

# The Cliometric Society

February 1997 Vol. 12 No. 1

## Clio at the ASSA

by Andrew Seltzer, University of Melbourne  
with Joyce Burnette, Wabash College

(New Orleans) The Allied Social Science Association meetings were held in New Orleans, January 3-6, 1997. The five Cliometric Society sessions were organized by program chairs Richard Grossman (Wesleyan) and Sumner LaCroix (Hawaii at Honolulu), with Mary MacKinnon (McGill), coordinator for the Society. Sessions were well attended and a good time was had by all.

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of Cliometrics**

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**Form on Page 18**

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With the American Economic Association, The Cliometric Society sponsored a roundtable, chaired by Robert Fogel (Chicago), on "Cliometrics After Forty Years," which drew the largest attendance of the Clio sessions. Claudia Goldin (Harvard) opened with the fable of Clio, who was the offspring of an immortal father, Zeus, and a mortal mother, Memory. Although ruler of the gods, Zeus failed to pay child support, and Clio was forced to take a job and enter into an unhappy but lucrative marriage. Clio's inability to balance marriage and career has for more than a century been mirrored by difficulties facing educated American women. Goldin argues that a successful balance of family and career became the norm only with the 1985 cohort of female college graduates; earlier cohorts had to choose between work and family. Cliometric research has demonstrated that slow employment progress for working women is explained by generational overlaps in the labor force.

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Avner Greif (Stanford) then discussed the evolution of cliometrics, its ability to analyze institutions, and its relationship to economic theory. He argues that in the initial stages of the cliometric revolution tractable topics were limited by theoretical, data, and computing constraints. However, those limitations have gradually loosened as a consequence of broader theory, new innovative data sets, and increased computing capacity. Cliometricians have thus in recent years been able to address fundamental questions about the emergence of markets, institutional change, and economic growth. He also maintains that cliometrics has not only benefited from the expansion of neoclassical theory, but has also contributed to it; mainstream models such as path dependence and endogenous growth originated in economic history. Finally, he argues that economic history has played a larger, more general role in the trend toward more inductive models in economics.

"Garden variety" economist James Heckman (Chicago) offered his outsider's reflections on the impact of cliometrics on mainstream economics. He observes that cliometrics as a discipline was successful almost immediately in "overtaking" the field to the point that economic history lies well within the mainstream

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## Executive Director's Notes

### New trustees

Jean-Laurent Rosenthal (UCLA) and Richard Sylla (NYU) have been elected Trustees for the 1997-2001 term. They replace Lance Davis and Mary MacKinnon, whom we thank for their service to the Society for the past four years.

### Donations

We wish to express our appreciation to the 66 members who responded to our request for a tax-deductible contribution to the Society. Their generosity will help us continue our many tasks.

### EH.Net News

In the past three months we have added new features to the Economic History Services web page at <http://www.eh.net>.

The Book Reviews in Economic History Archive now has reviews commissioned for EH.Net and the Business History list. It can be searched by author, title or key word. If you would like to write a review, or suggest a

book for review, please write to EH.Net Book Review Editor Robert Whaples at [rwhaples@eh.net](mailto:rwhaples@eh.net)

We have just started a Calendar of Events with dates of upcoming conferences, deadlines, seminars, etc. You will find it useful for planning, and it will help organizers avoid scheduling conflicts. The calendar also provides a form for people to submit information about events to be included on the calendar.

We are creating "mirror sites" to make the server easier to access in other countries. The first site is now operating in Seville, Spain, at the address <http://www2.eh.net>. In the future, there will be [www3.eh.net](http://www3.eh.net), etc. Please watch for announcements on the EH.News list.

### World Congress

Plans are nearly complete for the Third World Congress of Clio in Munich. We hope to see you all there. We received 83 proposals; program committee members Tim Hatton, Knick Harley, Giani Toniolo, John Komlos and I have selected 44 papers for presentation. (See the program on pages 15-16.) There will also be plenary addresses by Nick Crafts and Jeff Williamson, as well as (yet to be announced) speakers at the Saturday evening banquet.

Much of the Congress has been subsidized; the registration fee is only for the Congress Book and the banquet. Please register by April 1 so that we can prepare your book. We suggest you make hotel reservations when you register. See page 17 for the list of hotels holding rooms – and offering discount rates – for Congress participants.

North American participants can obtain a substantial discount on airfares through our arrangements with Travel Unlimited. Examples of current round-trip fares to Munich are Boston, \$761; Chicago, \$850; San Francisco, \$950. Please call 1-800-466-7555 to make your reservation as soon as possible, and identify yourself as a World Congress participant. You must have registered for the Congress to qualify for these discount fares.

