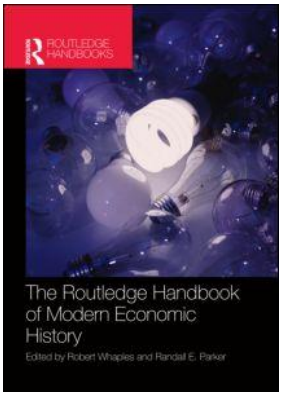

Routledge Handbook of Modern Economic History

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Economic History and Cliometrics

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PART I

The methods of modern economic history

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ECONOMIC HISTORY AND CLIOMETRICS

Louis P. Cain and Robert Whaples

As this *Handbook* demonstrates, economic history is an active field that investigates a wide range of topics. The dominant method used by economic historians over the past half-century is cliometrics. The name "cliometrics" comes from joining "Clio" (the Greek Muse of history) with "metrics" (measurement), but cliometrics goes an important step beyond merely measuring historical events. It structures its measurements with economic theory, especially (but by no means exclusively) the neoclassical theory that has dominated economics for several generations. It often develops explicit models of how economic agents (such as households and firms), as well as entire economies, have behaved and interacted historically. Thus, in addition to measuring economic outcomes, cliometrics seeks to understand their causes. This chapter outlines the development of cliometrics and helps put the other chapters in this *Handbook* into context by examining how cliometrics is practiced.

The cliometric revolution

In the first half of the twentieth century, economic historians rarely appealed to explicit economic theory, but relied more on an accumulation of facts and anecdotes in describing and attempting to explain the past. Economists, on the other hand, were often accused of relying too much on theory and not enough on facts. Testing economic theories using historical facts was difficult because data were scarce. Important economic statistics, including series on prices and wages, production, and employment (thus unemployment), were few and far between, partly because the costs of retrieving them were prohibitive in that pre-computer age.

To begin bridging this gap, the National Bureau of Economic Research (NBER) was founded in 1920 to produce research firmly based on economic facts – quantitative if possible, scientific and impartial, and neutral with respect to ideology and policy. Edwin Gay (who later became the first president of the Economic History Association) argued that collecting these data would allow a "relatively dependable causeway" to be "thrown over the morasses of earlier economic history" (Gay 1930: 2–3). Gay's confidence was warranted, because during the interwar period the NBER added substantially to the statistical infrastructure for examining American economic development. Among the most important steps forward was a series of studies on income, savings, and expenditures in the United States by Simon Kuznets. Kuznets, one of three economic historians to win the Nobel Prize in Economics (Robert Fogel and

Douglass North are the others), had a great influence in developing the preliminary version of U.S. national income and product accounts, and in producing, or encouraging others to produce, long runs of historical national accounting data for the United States and elsewhere.

After the Second World War, economists increasingly focused their research on economic growth and development in hopes of preventing a return to Depression-era conditions in developed countries and of improving the lot of less developed countries. Because understanding growth requires understanding history, a new generation of scholars trained in economics departments turned their attention to economic history. When they began to read the works of older economic historians, many complained that important economic issues had been misinterpreted because of a failure to conjoin economic theory and historical data, and they pushed their colleagues to employ economic theory along with measurement.

The value of the new approach was convincingly displayed in "The economics of slavery in the ante-bellum South", one of the most influential and seminal works of cliometrics, which was then called "the new economic history." Rather than examine the mindset and motives of slaveholders, authors Alfred H. Conrad and John R. Meyer (1958) approached the subject as an investment problem. Was slavery profitable? This question had been debated without resolution for over a century. Conrad and Meyer modeled slave owners as investors with a capital asset subject to depreciation and maintenance costs. They examined historical data on cotton yields, slaves' average life spans, and prices of inputs and outputs – and calculated that owning slaves was more profitable than many other potential investments. Their finding (and extensions of it) helped create a new, lasting consensus concerning the profitability of slavery.

Only six years later, Douglass North noted:

> A revolution is taking place in economic history in the United States. It is being initiated by a new generation of economic historians who are both skeptical of traditional interpretations of U.S. economic history and convinced that a new economic history must be firmly grounded in sound statistical data. Even a cursory examination of accepted "truths" of U.S. economic history suggests that many of them are inconsistent with elementary economic analysis and have never been subjected to – and would not survive – testing with statistical data. (North 1963: 128–9)

North could point to Conrad and Meyer's work on the profitability of slavery, Robert Fogel's (1964) work finding that railroads were not indispensable to nineteenth-century American economic growth, research on the unimportance of the Civil War for accelerating U.S. industrialization (Gallman 1960), and several other projects to support the existence of a revolution.

