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STATISTICAL NEEDS FOR DEVELOPMENT

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Summary

After a general introduction on the tendency of social scientists to emphasise excessively quantifiable factors in their analyses, the bulk of the paper deals with the field of national accounts. It is argued that the statistical needs of 'developed', 'centrally planned' and 'developing' countries are not necessarily identical because of differences in problems, structure and administrative resources. The major problems in 'developing' countries are institutional or sectoral or at the project level, so decision-makers need primarily specific data.

National accounts may be useful, but not necessarily arranged as in the UN System of National Accounts (SNA), which was designed to meet the needs of demand management in 'developed' countries. The accounting system required depends on the characteristics of each country. Separate accounts are usually needed for the export sector, especially if this is largely foreign-owned (because of its key function in a 'developing' country) and for the central government itself.

Where there are severe inequalities (whether of region, race or class) associated with poverty, global statistics of household income and expenditure are not very useful. Data on income anyway are not reliable (nor are distributions derived from them) because of the extent of unmarketed activities and incomplete coverage of what is marketed. A poverty-oriented policy needs data on its determinants (e.g. land ownership) and symptoms (e.g. malnutrition).

Special tabulations may also be needed for the total transactions of multinational corporations operating in the country, for all public corporations and for the 'informal sector' etc. These are likely to be more useful than accounts which add together activities of very different types. When an overall framework is used to integrate such accounts, the transactions of different types of institution should be kept separate. It might well be useful to do this for 'developed' countries too.

UN statistical manuals (e.g. on the SNA) should distinguish between the needs of different countries. International comparability is valuable but the main criterion for a nation's statistical policy should be its own requirements.

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Statistical need for Development—with special reference to National Accounting [1]

Quantitative bias

This subject raises two types of question: first, what is the role of quantification in the social sciences? second, what sort of statistics are useful in dealing with the main problems of 'development' — poverty and dependence — and within what sort of framework?

The bulk of this paper deals with the second question, but it is necessary to raise the first question at the outset because for many social scientists, especially economists, research means statistical collection and manipulation. Yet in the development field, in particular, the important issues are qualitative and institutional — not *how much* growth of income but *whose* income has grown; not *how many* school-years of education, but *what sort* of education — what attitudes and skills does it impart, and how relevant are these? Even a study of income distribution which identified a concentration of wealth among (say) the highest one per cent of asset-holders might miss the point if it did not investigate *which* families (or family) constituted that one per cent — and how they used the armed forces and the police to preserve this concentration.

Quantitive research is of course not worthless. But it usually constitutes a small part of a real analysis, especially if one allows for the very poor quality of the statistics of most countries. This bias has several roots. One is the prestige of conventional economics which, assuming institutions as given, concentrates on changes in variables. This has proved in the past to be a powerful tool of analysis for 'developed' countries. Economics of this type can at least pretend to be 'value-free', in the sense that in such a society all right-minded men approve of the status quo, and thus it is 'scientific'.

It has other advantages for the professional economist. Focusing on variables rather than institutions helps keep the subject manageable. It also makes economics universal: one does not have to allow for the national specificity of institutions, so a lecturer in Dacca or Dakar can give essentially the same lectures as he listened to at the LSE or the Sorbonne.

Quantitative economics also lends itself, via mathematics, to highly sophisticated elaboration. Since to master this and show such mastery in examinations requires high intelligence — of a sort — it acts as a useful device for selecting economics students for advanced work and is useful in research. A graduate student who wants to be sure of his doctorate (rather than to acquire insights into society) is well-advised to concentrate on a mathematical and/or statistical frame of analysis. The same applies to a young academic economist who has to obtain research grants and get his work published.

A particularly powerful tool of quantitative analysis is national accounting, specifically the United Nations System of National Accounting (SNA). This is the main organising framework for statistical policy, and in addition, those engaged in any general socio-economic research projects outside government are bound to use national accounts, probably based on the SNA. This system, which encompasses all the main economic series, can be used to illustrate many of the problems of quantitative research, especially in the development field.

Statistical needs in different types of country

Statistical needs are of course likely to be very different in different countries. It is now harder to draw useful dividing lines between 'centrally planned', 'developed' and 'developing' economies. However, one can broadly say that there are still very noticeable differences in the requirements and circumstances of these three different categories. It is true that governments in the first two are comparatively well-endowed with the financial and human resources for collecting and processing statistics. In both 'centrally planned' and 'developed' countries many statistical series have been created, especially in the economic field, and national accounting systems have provided them with useful integrating frameworks, which they can afford to elaborate in considerable detail.

However, the requirements of these two groups are far from identical (at least in the eyes of the governments concerned), and the differences are reflected in the structure and

[1] An earlier version of this paper was presented at a United Nations regional seminar on national accounting in Caracas, December 1975. A fuller critique of the United Nations System of National Accounting (SNA) can be found in Seers, 1976. I am grateful to colleagues at the Institute of Development Studies for comment on earlier work, especially Michael Ward, and to participants at the IDS Statistical Policy Conference in May 1975. Some of the themes in the paper are also explored in the report on that conference (Dasgupta and Seers eds. 1975).

content of the two national accounting systems. For the 'centrally planned' economies, the prime need is for an accounting system that will be suitable for projecting and monitoring progress towards the targets of a national economic plan — e.g. the five-year plans of the Soviet Union. A system of material production (the MPS) is used for this purpose, with a structure taken, ostensibly at least, from the Marxist model, which excludes most services.[2]

In the 'developed' economies, on the other hand, the main function of economic policy is to influence total demand. A more comprehensive system, the SNA, is used. This was evolved in the 1930s and 1940s, mainly in Britain and primarily for estimating the effects of changes in demand on income and employment. This conforms to a different theoretical system, that of Lord Keynes, and emphasises total consumption and total investment as variables subject to the chief policy instruments in that type of economy, i.e. global fiscal and monetary policies.[3] The SNA naturally enjoys a central position in the official statistics of these countries.

It is difficult to generalise about either the statistical resources or the statistical needs of 'developing' countries, since their administrative, productive and social structures, like their dominant political ideologies, vary so greatly. Some general points can be made, however. In the first place professional resources, especially the number of qualified statisticians, are much less plentiful than in either of the other two types of economy. Second, governments in practice operate a form of economic control between the two extremes of comprehensive planning and mere management of global demand. They do not have the administrative experience for comprehensive planning, or control over the decisions of enterprises, and — in most cases — the necessary political basis is also lacking. But global policies do not appear to be effective in bringing about the necessary changes in the socio-economic structure, or even for short-term economic management.

