events can be estimated. The extension of this approach to government, especially as regards pension schemes, is currently intensively debated.
- 112 In brief, insofar as valuation is concerned, the contrast is striking between the field of non-financial assets, where B.A. is primarily challenged by the new trends in international business standards, and that of financial assets and liabilities where both B.A. and N.A. tend to be in trouble due to, inter alia, financial innovations and a more acute financial analysis under the pressure of financial markets on one hand and economic theory, especially via corporate finance, on the other hand.

## What future Relations between N.A. and B.A. ?

### The development of international accounting standards: opportunities and risk

- 113 IAS standards stress valuation problems of assets and liabilities in a perpetual revaluation approach at market prices or in more general terms at fair value. They aim at covering all claims and commitments which influence an enterprise's net worth (owner's equity). Thus they propose an approach to business accounting, which encompasses financial firms as well, that seeks to be economically more significant than traditional accounting.



This is also what national accounting always claimed to offer as compared to business accounting, in respect of a number of points. On some aspects, there is thus a factor of convergence. At the same time, however, it can be seen through certain potential developments of IAS standards, currently among the most controversial, that it is the standards' ambition to take a more systematically economic approach than that of today's national accounting. In this sense there is convergence with the positions advocated by some national accountants themselves in recent debates, on behalf both of the pre-eminence of economic theory and the reference to markets.

- 114 Anyway, the body of recommendations that they represent - many of whose possibilities for options having been eliminated after sharp criticism of their large number - is going to constitute an extremely precious set of references. In the process, national accountants may lose certain degrees of freedom, but in return they will gain significant expertise because of the unchallenged technical quality of these standards. In many respects, they are nearer to the approaches customarily taken by national accountants than standardised charts of accounts had been traditionally. But national accountants, and more generally economic statisticians, may have no say over the accounting standards that are going to enhance their work. For many of them, in an immense majority of countries, the change in this respect will be imperceptible, since very few of them have developed co-operative relations with standard setter bodies, as has been the case in France. But the difference for all of them will be that these standards, while not compulsory for national accounting, will probably exert a great deal of influence. It is striking to notice that references to international accounting standards became increasingly frequent during the current process of updating the 1993 SNA. Moreover the ongoing elaboration of standards for public sector accounts are closely influenced by business enterprises standards.
- 115 One can thus foresee that, in the future, national accountants will have to look much more than in the past to the relationship between N.A. standards and B.A. standards, at least on a piecemeal basis.
- 116 On the other hand, it is doubtful whether the integrated use of business accounts in the compilation of national accounts - following the French and the UN 2000 approach - will extend. Actually the present state of IAS standards does not encourage such a move. IAS 1 *Présentation of Financial Statements* provides a minimum list of items and accounts to be shown, but it does not provide any standardised models for presenting income statements, balance sheets or notes. No classification plan is proposed. Expenses must be broken down in either the income statement, which is deemed preferable, or in the notes to the financial statements, according to a classification by nature of expense or by function in the business. There is a clearly stated preference for the method of expenses by function, in line with dominant Anglo-American practice. Even if it is stated that, in this case, additional information should be provided regarding expenses by nature, it is doubtful whether this recommendation would be implemented effectively and consistently in the absence of strict standardisation. Clearly, measuring output and value added - categories absent from IAS standards - is not a concern of the standards, which seek above all to address the needs of financial market investors. It is open to doubt whether the statement (in the preface to the *Framework for the Preparation and Presentation of Financial Statements*) that financial statements "meet the common needs of most users" reflects a fundamental orientation. Businesses are thus encouraged to present additional

statements on value added in cases in which “employees are considered to be an important user group” (par. 9 of IAS 1).

- 117 There is even the risk of a step backward if IAS standards, in their present orientation, were to be applied in the future to any category of firms without the requirements of general economic information being taken into consideration. Countries with standardized chart of accounts would have to face serious difficulties<sup>29</sup>.

## Argument for the design of B.A. standardized financial statements and classifications

- 118 In a more positive prospect, the emergence and dissemination of world accounting standards may provide the opportunity of revisiting the all issue of the standardization of models for presenting financial statements. For the convenience of various types of users of business accounts, it would be very useful to strive for a significant level of intelligibility in conveying the results of a business to a large number of varied constituencies. To this end, the existence of standardized syntheses and a standardized classification chart for flows, and for assets and liabilities, is vital.
- 119 Insofar as the primary purpose of standards such as the IASs is to govern and standardise the substance of accounting entries, is it not possible to imagine that, within the very context of such a set of standards, accounting syntheses would be required to conform to a structuring (and codification) - one of the possible requirements being a dual presentation of expenses by nature and by function - that would seek to exploit both the international standardisation achieved by the IASB and the experience acquired by normative systems such as the French CoA?
- 120 The revision of IAS 1, in relation with the reconsideration of the Conceptual Framework by the IASB, may give room to an in-depth discussion of these issues. Among others, national accountants and more generally economic statisticians should be encouraged to take part in this discussion.
- 121 If a satisfactory solution is not attainable for the time being at the world level, I do not see why it would not be attempted at a country level or, preferably, at the level of the European Union as a whole. I see personally no insurmountable contradiction whatsoever between the orientation that I favour and the information needs of financial investors and other users of financial data.