In those years, the cliometric approach quickly resolved several ongoing debates in American economic history. For example, using a simple trade model, estimates of demand and supply elasticities, and colonial prices, the per capita burden of Britain's Navigation Acts as a per cent of colonial income was estimated to be much smaller than many supposed. Hence it was an unlikely spark for the American Revolution (Thomas 1965; McClelland 1969). Likewise, Peter Temin's (1968) analysis of sources of changes in the money supply demonstrated that the inflation and financial crisis of the 1830s had their origin in international events largely beyond President Andrew Jackson's control. Those crises would have taken place whether or not he had acted as he did regarding the Second Bank of the United States – thus fundamentally reinterpreting another important episode in American economic history.

The cliometric approach aimed to replace imprecise qualitative statements – such as "It is difficult to exaggerate the importance of this" – with precise and accurate estimates of economic magnitudes and economic relationships. As cliometricians harnessed computers, which

allowed them to quickly calculate totals and averages, they also tried to estimate underlying economic relationships and marginal effects using voluminous (but previously silent and unusable) bodies of archival data. As some debates were settled, however, the new approach opened even more research questions to analysis and scrutiny.

One way to gauge the progress of cliometrics is to examine the pages of the leading economic history journal. In the early 1950s, less than 2 per cent of the pages in the *Journal of Economic History* were in cliometric articles – those which used measurement (seen in a growing number of tables) and explicit economic theory. This figure subsequently climbed to 10 per cent in the late 1950s, 18 per cent in the early 1960s, 44 per cent in the late 1960s, and 78 per cent in the early 1970s (Whaples 1991). In the late 1950s, cliometrics was seen by some as a passing fad, but by the 1970s it was the standard operating procedure for American economic historians. In the following decades, cliometrics was increasingly adopted by scholars from outside the U.S. as well. Many of the achievements of this first generation of cliometric research were surveyed in Fogel and Engerman (1971), McCloskey (1976), Lee and Passell (1979), and more recently (and retrospectively) Lyons *et al.* (2008) – all of which (sometimes breathlessly) emphasized both the novelty and important breakthroughs from the approach as it gained dominance within the United States.

Criticisms of cliometrics

The cliometric approach has had a natural appeal to historically minded researchers trained in departments of economics. In one sense, it is simply the application of standard economic tools – initially developed to understand the present – to the past. However, cliometrics has been more controversial among scholars trained in history departments.

One of the strongest early criticisms of the new method came from Fritz Redlich. In published work he expanded on a point he made most succinctly in responding to a question at an academic conference. The young questioner asked the old professor, "What is your model?" Redlich responded, "Model? I deal with the truth." One of Redlich's most telling arguments was that cliometricians focused too much on purely economic considerations and ignored the impact of institutions. He was even more strident in his attack on the use of explicit counterfactuals, which played a prominent role in the early history of cliometrics, especially in the case of Robert Fogel's influential analysis of the impact of railroads. To fully assess this impact, Fogel modeled a counterfactual world in which railroads never existed. Among other things, this required him to project the expansion of navigable waterways that would have been built had there been no railroads, and to project the consequences of that expansion, such as shifts in population. Redlich attacked such counterfactuals by calling them "figments." "Hypotheses are based on assumptions which are held to have a counterpart in reality, while figments are assumptions having no such counterparts or at least known to be irrealistic" (Redlich 1965: 484). Due to their basis in reality, hypotheses can be verified or falsified; figments can only be justified. Figments lead to economic models, and "a model is never a piece of history" (Redlich 1965: 490).

Proponents of the cliometric approach rebutted this criticism by arguing that *every* historian has a model. Without mental models to simplify the bewildering array of sensory facts, a person wouldn't be able to make it through the day. Without models to simplify the bewildering array of historical facts, no scholar could make sense of the past. Cliometricians, such as Lance Davis (1966), argued that their breakthrough was to make explicit the models that had once been implicit. For example, those who argue for the indispensability of railroads in nineteenth-century American economic growth implicitly have a model that suggests the demand for transportation was massive, that railroads offered immense advantages over other modes of transportation, and

that no suitable substitute for railroads was likely to have performed as well. Fogel (1964) subjected this model to empirical tests and found it wanting. He then formalized an alternative set of assumptions about transportation demand and the shift in supply brought about by the railroads. Cliometricians celebrated this conceptual breakthrough, but debated whether or not the theoretical assumptions in Fogel's model accurately reflected the structure of the economy and whether the numbers used in it were accurate. The conclusion of the profession – especially those trained in economics – was that Fogel's modeling and measurement were convincing. In a 1995 survey, Whaples (1995: 143) found that 89 per cent of economic historians in economics departments rejected the idea that "without the building of the railroads, the American economy would have grown very little during the nineteenth century." Economic historians housed in history departments (a dwindling breed) were less convinced: 66 per cent of them rejected the idea.