The emphasis differs from one 'developing' country to another, but for nearly all of them two objectives are much more fundamental than in most 'centrally planned' or 'developed' countries:

1. economic self-reliance, i.e. the need to gain a greater measure of control over their own destinies;

2. the elimination of chronic poverty, and the associated evils of massive unemployment and inequality.

The primacy of these concerns has been increasingly emphasised in recent international debates, for example, the discussions of the General Assembly and UNCTAD on the New International Economic Order, and the statements of the IBRD on distributional issues.[4]

In the past two decades there has been a great change in the approach to these two sets of objectives. In the 1950s it used to be widely thought that if the national income grew rapidly enough, both economic dependence and chronic poverty would be eliminated almost as a matter of course. This belief was the underlying assumption of the great proliferation of growth models incorporated in the 'development' plans of that period. However, the experience of recent years has shown that even in countries with fast economic growth, perhaps precisely in such countries, economic dependence and social problems can actually increase. This has forced a reconsideration not merely of theories and policies, but also of the statistics devised to quantify them.

In view of their special circumstances and needs, it is *prima facie* unlikely that 'developing' countries would require the same statistics, whether in national accounting or in other fields, as the 'centrally planned' or 'developed' countries. Many series will naturally be broadly similar in concept and definition throughout the world (and there are obvious advantages in maintaining international standards to the greatest extent possible, subject of course to the over-riding importance of national needs). But one must expect the volume and composition of official statistics to be quite dissimilar, with entirely different priorities for data collection.

Decision-making and statistical needs in 'developing' countries

The policy decisions that are important to the governments in such countries are typically institutional.[5] Some refer to foreign capital — on what conditions to allow which foreign companies to invest in what sectors, for

[2] It can, however, be argued that it is not necessary, or even in conformity with Marx's own thinking, to limit 'value' to 'productive' activities (i.e. leaving out most services). See Kaser, 1961 (following Studenski).

[3] The origins of the SNA are discussed at greater length in Seers, 1976.

[4] A research study, working out the policy implications of egalitarian objectives is *Redistribution with Growth* (Chenery et al, 1974).

[5] In the other two types of countries, institutions are basically taken as given, at any rate by political leaders and officials.

example, and whether to nationalise existing foreign-owned mines or plantations. Another group of crucial decisions concerns domestic institutions — what changes to make in the system of land tenure, what health system to set up to serve rural areas, how to make adequate educational provision for different districts and (in some countries) different races or tribes, and so on.

Political leaders may prefer to deal in aggregates and see some utility in measures which ignore distributional and nationalist objectives and simply show the speed of growth of total output along essentially unchanged lines. Even if they are really interested in such objectives, they may not be accustomed to posing them in quantitative terms. The function of statistics in decisions of these types is limited for other reasons too, touched on above. The repercussions of institutional changes are difficult to quantify, many of the immediate consequences being essentially political. Moreover, their full impact only emerges in the longer term.

This would not, however, imply that statistical offices have no responsibility for collecting data in these areas. It is true that the political office-holders of the day may be uninterested in such issues, or actually hostile to illuminating them: statisticians have been imprisoned for probing too deeply (e.g. in Malawi). But a statistical office has some responsibility for providing information to administrators and the wider public, including the country's social scientists, so as to help them form opinions on the country's basic problems, opinions that will in due course flow back as influences on political decisions. It is reasonable and proper for statistical offices to anticipate future policy needs. And, although these problems are only quantifiable up to a point, statistical information can still supplement political intuition and throw some light on the costs and benefits of various policy options.

The data needs for these areas are specific — in the first area, for example, statistics on the activities of the main multinational corporations operating in the country or proposing to do so (not excluding their world-wide operations); in the second, information on (e.g.) land ownership, relative morbidity and educational levels in different districts and (perhaps) races, and on government action to deal with them (redistribution of land: geographical and racial allocation of government social outlays).

Official decisions are also of course continually being taken on a wide variety of other issues — on the choice of crops, whether to import tractors, whether to process primary commodities more before exporting them, whether to go ahead on a major river development project, whether to invest (or permit investment) in automatic textile plants, whether to electrify railways, etc. etc. Here too the data used are mostly specific to the sector and project.

It is true that such decisions, especially if the objectives include employment generation and income redistribution as well as growth, are better taken in their total national context with the help of macro-economic projections, but planning offices, even where they prepare projections of this type, usually apply only partial analysis to sector programmes and individual projects.

Another type of decision consists of the macro-economic policies that shape the pattern and rate of growth. Even here national income accounts have rarely been utilised, though they could well be quite helpful if designed in a way appropriate to national needs. It is fairly common for governments to decide whether or not to devalue the currency, for example, or to raise the legal minimum wage, with little or no attempt to quantify the effects in any way at all, let alone using a set of national accounts for the purpose.

There is, nevertheless, a technical use in the work of planning offices for national income accounts: they provide a framework for checking the mutual consistency of policy targets, especially the balance of payments and the projected values for exogenous variables. This check carries policy implications of course, but it may have only limited impact on actual decision-making (especially if the framework is only used for one simulation based on a single set of assumptions). That is true even where a consistent set of aggregate targets, focusing on economic growth, appears at the core of a development plan, which has been presented to the public with some political flourish. (Faber and Seers eds., 1972).

These uses would in themselves hardly justify a statistical office embarking on the task of constructing a comprehensive set of accounts before the necessary basic statistics were available, especially meaningful annual series of the output of goods and services in agriculture and services. A quite crude set of estimates will suffice and the planning office can construct this itself as a basis for its projections. The statistical office might of course help the planners, but it could avoid professional responsibility for the figures.

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The Relevance of the SNA

There is one fundamental point to make at the outset. This is that to ask: "What sort of national accounting system does a country need?" is to pose the wrong question. The relevant questions are different: "What are the areas of policy concern (or potential concern)?" "What data are needed for these?" Some of these statistics are likely to be economic, and accounting systems provide suitable ways of arranging economic data for certain purposes.

Even in countries where it would not be professionally defensible to prepare a set of accounts, the statistical office may well be justified in building up its economic data within a framework of national accounting for the following technical reasons:

1. As the various specific economic statistics are created, such a framework will provide checks on the statistical consistency of different series (e.g. between consumption and production of various items).

2. In most countries the day will no doubt arrive when their requirements and circumstances justify linking these series together, within a comprehensive framework, even before meaningful estimates can be prepared for large sections of it. In plans of statistical development — which are far less common than they should be — it is useful to keep this ultimate end in view.

The question is, then, how suitable the SNA is for these purposes. Here we need to distinguish between the form and the content. On the one hand, the SNA is a set of mutually consistent definitions, and there are two cogent arguments for using them, provided there is little cost to the country concerned: the system is fully worked out and it permits international comparability.[6] On the other hand, the SNA can be seen as a set of articulated tables, and from this viewpoint its utility is more doubtful. The tables and their arrangement reflect the purpose for which they were originally designed, global demand management in 'developed' countries.

