

THE VALUE ADDED OF NATIONAL ACCOUNTING

This collection of essays commemorating 50 years of national accounts in the Netherlands lives up to its title—it does add value to the field of national accounts. It successfully shows how the national accounts have evolved in the Netherlands over the last 50 years, and how macroeconomic modeling has interacted with the development of quantitative estimation of economic constructs. The book is not only useful for specialists in national accounting, but it also provides important insights for economists, statisticians, and those concerned with public policy.

This work is the collaboration of twenty-five authors representing Netherlands Statistics, other Dutch government institutions, Dutch universities, international organizations, and economists from other countries. The representation of topics is equally broad, ranging from economic theory and policy to more technical topics such as input–output, time series analysis, and environmental accounting.

All of this is an indication that despite its age of 50 years, national accounting is alive and well—at least in the Netherlands. Indeed, this is in marked contrast with the situation in the U.S., where the shock of stagflation in 1973 reduced national accounting to the role of providing economic indicators. It is no longer a topic in the subject listings of the *Journal of Economic Literature*, and it has been eliminated from the economics curriculum in most universities. Indeed, few economists in the U.S. outside of the Bureau of Economic Analysis are aware of the United Nations SNA. It is refreshing, therefore, to have a book that not only looks back to the origin and development of national accounts (Part I), and is very much concerned with current applications (Part II), but also looks forward to the future (Part III).

One of the most distinctive contributions of this book has been its presentation of the evolution of the Dutch system of national accounts. J. Tinbergen, in Chapter 2 on “Origin of National Accounts and Relation to Economic Theory,” points out that national accounts are in essence the extension of accounting from an instrument used by individuals and enterprises to an instrument used by nations, and that economic theory related to national accounts consists of understanding the processes of production, trade and consumption. His vision of the future of national accounts encompasses not only historical research on the process of development and spacial analysis of economic activity, but also global analysis of environmental and sustainability problems.

G. P. den Bakker in Chapter 5 on the “Origin and Development of Dutch National Accounts,” provides a more detailed picture of the Dutch experience. The Tinbergen macroeconomic models gave the Netherlands a head start, and in 1941 Van Cleeff published his system of “national book-keeping.” During World War II the statistical work on national income estimation continued, and an

input-output approach to national accounting was developed. Derksen and Oomens, who were in charge of national accounts during the war years and the period immediately following, were major influences, not only in the development of Dutch national accounting but also in the development of international standards.

However, the more recent issues confronting Dutch national accounts are spelled out by H. K. Van Tuinen in Chapter 3, "Issues in Dutch National Accounting, 1970-1985." The specific issues examined are (1) the reliability of national accounts data, (2) the informal economy, (3) welfare and environment, (4) inflation, and (5) the national accounting system as a whole. The issue of reliability is particularly difficult for national accountants. On the one hand, there is always considerable pressure to produce "quick and dirty preliminary data" for purposes of economic policy, but at the same time significant revisions tend to be viewed as indications that the data are unreliable. Revisions that affect the continuity of time series are also felt to be disruptive. Under such conditions improving the reliability of national accounts has been difficult. Addressing concerns about topics such as the informal economy, the measurement of welfare, and the treatment of environmental pollution has raised conceptual questions relating to the production boundary of national accounts and about the assignment of valuations. Dealing with the problem of inflation has not only involved the development of appropriate chain weighted indexes, but has also raised important questions as to the meaning of inflation-adjusted income data.

The Dutch national accounts data are used in several very different contexts that require different concepts and specifications. As a consequence, van Tuinen concludes that "a fundamental problem with the national accounts is that many demands are made on the system and that responding to an increasing number of demands has made the system more and more complex." The Dutch solution to this problem has been to propose (1) a system of core accounts that records the actual transactions of the institutional sectors of the economy, and (2) supplementary modules around the core that would be more analytical and would reflect special purposes and specific theoretical views. It is regrettable that these principles were not adopted in the 1993 revision of the United Nations SNA, but they are not incompatible with it.