Redlich was not alone in his criticism. Cliometricians were mostly economists, and their papers had to conform to economists' standards. Their method and style, and assertions of the virtues of cliometrics, alienated older economic historians in particular, and historians in general. American Historical Association President Carl Bridenbaugh lamented that some colleagues had succumbed "to the dehumanizing methods of social sciences," and warned against worshipping "at the shrine of that Bitch-goddess, QUANTIFICATION" (Bridenbaugh 1963: 326). To many contemporary American economic historians, these arguments are a quaint episode. Cliometrics is their orthodoxy; as they see it, cliometricians "won the West," imposing a "Pax Cliometrica" (McCloskey 1987: 77).

A more lasting criticism has been that the default model of cliometrics is an artifact of modern, Western thinking. Boldizzoni (2011) argues that cliometrics hasn't improved our understanding of the past but has distorted it, because its default assumption is that there are essentially universal laws of human behavior that have held at all times and in all places. Economists, he argues, have projected their belief that people are "rational maximizers" from the modern West – where the assumption may fit fairly well – to other times and places when and where it doesn't fit. The chief villain in his critique is Douglass North, a pioneer of cliometrics, who has also been an insistent critic. North has complained that cliometrics needs to focus more on institutions and their evolution. In a series of works designed to get to the fundamental forces behind long-term economic trends – including both pre-modern economic stagnation and modern growth – North and his co-authors (North 1981, 1990, 2005; North *et al.* 2009) pushed their analysis further and further back, but they never abandoned their key assumption that individuals acted out of self-interest and were constantly cognizant of costs versus benefits in making decisions.

At heart, Boldizzoni attacks cliometrics for relying on ill-considered deductions rather than wading deeply into the details of historical life and using induction to understand the logic of earlier societies and their economies. Cliometricians would rebut this by arguing that their method relies on *both* deduction and induction. Accordingly, the next section of this chapter looks at the practice of modern cliometrics and the debates among cliometricians about how to make conclusions regarding historical cause and effect.

Cliometrics in practice: multivariate regression

Perhaps the most common practice in cliometrics is to use multivariate regression analysis, which produces an estimate of the marginal impact of a variable of historical interest while holding other important factors constant. A typical example is Buffum and Whaples (1995) who seek to test the magnitude of employee-based discrimination in the labor market of the late 1800s using data on

furniture workers collected by the Michigan Bureau of Labor Statistics. Their study begins with a simple economic model that assumes this market was competitive so that wages reflected workers' productivity, but that workers were also compensated for any negative workplace conditions. Using wages as the dependent variable and holding constant measurable worker characteristics (such as occupation, education, and experience) likely to influence productivity (and therefore wages), this study examines the marginal impact of variation in the ethnicity of co-workers. It finds that a one percentage point increase in the share of the work force who were not from a worker's own ethnic group increased his wage about 0.1 per cent. This is interpreted as evidence that employers had to pay their employees more when they were in close contact with co-workers they liked less (or disliked more) than members of their own group. The study also finds that workers from Protestant ethnic groups were generally paid more when working with Catholics, but concludes that the additional labor costs generated by this employee-based discrimination were probably offset by several benefits that rendered complete segregation unnecessary.

This study is typical of cliometric work that applies a widely used economic model to historical data. The regression coefficients allow the economic historian to go an important step beyond contemporary and historical accounts that agreed workers in these groups often didn't get along and disliked each other. Regression coefficients quantify how much workers disliked each other by estimating how much more they had to be paid to work with one another – or how much pay they were willing to sacrifice to work with members of their own group. The study reaches the cliometric goal by illuminating the past and also breaking ground in testing a theoretical implication – that if employees discriminate against each other they must be paid more to work with each other – that can't be tested well using modern data but can be tested with a rich historical data set.