But the question is not as it is sometimes posed: whether this set of tables should be *discarded*. We are not starting afresh to discuss the theoretical requirements of 'developing' countries. The SNA exists, and is widely in use. Moreover it is quite flexible. Staffs of statistical offices are usually very conservative, and would be likely to resist radical changes in their work.

The majority of statistical offices have in fact been put under considerable pressure to prepare national income series. Politicians may think they are part of the panoply of the modern state: aid agencies almost appear to make them one of the conditions of a loan: statistical offices at both international and regional level persistently make requests for them, and provide technical assistance to this end. In many countries quite elaborate sets of accounts can now be found — even where there is no correspondingly elaborate sub-structure of basic series.

This question is sometimes discussed as one of what 'disaggregation' of national summary data should be aimed at. That, however, is a misleading formulation. Except in countries with a comprehensive tax such as income tax, the only respectable way of achieving aggregative accounts is by building up very detailed data from different sectors.

To prepare national income accounts has no doubt usually been unavoidable and it would be inexpedient to stop producing them, even if they do not meet these minimum professional requirements:

— that they should reflect the needs of the country concerned;

— that their figures should not be obtained by guesswork or mere hypothesis.

The way forward is to make national income accounts more meaningful without serious loss of continuity, effecting continual compromises between the ideal and practical. Some clues are provided in the 1968 version of what might suit 'developing' countries. However, these suggestions were added in a closing chapter, apparently as an afterthought, and their rationale was not made very clear. In what follows I shall write as if a statistical office were considering for the first time whether to build a set of national accounts. Professional statisticians can draw whatever conclusions they see fit for the requirements and circumstances of their own country.

The question is really which entities or activities are sufficiently important in the national context to justify accounts being prepared for them. This depends on how the benefits from doing so (i.e. the contribution to analysis and policy) compare with the costs (the resources which would be spent on data collection). We must not in fact expect to find a set of answers which is applicable in all countries,

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[6] There are, however, two respects, particularly, in which the definitions of the SNA are inappropriate for 'developing' countries. Capital formation by the armed forces should be treated as such, not as current expenditure. (The armed forces are often a major provider of roads, ports, housing, etc.) Second, estimates should be made of the depletion of mineral resources as a loss of national wealth to be taken into account in assessing development strategies.

even all 'developing' countries. A great deal depends on the particular characteristics of any one of them. This was discussed at the Institute of Development Studies recently in a working party on national accounting (see Dasgupta and Seers eds., 1975). In the resulting report the following characteristics were described as crucial in determining a country's accounting needs:

— its size;
— its economic diversity;
— the proportion of the population living in rural areas;
— the importance of foreign trade and investment;
— the degree and nature of government involvement, especially its commitment to social change and to economic independence; the capacity of the adminstration to collect and process statistics (above all, the number of qualified statisticians).

These determinants, particularly the first four, are of course associated — broadly, the small economies tend to be homogenous, urbanised, and heavily dependent on foreign trade and investment.

Export sector accounts

Let us take the common case of a small to medium-size country with one dominant export sector (often one dominant exporter) which provides much of the foreign exchange, and very probably a large part of government revenue too, but where there are very few statisticians. The main need of an official economist is probably to see how this sector's activities generate income of various types inside the country. This is true whether he is preparing an annual budget, a medium-term plan or a long-term strategy. An academic social scientist studying the country's structural problems would have the same interests. An account providing this information has been prepared in Venezuela, the statistically most advanced oil-exporting country, and in Trinidad for the oil sector (linked to accounts for other sectors). It has been used to assess the economic implications of oil price rises.

If, as is often the case, the sector is largely foreign-owned, an account like this would also provide a way of assembling some of the data needed for negotiating with foreign companies, whether they are already operating in the country or contemplating investment in it (see above), especially if it is supplemented by income-and-outlay and capital finance accounts (of the types indicated on p. 159 of the 1968 version of the SNA).

While the benefits of such accounts would be considerable, the resource costs would be limited. The basic data do actually exist on company files. The resource needed to obtain them is not primarily the professional skill of the statistician (though he or she — like the income tax inspector — should know what to ask for), but rather the political will of the government concerned — especially to penetrate 'transfer pricing' practices (the use of artificial prices for inter-company transactions) — a task which may take a great deal of determination.

Sometimes, of course, the sector comprises only one foreign company. An example is Papua New Guinea, where Bougainville Copper provides nearly all the country's exports. Another case, not quite so clearcut, is that of United Brands in Honduras. Here, the account for the export sector would just be a remodelling of the company's accounts on SNA lines. It is true that for statisticians to pass such data to operational departments may require amending 'confidentiality' clauses in statistical legislation. But these departments should have access to the data, especially where companies enjoy tariff protection or tax privileges.[7]

It might be claimed that publication would be inequitable or likely to discourage foreign investment. Each government will make its own decision on such matters, but to publish an account of this type is the most important service a statistical office can perform. In 'developed' countries most of such information would not merely be supplied to governments: its publication would be compulsory under company legislation.

The main export sector need not be foreign-owned. One of the highest statistical priorities in Algeria would be an economically significant classification of the accounts of the state oil monopoly, SONATRACH.

Nor need it be an oil or mineral exporter. In countries heavily dependent on an export crop (e.g. coffee in Colombia, cocoa in Ghana), any discussion of development problems, or even of short-term economic stability, requires quantification of the income and expenditure of that sector (or sectors). If the producers are peasants, the technical problems may be more complicated. The income side presents no great difficulty

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[7] Such data should also be provided to the public, at least arranged in industry groups. The Import Duties Act of the United Kingdom required annual censuses of production of firms benefitting from tariff protection under the Act, which were published separately for each industry, and are a major source for analysing changes in the industries concerned in the 1930s.

(unless, as in Thailand, a high proportion of the export crop — in this case rice — is consumed domestically), but expenditure analysis may require special surveys of farm costs. Similarly, in tourist economies the starting point of quantification of analysis or policy options is the tourist sector.[8] An account for the sector manufacturing for export is necessary in a country dependent on these exports.[9]

As the table on page 00 shows, there are many specialist exporters in the world, more than 40 including the smaller exporters of manufactures, and there are some 30 more with two main export sectors.[10]

Of course the export structure sometimes changes. Thus in Nigeria, a sector account for petroleum is vastly more important now than ten years ago, when the main statistical needs were for separate accounts for groundnuts, palm oil and cocoa. This brings out an important point: while it is useful to maintain continuity in statistical series, especially in definitions, it might well not be feasible to preserve the same statistical priorities during a period of profound structural change.

