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Veröffentlichungsversion / Published Version

### Empfohlene Zitierung / Suggested Citation:

Taylor, C. L. (1980). Development of cross national comparative data from social bookkeeping sources. In J. M. Clubb, & E. K. Scheuch (Eds.), *Historical social research : the use of historical and process-produced data* (pp. 491-500). Stuttgart: Klett-Cotta. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-326207>

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## Development of Cross National Comparative Data from Social Bookkeeping Sources

A wealth of numbers is published every year by governmental, inter-governmental and private agencies. These numbers are designed to measure one or another of the social products or forces of social life. They represent the society's attempt to keep book on itself, to monitor its own internal workings. Virtually all governments in the modern world keep track of population movements, health and educational levels, investment, production and consumption, employment and prices, public expenditure and receipts, and a myriad of other areas of life. In most countries, these are supplemented by data collected by private and semi-private organizations. Some of these data come from censuses and public opinion polls and relate to individuals. Other data refer to somewhat larger aggregates such as firms or households. Still others are statements about the whole society; population and gross national product would be examples. Finally, some tell something of the distribution of a value or a good within the society; coefficients of income inequality and geographical distribution of hospital beds are examples of this. This public social bookkeeping is, of course, available to social scientists for their research and a great deal of use has been and is being made of these data.

Some caution is required in using these data, however. Data which are in fact collected and made available are no simple random sample of all data that are collectable. They certainly are not a comprehensive set of all conceivable measures of social life. They have been selected with some regard to some notion of what is and what is not relevant to something. In other words, there has been at least some implicit, partially developed theory that included some conception of the usefulness of the particular set of measures. Perhaps an example from early social statistics will illustrate this. In the United Kingdom, the work of the Royal Statistical Society in the 1830's and 1840's demonstrates some very specific goals and a clear conception of what was relevant to its interests. Data collected by these statistical pioneers had to do in great part with criminal incidence and educational levels and much of the analysis attempted to show that crime and ignorance were correlated. The obvious and frequently stated policy implication was that more attention should be given to public education.

Conflicting theories can give rise to incomparabilities in data. One example can be found in national account statistics. In determining the value of the economic product for the entire national economy, most countries of the world factor in the value produced by the service sector along with that of industry and of agriculture.

Communist ideology, on the other hand, holds that the service sector does not create new value, for these countries one has material product rather than national product and conversion to the latter requires estimates of the missing value of the service sector. Published data may also be designed to overcome differences of theoretical orientation. A nation's concept of what education is supposed to be is reflected in its school system and school attendance figures are, in turn, an indication of this concept. The number of years devoted to primary education vary widely from country to country. The types of secondary education vary even more widely. The UNESCO Statistical Office, however, has created a standardized system of reporting so that the national diversity can be reported in comparative terms. Educational data are reported for first, second and third levels each of which have been given specific definitions and boundaries. This standardization is itself based upon theoretical considerations and results when using UNESCO series are partly determined by these considerations. Even the least well thought out series is based upon some implied set of standard units of collection and makes assumptions about how these units are alike. Data, for example, may be collected for countries so that China and Luxembourg are considered equivalent cases but Liechtenstein is excluded on the grounds that it is unlike the other two. Again this is a decision that affects results of analyses done with the data.

Government statisticians and other officials are not always interested in quite the same problems as scholars. Even if they were, however, the problem would remain. The selection of things to measure and the choice of procedures to do so are dependent upon the approach one has to the problem. The decision to take entries in a column of data and make them „values“ of a „variable“, therefore, is itself a theoretical exercise. It is an interpretation. The matching of numbers to phenomena which is measurement requires careful thought. There is no substitute; no tricks or formula will suffice. The varied purposes that lie behind the original collections of the data — even if these ideas have atrophied while inertia carries on the series — may be contradictory or tangential to the uses to which a scholar wishes to put them. It is often necessary to select carefully among several available alternatives, none of which is exactly suitable to the current theoretical purposes. Sometimes it is possible to adjust available data so that they are more suitable to the purposes of the research. In every case, careful attention must be given to the peculiarities of definition and special methods of collection and examination must be made of possible consequences for the analysis.

The individual scholar then is at the mercy of what is available, although that is of considerable amount and variety. The scholarly community, on the other hand, is able to interact with the official statisticians on what is and how it is collected. In this paper, we look at how some of this interaction has taken place in economic and social data and investigate some possibilities for interaction in political data.

