Trends in the American Economy in the Nineteenth Century

Introduction

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ON THE appearance of the twenty-fourth volume of its *Studies*, the Conference on Research in Income and Wealth may perhaps be appropriately greeted by the exclamation of an English nobleman to Edward Gibbon on the appearance of one volume of *The Decline and Fall of the Roman Empire*: "Another damned thick square book! Always scribble, scribble, scribble, scribble! Eh! Mr. Gibbon!" Nevertheless, the present volume has some special excuse for its unusual bulk. The meetings at which the papers were presented were in a real sense a joint effort of two quite different groups of scholars: the Conference on Income and Wealth and the Economic History Association. The papers cover a variety of subjects and a long and important span of the history of the United States and Canada, and constitute one of the most extended incursions made to date by economic statistics into the preserve of the economic historian.

The National Income Framework

The topics chosen for treatment represent the interests of the authors, yet the choice of both topics and authors was intended to yield a balanced program. In each paper a familiar economic magnitude—balance of payments, commodity output, investment and income components—is treated. In each an attempt is made to use existing statistics as the basis for a comprehensive estimate of the magnitude under measurement. The empty economic boxes thus provisionally filled are not those famous boxes labeled Decreasing Cost Industry, Constant Cost Industry, Increasing Cost Industry, which first set Clapham and Pigou at odds. They are essentially categories of aggregative economic theory.

Granted that the work is done with ingenuity, there will be those who will ask whether these statistical hardships are necessary. Is it wise to produce a full balance of payments at the cost of estimates—often on a thin basis—of the minor components? Is it desirable to derive a series for agricultural income from a defective production record? Is it useful to estimate total investment in canals from a moderate-sized sample? The answer to these questions depends largely upon one's sympathy with the national income and product framework already imposed on the census data after 1870 by Simon Kuznets, and with one's estimate of its value in the study of American economic growth. The topics were chosen, and the tasks set for the authors, with an eye to exploring the ground over which this framework of income, product, and major components may be laid in the nineteenth century as a whole. The volume may be most fairly judged as a testing of the statistical ground to see what weight of analysis it may be made to support.

To build up estimates of national income and its major components requires first of all careful attention to the data on commodity production, similar to that given by William H. Shaw and Kuznets.[1] Robert E. Gallman summarizes the results of such attention, based on the United States censuses from 1840 to 1880; and O. J. Firestone extends his own earlier series for Canadian national income back to 1850. It is the lack of adequate census material to provide even a bench mark or a basic body of figures for an income estimate that, Franklee Whartenby and I try to show, invalidates the earlier estimates of R. F. Martin for the pre-1840 period. Price changes are important both in themselves and for the interpretation of dollar aggregates; Ethel D. Hoover provides a retail price index which may prove useful to deflate income figures for the middle of the century. Richard A. Easterlin's estimates of regional differences in per capita income at three points in the nineteenth century are suggestive of the use to which income statistics can be put to form the framework for analysis of interregional shifts during the process of national growth.

In Part II Theodore F. Marburg and Harold Barger indicate some of the problems and possibilities of supplementing the commodity estimates with estimates of part of service income: that earned in trade. Paul B. Trescott furnishes a basis to estimate government's contribution to the national income to 1860, and Marvin W. Towne and Wayne D. Rasmussen provide a check on the agriculture portions of Gallman's estimates. Part III is concerned with estimates prepared from the income, rather than the product side of the national accounts. It contains Edward C. Budd's comprehensive revision of W. I. King's estimates of factor shares, and papers on interest and dividend payments by Anna J. Schwartz and wage trends by Stanley Lebergott. The articles by E. R. Wicker and H. Jerome Cranmer in Part IV make a start at building up transportation's portion of the investment component in national product. In Part V the balance of payments series constructed for the United States by Douglass C. North and Matthew Simon, and for Canada by Penelope Hartland and O. J. Firestone, are primarily of interest in the study of the international economy.

[1] William H. Shaw, *The Value of Commodity Output since 1869* (1947), and Simon Kuznets, *National Product since 1869* (1946), both published by the National Bureau of Economic Research.

Nevertheless they provide as a by-product an estimate of the net trade balance as a portion of national income.

Whether this work for the United States can be crowned by comprehensive income and product estimates running backward from 1870 and supplemented by estimates of the consumption and investment components remains to be seen. Already in a model like Fellner's,[2] the measurement of trends in factor shares—as attempted here in Part III—has become a matter of major importance. At some point, too, the ghosts of Clapham's own empty boxes must return, since all aggregative models can suggest only the bare outlines of an explanation of the record of economic history. The economy must ultimately be disaggregated into many industries, if not into the individual decision-making units, within which the effects of changing demand, technology, factor supplies, and organizational forms on the price structure can be intimately assessed. Only then can we begin to speak of a mechanism of growth or a "transformation process" within the economy. In uncovering such a mechanism, an essential task is the estimation of investment by industry and by origin, to which much of Parts II, IV, and V is directed.