### Congress Registration Form

This *Newsletter* includes a registration and hotel request form to tear out and mail or fax. Web users can register on-line at <http://www.eh.net/WCC>. The program, maps and hotel information are also on the web site.

#### THE CLIOMETRIC SOCIETY

Miami University  
Oxford, Ohio 45056 USA  
(513) 529-2850  
Fax: (513) 529-6992  
E-mail: [CSociety@eh.net](mailto:CSociety@eh.net)

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Price Fishback  
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## The Biological Standard of Living and Economic Development: Anthropometric Measures, Nutrition, Health and Well-Being in Historical Perspective

by Joerg Baten, University of Munich

(Munich) The diffusion of interest in anthropometric history was illustrated recently by the International Economic History Association preconference sponsored by the German Science Foundation held January 18-22, 1997. The interdisciplinary nature of the conference was evident through contributions from biologists, anthropologists, social and medical historians, economists and economic historians. Thirty-eight papers were presented by scholars from 17 countries. John Komlos (Munich) and Sebastian Coll (Cantabria) organized the conference.

In his introductory talk, Richard Steckel (Ohio State) reviewed key ingredients that have brought about the rise of anthropometric history. An important element was the growing uneasiness of economists about their main measure of welfare, GDP *per capita*, since it ignores such aspects of well-being as pollution or congestion. The conference was organized around eight general themes.

### 1. Trends in Heights

Anthropometric techniques are especially valuable for analysis of economies which lack reliable consumption and income statistics. Boris Mironov (St. Petersburg) estimated that, in Russia, the heights of successive birth cohorts stagnated, and birth weights declined, between the mid-1920s and late 1950s, suggesting a decline in the Russian biological standard of living during the Stalinist period. Stephen Morgan (Melbourne) found stagnation in China after 1937. The Great Leap Forward of the 1950s left an especially visible negative mark on the height record of the Chinese. From the 1970s onward, however, Chinese heights have increased considerably. Insong Gill (Sogang) analyzed Korean heights. During the Japanese occupation net nutritional status declined markedly, whereas the early 1960s and early 1970s were times of major height increases.

Stephen Nicholas, Sue Kimberley (both of Melbourne) and R. Gregory (Australian National) found that heights of white male Australians stagnated or decreased slightly between the 1870s and 1900s, and then increased sharply. During the early 20th century, heights of indigenous and white Australian females increased somewhat, but those of indigenous males stagnated. Barry Bogin (Michigan-

Dearborn) and Ryan Keep (Claremont) found that heights of the Amerindians of South America generally declined from European contact until the early 20th century; this was followed by a recovery in the second half of the century. Exceptions include Guatemala, which experienced a worsening of nutritional status during the period of civil war in the 1970s and 1980s. Ricardo Salvatore (Torcuato di Tella) reported the surprising result that Argentines in the late 18th and early 19th centuries were relatively short, despite meat consumption *per capita* that was among the highest in the world.

### 2. Explaining Regional Height Variation

Six authors used regional differences in nutritional status to investigate demographic and economic factors that might have influenced heights in the past. Gloria Quiroga (Alcala de Henares and Cantabria) argued that, between 1893 and 1954, a combination of real wages and fertility explained approximately 71% of regional height variation. Fertility was higher in regions just beginning the final phase of demographic transition. Further, in such regions, fewer nutritional and medical resources were provided per child. Joaquim da Costa Leite (Lisbon) found a similar wage-height relationship in five districts in Northern Portugal.

Michael Haines (Colgate) regressed heights of white Civil War-era military recruits from New York State on county mortality rates, and found a small negative relationship. He did find a strong correlation between mortality rates and nutritional indicators (*e.g.*, the stock of milk cows and butter production *per capita*). Lee Craig (North Carolina State) and Thomas Weiss (Kansas) investigated this across a wider geographic area, by regressing heights of Civil War recruits on agricultural production surpluses by county. Local surpluses of calories and protein *per capita* were related significantly and positively with heights for white recruits from the northern states; insignificant (protein) or negative (calories *per capita*) relationships with stature were found for black recruits. Timothy Cuff (Pittsburgh) focused on regional and intertemporal factors influencing heights of Civil War soldiers from Pennsylvania. Population density was negatively associated with average height; recruits from

central and northern Pennsylvania were taller. The "proximity to nutrients" thesis was also considered for Europe. Joerg Baten analyzed height data from early 19th-century Bavaria, finding that local milk production had a significant and positive effect on heights. Prussia, Italy and England yielded similar results.

