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Reflections on SNA93 edition and the Aftermath

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Having given up the crown jewels of statistical measurement and conceded control of statistical authority to institutions committed to supporting the economic and financial agenda of Western orthodoxy, UNSO has lost much of its claim to speak for the global community and provide it with required leadership to bring innovative data development into the twenty-first century. (Ward 2004(a), p.4)

More than ten years has elapsed since the publication of SNA93 edition. Now it is an opportune time to reconsider the role and tasks that SNA 93 edition should meet the immense challenge of ongoing both economic and statistical issues. Taking into account of the fact that this Symposium has been organized for making a further step towards these causes, I am obliged to those who have organized this Symposium, in particular to Mr. Yutaka Kosai, Director of Economic and Social Research Institute, Cabinet Office, Government of Japan, for inviting me to the Symposium. I will really appreciate having a chance to say a few words in this Symposium.

My encounter with SNA came back almost a half century past when I attended to the lecture on national accounts at the Institute of Social Studies, the Hague, in the winter of 1960. The lecture course was given by Professor J.B.D.Derksen and he dealt essentially with SNA53 edition. Incidentally, he served for the United Nations at the Statistical Office in the early fifties as the chief of National Income Unit. It is interesting to note that the post which was taken by him at the United Nations Statistical Office (UNSO for short) was succeeded by Professor R.G.Geary. It was in
the spring of 1983 that I was lead into stronger and decisive ties with SNA, because I had assumed the responsibility of the United Nations Statistical Office as its Director. Looking back at the time, Statistical Commission, at its 1983 session, endorsed a review of the SNA by an expert group that was designed to lead to a revision of SNA68 edition. Some preparatory works for the revision of SNA progressed. On these grounds, the first expert meeting for the revision of SNA68, which I was in the chair, took place in June 1986 at Geneva. At the meeting, I proposed that two experts who are supposed to be the authors of both English and French versions of the revised SNA should be permanent core members of the experts. They are Messrs. Peter Hill (then, Chief of National Accounts Branch, OECD) and Andre Vanoli (then, Deputy Director of INSEE, France). The expert meeting accepted the proposal and entered into much heated discussions over the central framework of revised SNA. I left the work of UNSO two months later of the expert meeting. The progress of the works for the revision of SNA after the first expert meeting are vividly described in Vanoli’s master piece in great detail (Vanoli, [2002], pp.179-187). However, it might be of some interest to see that somewhat different views on the works of 1968-93 SNA revision are expressed in Ward [2004(b)]. In what follows I shall give a few thoughts about some basic concepts that structure SNA93 edition and their implications.

1. Exchange of Real and/or Financial Flows versus Transactions

The entries in the flow accounts of SNA93 edition are clearly indicated as transactions and they are classified according to the following categories: (1) transactions in goods and services, (2) distributive transactions, (3) transactions in financial instruments, (4) other accumulation entries. It is illuminating for us to see that there exists a close parallelism between the definition and classification of transactions in SNA93 edition and those for “operations” whose concept are currently used as the entries of French national accounts (CNF, for short). The classification of “opérations” in CNF are grouped into those categories as indicated below: (1) “les opérations sur biens et services”, (2) “les opérations de répartition”, (3) “les opérations financières” (Seruzier [1988]). Vanoli argues that the terminology of transactions (or “opérations”) is preferred to the usage of real or financial flows that has been conventionally adopted by Frisch-Aukrust’s or Stone’s system of national accounts on the grounds that there exists real flows which are not necessarily expressed in monetary terms, they are being to be imputed (e.g. owner occupied housing services) or to be constructed as an artifact (e.g. consumption of fixed capital) (Vanoli [2002], p.191). Two points are immediately made in this connection. First, the parallelism indicated
above suggests that the structure of SNA93 edition is significantly influenced by that of CNF as Kurabayashi once illustrated (Kurabayashi[1995], see also Vanoli[2002], p.172).

