



Living Standards
Measurement Study
Working Paper No. 4

Towards More Effective Measurement of Levels of Living, and Review of Work of the United Nations Statistical Office (UNSO) related to Statistics of Levels of Living

United Nations Statistical Office

LSMS Working Papers
Number 4

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United Nations Statistical Office

The World Bank
Washington, D.C., U.S.A.

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and Development / THE WORLD BANK
1818 H Street, N.W.
Washington, D.C. 20433, U.S.A.

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Manufactured in the United States of America
First printing October 1980
Second printing July 1985

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Library of Congress Cataloging in Publication Data

Main entry under title:

Towards more effective measurement of levels of living; and, Review of work of the United Nations Statistical Office (UNSO) related to statistics of levels of living.

LSMS working paper, ISSN 0253-4517 ; no. 4 (Oct. 1980))

Bibliography: p.

1. Cost and standard of living—Statistical methods. I. United Nations. Statistical Office II. International Bank for Reconstruction and Development. Development Research Center. III. Title: Towards more effective measurement of levels of living. IV. Title: Review of work of the United Nations Statistical Office (UNSO) related to statistics of levels of living. V. Series: LSMS working paper ; no. 4.

HD6978.T68 1985

339.47'015195

85-10911

ISBN 0-8213-0044-X

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TOWARDS MORE EFFECTIVE MEASUREMENT OF LEVELS OF LIVING

This paper provides historical background and perspective for viewing the measurement of levels of living from the vantage point of ongoing work of the UNSO. The paper concludes with some remarks on the recently launched National Household Survey Capability Programme (NHSCP).

I. HISTORICAL BACKGROUND

The United Nations (UN) has had a long-standing interest in the measurement of levels of living. In 1949, for example, recommendations concerned with improved measurement of levels of living were independently adopted by the Social Commission of the UN, the Economic and Social Council (ECOSOC), the Seventh International Labour Conference of the International Labour Organization (ILO) and the rural welfare panel of the General Conference of the Food and Agriculture Organization (FAO).

In 1952, ECOSOC adopted a resolution (434B IXIV) which requested "the Secretary General, in cooperation with the International Labour Organization and other appropriate agencies, to convene a small group of experts to prepare a report on the most satisfactory methods of defining and measuring standards of living and changes therein in various countries, having regard to the possibilities of international comparisons...". The Committee of Experts was convened the following year and its work resulted in a Report on International Definition and Measurement of Standards and Levels of Living.^{1/}

This report took a broad eclectic approach. It did not focus on monetary income or its distribution, but rather included many of the types of information that later came to be termed social indicators. It aimed at

^{1/} Sales No. 54.IV.5 in 1954.

measuring and assessing living conditions and the circumstances and factors that influence them. The initial report was followed seven years later by a second, entitled International Definition and Measurement of Levels of Living; an Interim Guide.^{1/} This second publication, which was issued as a joint undertaking of the UN, ILO, FAO, UNESCO and WHO, recommended specific series for collection by countries, in an effort to obtain internationally comparable data. Topics covered included health, food consumption and nutrition, education, employment and conditions of work, housing, social security, clothing, recreation and entertainment, and human freedoms.

In the early 1960s a second line of development took place, namely the revision and substantial elaboration of the United Nations System of National Accounts (SNA). The new SNA was designed, as a very comprehensive instrument encompassing not only the traditional national income and expenditure accounts, but such other components as input-output, flow of funds, and balance sheets. From the beginning, furthermore, the system was seen as including not only aggregate accounts for the nation as a whole, but disaggregations on a hierarchy of levels. In the context that concerns us here, the initial disaggregation was into institutional sectors: enterprises of several types, general government, and households. The household sector, in turn, was itself to be disaggregated in various ways. In the first place, it was suggested that the household sector be subsectored into:

"(a) households headed by an owner of an unincorporated or quasi-corporate enterprise, subdivided into primarily-engaged-in-agricultural and non-agricultural kinds of economic activity; (b) households headed by an employee; and (c) persons in another status . . . perhaps subdivided into households headed by an independent, inactive person, households headed by persons supported by another individual, (and) inmates of institutions ...".

^{1/} Sales No. 61.IV.7.

^{2/} United Nations System of National Accounts (SNA), Table 5.1.

It is this line of development that has seen a further flowering in the Social Accounting Matrices (SAMs) developed under the auspices of the World Bank by Graham Pyatt and his associates.

Beyond this subsectoring by socio-economic group, however, the new SNA also envisaged the construction of a full-fledged set of income distribution statistics as an integral part of the national accounts. ^{1/} A first draft of such a system of income distribution statistics was considered by the Statistical Commission in 1966, the same session in which they considered the new SNA. After a number of revisions, the Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation ^{2/} was published in 1977. These guidelines provide for the integration, to the extent that is conceptually feasible, of income distribution statistics and the income and outlay and capital finance accounts of SNA. The guidelines call for distributions by several kinds of statistical units -- households, individuals, earners -- and in both percentile and absolute units, of the chief categories of the income and outlay and capital finance accounts of SNA, in current and constant prices. Thus they provide for pre- and post-tax income, and pre- and post-transfer income, as well as consumption expenditures and saving.