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## NOTES

1. Paper prepared for the Eleventh World Congress of Accounting Historians, Nantes (France), July 19-22, 2006.
2. On the history of national income estimates, see Studinski, 1958 ; on the history of national accounting, see Vanoli, 2002/2005.
3. On King's works, see Studenski, 1958, p. 30-37 ; Stone, 1984, p. 9; Vanoli 2005, p. 5-10.
4. Short presentations of Fisher's ideas are in Ohlsson, 1953, p. 48-51 ; Kenessey, 1994, p. 116-118.
5. On Copeland, various papers including by himself in Dawson, 1996 ; see also Vanoli, 2005, box 12, p. 64-65 ; Kenessey, 1994, p. 114.
6. On Martin, see Kenessey, 1994, p. 115-116.
7. On Vincent, see Prou 1956, p. 30-48, 93-103.
8. On van Cleeff, see den Bakker, 1994, p. 70-71, Bos, 2006, p. 232-234.
9. See a brief analysis of Meade and Stone 1941 in Vanoli 2005, p. 20-21.
10. A presentation and analysis of some first schemes of national accounts are found in Vanoli 2005, p. 45-55. In particular, the six accounts of the 1952 OEEC Standardised System and the six tables of the 1947 NIPA (with figures) are reproduced.
11. "Indeed, examination of the report fails to convey the impression that the setting up of accounts assisted in any way in solving these problems of definition and distribution. On the contrary, the impression is that these problems were solved without benefit of the system of accounts and that the system of accounts was constructed to fit the solution" (p. 153).
12. On the 1968 SNA, see Vanoli 2005, p. 90-100 ; on the 1970 ESA , see Vanoli 2005, p. 96, 100.
13. See Vanoli 2005, p. 56-61.
14. See Vanoli 2005, p. 104-124.
15. Vanoli 2005, p. 313-314.
16. See Vanoli 2005, p. 364-370, for a short review of literature ("Hicks'concept of income and national accounts : intrepertation issues", appendix to chapter 8)
17. - Short review of issues in Vanoli 2004, p. 324-327 ; more in Vanoli 2005, chapter 8 - Production, Income and Wealth.
18. This rather dull terminology intends to draw the borderline with holding gains/losses that are due to price changes. Other changes in volume of assets cover inter alia catastrophic losses, uncompensated seizures, economic appearance or disappearance of non-produced assets.
19. See a presentation of the Assets and liabilities accounts of the 1993 SNA in Vanoli 2005, Box 55, p. 315-317. These accounts cross-classify in rows the transactions and other flows making up the accumulation accounts and in column the various types of assets/liabilities.
20. It seems probable that these caveats were introduced in the revised draft of Stone's 1945 memorandum, before it was published in 1947. A foot-note to page 54 alludes to the influence of Bray : "Since this memorandum was first drafted, researches have been started at the Department or Applied Economics, Cambridge, into the correct method of formulating the system outlined from a professional accounting standpoint". Then Stone refers to a forthcoming publication by F.S.Bray.

21. The formulation used by Aukrust regarding Stone should not be confused with Copeland's money flows accounts for the United States which will soon appear. Copeland is interested in "moneyflows" on a strict cash basis. The idea is to describe the flows that will later be called "non-financial" (wages, dividends, taxes, etc...), using the corresponding payments/receipts during a given period and excluding all items not reflected in monetary transactions. On this basis, Copeland accounts rest on a quadruple-entry system because all payments or credit flows go from one transactor to another for the same amount.
  22. On Ragnar Frisch's approach see Ohlsson 1953, p. 51-58 ; also Aukrust 1994, p. 18-23, 63-64.
  23. Again, this would have been different from Copeland's objective, because the latter's accounts are built up on a cash basis, not an accrual one as Aukrust 1949' system.
  24. Vanoli 2005, p. 57
  25. The history of French business accounting standardization is studied thoroughly by Béatrice Touchelay, 2005.
  26. The French experience is presented in chapter IV of the UN publication : Using Business Accounts to Compile National Accounts : the French experience, by Patrick Augeraud and Jean-Etienne Chapron.
  27. Hick 1961, p. 19.
  28. Some reflections on this issue are in Vanoli 2004.
  29. In Europe, various options are possible regarding any application of IAS standards to the individual accounts of various categories of firms, whether or not belonging to groups. The present position in France is that all individual accounts will have to be published at year-end using national standards. In the long run however things may evolve.
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## ABSTRACTS

After centuries of national income estimates, an accounting approach emerged in the thirties and the forties, leading to the birth of national accounting. Half a century was necessary however before a standardized national accounting framework was completed, with the 1993 international System of National Accounts encompassing both current accounts, accumulation accounts and balance sheets. The relationships between national accounting and business accounting are investigated, regarding accounting framework issues, uses of actual business accounts for compiling national accounts and valuation issues, in context of the development of international accounting standards.