### 3. Infant Birth Weight and Stunting

Biologist Noel Cameron (Witwatersrand) monitored the growth of children in 38 Sub-Saharan African countries in the 1970s and 1980s to compare effects of environmental stress with those in other parts of the world. Compared with rural samples, Soweto contained distinct groups of taller and shorter children. Middle-class Sowetans with access to private medical care were "consistently, but not significantly" taller than rural African children; children born in the poorer parts of Soweto were much smaller and lighter. In a similar study, Henk-Jan Brinkman (United Nations), J. W. Drukker (Groningen) and Brigitte Slot (Robeco) regressed the percentage of stunted children in contemporary developing countries on GDP *per capita* and other variables. They found a monotonic, negative relationship between stunting and log GDP *per capita*. W. Peter Ward (British Columbia) reviewed the main results of historical birth weight studies from the late 19th and early 20th centuries. One of his insights was the close relationship between perinatal death and low birth weights.

### 4. Methods in Anthropometric History

Markus Heintel (Munich) developed a new method to estimate means and trends of normal height samples with "shortfall," a common phenomenon in military samples where there is a minimum height requirement. Heintel demonstrated that his method (which requires GAUSS) is superior to the Quantile Bend Estimator. Ulrich Woitek (Munich) looked at the cyclical properties of heights using spectral analysis. He discovered 4-8 year cycles in the heights of 19th century Americans, cycles that coincided with business cycles as measured by real wages.

### 5. Archaeology

Anthropometric historians who study the Roman to medieval period face small sample sizes and often incomplete skeletal remains. Several new strategies to overcome these problems were presented. Holger Schutkowski (Goettingen) used calcium and strontium contents of bones as proxies for dairy product and grain consumption to assess diets in early medieval southwestern Germany, demonstrating a relationship between ecological characteristics of settlements and food

consumption of the residents. Richard Steckel, Paul Sculli (Ohio State), and Jerome Rose (Arkansas) are gathering data on several dozen skeletal collections from North and South America to form an index of health from skeletal disease and longevity indicators. Jesper Boldsen (Odense) compared Danish skeletal data with written height records of the 19th and 20th centuries. He argued that much of the modern increase in average Danish heights was due to heterosis, greater growth that comes from the crossbreeding of diverse gene pools.

### 6. Exploring Possible Influences: Disease Environment and Food Availability

Philip Coelho (Ball State) and Robert McGuire (Akron) explored the disease environment of American slaves. They argued that blacks had greater resistance to hookworm and malarial infections than did whites, but black children had higher rates of infection. This could have led to Steckel's finding that slave children were extremely short. Simon Szreter (Cambridge) analyzed the decline of life expectancy in major industrial towns in England during the period of rising real wages (1820-1860) by looking at public health policies in these towns. Markus Heintel and Joerg Baten argued that there is no evidence that the incidence of smallpox affected the physical stature of poor London boys between the 1750s and 1820s.

Philip Hoffman (CalTech) presented new estimates of agricultural productivity in *ancien regime* France which revealed important regional differences in agricultural productivity as well as stagnant growth. Martin Brüegel, Jean Michelle Chevet and Jean-Marc Robin (INRA) created time series of food purchases for an 18th-century French convent school, and suggested that their finding of a consumption shift from meat to milk was typical for the French upper classes of the time. Lydia Sapounaki-Dracaki (Panteion) reconstructed Greek consumption patterns of food and other goods in the 19th century, a time when most Greeks consumed at subsistence levels. Paul Thomes (Aachen) discussed the question why potato farming spread so slowly in 18th century Germany.

### 7. Distribution of Nutritional Resources

Bernard Harris (Southampton) explored the possibilities of height and mortality differences between the sexes in England and Wales. He finds no evidence that 19th-century girls suffered more from discrimination than girls today, while strong evidence suggested improving relative life expectancy of women in their adult years.

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## Report on the Conference on the Aging of Union Army Veterans

by John M. Kim and Chulhee Lee  
Center for Population Economics, University of Chicago

(Chicago) An international conference on the use of a new large longitudinal data set for Union Army veterans was held October 24-26, 1996, at the Allerton Hotel in Chicago. Sponsored by the Center on Demography and Economics of Aging of the University of Chicago and funded by the National Institute on Aging, the "Conference on the Aging of Union Army Veterans" was the occasion of public release of data assembled for the project on "Early Indicators of Later Work Levels, Disease, and Death".

The Early Indicators (EI) project, with funding from the NIH and the NSF, has constructed a set of life-history samples suitable for longitudinal studies of how the interaction of socioeconomic and biomedical factors affects the aging process. The conference introduced and explained the data to potential users, aiming to generate broad interest among the research community and to solicit feedback on how best to improve the quality of data cleaning, processing, and documentation. Reflecting the multidisciplinary nature of the project, participants came from a wide spectrum of specialties, including community health, epidemiology, nutrition, geriatrics, demography, history, and economics.

