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1 Introduction

Stanley L. Engerman and Robert E. Gallman

The present volume differs from its recent Income and Wealth predecessors in two respects. The first is the breadth of its topic, *Long-Term Factors in American Economic Growth.* Narrowly defined analytical subjects (e.g., *The Measurement of Economic and Social Performance,* Vol. 38, *New Developments in Productivity Measurement and Analysis,* Vol. 44, and *The Measurement of Labor Costs,* Vol. 48) have been the norm. The second is that its papers are concerned with the historical process of economic change. Although historical papers have appeared previously (see, e.g., Vol. 46) and for a time seemed to be becoming a common feature (see Vol. 33 and 34), most Conference volumes have not had a historical dimension. This is surprising in view both of the concern of the Conference's founders—particularly Raymond Goldsmith and Simon Kuznets—with the measurement and analysis of long-period change and of the contributions economic history can make to analyzing problems that have long engaged the Conference.

Two preceding volumes—owing in considerable measure to the encouragement of Goldsmith and Kuznets—are exceptions: *Trends in the American Economy in the Nineteenth Century* (Vol. 24) and *Output, Employment, and Productivity in the United States after 1800* (Vol. 30). Both address broad subjects in the field of economic growth; both resulted from collaborative meetings of the Economic History Association and the Conference, in which economic historians played prominent roles. The Planning Committee for the first, held in Williamstown

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in 1957, consisted of Harold F. Williamson (chairman), Stanley Lebergott, and John E. Sawyer; the resulting volume was edited by William N. Parker. The Planning Committee for the second, held in Chapel Hill in 1963, comprised Parker (chairman), Richard A. Easterlin, and Raymond W. Goldsmith; Dorothy S. Brady edited the published papers.

Most students of the subject find the origins of the new economic history—cliometrics—in these two meetings. Cliometrics has two branches, one with a strong national accounts orientation, the other stressing, more generally, the use of economic theory and econometrics in the study of historical problems. Both branches were represented at Williamstown and Chapel Hill, but true to the leading interests of the Conference at that time, only the first is represented in Volumes 24 and 30. The remaining papers were published elsewhere, notably in the proceedings issue of the *Journal of Economic History,* but also in other *JEH* issues, in the *Journal of Political Economy,* and in other places.[1] Among these papers were two hortatory and influential pieces by Alfred H. Conrad and John R. Meyer on how economic history should be practiced, one ("Economic Theory, Statistical Inference, and Economic History," published in the December 1957 *Journal of Economic History*) arguing in the abstract, the other ("The Economics of Slavery in the Ante-bellum South," *Journal of Political Economy,* April 1958) by way of a case study. The latter, with Robert W. Fogel's "A Quantitative Approach to the Study of Railroads in American Economic Growth" (*Journal of Economic History,* June 1962), launched a heated discussion over methods in the study of economic history.

The present volume is a lineal descendant of Volumes 24 and 30, the kinship showing clearly in its principal features. These consist of an abundant display of primary evidence (or the results of the manipulation of primary evidence) organized for long reaches of time, and frequently presented within the framework of the national accounts. (See, e.g., the papers by Urquhart, Green, McInnis, Weiss, Sylla, and Gallman, for examples of the last characteristic; examples of the first two are to be found in virtually all of the papers in this volume.) But kin are never identical and frequently far from it; Volume 51 has features that distinguish it from its predecessors.

The papers that are organized within the general framework of the national accounts either fill gaps left by Volumes 24 and 30 (see the papers by Sylla and Green), offer replacements for series appearing in the previous volumes (Urquhart, McInnis), or set afoot plans to extend existing series into new temporal periods (Gallman) or geographic regions (Weiss).

The paper by Richard Sylla employs archival materials and devises methods of assembling the evidence drawn from them into a coherent

description of the fiscal activities of state and local governments, and, in addition, contributes to the fiscal history of North Carolina. It proposes ways of handling nineteenth-century state and local evidence—evidence that has rarely been treated systematically—and urges a general assault on state archival materials, thereby accepting the challenge laid down almost twenty years ago by Lance Davis and John Legler ("The Government in the American Economy, 1815–1902: A Quantitative Study," *Journal of Economic History,* December 1966). If the Sylla study is replicated for other states, one of the major gaps in the quantitative record of United States economic change will be filled. A set of such records for a wide variety of states would also permit potentially fruitful comparative analyses.