La comptabilité nationale est née dans les années 1939-1940 au terme de plusieurs siècles d'efforts pour estimer le revenu national. Encore a-t-il fallu attendre un demi-siècle pour que le premier système de calculs (1941) devienne le « système international de comptabilité nationale » (1993) couvrant à la fois les comptes courants, les comptes d'accumulation et les comptes de patrimoine. Cet article analyse les relations entre la comptabilité nationale et la comptabilité d'entreprise à travers le problème de la définition du cadre comptable, celui de l'utilisation effective de comptes d'entreprises pour l'établissement des comptes nationaux et celui de la valorisation, le tout apprécié dans le contexte du développement de normes comptables internationales.

Die nationale Buchhaltung ist in den Jahren 1939-1940 mehrere Jahrhunderte intensiver Anstrengung lang nach geboren, um das Nationaleinkommen zu schätzen. Jedoch war noch ein halbes Jahrhundert nötig, damit das erste Rechensystem (1941) das « nationaler Buchhaltung internationale System » (1993) wird, das gleichzeitig die Kontokorrente, die Anhäufungskontos und die Kontos von Erbe berücksichtigt. Dieser Artikel analysiert die Beziehungen zwischen der nationalen Buchführung und der Firmenbuchführung durch das Problem der Definition des Rechnungsrahmens, derjenige der wirksamen Benutzung von Firmenkontos für die Ausstellung der nationalen Kontos und derjenige der Aufwertung. Diese Probleme sind in ein Entwicklungszusammenhang der internationalen Normen aufgetaucht.

## INDEX

**Keywords:** national income estimates, relationship between national accounting and business accounting

**Schlüsselwörter:** Nationale Buchführung, Volkswirtschaftliche Gesamtrechnung, Firmenbuchführung, Verbindungsschema

**Mots-clés:** comptabilité nationale, plan comptable, comptabilité d'entreprise, schéma de liaison

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Né en 1930, ancien directeur à l'INSEE et retraité très actif, André Vanoli (études de droit, économie et sciences politiques) a été recruté en 1957 au Service des études économiques et financières (SEEF) dirigé par Claude Gruson et accueilli à la direction du Trésor du ministère des finances par François Bloch-Lainé depuis 1951 pour développer une comptabilité nationale française originale et ses applications. Extérieur à l'administration des finances, Vanoli suit Gruson à l'INSEE lorsque celui-ci en devient directeur général en 1961 et que la responsabilité de la comptabilité nationale y est transférée. Il y fait ensuite toute sa carrière. André Vanoli a dirigé à l'INSEE la comptabilité nationale, la coordination statistique et les relations internationales (sauf les activités de coopération auxquelles il a participé comme expert). Outre son rôle dans le développement de la comptabilité nationale en France (y compris la conception des comptes satellites et des systèmes intermédiaires), il a participé étroitement aux travaux d'harmonisation internationale du système de comptabilité nationale, en particulier à ceux qui ont abouti au SEC 70, puis au SCN 93/SEC 95, lequel a représenté un progrès décisif de la comptabilité économique nationale au niveau de l'ensemble du monde. Il a guidé le développement des comptes nationaux de plusieurs pays (Colombie, Équateur, Pérou, Brésil, Tunisie, Grèce). Vanoli a mis en place le Conseil national de la statistique créé en 1972 et devenu en 1984 le Conseil national de l'information statistique. Président de l'International Association for Research in Income and Wealth (1977-1979), il préside l'Association de comptabilité nationale (ACN) qu'il a créée en 1983 avec Edith Archambault et Jean-Étienne Chapron. André Vanoli a beaucoup travaillé, dans les dernières décennies, sur les questions de comptabilité environnementale, il est membre de la Commission des comptes et de l'économie de l'environnement et du Conseil scientifique du Service de l'observation et des statistiques du ministère chargé de l'environnement de l'écologie et du développement durable. Il continue de suivre cependant les évolutions et les débats de la comptabilité nationale dans son ensemble, en particulier ce qui concerne les questions de définition et de mesure de la qualité de vie (bien-être) et de la durabilité du développement. Dans

ce contexte, il a présenté au dernier Colloque de l'ACN (juin 2010) un texte de commentaire approfondi sur le Rapport de la Commission Stiglitz, Sen, Fitoussi sur la mesure des performances économiques et du progrès social. Il a publié en 2002 *Une histoire de la comptabilité nationale* (La Découverte, Paris, 655 pages) traduction anglaise *A History of National Accounting*, IOS Press, Amsterdam, 2005.