The sample universe for the EI data sets is men recruited into white volunteer infantry regiments of the Union Army. Commissioned officers, blacks, and other branches of military service are not included because the quality of the source documents is not comparable. A one-stage cluster sampling procedure was used to draw a random sample of 331 companies from those whose records survive at the National Archives; every recruit who belonged to one of these companies is included in the sample. The EI data set was constructed by linking each recruit on the master list to 12 different source documents. Altogether, there are data for 39,616 recruits in the EI sample, with about 12,700 pieces of significant information for each recruit. The sample is representative of the population of white males who served in the Union Army. Furthermore, because a large proportion of white males of military age served in the Union Army, careful use of the sample should allow extrapolation to the entire northern white male population.

From the University of Chicago, President Hugo

Sonnenschein and Dean Robert Hamada opened the conference by welcoming the participants and congratulating the project members. Both speakers expressed their hope that conference participants (and other researchers) would find the new data interesting and useful.

The first morning was devoted to providing the audience with a broad overview of the data. In the keynote address, the project's Principal Investigator, Robert Fogel (Chicago), discussed the background and intellectual history of the project, whose potential had been perceived more than two decades ago. Fogel then touched briefly on the nature of each of the source documents from which data were collected.

The opening presentation by John Kim led the audience through the design and characteristics of the sample, and discussed several perspectives from which the data could be approached. Information drawn from the 12 source documents is classified into three main data sets. The first is the military-pension set derived from military service records, carded medical records, muster rolls, regimental books, and pension files. The second is the census set covering information from the 1850, 1860, 1900, and 1910 Census manuscript schedules. The third is information from surgeons' certificates, reporting the detailed medical examination required of each pension claimant. He noted that the data can also be categorized by content: military, socioeconomic, and medical. Finally, Kim showed how the information from the various sources covering different periods of a recruit's life could be assembled to provide an almost complete socioeconomic and medical history from childhood to death.

The next presentation, by Larry Wimmer (Brigham Young), discussed the specifics of data collection, cleaning, and documentation. Researchers at Brigham Young University are responsible for collecting and delivering the data to the University of Chicago, where they are cleaned, documented, and submitted for public use to ICPSR (the Inter-University Consortium for Political and Social Research). Data collection was undertaken at three institutions: the National Archives (military and pension records), the Genealogical Society in Salt Lake City (census records), and Brigham Young University (surgeons' certificates). Most source documents are

extensive, handwritten, free-form descriptions, which require custom data-entry software designed to assemble the information in a usable format as well as to check for errors in a rudimentary way. Wimmer concluded by discussing linkage rates to the various source documents, possible reasons for linkage failure, and selection biases that could result from linkage failure.

Sven Wilson (Chicago) and Min-Woong Sohn (Chicago) then presented details of the additional work at Chicago. The cleaning process uses a multi-stage cleaning engine into which both data and cleaning instructions written by the Chicago staff are fed to generate processed output. At each stage there are specific cleaning tasks, including standardization of missing values, date formats, and formats of values in numeric fields; standardization of location and battle names and descriptions of injuries or illnesses; and correction of misspelled entries. The last stage generates final output in several formats for the project's researchers and ICPSR submission. Wilson explained the common layout of the manuals for each of the three main data sets and demonstrated how to locate information.

Michael Haines (Colgate) inquired whether new releases or updates could be made available for downloading at sites other than ICPSR, and David Hacker (Minnesota) responded by offering the facilities of the Social History Research Laboratory (University of Minnesota) as an unofficial distribution site. Haines also suggested that sample codes be included in future releases to show users how to read data into the formats required by the most popular statistical packages.

The afternoon sessions began with a presentation by Dora Costa (MIT) on the range of topics that can be explored using EI data. These include the effect of socioeconomic background on wartime medical experience, wartime stress and its influence on subsequent health status, the effect of pension benefits and health on retirement decisions and family structure, the use of anthropometric measures as proxies for health, and various issues concerning chronic disease and disability among older men at the turn of the century. She emphasized that the longitudinal nature of the life-cycle data offers investigators the opportunity to probe many issues in greater detail, especially those that had previously been avoided because of data limitations. Costa also pointed out that the richness of these data allows investigation of such areas as income and wealth, nativity, ethnicity, fertility, nuptiality, education, religion, and internal migration.

John Kim presented his work on body build and health to illustrate that research topics are not limited to historical issues, but also bear on current issues in aging. He first showed how the regularities observed in the shapes of height-risk and weight-risk relationships among different populations (either morbidity or mortality risk) could be extended to a height-weight-risk surface, and demonstrated derivation from this surface of a relatively narrow region of body builds efficient for health. He argued that both natural selection and optimizing economic behavior predict that most height and weight distributions would be observed within that efficient region. Both the current cross-country distribution of mean heights and weights, as well as the time-series path of mean height and weight of French men over the past three centuries, do indeed agree with the prediction. Kim further showed how the surface was capable of yielding health predictions from the height and weight distributions of the US elderly in the 1980s, consistent with reported changes in their health. He concluded by forecasting that, based on historical trends in height and weight, the health of America's elderly would improve 30% by the year 2035.