The Green and McInnis papers are drawn from a major study of Canadian economic growth in the latter part of the nineteenth century and the early part of the twentieth. The papers consider changes in output and productivity in railroads and agriculture. In addition to their significance to the reinterpretation of Canadian economic history, they open opportunities for comparative analysis (which they, in some measure, exploit) with the papers by Fishlow, in Volume 30, and by Towne and Rasmussen and Gallman in Volume 24. Urquhart's paper, deriving from the same project as Green's and McInnis's, a project under the general direction of Urquhart, offers a new, detailed, carefully assembled set of estimates of Canadian national product. These estimates are linked with the official series, which begins in 1926, and are intended to replace the series from the path-breaking Firestone study of a quarter of a century ago (see Firestone's paper in Vol. 24). Urquhart and his discussant, John Dales, suggest ways in which the new work may influence the interpretation of Canadian economic growth, but their exchange is only the beginning of what promises to be an animated discussion.

The Green, McInnis, and Urquhart papers report on a project drawing to a close; Weiss's paper describes the first steps in a new project intended to supply estimates of the labor force at the state level and at decadal intervals in the nineteenth century. Weiss plans to use Stanley Lebergott's procedures (perhaps in modified form) in his estimations, and he describes the tests he conducted on them and on the Lebergott estimates. As Weiss had expected, these tests demonstrated the sturdiness of Lebergott's original work. However, they also gave Weiss reason to revise Lebergott's sectoral distribution of his aggregate series, revisions that have implications for our understanding of early nineteenth-century economic growth.

Gallman's paper contains new estimates of the aggregate capital stock and its components, 1840–1900, at decade intervals, including com-

prehensive estimates of the value of agricultural land improvements. The series eventually will be extended to the early nineteenth century. They are readily linked with Goldsmith's twentieth-century series.

The papers of Volume 51 that follow a national accounts form of organization thus combine with the papers of Volumes 24 and 30 to form a quantitative description of the scale and structure of the United States and Canadian economies in the nineteenth century.[2] Although the story is still incomplete (for example, these volumes contain very little on finance), it is nonetheless remarkably full. Most of these papers provide series that link with twentieth-century series, permitting analysis of economic change over very long periods. One may hope that future meetings of the Conference will continue to fill out systematically the quantitative record of these two national economies.

Not all of the Volume 51 papers are organized on a national accounts basis, however. The two streams of cliometrics, separated in the publication of the proceedings of the Williamstown and Chapel Hill meetings, are rejoined here. Many of the Williamsburg papers have both the micro focus and the highly analytical character of papers (such as the Conrad and Meyer piece on slavery) presented at the Williamstown and Chapel Hill meetings but omitted from Volumes 24 and 30. In addition, many depend on samples drawn from large rich sources of primary micro data, a change that reflects the computational revolution that has taken place since the meeting that led to Volume 30. The first important step in this direction had, in fact, been taken in the period between the Williamstown and Chapel Hill meetings. The University of North Carolina Library, at the behest of William Parker, assembled microfilms of the manuscript census of population, agriculture, and industry for the American South in the mid–nineteenth century. Parker's goal was to draw a matched sample (matching entries from the agricultural, slave population, and free population schedules) to enable him to study the Southern cotton economy. At that time the University of North Carolina's computer facilities consisted of a Univac 1105, a vacuum tube instrument with computational power modestly inferior to a 1984 IBM personal computer. Under the circumstances, Parker's plan must be regarded as bold—indeed, audacious—as well as innovative. The projects from which at least seven of the papers in Volume 51 are drawn (those by Newell, Kearl and Pope, Fogel, Sokoloff, Wahl, Weiss, and Gallman) make some use of the manuscript census, and large samples figure in most of them. The manuscript census had been known and used before Parker came on the scene, of course, but large samples could not be handled effectively without modern computing facilities.