## 1. National Account Statistics

National income accounting was first developed in the 1930's for use with the macro-economic model of John Maynard Keynes. It specified the relationships among various components of supply and demand and made possible estimations of change in these relationships under particular conditions. For example, if in the model, tax revenues or government investment were allowed to increase, what effect would this have on unemployment or the balance of payments. The data and data format grew out of the theoretical needs of the Keynesian economists. Once begun, of course, it in turn influenced the further research to be done. The better known illustrations are the negative ones. In less developed countries, the non-market subsistence sector of the economy was simply excluded from the rows and columns of the accounts. Gross national product is a statement for the monetary sector only. Development economists came to think of the non-monetary sector as a residual, potentially productive force from which laborers could be drawn. For certain problems of industrialization, this approach seemed appropriate, at least before the large numbers of unemployed began to congregate in the urban centers of the underdeveloped world<sup>1</sup>. The point to be made here, however, is that the research approach was greatly influenced by the data available. Similarly, the productive capacity of housewives whose value was ignored in traditional national accounts has generally been overlooked in economic research. So has the subtraction from production represented by pollution. These were not in the data system so they tended to be omitted from analysis.

The system of national accounts has received virtually world wide acceptance at least in theory. To be sure, the Communist countries follow their own particular version and the data provided the United Nations by many countries includes a number of guesses among the components of aggregation. Even so, the Statistical Office of the United Nations has now spent a good many years defining and integrating a system which provides common standards that can produce comparative data for all of the states of the world. Published in *A System of National Accounts*, the system represents the main stocks and flows that occur within a national economy and between that economy and the rest of the world<sup>2</sup>. These stocks and flows are concerned with domestic production, consumption, accumulation and capital transactions and the balance of payments with the outside world. These accounts along with revaluations, an opening and a closing statement form a closed system. They also represent the main stay of international comparative economic data.

<sup>1</sup> Bienefeld, Manfred, and Godfrey, Martin, Measuring Unemployment and the Informal Sector: Some Conceptual and Statistical Problems, in: *IDS Bulletin: The Neutrality of Numbers?*, (October 1975), pp. 4-10.

<sup>2</sup> United Nations, Statistical Office (ed.), *A System of National Accounts*, in: *Studies in Methods*, Series F, 2 (1968).

New questions call for new data, however. Inequality of income and welfare has become increasingly a topic of academic and public discussion, for example. Most national accounting is reported in national or sectoral aggregates and tells little about the distribution of production, consumption and accumulation. With time, we can expect the data to begin to reflect the new interest. The Statistical Office has already begun consideration of a system of statistics on the distribution of income, consumption and accumulation that would be consistent with and complementary to the system of national accounts. The International Bank for Reconstruction and Development has recently published a compilation of available data on the size distribution of income in about 80 countries<sup>3</sup>. Presumably, if the political opposition is not too great, we shall soon begin to have data on inequalities of distribution by region, ethnic groups and social class.

Efforts are also being made to revise the system of national accounts. Perhaps one of the better known systems for extensive revision is that of the Economic Council of Japan. This system is consumption rather than production oriented. It measures the total economic production that is available for consumption. By omitting investments and deducting losses due to pollution but by including the estimated value of domestic work and of leisure time, it is possible to arrive at an index of net national welfare<sup>4</sup>.

Of the social scientists, economists have probably gone furthest in drawing up theoretical systems for analysis and data collection. These systems can be very powerful tools of analysis. They also make it difficult for scholars to break out of the mold and seek to follow newer approaches. Sociologists and political scientists have tended to be attracted by the possibilities of data systems, nevertheless, and have begun the search for systems that would aid in their analyses. The social indicators movement is the more advanced and better organized of these efforts.

## 2. The Social Indicators Movement

The effort among social scientists and civil servants to develop a systematic social reporting and analysis scheme is now about 15 years old. Its origin lies with several proposals written mostly by Americans in the early 1960's<sup>5</sup>. These ideas began to influence thinking especially in the larger Western developed countries so that with-

<sup>3</sup> Jain, Shail, *Size Distribution of Income: A Compilation of Data* (International Bank for Reconstruction and Development), Washington 1975.

<sup>4</sup> Economic Council of Japan (ed.), *Measuring Net National Welfare of Japan*, Tokyo 1973.