It bears emphasizing that the guidelines recognize that levels of living do not depend solely upon what households can obtain with their own income. Provision is also made for total consumption of the population, a concept that had gradually emerged in the work of the Economic Commission for Europe and the Committee for Mutual Economic Assistance (CMEA) during the 1960s. Total consumption includes, in addition to household consumption expenditures, the value

^{1/} SNA, preface (p.iii).

^{2/} Series M, No. 61.

of those goods and services that government, nonprofit institutions and enterprises furnish to households free or at reduced charges. In some countries, such elements make a very important contribution to the levels of living of various segments of the population, and no analysis of distribution can be complete without taking them into account.

Paralleling these developments of the SNA, there was also renewed interest, beginning in the late 1960s, in the further development of the path originally pioneered in the 1950s, referred to before. This path viewed the evaluation of levels of living as an aspect of social statistics, extending well beyond monetary income. When work in this area resumed, there was some expectation that it might be possible to create for the social field something comparable to SNA in the economic area. However, as the work has proceeded, the initial expectation of developing a set of well-defined social accounts has gradually been modified. At the same time, the scope of the work has been expanded to include many facets of the measurement of levels of living not covered in the original conception.

Several approaches may be identified in the development of this work. First is the so-called "social indicator movement". Setting aside the goal of a comprehensive and structured framework, proponents of this approach seek to identify separate areas of social concern (or facets of levels of living), for each of which one or more indicators are identified in the light of the policy concerns of each country. Various approaches to social indicators are examined in a report issued in 1978, Social Indicators: Preliminary Guideline and Illustrative Series. ^{1/}

^{1/} Series M, No. 63 (1978)

Another approach consists of endeavors to systematize the basic data in the social fields, following the view that a wide range of social data are relevant to measurement of levels of living. A series of studies pursuing this approach were undertaken and published in the course of which several expert groups were convened. The first of this series, Towards a System of Social and Demographic Statistics ^{1/}, sought to develop a systematic presentation of the entire range of social statistics. As the work progressed, however, it became apparent that the quest for a system analogous to the SNA was unrealistic and interest shifted to a concept of a framework for developing and integrating social statistics. During the mid-to-late- 1970s, a series of publications appeared which reflected this evolving approach. These were Studies in the Integration of Social Statistics ^{2/}, which brought together four papers written between 1974 and 1977; Improving Social Statistics in Developing Countries: Conceptual Framework and Methods ^{3/}; and The Development of Integrated Data Bases for Social, Economic and Demographic Statistics ^{4/}.

These reports reflect the continuing concern to bring together the two parallel streams mentioned above into a comprehensive framework. There is growing recognition that economic and social aspects of well-being are not separate domains, but are closely interrelated for many purposes and must be considered together. Ways must be found to secure data and construct them into integrated data bases so that effective analysis of the major factors that bear upon the levels of living of the individuals and families who make up the population is facilitated. In recent years two technological factors have

^{1/} Series F, No. 18 (1974).

^{2/} Series F, No. 24 (1979).

^{3/} Series F, No. 25 (1979).

^{4/} Series F, No. 27 (1979).

contributed to making this an achievable objective. First, the rapid development of survey methodology has made it possible to obtain a variety of data about people, using samples and innovative collection techniques. The impact of this development is not, of course, confined to the statistically more developed countries; it is increasingly being recognized that a national survey capability is of major importance for developing countries where it may provide the best source of both social and economic data. It is essential that, as such a capability is developed, care be taken in its organization and design to ensure that the maximum potential usefulness of the data it yields is preserved.

Second, the growth of computer technology has changed the way data are processed, stored, retrieved and disseminated, and has made it possible for new kinds of policy questions to be addressed. The sorts of data needs that are emerging emphasize a new concern with the relationship between survey data and the aggregated data within which they fit. It becomes possible to address questions that are much more specific and focused than simply aggregate or average "levels of living". In evaluating a specific program, for instance, recipients of its benefits can be compared with non-recipients, and the impact of the program can be measured in terms of the recipients' whole life situation. Does a health program actually reach the client group it was intended for? Is the impact upon the people reached significant to them? What are the costs of the program relative to measurable benefits? These kinds of questions require a new approach to data organization and intergation; they cannot be answered with fragmented individual data or aggregate data alone.