Part II of the book, "Present Applications," is concerned with modeling, economic policy, input-output, time series and historical analysis. C. J. van Eijk in Chapter 8 on "National Accounts and the Macroeconomic Revolutions of the Inter-war Period" demonstrates how statisticians interacting with economists working on development of macroeconomic theory improved the statistical information to be used for empirical research. In particular, the bilateral nature of the transaction framework enforced a discipline on both statistical measurements and the macroeconomic concepts. Improved information at the macroeconomic level helped to quantify economics, and provided a basis for the analysis of economic policy problems.

In Chapter 9, J. P. Verbruggen, and G. Zalm, on "National Accounts and Modelling at the Central Planning Bureau" indicate how, initially, there was a close relation between macro-economic modeling and the development of the macro framework for the national accounts. However, over the years, as the

models of the Netherlands Statistics evolved due to changing economic conditions and policy issues, the national accounts and economic models diverged. It is further argued, however, that such divergence may come to an end since both systems are gradually developing in the same direction—going from functional and macro oriented systems to institutional and micro oriented systems.

In terms of economic modeling, it is apparent that economists in the past have primarily been interested in defining macroeconomic concepts in terms of economic processes—i.e. production, consumption, investment, and saving. The economic constructs of the national accounting system have been built around these concepts, and the institutional aspects of transactors and transactions were largely ignored. Indeed, early national accountants had difficulty in deciding how to treat government in the modeling of the economy. In keeping with the approach of neo-classical economic theory, many economists felt that, in order to be general, economic theory—and the data constructs on which it was based—should be institution free.

Many economists also believed that the major economic constructs should be comprehensive, and should not necessarily be limited by the actual transaction taking place in the economy. The production boundary, for example, should include some of the non-market activities that contribute to well-being so that the measurement of production and consumption would reflect the general level of welfare in the economy.

Finally, the commodity flow and input-output approach to the estimation of national accounts consisted of measuring the output of the economy in terms of industrial output of commodities, and then allocating these commodities after appropriate transport and trade margins to intermediate industrial use, exports, government purchases, capital formation and consumption. Under such procedures, the consumer sector in the economy was determined residually. As a consequence the actual transactions of households were never incorporated as part of the national accounts.

The Dutch rationale for national accounts consisting of institutional sector transactor/transaction core accounts is based on changes in all of three of these underlying assumptions. First, as noted by Verbruggen and Zalm, econometric modeling is gradually developing from functional and macro-oriented systems toward more institutional and micro-oriented systems. Second, as pointed out by van Tuinen, the increasingly wide range of different demands on the national accounting system has made it more and more complex, and there is need for a simpler core system that can be augmented by the use of supplementary data. Finally, the statistical resources available for the constructing national accounts have increased substantially. Administrative records, tax returns, and sample surveys of enterprises and households provide a vast amount of data that can be drawn on to produce detailed transaction information for enterprises, government and households. The national accounts are no longer solely dependent on the commodity flow approach, and it has now become feasible to construct transactor/transaction accounts for the institutional sector of the economy.

In Part III Chapter 14, A. M. Bloem describes the “Present and Future of the National Accounts in the Netherlands.” It becomes apparent that Dutch national accounts are being driven by (1) the 1994 revision of the UN SNA as

spelled out by C. Carson in Chapter 16, “The New System of National Accounts: Its Role and Significance,” and (2) the statistical needs for the unification of Europe as described by W. F. Duisenberg in Chapter 18, “Monetary and Financial Statistics in a European Statistical System—A Central Bankers View” and by Y. Franchet in Chapter 19, “Development of National Accounts and Related Statistics for the Unification of Europe.” These statistical frameworks have all become major forces that are shaping the future development of the Netherlands system of national accounts. In addition, however, Bloem indicates that Netherlands Statistics has promoted the core-module approach discussed in Chapter 3 of this book.