Panel data

A more difficult task is to examine a historical change, an episode or a public policy, and convincingly determine its causes or consequences. Data sets on workers' wages often include thousands of observations, and it is clear that some explanatory variables are exogenous (that is, caused by factors outside the system). Wage regressions can be fairly straightforward to interpret because it is clear that some variables cannot influence others, making conclusions about causation more convincing. When wages are higher for middle-aged workers than for younger workers, it's fairly clear that age is driving wage and not the other way around – that getting older pushes up one's wage since earning more can't cause one to become older. However, examining the causes and consequences of events and policies is harder because it's more difficult to find plausibly exogenous determinants, and because events can be so complex that an unmeasured, omitted variable might be at work.

Panel data can help solve this problem. A panel generally consists of two dimensions – a spatial dimension that consists of cross-sectional observations (e.g. nations, states, cities, industries, firms, groups of people, or individuals) and a temporal dimension that consists of time-series observations (periodic measures of characteristics of what is being observed).

Consider this question: Did the riots in American cities in the 1960s *cause* long-term economic harm to those cities? Conventional economic theory suggests this is plausible, because a property's value is believed to reflect the discounted value of the expected net flow of utility associated with its ownership – including not only the physical quality of the structure, but also such things as security, proximity to work, family, friends and shopping, the quality of municipal services, and the taxes needed to support such services. In theory, if a riot causes a sustained decline in the perceived amenities in one location relative to others, it would register as a

relative decline in property values. In line with this theory, examining data shows that – holding constant other factors like region, population, crime rate, segregation, and the trend in property values – property values fell more in cities hit by more severe riots (Collins and Margo 2007).

But what if the riots themselves were more severe in cities that were economically weaker, and this economic weakness accounts for *both* the lagging property values and the riots? In cases like this, economic historians look for "natural experiments" – changes or differences that plausibly arise outside the economic system, which allow one to compare situations or places that received one "treatment" with those that received another "treatment." Collins and Margo report contemporary observations that rainy weather made rioting less severe, and then estimate the impact of city-specific weather in the period following Martin Luther King's assassination – showing that (holding other factors constant) more rain in April 1968 led to less rioting. In this case, rain is used as an "instrumental variable," an exogenous variable that does not itself belong in the explanatory equation but which is correlated with the endogenous explanatory variables. Putting these pieces together (using a two-stage regression estimation framework), Collins and Margo convincingly confirm that more severe rioting had an independent, large, negative impact on urban property values. They estimate that riots decreased black-owned home values in these cities by about 10 per cent.

Among the panel data sets that are widely used in economic history are the Panel Study of Income Dynamics (PSID), the National Longitudinal Survey of Youth (NLSY), and the Union Army data of the Center for Population Economics. The PSID is a panel of U.S. families that began in 1968 and continues today. Economic, social, and health factors have been measured over individuals' lives and across generations. The NLSY is one of several panels collected by the Bureau of Labor Statistics. The most widely used of these is the National Longitudinal Survey of Youth 1979, which surveys young men and women born in the years 1957–64. The Union Army Data Set (and the U.S. Colored Troops Data Set) consists of white (and black) males mustered into the Union Army during the Civil War. Military, socio-economic, and medical information from several sources throughout their lifetimes have been collected and are part of ongoing research efforts.

Many economic historians have constructed their own panels. An important example is the panel of city-, county- and state-level New Deal spending, economic activity, and demographic data constructed by Price Fishback and his co-authors. For example, Fishback *et al.* (2007) examine the impact of New Deal spending on infant mortality, non-infant mortality, and general fertility rates in major U.S. cities between 1929 and 1940. They include controls for city characteristics, city and year fixed effects, and make use of instrumental variables (voting patterns in years prior to the Great Depression, and Congressional committee assignments, for example) that helped determine the allocation of New Deal spending. They conclude that about $2 million (measured in year 2000 dollars) in additional relief spending was associated with a reduction of one infant death, half a homicide, one suicide, 2.4 deaths from infectious disease, and one death from diarrhea in each large urban area.

Finding a convincing instrumental variable can be very challenging. The researcher needs to find a factor that helped drive the economic events but did not arise simultaneously from within the economic system. When it comes to policy analysis, this can be almost impossible because political decisions are so intricately intertwined with economic forces.