<sup>5</sup> Gross, Bertram, *The State of the Nation*, in: Bauer, Raymond A. (ed.), *Social Indicators*, Cambridge/Mass. 1966, pp. 154-271.

in a decade social reports, proto-reports and compendia of social statistics were being published in the United States, Germany, Britain, France and elsewhere<sup>6</sup>. The goals of these works included the bringing together and reorganizing of a number of heterogeneous and not easily accessible social and economic data that could be used for the analysis of social performance, quality of life, social changes, levels of living, and general welfare. Thus far at least, the response of statistical offices to some of the suggestions for systems of social indicators has been less than many scholars would have wished. The published series remain for the most part collections of series rather than integrated systems of indicators.

The goal of the social indicators movement is somewhat grander. It is to take social statistics both of the types already collected and of more original kinds and to integrate them into an ordering that allows comprehensive and precise statements on the state of welfare in society. Welfare is taken to be a multi-dimensional conception that goes well beyond the single dimension of productivity (as represented in gross national product) or even of consumption as traditionally measured. Sometimes it is approached as total consumption including the use of goods and services provided outside the market. Sometimes it is thought of as progress toward the achievement of stated national goals. Sometimes it is conceived as a subjective phenomenon when people are asked „satisfaction with life“ questions in public opinion surveys. A great deal of effort has gone into defining welfare or well-being since upon this theoretical consideration hangs most of the rest of the work<sup>7</sup>.

The effort to create an integrated frame of reference for the evaluation of welfare has not been based upon a single comprehensive social theory. Thus far in the development of social indicators, no Keynesian style social model has emerged. Perhaps it would be premature to try such an undertaking; it could provide too rigid a direction in which social data would be influenced to move. Completeness of coverage in a theoretically closed system is certainly not synonymous with completeness of coverage of all components of social life. At least for the immediate future, it is probably best to concentrate upon systematic collections of carefully selected series that are relevant to public policy.

A number of measurement schemes have gotten underway and even more have been proposed. We have space here to describe only a few of them. The scheme most similar to the National Account Statistics is that proposed by Sir Richard Stone and others and included in the Proposed System of Social and Demographic Statistics<sup>8</sup>. It suggests accounting for stocks and flows in the composition and growth of a population in a way very like the accounting already done for production, consumption, accumulation and balance of payments. Individuals, rather than

<sup>6</sup> Johnston, Robert, Review of New Compendia of Social Statistics and Social Indicators in Five Western Countries, in: *Social Science Information*, 15 (1976), pp. 349–370.

<sup>7</sup> Zapf, Wolfgang, Systems of Social Indicators: Current Approaches and Problems, in: *Social Science Information*, 27 (1975), pp. 479–498.

<sup>8</sup> United Nations, Statistical Office (ed.), *Towards a System of Social and Demographic Statistics*, in: *Studies in Methods*, Series F, 18 (1975).

dollars or marks, become the units of measure as they are classified not simply by age and sex but also by education, employment, health and other variables. For example, a matrix can be formed to show the change in educational levels of a population between two points in time. Columns can be determined by such categories as pre-school, primary, secondary, university, employed and retired and the population can be divided among them as of the first date. The rows, given the same labels, can represent the population as of the second date. The marginals of this matrix will give the stocks of population at each educational level for each of the two points in time. The cells will show the various flows from one level to another. This and similar matrices can be linked to matrices of government expenditure and of the national accounts to form one overarching system<sup>9</sup>.

This scheme has seemed rather ambitious to many official statisticians, especially among those in developing countries. It seems unlikely that resources will be devoted to so extensive a systematic collection in very many places. The United Nations have produced several papers designed to promote the improvement of social statistics in developing countries. Suggestions were made on how to produce more relevant and co-ordinated data and a framework for integrating social and demographic statistics was proposed based upon a selection and adaption of material from the System of Social and Demographic Statistics<sup>10</sup>.

Scholars have also used a number of less ambitious schemes. One of these is the battery of social indicators in which a number of conceptually simple measures are taken together for analysis. In concert they are thought to be more reliable than any one of them alone. Factor analysis or some other technique is sometimes used to reduce the wealth of data to manageable numbers. Index construction is employed by the United Nations Research Institute for Social Development in measuring welfare. Its level of living indexes are summary statements of several social indicators<sup>11</sup>.

<sup>9</sup> Stone, Richard, Major Accounting Problems for a World Model, in: Deutsch, Karl W., et al. (eds.), *Problems of World Modelling: Political and Social Implications*, Cambridge/Mass. 1977, pp. 57-81.

<sup>10</sup> United Nations, Economic and Social Council, Statistical Commission (ed.), *Promoting the Improvement of Social Statistics in Developing Countries*, E/CN. 3/482, New York 1976.