Meanwhile, there has been a corresponding interest in the extension of the SNA framework to improve its usefulness for measuring levels of living. A

UN study entitled The Feasibility of Welfare-Oriented Measures to Supplement the National Accounts and Balances ^{1/} explored the question. It concluded that, on the one hand, the national accounts and balances serve many purposes other than the measurement of welfare, which should not be disturbed, and that, on the other hand, it would be inappropriate to attempt to develop an aggregate monetary measure of welfare, since measuring welfare requires a variety of social and demographic as well as economic statistics. Nevertheless, further study of a number of areas of possible supplementation of the national accounts was considered appropriate and urgent. Priority areas were identified as (a) the development of a system of environment statistics; (b) the promotion of a functional analysis of expenditures by general government, with particular attention to a separation of expenditures that supplement private consumption so as to allow the calculation by function of total consumption of the population, and (c) further study of the techniques, definitions, interpretation and use of time-budget data. An earlier pioneering international project in this last area had collected and analyzed time-use data of urban families in 12 countries during the mid-1960s. ^{2/} A paper on the topic was also prepared for the 1979 meetings of the Statistical Commission.

All of these concerns are reflected in the current work of the Statistical Office, most of which is described in more detail in the paper Future Directions for Work on the United Nations System of National Accounts. With the help of a grant from the United Nations Environment Programme, intensive work on the development of environment statistics is now under way; a series of draft reports on core areas of environmental concern has been prepared. A new handbook on public sector statistics has been prepared and will shortly be published; it

^{1/} Series F, No. 22 (1977).

^{2/} A. Szalai, The Use of Time (Paris: Mouton, 1972).

includes a revised classification of the functions of Government (COFOG) specifically designed to facilitate the identification of that part of general government expenditures that contributes to the total consumption of the population. A report discussing this latter concept was presented to the last session of the Statistical Commission a year ago, as was a survey of national experiences in collecting time use statistics. An expert group will be convened later this spring to consider future directions of work on SNA, and a program of work will be proposed to that group that includes study of a number of so-called "below the line" supplements to GDP -- in particular nonmonetary activities now excluded (e.g. elements of subsistence output, homemakers' services and home repair); environmental factors; and aspects of capital gains and losses, especially those arising from the exploitation of natural resources. All of these may alter levels of living. Work is also continuing on the development of macro and micro data structures to further the integration of social and economic data.

II. BEYOND SNA

This review of activities of the Statistical Office over the past three decades makes clear the importance being attached in the UN to the topic of this conference. In particular, the importance of national accounts, not only as a framework for analysis but to ensure the development of consistent data, is universally acknowledged. The World Bank is to be commended for making this the centerpiece of its analysis. But for measuring levels of living, it is necessary to go beyond the limits of SNA.

Several directions can be identified. First, there is the category that has been referred to above as "below the line". This includes the usually

monetary but essentially quantifiable items of income and consumption that are not included in GDP but that have increasingly drawn the attention of those who are concerned with the measurement of levels of living. They begin with a broadened definition of subsistence or own-account production. SNA's selection of subsistence items to be included within the production boundary is somewhat arbitrary, and gives substantial weight to what can most easily be measured and valued. For instance, clothing made by a tailor for his own family is included; that made by anyone else is not. Furniture made by a carpenter for his own use is included, that made by a farmer is not. The consequences is that in some circumstances a significant share of what enters into the level of living of a family is omitted from SNA's scope. In most cases, the quantities involved in these activities are not conceptually difficult to measure; what is difficult is valuing them in monetary terms. In this context, in addition to goods and services, it may also be appropriate to consider "bads" and "dis-services" -- Richard Stone's regrettable necessities. A second group of activities are those that take place entirely within the household -- primarily the work of homemakers but also including the activities of other family members. Studies of time use would greatly increase our knowledge of these activities. A third group consists of the elements, over and above household consumption expenditures, entering into "total consumption of the population" -- those services and goods supplied free or at reduced cost by governments, nonprofit institutions and enterprises. These are, of course, included in the outlays of the supplying sectors in the SNA, but they would not appear in a simple disaggregation of the household sector. Considerable research is required to identify the beneficiaries of such expenditures. Furthermore, when it is

possible to do so, physical measures must usually be obtained, e.g. pupil hours in school, visits to a health clinic.

Beyond this group of items which, while difficult to value, are at least similar in kind to the items that are included in the national accounts, there is a further range of information that is essentially of a "social indicator" nature, for example, measures of the quality of living, working and environmental conditions not expressable as components of income or consumption. In this group should be included not only factors affecting the level of living, but also those affecting the level of dying -- infant mortality, average length of life and morbidity.

Finally, but perhaps ultimately most importantly, there is the question of subjective measures of the quality of life. Do people themselves feel that their levels of living are adequate or inadequate? Improving or worsening?

Thus, there is a whole range of social statistics which now fall outside the SNA but have an important bearing on levels of living and must be taken into account for effective analysis, irrespective of whether or not it is possible to include such data in a comprehensive and consistent conceptual framework.