Kim's presentation generated a lively discussion. David Rush (Tufts) and Alok Bhargava (Houston) raised concerns about attributing causality to the observed relationship between body build and health. Kaare Christensen (Odense) explained that low body mass and excess fat can be considered competing risk factors which underlie the U-shape of the BMI-mortality curve. Kim responded that, while the issue of causality could not be settled with the mortality data at hand, both the length of the follow-up period (18 years), and the fact that the surface does not change for a sample restricted to people who survived a long time after initial height and weight measurements made him more confident that body build has a significant influence on mortality.

The balance of the afternoon proceeded with presentations of some research results that have emerged from the analytical part of the project. Chulhee Lee used the military medical records to investigate patterns of disease incidence and mortality both during and after the war. He began by noting the unique features of the disease experience during the Civil War, emphasizing that Union Army medical records provide an excellent basis for epidemiological studies. He then explained the method for deriving analytical variables from the primitive information in the data sets, such as wartime mortality, case fatality, and the hazard rates of dying from specific

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## Report on the All-UC Conference

by Stacey Jones, Stanford University

(Stanford, Cal.) The All-UC Group in Economic History held its annual fall conference this past November at the Center for Economic Policy Research (CEPR) at Stanford University. The theme of the conference was Comparative Development in Latin America and the United States, with a program arranged by Gavin Wright (Stanford), William Summerhill (UCLA), Stephen Haber (Stanford), and Lovell Jarvis (UC-Davis). Participants included 78 scholars from 26 institutions, with strong graduate student representation. In keeping with the interdisciplinary tradition of the All-UC Conference, the group included historians, economists, political scientists and sociologists.

The conference opened with two papers on the state of economic history. Naomi Lamoreaux (UCLA) presented a paper entitled "Economic History and the Cliometric Revolution" in which she claims that the cliometric revolution has had costs as well as benefits. Specifically, she argues that while the energetic institution-building of the early cliometricians succeeded in promoting interest in economic history and in securing financial support for cliometric research, it also erected barriers to the exchange of ideas among economic historians, economists, and historians. In particular, use of quantitative methods has raised a methodological bar to be leapt by historians wishing to study economic issues.

Stephen Haber (Stanford) examined the field of Latin American economic history in light of Lamoreaux's criticisms in "Paths Not Taken: Dependency Theory, Cliometrics, and Latin American Historiography." He countered that cliometric methods would have been a good thing for Latin American history, but that scholars had rejected them for ideological reasons. Instead, the work of Latin American historians took place within the paradigm of dependency theory. As Jan DeVries (UC-Berkeley) summarized Haber's view, "Latin American history retained a non-falsificationist epistemology – that is, it remained history."

Responding to both papers, DeVries asked whether the barriers between economic history and history are institutional, as Lamoreaux argues, or intellectual. Economic historians, he continued, must address questions of broad interest if they hope to participate in an interdisciplinary conversation. Carlos Marichal Salinas (Mexico) pointed

out that Latin American history was not really as number-free as Haber claimed. Gregory Clark (UC-Davis) speculated that feeling isolated may be an occupational hazard of academics and not unique to economic historians.

The conference moved on to other big questions with a paper entitled "Inequality, Institutions, and Differential Paths of Growth Among New World Economies," by Stanley Engerman (Rochester), Kenneth Sokoloff (UCLA), and Haber. Sokoloff posed the central question of the paper as follows: "Why did the areas thought to be the least promising in the New World by European settlers (the USA, Canada), ultimately do best in terms of economic growth?" The proposed answer is that the areas richest in natural resources (Latin America) also had the most inequality from the outset, producing institutions unfavorable to economic growth. The North American climate favored small farms, leading to a more equal distribution of wealth, more democratic political institutions, more extensive markets and more growth.

In a paper on "Order and Disorder: Institutional Origins of Economic Performance in the Nineteenth Century Americas," Barry Weingast (Hoover), Douglass North (Washington U.), and William Summerhill also seek to explain the divergence of US and Latin American economic growth. They argue that political order is a necessary condition for economic growth and that order requires a credible commitment by the government to enforce property rights. They examine the experiences of the British and Spanish colonies to see whether political order was re-established when the colonies gained independence, finding that the once-British colonies achieved order after independence but the once-Spanish colonies did not. They trace this divergence to differences between British and Spanish property rights enforcement mechanisms prior to independence.