A research and development module showing the cost and benefits of R&D is being developed in a national accounting context without disturbing the system. A time allocation module is being drawn from a Time Budget Survey and is expressed in physical units of time allocations. An environmental module that takes into account the deterioration of the environment is being constructed, and this is explained in greater detail by S. J. Keuning in Chapter 17, “An Information System for Environmental Indicators in Relation to the National Accounts.” Finally, a tax module is being created by the tax authorities for forecasting tax receipts; the main element in this module is that some of the national income concepts are converted into fiscal concepts.

U. P. Reich points out in Chapter 15, “The Dutch School of Thought in National Accounts,” that flexibility is the main characteristic of the Dutch School of national accounts, but that what is flexible is their attitude towards the system of national accounts—not the accounts themselves. The rules of what is to be retained in the core are rather rigid. Flexibility applies to the supplementary modules, which may deviate between countries and not adhere to international standards. In reality, however, this is diversity rather than flexibility.

The Dutch proposal that core accounts be developed for the institutional sectors of the economy is both theoretically desirable and statistically feasible. However, the proposal does not go far enough. The core macro account for an institutional sector is, in reality, an aggregation and consolidation of the transaction accounts of the reporting units in that sector. The concepts for the core macro accounts should be isomorphic with the concepts at the micro level. From both a theoretical and statistical point of view, it would be highly desirable if core micro data sets could underlie the core macro accounts.

The macro accounts not only summarize, but they also suppress information. The aggregation problem presents serious difficulties in interpreting the behavior of time series or in analyzing the relationship among macroeconomic constructs. Macro relationships are complex—they are not merely micro relationships “writ large” as is implied by many economic models. The existence of micro data, and in particular longitudinal micro data, permits a fuller understanding of the behavior of macro data. In this connection it is interesting to note that the microanalytic simulation approach developed by Guy Orcutt was stimulated by Tinbergen’s econometric modeling.

From a statistical point of view, microdata sets that are fully aligned with the macro core accounts are currently quite feasible. As already noted there are large bodies of microdata in the form of administrative data and sample surveys.

Registers exist to check the completeness of data sets, and computer technology is available to handle large bodies of data.

The macroeconomic accounts not only benefit from their integration with microdata bases, but, at the same time, the statistical system also benefits. By extending national accounting to microdata, the national accounting framework can serve as the vehicle for integrating economic, social, demographic, and regional data. One of the major difficulties in using microdata in the past has been that different microdata sets purporting to cover similar reporting units come out with very different results. As a consequence, analyses of microdata have become suspect. By developing microdata bases that match the control totals in the macro accounts, those using microdata will have greater assurance that the data they are using are representative, complete and unbiased.

What does the future hold for the national accounts? For the users of national accounts data, the existing computer technology is rapidly altering the way national accounts data are accessed. In the past, published national account tables have provided users with data in a fixed summary and understandable form. With the availability of "World Wide Web" servers and user friendly software, however, large data bases of disaggregated national accounts or micro data can be easily accessed by a wide variety of users and tailored to their specific analytic needs. Thus, analysts concerned with the measurement of poverty, the incidence of the tax system, the analysis of economic growth or the allocation of the government budgets will be able to specify the type of information and the level of aggregation that is desired. The "what if" questions can be posed and the sensitivity of the analysis to different assumptions can be ascertained.

For the producers of national accounts data, computerization has also radically changed how national accounts are constructed. The computerization of the economic system means that new sources of data ranging from sample surveys, censuses, tax data, regulatory information, and other administrative data can be utilized in their most detailed form to provide the basis for the national accounts. The existence of registers and sophisticated sample frames can provide for the development of highly detailed data bases that are consistent with each other. In such a situation, it is the national accounts that will provide the framework for such integration. The Dutch proposal for a system of core accounts and supplementary modules carried out at the level of the individual reporting units can provide a logical approach to such a future.

The game has changed! The 1994 United Nations SNA already needs major re-orientation in order to be adapted to the revolution that has taken place in information needs, availability, and computer technology.

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