Even within the present volume, for all its incompleteness, the national income framework thus appears to give a certain form to economic statistics and suggests a certain discipline and direction to further quantitative work. The measurement of the economic aggregates and the evidence of relationships among the trends they exhibit pose directly the major question which economic history alone can attempt to answer: By what socio-economic mechanism was this record of economic change produced?

The Role of Historical Research

Statistical measurement shows the size of the phenomena whose existence and change are to be explained. Taken together, economic theory and statistics may suggest explanations of economic change consistent with a hypothesis of economically rational behavior. But a complete economic history must bring to bear a wide variety of non-quantitative variables and a generous amount of speculation about motivations and about the size and nature of those parts of the historical environment of which only a bare sample remains. Whether its explanations command belief or not, no other method is possible to the state of darkness which our historical memory inhabits. It is inappropriate here to examine extensively the limitations of the national income

[2] William J. Fellner, *Trends and Cycles in Economic Activity; An Introduction to Problems of Economic Growth*, Holt, 1956.

approach to economic history. In a paper given at the Conference—portions of which are now being prepared for publication elsewhere—Moses Abramovitz examined closely the claims of national income measures to show changes in economic welfare. The philosophical and statistical problems involved in long-run measurements of income and product have been exposed by Pigou, Kuznets, Colin Clark, Hicks, Frankel, Gerschenkron, and others. Here I would emphasize the limitations of the national income approach in two important areas, because in just such areas historical research of the traditional kind can be useful, if directed toward significant questions. These two problem areas are, first, in adequately describing economic activity in the nonmarket sector of the economy, and second, in making useful international comparisons of trends in national income and component magnitudes.

Economic history of the modern period is best looked at as development out of an earlier and co-existing economy in which labor was not clearly separated from family life, production involved no conscious accounting of input and output, and distribution by a price system occupied a peripheral rather than central position in determining economic welfare. Without the freedom of choice given by money and markets, the possibility of comparing values accurately is lost and the means of close calculation destroyed. The choice of what to consume was determined within each household by its choice of what to produce, and both choices were limited by the immediate natural environment and the meager stock of inherited knowledge.

Absence of money and markets results in effect in a collection of separate economies, each with its own ill-defined set of relative values—or, to put the matter in national-economic terms, it means a very imperfect market with widely varying "prices" in the "markets" of the individual households. Where agriculture is a large part of a nation's economy, the noncommercial sector of the economy is often large; and where it is large, no set of market prices can properly be used for imputation. In such an economy, the complete measurement of a social product in money terms is impossible. The question of how national income grew in response to the opportunities of the market economy is best supplemented in such a case by a question of how economic life was organized in the nonmarket economy, and how and why this form of organization gradually broke down. Measures of the national income and its components must be supplemented by descriptions of the changes in economic life in the nonmarket economy based on the sample evidence remaining in literary and documentary sources familiar to historians.

The second problem referred to above—the international comparison of growth trends—is suggested in this volume by the juxtaposition of Canadian and American materials. Since a trend, unlike a cyclical fluctuation, is by definition a unique movement during the period for which it holds, one is compelled in studying it to seek far for comparison with other "cases" where similar (or different) trends are exhibited. Many suggestive observations can surely be made by comparing long series of income or output growth in the United States with those of other countries.

The work of the Committee on Economic Growth of the Social Science Research Council under Kuznets's direction is making such comparisons possible for a number of countries, reaching well back into the nineteenth century. For several reasons, such statistical comparisons cannot go beyond suggesting interesting hypotheses for historical speculation and research. First, the records of the various national states may perhaps best be thought of not as separate cases of an economic phenomenon, but rather as partial records of a single event—the development of the economy of the trading, money-using world. Second, in a comparison of trends occurring at different times and in different social environments, the number of variables is so large relative to the number of cases, that the conditions for a satisfactory explanation can hardly be met. Third, if the national states do form satisfactory cases, separate from one another, then comparison on the basis of single elements that differ between cases (e.g. legal systems, educational systems, natural resources) is not appropriate. A legal system which might hinder economic development in one society might promote development in another. If we are to surmount the problems of explanation posed by a comparison of trends in national income and its components in different countries, we must surely use the insights of traditional historians, steeped in the experience of the societies under study, and sensitive to social atmosphere and to men's reactions to it.