In the second place, it should be stressed that the structure of SNA93 edition is, in essence, sharply distinguished from its preceding SNA53 and SNA68 editions, both of which are originated from the earlier structure of Stone’s system of national accounts. SNA93 edition has neither common ground with those systems of national accounts which Dutch experts (such as Messrs. P.G.Al, van Bochove, and van Tuinen) invented in the late ninety-eighties, nor to mention it, the design of SNA93 edition is radically distinct from the United States national income and product accounts (USNIPA for short), as Vanoli sets forth (Vanoli[2002], p.224). I wonder if the characteristic structure of SNA93 edition which should be clearly differentiated from such different systems of national accounts as referred above might be further illuminated by contrasting their axiomatic bases with each other. Note that this attempt has partially made by Aukrust[1955], Benard[1972], Arkhipoff[1984][1986], Kurabayashi[1989], but it appears that none has made any attempt to construct the axiomatic foundation of SNA93 edition. In connection with this, we ought to refer to Reich’s recent work (Reich[2001]). His work deserves to refer here for two reasons. First, his axiomatic construction of a system of national accounts adopts transactions as its fundamental concept. Second, his axiomatic approach attempts to connect it with exploration of theory value in the context of national accounts.

2. Meaning of Imputation: Its Limit and Extension

In the preceding section I refer to the significance of imputation with regard to the definition of transactions. At its paragraph 3.34. SNA93 edition defines imputation as one of the most important components of non-monetary transactions as is quoted from it:

“Non-monetary transactions are transactions that are not initially stated in units of currency. The entries in the System therefore represent values that are indirectly measured or otherwise estimated. In some cases, the transaction may be an actual one, and a value has to be estimated to record it in the accounts. Barter is an obvious example. In other cases, the entire transaction must be constructed and then a value estimated for it. Consumption of fixed capital is an example. (In the past, the estimation of a value has sometimes been called imputation, but it is
preferable to reserve that term for the kind of situation that involves not only estimating a value but also constructing a transaction.” (SNA93[1993] para.3.34.)

Surprisingly, this is the first definition of imputation throughout entire editions of SNA. Neither SNA53 edition nor SNA68 edition provide any explicit definition for imputation. It is also noted that in the editions both SNA53 and SNA68 the consumption of fixed capital is not specified as the term of imputation. Though SNA93 edition renders a more enlightened definition to imputation, this does not mean the end of discussions that have been made about the limit of imputation and its implications that the term carries. In this regard, it would be worthwhile to recall the structure of Dutch national accounts which is termed by Dutch experts “a flexible and institutional approach” (den Bakker[1994], p.83). Broadly speaking, the architecture of Dutch system of national accounts is constructed on two tiers. While the upper tier is termed the core system, which describe “all economic events in macro and meso levels of integration” according to their terminology, the lower tier is composed of three types of modules, they being termed the system modules, the supporting modules, and the supplementary modules respectively (den Bakker[1994], p.84). It is in the lower tier of modules that imputations, attributions and reroutings produce both pervasive and profound effects on the extent and quality of the estimates for the components of modules. Although the entries of the core system are secured by so-called “the parsimony principle” and they are free of the influences caused by any special hypothetical settings or policy orientations, it is almost inevitable that the entries of modules which necessitate imputations, attributions or reroutings are subject to the effects of analytical modelling and to reflect special policy purposes. It should be growing concerns for national accounts statisticians both of the Netherlands and of other developed countries that to what extent such imputations or attributions are admissible as components of non-monetary transactions within a system of national accounts. It goes without saying that the concept of imputations in SNA93 edition is also not immune from the growing concerns.