United Nations, Economic and Social Council, Statistical Commission (ed.), *Framework for the Integration of Social and Demographic Statistics in Developing Countries*, E/CN. 3/490, New York 1976.

United Nations, Economic and Social Council, Statistical Commission (ed.), *The Feasibility of Welfare-Oriented Measures to Complement the National Accounts and Balances*, E/CN.3/477, New York 1976.

United Nations, Economic and Social Council, Statistical Commission (ed.), *Draft Guidelines on Social Indicators*, E/CN. 3/488, New York 1976.

United Nations, Economic and Social Council, Statistical Commission, *Strategy for Further Work on a System of Social and Demographic Statistics*, E/CN. 3/489, New York 1976.

<sup>11</sup> Drewnovsky, Jan, *Studies in the Measurement of Levels of Living and Welfare*, United Nations Research Institute for Social Development Report No. 10.3, Geneva 1970.

Other systems of indicators are goal oriented. The Organization for Economic Growth and Development, for example, has drawn up a list of generally agreed upon social concerns as the basis of growth in quality of life<sup>12</sup>. Erik Allardt has put together a frame of reference for selecting social indicators to measure social welfare. He believes the values underlying welfare can be captured by the terms „having“, „loving“ and „being“<sup>13</sup>. Similarly the World Indicators Programme of the International Peace Research Institute, University of Oslo, has spent a good deal of effort in creating a conceptual system of indicators that would be more radical in content than other systems<sup>14</sup>.

Sociologists, however, have not created a single system of social indicators that has the extensive agreement underlying the system of national accounts put together by economists. A great deal more work must be done before there will be something like a closed set of concepts and theoretical specification appropriate to a single system. Political scientists are even less advanced along this road.

### 3. Cross National Quantitative Political Data

International compendia of official statistics have generally avoided political structures, processes and events. The System of Social and Demographic Statistics published by the United Nations avoids the subject by stating that it is too complex to be easily laid out in terms of quantitative analysis. Undoubtedly this is true, but the difficulty is in part due to a relative paucity of theoretical work by political scientists. Other reasons can be given for the avoidance of political data, however. Of the several kinds in which social scientists are interested, these are the most sensitive data. Some governments are not enthusiastic about revealing all the line items of their budgets or specifying exactly how and when some personnel changes take place. Elites in most countries are not greatly interested in publishing accounts of the inequalities of power. At the cross national level at least, ideological differences influence the decisions on which data not to collect. It is relatively easy to determine the proper goals for the economy. With a very few exceptions leaders in the modern world have attempted to obtain economic growth and higher levels of welfare. Although precise meanings of what this entails have differed from country to coun-

<sup>12</sup> Organization for Economic Co-operation and Development, List of Social Concerns Common to Most OECD Countries, Paris 1973.

<sup>13</sup> Allardt, Erik, A Welfare Model for Selecting Indicators of National Development, in: Policy Sciences, 4 (1973), pp. 63–74.

<sup>14</sup> Galtung, Johan, et al., Measuring World Development, in: Alternatives, 1 (1975), pp. 131–158, 523–555.



try, the similarities have been outstanding when compared with variations in what is meant by political development.

Some international civil servants and scholars seem to think that international official statistics might include more specifically political indicators in the future. Governments may become more responsive to requests for data as we have more specific notions of what we want. At least the probability is great enough that we need to think carefully about the question.

Several efforts have already been undertaken, of course. A vast amount of political information, from which quantitative series can be derived, is published annually in such publications as the *Statesman's Yearbook*, the *Europa Year Book* and the *Political Handbook of the World*<sup>15</sup>. Books such as the *World Handbook of Political and Social Indicators* go further in attempting to produce quantitative series<sup>16</sup>. A much larger number of efforts are made to measure a more limited scope of political activity. Freedom House, for example, publishes annually indicators of the status of human rights around the world<sup>17</sup>. In a different area, both the International Institute for Strategic Studies and the Stockholm International Peace Research Institute publish data annually on allocations of money and manpower to the defense sector by governments. These and similar data have been used by Sivard to demonstrate the degree to which the world's resources are used for military rather than peaceful uses<sup>18</sup>.