Significance of the Individual Papers

Whatever the merits of the national income framework for study of the nineteenth century, in the last analysis the papers here should be judged individually as contributions to the measurement of separate trends in the economic record of the North American economy. Even for this purpose their tentative character should be emphasized. The fullest and best-documented of them are most properly considered as reports of investigations into areas never before so fully explored.

The papers of Gallman, Marburg, Barger, and Towne and Rasmussen are attempts to produce from the census data of population and production various series on output and income in certain sectors of the economy. This work requires not only the careful collation and standardization of the census data but also their amplification by estimates of missing series, and by the application of factors and coefficients drawn from the experience of later periods or from the sample of local or state data which remains. The adequacy of such samples must be faced directly in Mrs. Hoover's paper, where a retail price index for 1850–1880 is based largely on the Weeks report, and in Lebergott's, where the attempt is made to measure wage trends. The work on the balance of payments by North, Simon, Hartland, and Firestone, and that by Trescott on federal government income payments, have the broadest basis in official sources, but the balance of payments is an exacting framework even for the best data, and extensive estimation of the invisible components is necessary to fill its boxes. Mrs. Schwartz used the federal income tax data from the 1860's for the first time in an attempt to estimate dividends and interest payments by corporations and connected them with estimates at other dates in the century made on the basis of samples of corporations on which data are available. Wicker and Cranmer used records of enterprises to yield a rather large sample from which to estimate missing components for railway and canal investment. Easterlin's nineteenth century regional national income estimates are based on the census, but for 1840 he could use the contemporary estimate of Seaman, after making a number of adjustments.

In arriving at their statistical series, the authors thus employ different kinds of evidence: (1) comprehensive data collected at the time, (2) a more or less adequate sample taken from remaining records of enterprises, (3) direct estimates of informed contemporaries, and (4) relationships known for later periods which can be projected backward. Almost all of the papers are based ultimately on a judicious combination of these types of evidence.

As an economic historian, the editor cannot forbear a final caveat against the misinterpretation of all this work. Indeed, it seems more likely that the statistics provided here will be used than that their misuse will be uniformly avoided. The statistical method, and particularly its use to animate such large concepts as the national product and income and its components, has the faults of its virtues. The worst fault is that it imposes a severe strain on the accuracy and completeness of an imperfect historical record. It requires figures, as the Minotaur required maidens, and it requires them exactly and on time. If a statistical total is to be achieved, missing figures must be estimated. How far such estimation is valid is a matter of serious dispute; careful attention to the footnotes and to the comments of discussants will reveal the sources and methods used. The reader should keep in mind that by and large the annual data on foreign trade and the decennial censuses are our only collected sources of economic information, supplemented by some collections of trade associations and journals, like Poor's and the Cincinnati Price Current, and by fragmentary state data from state censuses where they exist. The use of our other major source—contemporary newspapers and records of storekeepers and firms—to show, for example, national or regional price movements, involves a sampling problem of serious dimensions. It is just in the earlier years, where records are least abundant, that because the market is most imperfect, a specially large sample is required.

But in the end, the main difference between the statistician's problems of historical measurement and the economic historian's problems in narration is that the former are embarrassingly explicit. The numerous literary devices by which the historian weaves together fragmentary documentary sources into a history are not available to the historical statistician. Both groups of scholars, however, have their feet under the same table; whatever differences there may be in silverware or table manners, there is little difference in the quality of the nourishment.

The data for the nineteenth century are deficient and the adjustments frequently arbitrary. Perhaps even more arbitrary assumptions than occur here are needed to construct national income estimates on these foundations; certainly this is true for estimates for the decades before 1840. At some point the game goes beyond the bounds of good scholarship. We should only be careful not to set those boundaries too narrow. A large amount of adjustment is surely permissible if a system of estimates is yielded that does no violence to the known data, that is internally consistent, and that admits of a reasonable explanation in terms of what we know about human behavior. Such a system may not be the record of the nineteenth century as it actually existed, but as a construct it may command a degree of credence. It thus can fulfill the social function of history—to give to our ever more incredulous minds some explanation of how we got where we are. It has an even greater advantage in showing where further research is needed. For if several such systems of data and interpretation exist, only further research—directed not in line with one's "interests" into whatever reaches of whimsy they may lead but directed at crucial points in the structures—can bring a final decision. *The* past is unknowable, but *a* past can be reconstructed. Historians have always known this; and the use of careful measurements and bold estimates of the size of unknowns must ultimately feed and guide, rather than restrict, historical imagination.