Central government accounts

One often needs to see how revenues from the export sector are passed on to the rest of the economy — in administrative salaries, and expenditures on military, social and economic objectives[11] (United Nations, 1968: p.p. 161, 170). But even in a country that is not dependent on a particular commodity, an arrangement of government accounts on an economically significant classification (showing its income and outlay, and its capital finance) has proved important for purposive policy-making: a government's

taxes and expenditures form everywhere (except perhaps in 'centrally planned' economies) its chief armoury of economic weapons. Moreover, this tabulation also takes very little scarce professional time, since it is essentially a matter of re-classifying material already available.

Statistics of poverty and distribution

Reference has been made above to the need in various countries for data on social conditions in particular sub-sectors or districts or races, because of two major concerns which raise rather similar statistical needs, the persistence of poverty and of social inequality. It would be useful to complement these social indicators with economic data, i.e. on personal and government consumption, for analytically important units.

The analysis can take place on various planes. One of the government's leading development objectives may be to change the economic power balance between different races, and social scientists may be concerned primarily with the study of racial issues. For example, the government of Malaysia is determined that the Malays shall catch up economically and socially with the Chinese. In such circumstances it makes little sense to add together their household incomes or consumer expenditures. An additional reason for statistical discrimination is that the household consumption patterns of different races usually differ markedly, even at the same income levels.[12]

The most appropriate division may on the other hand be geographical, especially in large and diverse countries. There is not much significance in figures for Brazil that average the household consumption of rich states like Sao Paulo and those of the North-East; or in global statistics for Indonesia that cover Java and the outer islands; or in national totals in Nigeria or Sudan that add together the household consumption patterns of the North and South. In few countries is there much point in adding total urban and rural data on consumption. The crux of development strategy lies in how such geographical differences are handled.

Again, there is little point in a 'main table' for household income and expenditure covering both very rich households, e.g. the affluent top five per cent and the bottom ten per cent who may be at the margin of starvation. An increase in household income may imply

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[8] An account need not follow conventional definitions. Thus where the main export is produced by a vertically integrated sugar industry there would be little point in separating growing from milling. Similarly, an account for tourism might cover not only hotel accommodation, but also catering and transport facilities used primarily by foreigners.

[9] It may not be easy to separate export-oriented from other manufacturing establishments, except where there are (as in Taiwan) major custom-free zones — which would certainly merit separate treatment. In Singapore or Hong Kong the entire manufacturing sector could be considered export-oriented, so no such partition is needed.

[10] As will become evident later in this paper, GNP data are neither accurate nor meaningful, especially for countries with large rural economies. It may not even be easy to place a country in a group of which the upper limit is five times the lower. However, a very rough picture is all that is needed for this purpose.

[11] Although there are some references to the need to show a separate account for local government, the emphasis on a *general* government account (covering regional and local authorities as well) seems misplaced. One surely always needs an account to show the transactions of the *central* government as a decision-making agency of supreme importance.

[12] There are several other countries where household consumption patterns by race have been distinguished and fitted into a system of national accounts. See Seers, 1966. This paper also contains a separate account for the copper sector.

social deterioration if it only benefits the former.

An accounting technician might argue that he or she still finds overall household consumption patterns useful for projection purposes. Past trends in total composition due to changes in the relative economic power of different races (or geographical areas or income groups) would be reflected in global patterns, even if these could not be analysed. In fact, of course, statistical coverage may not have been adequate in the past for national averages to reflect such shifts. But in any case, past global trends will be of little use for projection into the future, if the main emphasis is on structural change, even where there is no overtly racial or geographical or social objective. To invest in agriculture, for example, will normally change patterns of household income and thus of consumption.

A political philosopher might object that to introduce such discrimination is to import subjective value judgements into statistics. Unfortunately, however, there is no possibility of avoiding partisanship — statistical priorities in collecting data inevitably incorporate political biases, as do even ways of tabulating them. To publish national averages of household income and consumption is to assume that social differences are of minor importance — itself a highly debatable judgement. There is usually some social group — tea estate workers in Sri Lanka for example — which is obviously deprived, and anyone moved at all by social morality, or even political expediency, will feel the need to measure the nature and extent of its deprivation, as a basis for action to remove it, whether official or otherwise.

Exactly what sort of detail a government requires depends on the nature of its involvement in social change, which depends in turn partially on what the social situation actually is, as well as on how this situation is perceived. The requirements of other customers of the statistical office may well be different, reflecting their own perceptions and ideologies. It is particularly hard to generalise on accounting priorities in this area, since both reality and the patterns of its perception vary so greatly from one country to another.

Personal consumption data for the deprived groups would be desirable, especially if they could be supplemented by estimates (which may best be prepared in a planning office) of the allocation of government social expenditure to the groups concerned (United Nations, 1974 paras. 10 and 128-131). Total consumption could then be compared with a 'poverty line' and we could estimate where the incidence of poverty was greatest, tailor policies to its relief and monitor its disappearance. We could also estimate the surplus available, over and above physical needs, for luxury consumption and social and economic development.

Whether an official statistical office will be allowed to publish such data raises another set of issues. In some cases, including Tanzania, official documents focus attention in both analysis and policy targets on the elimination of structural inequities and poverty. But it is true that political power may well be in the hands of those who benefit from inequality, and who prefer aggregative statistics: it could then be difficult for the statistical office even to obtain resources for developing detailed data of this type. Nevertheless, the need for such data may be obvious.

The technical problems of preparing household expenditure tables are formidable by comparison with those of preparing accounts for the export and government sectors. There are well-known difficulties in all countries in obtaining data on household expenditure. People suffer from bad memory; they may not make an adequate effort to recall their outlays; they often lie, in order to conceal their actual level of living, not only from officials, but at times even from their own families. Checks by repeating enquiries, or comparing results for selected consumer goods with their known supply, usually reveal large discrepancies.

But there are additional difficulties arising out of the extent of unpaid household (or communal) work which also make their value, and thus the value of national income aggregates, doubtful in countries where a high proportion of the population lives in rural areas.[13] Two types of non-marketed activity are commonly discussed in this connection: food grown for own consumption, and the construction and occupation of houses built by the household (or the community).

Estimating how much of its own crops a household consumes is difficult even if the family keeps a diary. The estimate rarely allows for fluctuations due to seasonal variations in supply or changes in the weather, in workloads or in health. The use of notional prices "at which producers in the same or neighbouring localities sell the same or similar commodities" (UN, 1968, para. 6.21) raises well-known problems. For one thing, prices

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[13] Especially, but by no means only, in countries in the Middle East and Africa, where nomads form a substantial part of the population. See Hudson and Porter, 1972-73.

also fluctuate. Moreover in principle, the estimate should allow for the quantities and prices of other food too — fish from a local stream or beach, fruit from trees on common land, onions grown on the houseplot, rabbits and guinea pigs from the local wood, milk from a cousin's cow, etc. etc. But very rarely are any of these forms of consumption covered.