Many sources that are available can be employed to produce measurements of government structures and changes in those structures, allocations of government resources, freedom and repression, and political participation. Comparative measures of the nature and functions of legislatures, for example, can be developed from material available in a number of publications. Does the executive have a veto over legislation or not? Where does legislation originate? Is the executive responsible in any way to the legislature? Is there effective party discipline or not? Is, in fact, the legislature divided by parties? Whether or not this is so, is opposition allowed? Is the government formed from one party or from a coalition? Is it represented directly in the legislature or is it separated from it by constitutional structures? Similar questions can, of course, be posed for the executive, judicial and administrative parts of the governmental structure and for the party system. Changes in these structures and changes of personnel within them can be monitored by newspaper and other current accounts of events.

<sup>15</sup> Paxton, John (ed.), *The Statesman Year-Book*, London, annual; *The Europa Year-Book 1977: A World Survey*, London 1977; Banks, Arthur S. (ed.), *Political Handbook and Atlas of the World: Parliaments, Parties and Press, Council on Foreign Relations* (ed.), New York, annual.

<sup>16</sup> Taylor, Charles Lewis, and Hudson, Michael C., *World Handbook of Political and Social Indicators*, 2nd. ed., New Haven/Conn. 1972.

<sup>17</sup> Gastil, Raymond D., *The Comparative Survey of Freedom*, in: *Freedom at Issue* (1973–1979).

<sup>18</sup> Sivard, R. L., *World Military and Social Expenditures*, Leesville/Virginia 1977.

Another set of structural questions relate to center-periphery relationships. To what extent are decisions of various kinds made in the central government and to what extent is there leeway for changes or independent decisions at the provincial or local levels? Are the localities homogeneous with the central government? Is there internal colonialism and subjected peoples within the central government? Not all imperialism need necessarily stretch across water. If ethnically or otherwise identifiably different people are present within a state, how integrated into the political system are they? To what extent are they represented in leadership and other decision making roles?

Ted Gurr in reviewing the *World Handbook of Political and Social Indicators: Second Edition* (1972) suggested that further collections ought to get to the underside of non-official life<sup>19</sup>. How is it with the powerless? The incidence of protests, at least when it reached public proportions, was reported but much more specific data can be codified as to who the dissidents are, what they want and how much (or little) they already have. Of course, participation of several sorts may be measured. Conventional activity such as voting and even group membership is relatively easy to collect. Less conventional kinds may be somewhat more difficult without public opinion surveys. While these are being conducted in an increasing number of countries, they probably cannot be properly considered social bookkeeping sources.

Closely related to participation is the question of freedom. Is there freedom for groups and individuals to express themselves and to oppose the government? Is there political oppression? Again present social bookkeeping sources do not include very many data of this kind. Finding comparative data from government sources is unlikely to be possible in any case in the real world. Nevertheless, this important aspect of political life needs to be considered carefully for ways of measuring it.

Data on the public versus private (or semi-private) sector, on productivity and investment in each, on allocations to education, health and welfare, on personnel deployment and a number of other areas of political life might be added as examples of kinds of quantitative information that either can be derived from current social bookkeeping sources or that should be encouraged on governments and official statisticians for collecting.

It would be difficult to call all of this a system of political indicators. It is more at the moment a hodgepodge of ideas. Political scientists have yet some way to go before arriving at even as much consensus on political indicators as sociologists have achieved on social indicators. Cross national comparisons of political systems have been based primarily on non-political variables or have been limited to a few countries and based upon qualitative data. The first step toward more rigorous comparisons for many countries on the basis of political indicators is, therefore, the careful development of these indicators. From this eventually might arise a system and perhaps even a generally accepted model.

<sup>19</sup> Gutt, Ted Robert, *The Neo-Alexandrians: A Review Essay on Data Handbooks in Political Science*, in: *American Political Science Review*, 68 (1974), pp. 243-252.

## 4. Conclusion

Data systems are designed to give to particular users, particular kinds of analyses, and therefore particular kinds of results. This is not to suggest that data systems are means for scholastic cheating; it is rather to insist that theory building has already begun with the choices required in the measurement of data. In the social sciences, the data system most fully developed for cross national comparison is that of the National Account Statistics. While many criticisms have been levelled at it for what it does not do, it does what it does well. It appears to be amenable to adaption for other purposes as well. One of these purposes is the study of well-being or general welfare in social life. The Social Indicators Movement, however, has not limited itself to revisions of national accounts but is seeking a variety of approaches to a social measurement system. For cross national quantitative political comparisons, virtually no systematic designs have been undertaken except for political violence studies. This work is still in the stage of definition. It clearly needs more useful political indicators.