In SNA93 edition, the imputation of financial intermediation services raises a new technical issue of the measurement of financial services that are provided by financial institutions. For the purpose, SNA93 edition indicates that “the System must use an indirect measure, financial intermediation services indirectly measured (FISIM), of the value of the services for which the intermediaries do not charge explicitly.” (SNA93, para.6.124.) The definition of FISIM services is given at para.6.125. The paragraph
continues to say that “FISIM must be recorded as being disposed of in one or more of
the following ways - as intermediate consumption by enterprises, as final consumption
by households, or as exports to non-residents.” At the United Nations Statistical
Commission in February 1993, the measurement and allocation of FISIM turned out
being a potentially disruptive issue. As Vanoli argues (Vanoli[2002], p.200), at the
Commission EU refused the proposed treatment of FISIM after the heated discussions,
so that the draft of SNA93 was near the brink of ruin. Finally the Commission
resolved on reaching a compromise as is indicated in para.6.131 of SNA93. But, I am
no longer in a position to expound the further progress of discussion centred on the
FISIM services after the 1993 Commission, because in the first session of this
Symposium Professor Sakuma will deal with the ongoing analysis of FISIM in a great
deal of expertise. In the meantime, I shall await his deep-sighted scrutiny of this
subject.

3. Micro and Macro Data Links

A noteworthy aspect of national accounts is developed in SNA93 edition. This is a
renewal of the works in UNSO in the ninety-eighties that was initiated by Mrs. Nancy
Ruggles, then chief of National Accounts Division, UNSO, in cooperation with
Professor Richard Ruggles, Yale University (United Nations [1979], [1980]). Their
works are concerned with, in essence, the statistical methodology that attempts to
construct a set of micro data collected from various sources. They termed the set the
composite micro data set. Moreover, they attempt to discover the statistical
methodology how the data set could be organized by the application of meaningful
statistical methods. They also argued that the establishment of a variety of micro data
sets provides a fascinating new perspective on the integration of economic and social
statistics. Incidentally, the Central Bureau of Statistics of Norway pioneered in the
actual formation of the composite micro data set in national scale, which was
completed in the late ninety-sixties. Then, the Norwegian micro data set, which is
termed the individual data file, has been officially applied for a wide variety of
statistical developments in Norway including the development of national accounts
statistics. (Aukrust and Nordbotten[1973]) These earlier phases of studies in the
development of micro and macro data links have once undergone intensive exploration
in Chapter 8 of my work (Kurabayashi [1989]).

However, the scope of SNA93 edition of the application of the micro data bases for
the development of macro economic accounts is more or less moderate and limited.
Indeed, the para. 1.65. of SNA93 states that “in practice, however, macroeconomic accounts can seldom be built up by simply aggregating the relevant data. .....Individual units may be obliged to use concepts designed for other purposes, such as taxation. The accounting conventions and valuation methods used at a micro level typically differ from those required by the System”. The argument of the same paragraph continues saying that “it is likely to be more efficient to make the adjustment for smaller and more homogeneous groups of units. This may involve compiling so-called intermediate systems of accounts.” But, SNA93 confirms that "at whatever level of aggregation the adjustments are made, the inevitable consequence is to make the resulting macro-data no longer equivalent to simple aggregations of the micro-data from which they are derived.” (SNA93, para.1.65.) Hence, SNA93 concludes the issue of micro and macro data links in para.1.67. To quote in its entirety: “It may be concluded therefore that for various reasons it may be difficult, if not impossible, to achieve micro-databases and macroeconomic accounts that are fully compatible with each other in practice. Nevertheless, as a general objective, the concepts, definitions and classifications used in economic accounting should, so far as possible, be same as both a micro and macro level to facilitate the interface between the two kinds of data”.