The difficulty with imputing rent on owner-occupied housing (where this is done) is that it is rarely possible to find any comparable rent actually paid, when most of the lettings are in urban areas (especially where, as in many African countries, the bulk of these are at rents which are either set or controlled by public authorities).

An even greater weakness, however, is the omission of other types of consumption. The level of living is affected by:

— collection of primary products, other than food — water, firewood, flowers, hides and skins, etc.

— processing: the report on the SNA lists the making of "such goods as butter, cheese, flour, wine, oil, cloth or furniture for their own use" as part of household income (UN, 1968: 6.19)[14] but one could add many others, e.g. hand-crushing of rice and maize or making clothes or ornaments.

— services of various kinds within the household, which in a more commercial economy would be paid for (hair cutting and dressing, pulling teeth, nursing, childminding, sending messages, wedding and funeral ceremonies) or supplied by the government (education, religion and medicine), but are provided by relatives and neighbours without payment, on the basis of informal barter or customary obligation (which may vary greatly between tribes, districts, etc., especially between urban and rural areas and also over time).[15]

In rural areas it is even more difficult to measure household income than household consumption. One would have to allow not only for the imputed income arising from all the activities listed above, including customary services (whether provided inside the household or outside), but also for notional saving due to own-account construction, including housebuilding and repairs, ditching, draining, land clearance, increases in livestock herds, etc.

The income that should notionally be imputed in low-income countries is likely to be far from insignificant. In some areas with strong communal traditions rural household incomes might need to be multiplied by a factor of three or four, to make them comparable with those of households which were completely integrated into the market economy. Even as a general rule, income which is excluded could amount to 50-100% of what is recorded.[16] In addition, many types of cash income in this bracket are likely to remain unrecorded — e.g. tips or 'dashes'. Consequently poverty is likely to be greatly exaggerated by comparing incomes or consumer expenditures with 'poverty lines'.

The difficulties of inputation are so great that in general it seems better to include in household income and expenditure only remunerated activities and cash purchases. The identification of poverty from income data seems possible, therefore, only in countries which are substantially urbanised, such as Argentina, Uruguay, Trinidad, Singapore and a few others. In general it is better to accept that major elements in levels of living cannot be estimated.[17]

More adequate clues for poverty-oriented planning consist of measures of the *determinants* of the quality of life — e.g. size, conditions and facilities of housing (especially the availability of clean water), access to hospitals — or the *symptoms* of poverty — weight of children, incidence of rickets, tuberculosis, etc. Apart from being better guides to the scale and whereabouts of poverty, such measures also point much more directly to the type of policy that is needed.

The difficulties in constructing household expenditure tables apply also to distributions of income. It is true that in the middle and upper brackets income may also be substantially understated, due to under-reporting of income (to avoid taxes) and the failure to allow for such non-economic determinants of welfare as access to official cars, hospitality, etc. Since we have no means of estimating such exclusions, we cannot say with any certainty what the net effect is, but intuitively it is likely that inequality — like poverty — is exaggerated (though both are real enough). But again, any imputations would be very

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[14] The grounds are the need to "include major sources of subsistence and to attain comparability as a shift takes place from subsistence to market production".

[15] There is usually some form of local redistribution of food and drink by ceremonies such as 'potlatches' or 'wakes', sometimes lasting for days or even weeks, as a customary obligation.

[16] Brian Van Arkadie (1972-73) points out that "The problem is that a high proportion of the real welfare of the rural household derives from subsistence or unrecorded market activities". For this and other reasons (e.g. differences in prices between rural and urban areas), he considers the statistical basis for wages policy in Tanzania "shaky".

[17] This is not by any means to say that levels of cash income are unimportant: income gives its recipient options on which sort of poverty to relieve.

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rough, so it is preferable for distribution tables also to be confined to cash income, acknowledging that this is a highly imperfect measure of economic inequality.

Distributions of even cash income are not of much help in development policy. For one thing, by the time they are available, the situation has usually changed. Moreover, the quality of the basic data will hardly permit the progress to distributive targets to be monitored properly. Errors of measurement are likely to be large in comparison to actual changes in the shares of various deciles over five to ten years, say. Of course this may not be true where there has been a social revolution (e.g. in Cuba) but in that case distributive policy is hardly likely to be based on a statistical blueprint.

There is also likely to be a persistent bias in the measurement of long-period trends in distribution. Economic growth involves the commercialisation of activities, especially rural services and processing primary products, which were previously unremunerated and excluded from conventional measures of income. When a poor family moves into a town its actual level of living may fall, although its cash income rises. Moreover, this income is more likely to be caught in the national accountant's tables. So the levels of living of those with low incomes appear to rise faster than they actually do, producing a fictitious egalitarian trend.

Here too, the new emphasis on distribution, like that on poverty, indicates the need for statisticians to concentrate on *determinants* and *symptoms*. This means in the first place collecting data on the concentration of private property ownership — especially government bonds, shares in private corporations, houses and — above all in many countries — land. In the few countries where there is effective taxation on wealth (e.g. legacy taxes) distribution of total capital can be roughly estimated; in others, it may well be worthwhile to carry out special surveys. The second main determinant of inequality is the possession of educational and technical qualifications, including (in professions such as medicine) licences to practice. Symptoms of inequality are (e.g.) differential overcrowding or infant mortality by race, district, income bracket, etc.

For all these reasons, household income and expenditure tables for national accounts may not require quite as high a priority as might seem at first sight, even where poverty-oriented and egalitarian policies are found.

Other accounts

In particular countries, there are other priority needs for which an account on SNA principles is useful. An economic planning office considering whether to close, cut down or extend a railway system, can be helped by a current account showing the incomes the system generates, both directly through employment and indirectly via purchases from the electricity corporation and other sectors. Its import requirements would also be relevant — though a full picture of these would require an input-output analysis. Similarly, accounts for the government medical service, the post office or the banking system, might be useful for particular policy requirements.

For larger issues of development strategy it may be necessary to prepare summary accounts for particular types of organisation, whether within sectors or for the economy as a whole. An example is an account showing the total transactions of all multinational corporations in the manufacturing sector, or in the economy as a whole, and bringing out both their total foreign exchange outlays and their contribution to incomes. This would be useful both to those who see the main strategic issue as one of controlling them and the technology they import, and those who regard their operation as in the main beneficial. It would be especially useful to a unit set up to monitor or control the local operation of multinational corporations (and such a unit could in turn greatly help the elaboration of their statistics).