Other samples of micro data also contribute to the Volume 51 papers. The enormous genealogical collection at Salt Lake City plays a central

role in the Kearl and Pope, Fogel, and Wahl papers. Newell and Kearl and Pope use tax and probate records (in the latter case following in the footsteps of Alice Hanson Jones in *American Colonial Wealth*, 2d ed., 3 vols. [New York: Arno Press, 1977]); Sokoloff, the McLane Report on manufacturing in 1832; Fogel, military, school, and shipping records; Goldin, city directories; David and Sanderson, the Mosher sample dealing with the sexual behavior of middle-class women; Higman, plantation records, slave registrations, and records of slave compensation claims.

These new forms of evidence have opened new topics, untreated in Volumes 24 and 30 and having to do chiefly with population and human development. The Fogel paper is concerned with the timing, pace, and determinants of the modern decline of mortality. As David and Sanderson point out, most research on the United States fertility transition has been concerned with demand-side phenomena. Their paper treats the supply side: the modes of behavior and the devices that led to lower levels of fertility. Wahl and Newell are both interested in the influence of one generation on the next: Newell in the intergenerational transmission of wealth, Wahl in the intergenerational transmission of fertility patterns. Kearl and Pope, who have elsewhere explored intergenerational mobility, here focus their attention on intragenerational mobility. Sokoloff uses micro data from the manuscript census and the McLane Report to describe and explain patterns of widespread productivity change in manufacturing in the early decades of United States modernization, change more dramatic than previous scholarship had suspected.

Finally, Volume 51 addresses a number of important conceptual topics. Claudia Goldin considers the impact on United States economic growth of the shift of female work activities from the home to the market. In doing so, she enters a domain that William Parker, in his introduction to Volume 24, argued was a difficult one in which to conduct quantitative work. Goldin pushes forward with imagination and skill. While Robert Fogel is chiefly concerned with mortality, his work has led him to proffer an alternative, sensitive index of human welfare, one that, he tells us, is able to capture changes in well-being missed by standard indices such as per capita income or the real wage rate. Moreover, this index is also available for periods of time for which systematic wage and income data are unavailable. John Wallis and Douglass North take up a topic that has long engaged the attention of students of growth (see, e.g., Simon Kuznets, *Economic Change* [New York: Norton, 1953], Ch. 6; William D. Nordhaus and James Tobin, "Is Growth Obsolete?", *Studies in Income and Wealth*, Vol. 38): the extent to which the rise of transaction costs has offset the benefits of economic growth. Their contribution to the subject—the first part of a

larger project—is to define transaction costs, to measure the principal United States costs of this type, and to show how far the deduction of such costs affects the United States national product and the long-term rate of growth.

Volume 51, then, is a descendant of Volumes 24 and 30, but with characteristics peculiar to itself. These three volumes, together with the historical papers from Volumes 33, 34, and 46, constitute a very substantial quantitative historical record. Gaps, however, remain. There is little on the financial sector. While four of the papers treat Canada and the British West Indies, neither the Dominion nor the Caribbean receives all the attention it deserves, and there are no papers on any other part of the world. In the United States colonial America is virtually unrepresented, although a substantial volume of quantitative work has been completed and more is under way. Opportunities for further useful historical volumes are emerging. One may hope that the time span between the Williamsburg meetings and the next set of meetings with a historical orientation will be shorter than the interval between Chapel Hill and Williamsburg.

Notes

1. One of them, Moses Abramovitz's "The Welfare Interpretation of Secular Trends in National Income and Product," was clearly concerned with a subject of interest to the Conference, but Abramovitz chose to place it in Bernard Haley's festschrift: *The Allocation of Economic Resources: Essays in Honor of Bernard Francis Haley.*

2. The Gallman and Weiss paper prepared for Volume 34 should also be added to the list. Read with the Volume 24 paper by Gallman, it describes the sectoral distribution of economic activity in the nineteenth century.