So much for a brief summary of lines which deal with the micro and macro data links in SNA93 edition. In comparison of these lines with what is written by Vanoli, which examine the issue in the section entitled “micro and macro relations” (Vanoli, pp.215-217), we can immediately find the nearest parallels of reasoning and content between SNA93 edition and Vanoli’s work. It is highly likely that those lines of SNA93 which are concerned with the micro and macro data links are written under his overwhelming influence or that Vanoli himself is the author of the portion of SNA93 that deals with the micro and macro data links. It seems to me that the fact underlines the unmistakable trace of influences on SNA93 edition in which Vanoli has exhibited, as I have already hinted in the earlier section of this note. In this regard, we have to note that he was a key figure of national accounts experts in France who contributed to the promotion of the micro and macro data links through experimenting the intermediate system of accounts for the business enterprises sector during the period between the late ninety-seventies and early ninety-eighties (Vanoli[1986]). It appears that his comments on the micro and macro data taken from his master piece (Vanoli[2002]) accurately reflect the sense of his disillusion that might be caused by the outcome of his experimentation.
In contrast, it appears that Ruggles continued to cherish complete confidence in vast potential and power of micro data bases which may provide for the integration of micro data with macro economic accounts. In his article with which he is essentially concerned the integration of micro and macro data, facing with the publication of SNA93 edition, he stoutly maintains that “SNA 1993 does not view the macro/micro linkage in the context of the existing realities. Rather the SNA accounts have been designed in terms of the data collection and processing capabilities of a half century ago. In the coming decades, even the developing countries will find it more efficient to use modern computer methods to maintain and process their statistical and administrative information.” (Ruggles[1995], p.396) On the basis of the progress in the computer technology concerning the integration of macro accounts with micro data bases, he contends that “SNA 1993 needs to provide explicitly for the integration of micro data. This can be accomplished by developing core transactor/transaction accounts for the institutional sectors with separate modules for introducing imputations and rerouting of transactions. ….. The complex social and political problems of the twenty-first century will require both the broad macroeconomic constructs and the underlying micro data relating to enterprises, governments and households. The technology exists: the much-heralded information superhighway has arrived, and modern computer provides the individual analyst with the ability to access, manage, and analyze large data sets of macro and micro data. It is the responsibility of the national accountant to develop such data bases in a coherent manner.” (Ruggles[1995], pp.413-414) In order to respond his contention, I shall briefly offer a few comments below:

(1) A complete overhaul of SNA93 would be inevitable if we should follow his prediction and suggestions. In particular, drastic changes in imputations and reroutings should be introduced into the entries of SNA93. As a consequence, I would foresee that SNA93 should be completely transfigured into an essentially different system of national accounts. I would imagine that a newly transfigured system should be very close to Dutch system of national accounts in its architecture.

(2) In the light of the fact that a unique system of data collection and processing for building Dutch national accounts together with its institutional back up encouraged to develop Dutch system of national accounts (den Bakker[1994]), SNA93 could not be easily transfigured into a new system in the absence of an appropriate system of data collection and processing and its institutional back up.

(3) It is extremely important, I believe, to learn an invaluable lesson from French
experiences of compiling so-called intermediate system of accounts. It appears that Ruggles[1995] pointedly ignores French experiences and does not make any reference to the works of Vanoli and other French experts of national accounts who explicitly contributed to work out the intermediate systems of accounts.

My reflections on SNA93 edition has gone a long way and exceeded far beyond the time and space that is allowed to me, even though I have touched only a few introductory topics included in such voluminous work as SNA93. Still, there exists a set of plenty topics that I feel necessary to take up but I have to leave out. Among others, they are social accounting matrix (SAM) and satellite analysis and accounts. In addition, there are so many topics which are related to a number of major component accounts of SNA93 including the price and volume measures. As I recognize that some of them will form major themes of the sessions in what follows of this Symposium, I shall close this note by quoting a few lines from our recent article.

To conclude, it should be kept in mind that the calculation of GDP and similar aggregates is not the ultimate objective of system of national accounts. A system of national accounts such as SNA93 is a coherent and integrated system embracing different kinds of activities and sectors. The measurement of one or two selected aggregates to gauge changes in economic welfare is not its final purpose.

(Kurabayashi and Hayami [2004], p.12)

References


Vanoli, Andre, Une histoire de la comptabilité nationale, La Decouverte, 2002.