Although an account for all public corporations in the manufacturing sector may not be so essential, it would help to bring out the scope of activities which are presumably directed primarily in the interests of the nation (at least as these are perceived by the ministry of industry or the corporation's management). Trends in the share of manufacturing output produced by public corporations are also important for those analysing a country's structural changes.

Similarly, one may well be interested in the activities of small-scale labour-intensive manufacturing enterprises — those small workshops of artisans, including tailors, furniture makers, etc. who constitute the 'informal' or 'marginal' segment of this sector. These are also small-scale operators in construction, transport, (sometimes) mining, distribution, medicine, education and, of course, agriculture.

Recent research has made it increasingly clear that these 'informal' activities not only

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account *in toto* for a large fraction of the output of marketed goods and services, but that they also constitute a key element in each sector and in the national economy (and indeed also in its political structure) (ILO, 1972). It is impossible to understand the working of the labour market, or to devise an employment strategy, unless one grasps the dynamics of the relationship between 'informal' and 'formal' economies which are linked through sub-contractors, agents and those providing personal services.[18]

Part of the information needed is institutional: which licensing systems block entry into the formal economy, or competition with it (e.g. building licences, professional registration, educational qualifications, etc.). Statistics are also needed to show the volume and characteristics of its labour force, but operational accounts would be most useful as well. The import content and capital requirements of this economy differ sharply from those of the modern economy in each sector.

Here the statistical difficulties are very much greater than for multinational or public corporations. It is precisely these small-scale operators who are not covered by sector censuses and surveys[19] and they are least likely to make income tax returns, or at any rate reliable ones. Nevertheless, it is important to enumerate such activities for discussions of development strategy, whether in government ministries or in schools and universities (no text in geography, economics or sociology or political science would be adequate without considerable attention to this type of organisation). Data on them are needed for many statistical purposes. It is for example impossible to produce meaningful national income accounts unless one can estimate the income of street traders, garage proprietors, unlicensed medical practitioners, etc. etc. Moreover, *special* account needs to be taken. To add their incomes to those of the formal economy would be wrong for two reasons:

— it would add together data on two very different types of activity, leading to sector and national totals of very little intrinsic meaning — indeed, such totals would conceal precisely the distinctions which were important for analysis and policy;

it would merge relatively good data from corporate accounts with very rough data for unincorporated enterprises, producing sums with condierable but imponderable error.

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[18] They are sufficiently different to be called 'economies'.

[19] In fact, the practical boundary between formal and informal sectors in manufacturing etc., is likely to be the lower limit to census coverage.

In any case, we are interested *per se* in the formal part of the productive sector which is dominated, if not by foreign firms, by foreign technology, and depends on overseas countries for many of its inputs.

It may be necessary to start the quantification of the informal sector with special surveys on topics of current policy interest in this area — for example, on the output of handloom weavers, if the government is contemplating an application for permission to set up a fully automatic textile plant that would largely destroy the handloom industry. Part of the data needs are specific here — e.g. capital and import needs per person employed when different techniques are used. But an account of the SNA type would also be useful to bring together many relevant aspects. One may well also want an account for the informal economy as a whole. Development strategy· may well consist in part of ensuring that it does not lose skills and savings to the modern sector which has advantages of all kinds (usually not least in the form of protective tariffs).

Finally, the development strategy may imply a special interest in another type of account, one showing the consumption patterns of dominant racial or social groups, or rich areas, e.g. the extent of their consumption of goods which are either imported or import-intensive, in emulation of foreign styles of consumption.

An accounting system as an ultimate objective

The day will come when data collection becomes comprehensive enough to link these various accounts together into a system, though this is likely to be a rather long-term objective in most countries. How this is best done is essentially a matter of judgement about what theoretical model is most appropriate. The special requirements of each country, according to structural charac teristics, become even more important.

Some general principles follow from this. First, the case for aggregation looks very weak. There are two uses to which aggregate national income figures are often put — for studying international comparisons and the growth of a national economy. The difficulty of measuring non-marketed activities, especially services in rural areas, casts considerable doubt, in view of the probable importance of such activities, on measures of the income 'gaps' between rich and poor countries. This is apart altogether from the technical difficulties in making such comparisons, notably finding an appropriate exchange rate, and the conceptual problems

of comparing national averages if inequality is considerable in either, and social values and climatic needs are quite different.

Measures of growth are biased upwards — part of what appears to be growth is actually the result of certain activities becoming remunerated (or better recorded). In any case, however, estimates of growth rates depend on arbitrary assumptions about the constancy in retail and wholesale margins, in the ratio of value added in transport to that in production, even sometimes in per capita food consumption in rural areas, and in dwellings per million of the population (as a basis for estimating dwelling construction). [20]

However, there is still a case for assembling individual accounts within a comprehensive framework, apart from the technical reasons given earlier. This lies in the need to analyse and plan changes in its structure, the balance between activities using capital-intensive and labour-intensive technology, and the division of the former between foreign, public and private (domestic) corporations, in each case separately for each productive sector.

The ultimate statistical structure that would meet these needs[21] and might in due course be feasible if made the objective of long-term statistical planning, is indicated in the diagram on page 16. Partitions between export-oriented and other segments of sectors (e.g. for petroleum, copper, coffee) will be necessary for small to medium sized economies (see above).

This structure would exclude imputation. [22] For many purposes to which national accounts are put — e.g. projecting tax revenues and import demand or monetary analysis, estimates of cash income are likely, anyway, to be more useful than totals of cash and subsistence. [23] Subsidiary estimates of unmarketed output in each of the sectors might well be helpful to some users. But what must be guesses should not be added to estimates based on actual records or enquiries, since the composite will always be of lower, and unknowable, quality. Nor does one want to blur the distinction between two radically different economies — the subsistence and the marginal.

An accounting system of this sort would be essentially an extension of the SNA. The 1968 version already envisages the possibility of separate treatment for the modern sector and for public, though not foreign, corporations. (9.11 to 9.16)[24]

It would be possible in due course to build into this system input-output tables for parts of the economic structure. [25] It may of course not be feasible for many years, even decades in some countries, to produce a fully articulated set of tables linking all these individual accounts. To proceed to full articulation would not be justified just for the sake of professional tidiness. But partial articulation can be helpful in the meantime.