Time series

Because of the focus on economic growth, many problems in economic history involve statistical work with time-series data. Into the 1970s, statistical research on time series was largely limited to

isolating trends from cycles. The procedures developed by Clive Granger, D.A. Dickey and W.A. Fuller, and others changed that. The appearance of new techniques in time-series econometrics afforded tests for characteristics in data such as Granger causality, non-stationarity in levels, structural change (unit root tests), and cointegration. These techniques quickly found their way into the research of economic historians. Even the old question of cycles or trends received a statistical update.

The typical regression only says something about correlation, but Granger won the Nobel Prize in Economics for arguing that, under certain conditions, the regression can also say something about causation. In brief, a time series of one variable is said to Granger-cause a time series of another variable if it can be shown that the first variable's values provide statistically significant information about the future values of the second variable – thus, if one time series can be used to forecast another, then one can argue that it helps cause it to vary, at least in a statistical sense. The first mention of such a test in the economic history literature appears in Michael Edelstein's (1980) discussion of a paper by Michael Bordo and Anna Schwartz at the annual Economic History Association meetings. Edelstein suggests the use of the test, but in the published paper Bordo and Schwartz (1981) argue that, while the Granger test could be used to test causality between money and the price level, or the price level and the terms of trade, they believe there is an omitted common influence affecting both the terms of trade and the price level, and this means the test is inappropriate. However, these tests are a main focus of Schwartz (1981) and her contribution toward revisiting the Great Depression contained in Brunner (1981). Her long-run results strongly suggest money Granger-caused income and not the reverse: the supply of money was not endogenously driven by the business cycle.

Stationarity is an attribute of a time series in which the mean and standard deviation are constant over time. It is important since standard econometric tools assume finite variances for the variables of the estimated model. Stationarity provides this finite variance. Thus, the first step in analyzing time-series data is to test if one's data are stationary or not. Its first appearance among economic historians is David Pope's (1984) analysis of Kondratieff cycles in Australia. The most common way to test for (non-)stationarity is to apply a Dickey-Fuller test that checks whether a unit root is present in an autoregressive model. In his examination of open market operations in the 1920s, Mark Toma (1989: 116) used this test to argue that, in a regression of the level of Federal Reserve security holdings against its lagged value and a constant, "standard test procedures reject the non-stationarity hypothesis that the lagged coefficient equals one." Within two years, such tests were common in the economic history journals.

Two (or more) time series are said to be cointegrated if they move together, if they statistically share a common stochastic drift. Alternatively, two time series are cointegrated if they are non-stationary but a linear combination of the two series is stationary. Gary Libecap (1989) examines interstate cartel production coordination in the petroleum market. If residual production by Texas was for the purpose of maintaining nominal crude oil prices, there would have to be a long-term relationship between output in Texas and market demand in the U.S. – that is, the two time series would be cointegrated. Libecap finds no statistically significant evidence that this was true.

One of the major issues confronted by time-series analysis has been to identify the timing and potential causes of the British Industrial Revolution. Many scholars have contributed to this literature, and among the major contributors are David Greasley and Les Oxley (2010). Extending the "best guess" estimates of British Industrial Production generated by Nick Crafts and Knick Harley (1992) and using an augmented Dickey-Fuller test, Greasley and Oxley (2010) divide almost 300 years of British history into five epochs: 1700–80; 1781–1851; 1852–1913; 1922–73 and 1974–92. Their times-series tests characterize the period between 1700 and

1913 as alternating between trend stationary, difference stationary, and trend stationary, so they make a case for dating the British Industrial Revolution to the second epoch, 1781–1851. As to the causes of British industrialization, their tests indicate that cotton and iron were the leading industries, and coal was a follower. Cotton had wider linkages than iron, "statistically causing paper and shipbuilding production," but they do not regard it as more important in the 1815–60 period "as bidirectional causality between iron goods and cotton output lies at the heart of the cotton, mining and metals sector" (Greasley and Oxley 2010: 1009–10). (This paper also contains an extensive overview of time-series methods used by economic historians.)

It can be argued that many of these techniques help us to understand the statistical process that generated the data, but that the *statistical* process is not necessarily the *economic* process and Granger-causality is not *economic* causality. Macroeconomists have generated competing models of the same economic process: there is no single "correct" understanding. It is safe to say that there is much work still to be done to understand and dynamically model the economy.

These examples are only a small sample of the empirical inquiries to which time-series econometrics has been employed by economic historians. Given the importance of time series to economic history and the time-series data economic historians have produced, it seems inevitable that new statistical techniques for analyzing time series, as they become available, will be adopted quickly.