Commentator Anne Krueger (Stanford) warned the authors to avoid monocausality: specifically, not to leap to the conclusion that institutions alone explain the differences between Latin and North American economic performance. Even if inequality does limit growth, she argued, it does not follow that redistribution will promote it. Salinas added that he enjoyed seeing a paper on divergence, since much more attention in economic history has been given to convergence. Alan Taylor

(Northwestern) pointed out that wage data may give a more accurate picture of growth than existing GDP estimates. Gary Libecap (Arizona) speculated that incentives to form institutions to limit rent-seeking may not exist when inequality is high.

The final paper on Friday, "The Argentine: From Economic Growth to Economic Retardation," by Colin Lewis (LSE), narrowed the focus to a single country and a mere 130 years, 1850 to 1980. There is a substantial literature which attempts to explain why Argentina did not carry its rapid 19th-century economic growth into the 20th century. Reviewing this literature, Lewis concludes that the failure of domestic institutions to adjust to changing economic circumstances in the 20th century slowed Argentina's growth. He notes that much of the history of this period has been written by its policy-makers. Taylor commented that while the lack of growth in the 20th century is not mysterious, the 19th-century pattern is still unclear, and further research should explore the phenomenon of 19th-century export-led growth.

Saturday began with a session on financial institutions and economic development. Gail Triner (Rutgers) presented "Finance, Markets, and the Formation of 'Brazil': 1889-1930," where she argues that, contrary to the view in the literature, the Brazilian government was actively involved in establishing and regulating the financial system during its early years. She presents evidence of interest rate convergence from 1906 to 1930 to show that a national economy emerged in Brazil during this period. In discussion, Avner Greif (Stanford) objected that convergence of interest rates does not by itself demonstrate the birth of an integrated national economy. He suggested that Triner establish a metric for national integration and show the mechanism by which the banking system increased integration over this period. Alan Olmstead (UC-Davis) and Haber encouraged her to look at what other financial institutions were doing at the time, particularly securities markets.

Noël Maurer (Stanford) moved the discussion to Mexico with his paper "Is Competition Always Good: The Mexican Financial System during the *Porfiriato*, 1884-1912." He argues that the Banco Nacional de Mexico (BNM) did not, as has been asserted, act as a central bank in this period, claiming further that the 1897 Banking Law, by placing regional limits on competition, had a positive effect on economic development in Mexico. It gave the BNM a temporary monopoly in developing regions which encouraged the bank's expansion, much as a patent

encourages research and development. Kerry Odell (Scripps) commented that it is not clear that the government ever intended the BNM to serve as a central bank; the bank was never granted a monopoly on note issue. She asked Maurer for a deeper exploration of the motives of the finance ministry in setting up BNM as a quasi-central bank. Lamoreaux commented that a local bank would have had informational advantages over the BNM; why weren't there pairings of locals with information and outsiders with capital?

The next paper, by Rafael Gamboa-Gonzalez (Mexican Central Bank) was on "The Credibility of the Federal Government in Bailing Out State Governments: Comparing the US with Brazil and Mexico." Stating that "history is the laboratory to test theories," Gamboa-Gonzalez employs a game-theoretic model of state government bailouts by federal governments and tests the model against bailouts in the US, Brazil and Mexico. In response, Peter Lindert (UC-Davis) suggested some additional cases, and proposed that bailing out state governments might be a legitimate federal function. This led to a more general discussion of federalism, in which Salinas pointed out that Mexico is federalist in name only: 90% of government resources are controlled by the central government. DeVries speculated that states may need to be reserved a substantial share of the tax base if federalism is to work.

David Madero-Suarez (UCLA) brought the discussion of the Mexican Central Bank closer to the present with a paper on "The Political Economy of Monetary Stability in Post-Revolutionary Mexico," in which he examines how the central bank of Mexico emerged during the 1930s and 1940s from the interactions of various interested parties. Ronald McKinnon (Stanford) asked him to consider the problem of establishing a consistent monetary regime across a gold standard and a system of fiat money. Summerhill requested a closer look at the institutional mechanisms involved.

The afternoon session addressed institutions of land and settlement. Karen Clay (Toronto) opened with a paper on the efficiency consequences of the California Land Act of 1851: "Property Rights and Institutions: Congress and the California Land Act of 1851." If "efficiency" is taken to mean social-cost minimizing, she claims, then the California Land Act was not efficient. However, she argues that the land act was effective in minimizing the government's private cost of land transfer. Discussant Paul Rhode (North Carolina) asked her to look at whether



the long delays in resolving land claims affected what people did with the land, thereby hindering investment. DeVries added that the litigation may have had distributional consequences: only those with the means to get through the long process would get land.