One important need is to see how much is paid to government by each sub-sector and how much received from it. For the reasons mentioned above, accounts for the central government are a high priority, and as a long-term aim one would want these to be integrated into the accounting system as a whole. This would not present insuperable difficulties since tax returns and expenditure invoices can be coded.[26]

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[20] Differences in such assumptions (and also in assumed wastage) led to one national income estimator in Nigeria making an estimate of hut construction five times greater than that of another estimator. A good deal of work has been done in OECD on how countries actually estimate total value added in livestock slaughtering, hunting, wine-making, etc. The guesswork involved is often heroic e.g. in Malawi it is assumed that own consumption of milk equals milk sales. See Blades, 1975. The reliance on guesswork opens the statistical office to political pressures on them to show more satisfactory growth rates — an increasingly important, additional, source of upward bias. All in all, growth rates have little significance in the sense that it would generally not be hard to produce quite different ones.

[21] There would still of course be need for caution in interpreting structural changes for the reasons advanced above. Apparent changes in the composition of the national income may be a statistical illusion. For example, any apparent growth in the share of services as an economy expands may reflect simply the creation of markets for many service activities which were previously badly covered in national income accounts or not covered at all. However, what is really important is what sort of service activities appear to be growing: whether large-scale distribution is capturing a bigger share of the market for cash sales, and if so (in some countries) whether foreign-owned supermarkets are responsible, or whether there is an apparent growth in small-scale retail trading. These aspects would be brought out in the system envisaged.

[22] Except where the basic data on agricultural output for domestic consumption are obtained from crop surveys which do not distinguish between marketed and subsistence production, and where it would therefore be more difficult to estimate the former than the total.

[23] This also applies to the use of national income as a yardstick for (e.g.) UN contributions or IDA eligibility, because cash income is a better measure of ability to pay. Since, however, aggregates even of cash income, are subject to such large error margins, and the basic idea is to relate contributions or interest-rates to welfare, social indicators may provide more appropriate yardsticks — though many of them are just as unreliable as national income estimates.

[24] A separation of companies according to locus of control is already necessary for the allocation of their profits (UN 1968: 5.103 to 5.108).

[25] These tables need not be square; since it may prove difficult to estimate certain inputs. (See Seers, 1966).

[26] There are familiar problems for all national income accountants caused by firms which straddle two or more productive sectors; requiring them to produce separate data for each would normally be necessary for fiscal administration as well as statistical convenience.

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What supplementary public authority accounts are needed depends on the structure of the country. In many large countries the budgets of provinces or states are economically significant enough to warrant separate accounts, articulated as well as can be done into the rest of the structure. In most small countries there is no single authority for which such treatment would be justified. Yet adding them all into a 'general government' account would both obscure the role of central government finance and reduce the quality of articulation, because coding of (e.g.) parish council accounts would be impractical. The solution may be to prepare an account for 'other government', articulated very roughly with other accounts.

To show how much each sub-sector pays to, and receives from, the rest of the world may take rather longer. It is not difficult to allocate exports between the productive sectors in which they originate. But to distinguish between the exports of the small-scale, foreign, public and private (domestic) producers in each sector could well be hard, unless there is a central marketing organisation, such as exists for many export crops, and it may be necessary to request a further breakdown of export invoices.

On the payments side, systems of controls for imports and foreign exchange could provide much of the information needed. In any case such data are worth special collection, because for most countries, foreign exchange is a constraint on the growth of output and employment, so tabulations showing the destination of imports by productive sector (and such segments as 'foreign companies' etc.) are intrinsically worthwhile.

Articulation of other accounts into a comprehensive system presents considerably greater practical difficulties, as well as being of doubtful value. Certainly, aggregate accounts of 'capital finance' type are of little practical use to policy-makers, since they add together the savings and investment of foreign companies, public corporations, private (domestic) firms, the informal sector, households and government, as if there were no constraints on the allocation of savings of various types. In actuality the government has at most a very slight influence on the use of savings of foreign enterprises, which they may well be free to send abroad, and only limited power over the disposal of private sector savings.

Separate accounts are in fact needed to show how in the modern economy foreign companies, public corporations and domestic enterprises dispose of their net operating surplus, as between capital formation, inventory accumulation and the acquisition of financial assets. There should be no particular difficulty in principle about taking the information from their accounts: in fact some national income statisticians who are concerned mainly with national aggregates fail to exploit this type of information as much as they might. Government capital formation will be readily available. However, estimating the investment of the informal economy, let alone its various sectors, raises considerable problems.[27]

The most difficult problem of articulation is raised by households. Any individual household may draw its income from several sectors (including, of course, the central government). And while the most significant division of household consumption is probably in terms of race, district or income group, none of these fits the accounts of productive enterprises. There is therefore a technical case for constructing an aggregate table for households, despite its very limited significance.

Adaptation of the full system to 'developed' countries

Stress was laid at the beginning of this paper on the fundamental difference between the structures, problems and therefore statistical needs of the 'developed' countries on the one hand and the 'developing' countries on the other. Even in the latter, however, new experiments are being tried in national accounting. In many 'developed' countries the environmental damage caused by economic growth and the inclusion as '*end* products' of what are really *intermediate*, such as journeys to work, with a consequent bias in the national income as a measure of welfare have dominated professional discussion[28] (Mishan, 1967; Nordhaus and Tobin, 1972, 1973). But those in the 'developed' countries have also become familiar at first hand with some of the problems previously believed typical of 'developing' countries. Economic dependence, especially on multinational corporations, has recently taken a prominant place on the agenda. As nationalisation has increased, the functions of the state have come under greater scrutiny. And while small, unincor-

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[27] The only feasible way may be to estimate the total remaining investment as a residual — it is probably feasible to estimate at least fixed capital formation for the country as a whole by the commodity-flow method.

[28] In practice it is very difficult even in 'developed' countries to 'net out' non-welfare items. There has been some attention to the distortions introduced by the omission of many non-market activities, especially those performed by housewives: see Weinrose, 1972.

porated, enterprises play a different role from the informal economy in 'developing' countries, they are suffering increasing competition from bigger, more highly capitalised firms. In brief, global demand management has become less important in comparison with structural issues.

There has also been increasing attention to issues of poverty and inequality. Since imputation is not nearly serious enough a problem in 'developed' countries to make it virtually impossible to use household accounts as policy guides, there would be much more point in using them to identify racial or geographical groups in poverty. The necessary statistical detail could readily be obtained by special tabulations of existing material, and in any case statistical offices in these countries have far greater resources for new data collection.

Of course, a great deal depends on the structure of the country concerned. In Norway special accounts would be justified for the oil sector. Eire is heavily dependent on foreign companies. In France, Germany and Switzerland, separate household accounts for foreign workers would be useful; in Belgium for the Flemish and the Walloons. For Scotland, and other areas where secessionist tendencies are strong, regional accounts would throw light on the costs and benefits of autonomy. All 'developed' countries, especially those bounding the Mediterranean, have substantial 'informal' economies. In the United States, where foreign capital and state ownership remain limited, aggregative accounts still have a relatively important role to play, though even here, as in other industrial countries, household accounts that link together blacks and whites, millionaires and unemployed, are only of limited social and policy significance, and so are production accounts that aggregate the giant corporations and one-man enterprises. Japan shows more obviously, perhaps, the need for statistical discrimination between corporate and unincorporated business and for special provision in household accounting for *burakumin*, Koreans and other minorities. So the much more evident need for specially designed mutations of the SNA in 'developing' countries may help statisticians in 'developed' countries also to explore the full potential of the UN system.