III. THE NEED TO FACE SQUARELY BASIC PROBLEMS OF MEASUREMENT

Developing a consistent conceptual framework, even to the extent now possible, is not all that is necessary, however. The basic problems of measurement must be faced squarely and explicitly. Otherwise, we are in danger of erecting a house of cards, where the walls, ceiling and floors all fit neatly but which will nevertheless collapse at the first breeze. The point was made by Wassily Leontief in his presidential address to the American

Economic Association in 1970. Speaking of efforts of economists to solve practical problems, he said:

"... I submit that the consistently indifferent performance to practical applications is in fact a symptom of a fundamental imbalance in the present state of our discipline. The weak and all too slowly growing empirical foundation clearly cannot support the proliferating superstructure of pure, or should I say, speculative economic theory. . . . Uncritical enthusiasm for mathematical formulation tends; often to conceal the ephemeral substantive content of the argument behind the formidable front of algebraic signs." 1/

Too often, econometric models and the policy conclusions based upon them combine elaborate theoretical structures with the most casual empiricism. Leontief went on to quote Frank Hahn, who in his presidential address to the Econometric Society, in turn, had said:

"... it cannot be denied that there is something scandalous in the spectacle of so many people refining the analysis of economic states which they give no reason to suppose will ever, or have ever, come about... It is an unsatisfactory and slightly dishonest state of affairs." 2/

The state of affairs that Leontief and Hahn described has perhaps improved marginally in the decade since they made these judgements, but they are for the most part still entirely valid criticisms. It is no accident that this is the case. It is hard, painstaking work to produce reliable, valid, consistent, relevant and usable data in a form that permits analysis at a disaggregated level. In this field, where the chief instrument must be the household survey, the establishment of a data collection and dissemination program has many aspects.

1/ Wassily Leontief, American Economic Review (presidential address to the American Economic Association, 1971), pp. 1-2.

2/ Frank Hahn, Econometrica (presidential address to the Econometric Society, 1970), pp 1-2.

The first necessity is the development of operational and readily comprehensible concepts. One cannot directly collect data on the broad concepts usually specified in theoretical models, like "income", "consumption", and "saving". In particular, one cannot observe the "level of living". It is necessary to specify exactly what these concepts contain, and in doing so to make sure that the ingredients are objective, observable, known to the prospective respondents, and that they can be communicated. The respondent must understand what he is being asked, and he must be willing to answer.

The second consideration is cost. Surveys are expensive, too expensive to risk failure through inadequate planning and preparation, incompetent execution, or inappropriate processing, storage and dissemination.

The third consideration is relevance. Here, we can go beyond the statements of Leontief and Hahn. Analysis is, after all, an intermediate product. Unless the analysis speaks to the needs of policy makers and triggers them to policy formulation and action, the job is really only half done. In this connection it is most important to be mindful of the fact that these data are intended primarily for use by decision-makers within countries.

A final consideration, bearing of course upon the last point, is effective access by users of data. Many an expensive survey is never effectively exploited, or is used only once, and then left to gather dust, in the archives. An essential part of a continuing, integrated national data collection program is the provision of accessible and reusable data bases, at a level of disaggregation sufficient to permit reclassification to meet unanticipated needs.

All of this is, of course, applicable to both developed and developing countries, but particularly urgent and difficult problems arise in the developing world. The concepts employed in the developed countries are often not directly

transferable, and they need to be sharpened to be more relevant to developing societies. The household, for instance, is not the nuclear family of Western Europe and North America, and what it is may differ widely among different types of developing societies. As noted above, the production boundary is hazy; definitions of output and income that seemed clear and specific in the developed market economies tend to dissolve under subsistence conditions. The notion of price may become something totally arbitrary and unreal, when inputs are not purchased and outputs are sold. In such circumstances, physical quantities assume a larger role, and the use of time may be the only stable measuring stick. And there are a host of other problems.

IV. THE NATIONAL HOUSEHOLD SURVEY CAPABILITY PROGRAM

The essential role of the household and the household survey in the measurement of levels of living is apparent. More particularly, the need is for a continuing national household survey capability. Such a capability is absolutely vital if either the present or any new conceptual apparatus is to pay off. There is no beneficial return even to good concepts if countries cannot accommodate them because of lack of the necessary capability, skills and resources. Such concepts are indeed like roses that are "born to blush unseen". It is to these issues that the NHSCP is addressed.

The NHSCP is a major systematically organized global effort to help developing countries obtain vital information they need for their national development plans, policies and programs. It envisages a continuous and integrated series of national household surveys on a wide range of subjects. Household surveys of one sort or another have been taken in many developing countries, but they have been mostly ad hoc surveys with marked disparities and deficiencies in coverage, design and survey procedures and without any plan of establishing links