Computable general equilibrium models

As historical questions have become more complicated, the models used to answer them have become more complex in accounting for feedback mechanisms and impacts that spread throughout the economy over time. For example, the economic effects of immigration ripple throughout an economy, so a comprehensive model that can capture this complexity is needed. A naïve, theory-free approach may suggest that one can isolate the impact of historical immigration on wages by simply comparing wages in cities and states where immigrants have settled with those in places they haven't. Unfortunately, this conveys virtually nothing for two reasons. First, immigrants don't usually choose their destinations randomly; given their mobility, they often select areas that have the best job-market opportunities. They are attracted to the highest-wage cities and states, so finding that wages are higher in places with a lot of immigrants could confuse cause and effect. Second, suppose that immigrants flood into a city – increasing its labor supply relative to its labor demand – pushing wages in the city down. The native-born population is not likely to react passively to this, but will begin to leave this market, entering other markets and pushing down wages in places where immigrants haven't gone. If these native-born workers are mobile enough, just enough of them will leave to make the wages in all cities approximately equal for similar jobs. The impact of immigration will be diffused across the entire economy, so looking for its impact by comparing where immigrants are and aren't located can be erroneous.

To capture the impact of immigration and other broad economic changes like trade and technological change, economic historians have turned to models of the economy that can capture the feedbacks. One influential immigration study is Hatton and Williamson (1998), which includes a computable general equilibrium model (developed in O'Rourke *et al.* 1994) of the interactions between the U.S. and UK economies during the late 1800s and early 1900s. In the U.S. model, output and factor prices are endogenously determined – that is, they arise within the system. Consumers are constrained by endowments and maximize a utility function; their income and expenditures are endogenous. There are four production activities that obey standard production functions – food, agricultural intermediates, manufacturing, and services; three primary factors of production – land, labor (divided into agricultural and non-agricultural),

and capital; two imported goods; and foreign exchange. The model assumes that firms minimize costs (to maximize profits); competition is perfect; capital is perfectly mobile across sectors; non-agricultural labor is perfectly mobile between manufacturing and services; and rural–urban migration is determined endogenously by wage gaps. The model also includes an explicit consumer utility function. Equilibrium occurs when for every sector price equals costs; for every commodity, demand equals supply; and the consumers' incomes equal the rents on all endowments. The thirteen prices are endogenously determined, as are the nine activity levels. The UK model is similar but somewhat simpler. The model allows its users to examine the impact that labor flows from Britain to the U.S. had *throughout* the economy – on wages and other factor price levels, on prices of goods, on the allocation of resources, and more.

While a model such as Hatton and Williamson's can be an advance over a simpler partial-equilibrium model, it is open to many criticisms. Rosenbloom (1998) finds Hatton and Williamson's conclusion that trans-Atlantic migration (along with trade) was an important factor in explaining the narrowing of international wage gaps during this period is plausible; yet he cautions that it is difficult to adequately assess these conclusions in part because of the very complexity of the general equilibrium models on which they rest. Are the key assumptions of the model – the elasticities, interactions, and functional forms embedded in it, the calibrations of key parameters – a good reflection of reality? The very complexity of the economy necessitates the use of such complicated models, but also undermines their usefulness – and these complex models are simplifications that leave out much that may be important (e.g. immigration's impact on technological progress, culture, and institutions). Some important events in economic history – like immigration – have such complex and far-reaching impacts that even the most advanced cliometric techniques can't adequately assess them. But the bottom line is that models by their very design and nature are abstractions from the complexity of life. The job of the economic historian is to push refutable hypotheses as far as the theory and data will allow, and to confirm or reject these hypotheses based on the credible evidence that can be marshaled. Perhaps there will never be the tools to adequately address the most important and complex historical economic questions. Researchers probably will not innovate enough to create adequate methods to completely address these important questions. But it is essential to press the available technology as hard and as fully as we are able.

Conclusions

Cliometrics aspires to enhance the study of the economic past by applying the rigor of economic theory and quantitative analysis, while simultaneously using the historical record to evaluate and stimulate economic theory and to improve comprehension of long-run economic processes (Greif 1997). It is the dominant paradigm of modern economic history. At its best, this method has deepened our understanding of American and world economic history in many important ways. It is especially useful when data from the past are abundant and when scholars can agree on how the economy has functioned – and therefore how to model it. However, like any other scientific investigative technique, cliometrics cannot answer every question. Understanding the economic past is crucial to understanding the present, but it is hindered by lack of information on what occurred, individuals' motivations, and the sheer complexity of their interactions.

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