Statistical policy

The proposals in this paper really amount to a reordering of the statistical priorities implicit in the SNA, especially — but not only — in 'developing' countries. Once the attempt at

making national income a measure of welfare has been given up, a low priority can be attached to imputations that are of very limited value as well as being virtually endless.

A much higher yield, in terms of understanding the working of the socio-economic system, would be obtained from preparing accounts for the foreign, state and private parts of the formal economy, and to developing within each productive sector an account, however rough, showing the scale of the informal economy, and its relations with the remainder. A second area which needs to be developed universally is the central government account. Then, depending on the circumstances of the country concerned, comes the preparation of the household accounts geographically or by race. But poverty-oriented policies need primarily non-economic statistics on housing and health; and egalitarian policies data on property and differential social statistics.

The test of the new handbook on the SNA for 'developing' countries will be whether it is of practical help to statistical offices in building up an accounting system stage by stage in different types of economy. There has been some tendency in the past for UN statistical manuals to limit themselves to a static (almost metaphysical) approach, setting out a comprehensive, ultimately desirable, system, and concentrating on the definitions of particular items, and the arrangement of theoretically desirable accounts. This is like giving a handbook for Rolls Royce construction to somebody trying to put together a Fiat 500 from various spare parts. It can lead to professionally premature estimates and a distortion of statistical priorities. Statisticians, especially on technical assistance, may even see their main task as filling the gaps in a sophisticated, universal system, rather than as taking part in a long-term process of constructing by stages a system that fits a country's priorities, including, of course, where relevant, appropriate national accounts.[29]

Progress in these directions could be made by reallocating existing statistical resources, but the general need is for a much greater provision for statistical work. A long-term programme of tailoring statistical collection and compilation to national needs is not cheap in financial (or manpower) terms —

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[29] The dynamic approach is properly stressed in the closing paragraphs of a UN paper (United Nations, 1975). As a practicable approach that recognises the lack of resources for statistical programmes in developing countries a stepwise approach to cover the 'registered' part of the economy might make sense for a country which is in a position to start from fundamentals.

though it may be in relation to the return.

This emphasis on statistical sovereignty should not, however, be interpreted as a disparagement of standardisation. It would be useful not only if the standard basic definitions in the SNA were followed as closely as possible, but also if it were feasible to achieve similarities in structure of tables at least in the same regions, for the sake of those who need to draw on international comparative experience — international civil servants and general theorists, as well as officials and social scientists working on the problems of individual countries. How far to press standardisation is a question that can only be settled through practical experience. [30]

The scale and novelty of today's problems challenge both national and international statisticians to think imaginatively, like the Keynesian statisticians who devised the original SNA as a response to the world slump of the 1930s. As always, some of the theoretical and practical initiative will come (and is starting to come) from universities and research institutes. But official statisticians should be ready not merely to respond, but to anticipate, needs arising out of current changes in emphasis. Our views of the world and the possibilities of research on its problems depend very much on the statistics available and on what system is adopted for presenting them. Statisticians can do a great deal to help or hinder official and public understanding of change.

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[30] In Chenery et al, 1974, ch. 12, Clive Bell and John Duloy discuss the possibility of a standard statistical frame for all Third World countries and pose the question: "Can the elements and processes we wish to measure, coming as they do from quite different socio-cultural and institutional environments, be crammed into particular conceptual boxes without doing them serious violence? Plainly the answer to this question is an artificial one. What is needed is a pilot study, covering perhaps half a dozen countries."

TABLE

Classification of the world's economies in 1970 by size
of GNP and main component of foreign exchange receipts[1]

Size of GNP (billion US $)

NON-COMMUNIST COUNTRIES with foreign exchange mainly from:	‹1	1-5	5-25	25-125	125›	TOTAL
Petroleum	3	5	4	0	0	12
Metals	4	2	1	0	0	7
Tree crops & forest products	5	7	2	0	0	14
Field crops	2	2	0	0	0	4
Livestock products	1	1	1	0	0	3
Manufactures	0	1	3	5	5	14
Tourism	2	0	0	1	0	3
Financial flows[2]	4	2	0	0	0	6
Two main components[3]	11	9	10	4	0	34
Many components	6	5	4	1	0	16
Total	38	34	25	11	5	113
COMMUNIST COUNTRIES	0	4	3	4	1	12

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DIAGRAM

Characteristic economic structure and thus accounting framework[1] with examples

Sector	Formal Economy			Informal Economy
	Foreign	*State*	*Private*	
Agriculture	Plantations	State farms	Large farms, cooperatives•	Smallholders (cash)
Fishing	—	—	Sea-going trawlers	Inshore and fresh - water fishermen (cash)
Mining	Mines	Mines	—	Prospectors, polishers
Manufacturing (Textiles)	Automatic or semi-automatic textile plants			Handloom weavers, tailors
Construction	Contractors	Public works department	Building companies	Plumbers, carpenters
Energy	Oil wells, refineries	Oil wells, electricity stations	—	Charcoal and wood dealers
Transport	Airlines, shipping companies	Railways, airlines	Bus, lorry and taxi companies	Independent lorry and taxi owners, garages
Distribution	Supermarkets	Marketing boards	Department stores, wholesale firms	Shopkeepers, street-vendors, smugglers
Finance	Banks	Credit corporations	Consumer credit agencies	Moneylenders, thieves, pawnbrokers
Tourism	Hotels, tourist agencies	Tourist boards	Hotels and large boarding houses	Small boarding house keepers
Education	Mission schools, lycees	Schools and universitites adult education programmes	Schools	Tutors
Health	Mission hospitals	Public hospitals	Nursing homes, clinics	Herbalists, unregistered doctors
Religion	Mission churches	Temples (state supported)	—	Evangelists, astrologists, soothsayers
Security	Military missions	Armed forces and police	Company and personal police	'Protection' gangs
Communications	Cable companies news agencies	TV stations, telephone systems	Newspaper companies	Paperboys, messengers
Services	Accounting firms	Government departments	Law firms, laundries, restaurants	Domestic servants, prostitutes, bookmakers

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1. If a particular export commodity (e.g. copper or coffee) is of strategic importance then this diagram should show a separate row for it, (see text).

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