In a paper on Argentine agriculture from 1880 to 1914, Alan Taylor asked whether the *latifundistas* (the landed elite) retarded economic development in the Pampas. In his paper, "*Latifundia as Malefactor in Economic Development? Scale, Tenancy and Agriculture on the Pampas,*" he looks for specific evidence that large land ownership conferred economic advantages such as monopoly power in land markets, economies of scale in agriculture or greater access to capital markets. Try as he might, he finds little evidence to support the traditional view that *latifundistas* had thwarted Argentine development. Jarvis objected that Taylor's evidence on land prices does not refute the claim that large land owners enjoyed economic advantages. *Latifundistas* could have enjoyed such benefits if, for example, limited availability of small parcels had driven up prices for small relative to large tracts of land. Nancy Virts (Cal State-Northridge) asked Taylor to look at the distributional as well as the efficiency consequences of large land-holdings.

The final paper on this topic was "Property Rights and Land Conflict: A Comparison of Settlement of the U.S. Western and Brazilian Amazon Frontiers," by Lee Alston (Illinois), Bernardo Mueller (Brasilia), and Libecap. They argue that the primary source of conflict on these frontiers was inconsistency in government enforcement of property rights. In the US West, the legacy of this "failure of mechanism design" is a large area of poorly-used public lands. Julie Schaffner (Stanford) asked whether it was ill-defined property rights or other features of the frontier setting that produced conflict. She also said the authors need to clarify whether the source of conflict was inconsistency in the rules governing land rights or their incomplete enforcement. Christine Hunefeldt (UC-San Diego) questioned the implicit assumptions involved in comparing the late 20th century in Brazil to the late 19th century in the US.

The afternoon continued with the Dissertation Session, a traditional feature of the All-UC conference which gives graduate students a brief opportunity to present their research. In "Nutrition, Health, and Economic Growth: Mexico, 1850-1950," Moramay Lopez-Alonso (Stanford) examines living standards in Mexico from 1850 to 1950, using data on the heights of soldiers as an

indirect measure of nutrition and health. She finds little improvement in the average heights of Mexicans over this period and persistent regional and class differences in heights. This, she claims, contradicts the traditional view that living standards declined prior to the Mexican revolution and rose afterwards. Garland Brinkley (UC-Berkeley) commented that he was not sure we should expect living standards to decline prior to a revolution. DeVries expressed skepticism about using height as a proxy for living standards.

Elizabeth Zahrt (UC-Riverside) followed with a paper on American Indian off-reservation migration from 1985 to 1990. She hypothesizes that, because of community ties (and in the extreme because the "economic model" of behavior fails to describe Native American behavior), Native Americans may be less responsive to economic incentives to migrate away from reservations than non-Native inhabitants of reservations. She uses census evidence to look at the extent to which migration responded to unemployment rates, and concludes that, from 1985 to 1990, the migration decisions of Native Americans were less responsive to economic incentives than those of whites. Masao Suzuki (Mills) countered that Zahrt needs to consider institutional support mechanisms available to Native Americans only on the reservation that would induce them to remain. He also noted that, in human capital models of migration, high levels of unemployment can reduce migration because of the cost of financing moves, not just increase migration as she assumes. Clark added that she needs to consider the size of the effects she found, not just their statistical significance.

Bruce Castleman (UC-Riverside) contributed a paper on "Road Labor in Bourbon Mexico: Xalapa de la Feria and Orizaba, 1757-1792." His data, from employment records and church samples, allow him to examine the nature of manual work in late 18th-century Mexico. He notes that large numbers of workers worked sporadically, perhaps due to occasional needs for cash, and finds a division of labor between Indian and non-Indian workers. Virts added that in this period the Spanish appear to have spent a lot of money in Mexico which generated little or no economic growth. She urged Castleman to look at how his information fits into a broader picture of the economy. Clark noted that, in comparison with their European contemporaries, Mexican laborers worked long and consistently.

Sunday's early risers were rewarded with a presentation by Steven Helfand (UC-Riverside) on the political

economy of agricultural policy in Brazil, 1964-1992. The evidence for the paper comes from 50 interviews he conducted with the shapers of Brazilian agricultural policy. Helfand observes that the return to a democratic regime in Brazil in the 1980s led to a more rule-based policy process and to the emergence of extra-corporatist agricultural organizations. He argues that rule-based decision will lead to more predictable policies and a long-term reduction in discrimination against Brazilian agriculture. Jose Morilla (Alcalá de Henares) noted that, when studying policy in a dictatorship, it is necessary to distinguish between the official country and the real country, and added that in the Brazilian case it looks like the import-substitution policies of the 1960s and 1970s may have worked. Robert Packenham (Stanford) objected that the increasing power of interest groups might be expected to result in less transparent policy, not more.

Continuing the discussion of trade policy, Edward Beatty (Stanford) moved the discussion to Mexico with his paper, "The Structure of Protection in Mexico, 1890-1911: Import Tariffs and Domestic Industry." He questions the conventional view that the Diaz government did not intend to protect or promote certain industries, claiming that the Diaz policies were, in fact, strongly pro-industrial. He provides evidence on the cascading tariff structure, which he claims promoted import substitution by taxing industrial outputs more than inputs. Engerman concurred: that the government at the time frequently exempted raw materials from tariffs shows it was aware of protection. He asked for more consideration of the impact of tariffs on the overall economy, noting that, while a tariff protecting a specific sector will cause its expansion, it does not follow that this expansion benefits the economy. Taylor asked whether Mexico's trading partners had responded to the tariffs by locating plants in Mexico; Beatty answered that they had not. Engerman added that "tariffs" does not answer the question, "Why is Mexico so poor?"

The final two papers looked at *repartimiento* commerce in the Colonial period. In the first, "Informal Credit Institutions and Monopolists: An Institutional Analysis of the *Repartimiento* Monopoly of Late Colonial Oaxaca, Mexico," Jeremy Baskes (Ohio Wesleyan) claims that the *repartimiento* system in late Colonial Oaxaca was developed to channel credit from Spaniards to Indians, absent more formal credit mechanisms. This provides an alternative to the traditional view that the main business of the *alcades mayores* was to profit from their monopoly position in trading with indigenous populations. He

describes a complicated credit system, in which peasants were advanced funds to be repaid in cochineal (dyestuff), while the *alcades mayores* enjoyed profits from their monopoly of the provision of credit. Vincente Pinilla (Zaragoza) questioned the profitability of the system for the *alcades*, noting that the position of *alcades mayor* was often sold for a high price. Greif added that many of the problems of the credit system Baskes described would have been solved if the *alcades mayores* had demanded repayment in cash rather than in cochineal; why didn't they do so?

The final paper of the conference, "Textiles, International Trade and Internal Markets: Guatemala, 1765-1779," by Robert Patch (UC-Riverside), examines the workings of the *repartimiento* system in the highlands of Guatemala. The paper portrays the *repartimiento* system as a forced labor system, in contrast to the voluntary credit arrangement described by Baskes. The *alcades mayores*, he claims, were able to produce textiles profitably where other businessmen were not, because the *alcades mayor* had political power: he could arrest or flog his workers if they failed to produce. Dennis Flynn (Pacific) commented by describing a silver counterpart to the textile story, noting that in both cases the system of trade was global. Arturo Giraldez (Pacific) added that the split between history and economics was a particularly American phenomenon. Rebecca Menes (UCLA) observed that in Patch's story it appears the men were making agreements to produce textiles, but the women and girls were doing the work.

Overall, the conference left the impression that Latin American Economic History is a thriving field. Long-held views are everywhere being challenged by economic historians unearthing new data sources or bringing new theoretical tools to bear on old problems. Some ambitious scholars are taking a wide-angle view of Latin American and North American economic history (a.k.a. "the new hemispheric perspective") and attempting to explain long-term divergence in economic growth among American nations. Other scholars are zooming in on particular places and periods in history and revealing the richness and variation in the details.

The next conference of the All-UC Group in Economic History will take place at UC-Santa Barbara April 11-13, 1997. The organizers are John Majewski (UC-Santa Barbara), Ken Mouré (UC-Santa Barbara), and Roger Ransom (UC-Riverside). The conference will focus on "Economic Transitions between War and Peace."

## Report on the NBER/DAE Summer Institute

by Sukkoo Kim, Washington University

(Cambridge, Mass.) NBER's Development of the American Economy Program met at the NBER offices July 8-11, 1996, for its Summer Institute. The program was organized by Stanley Engerman (Rochester) and Joseph Ferrie (Northwestern) with the assistance of Kirsten Foss Davis and the Bureau's conference office. Eighteen papers were presented by NBER Research Associates, Research Fellows, and recent doctoral candidates in American economic history.

The theme for the opening day was labor. The morning session began with a paper by Joshua Rosenbloom (Kansas), "Strikebreaking and the Labor Market in the United States, 1881-1894," in which he examines the extent and pattern of strikebreaking. The data were constructed from a sample of more than 2,000 individual strikes between 1881 and 1894 using reports compiled by the US Commissioner of Labor. Rosenbloom finds that the use of strike breakers did not vary substantially across regions or by city size, and argues that this evidence is consistent with increasing geographic integration during this time.

Initial comments focused on the social traits of strike breakers. Charles Calomiris (Columbia) wondered if there were benefits to bringing strike breakers from "distant" places, and if this phenomenon might complicate the study of labor market integration. Daniel Raff (Pennsylvania) commented that unions used the Pinkertons because they were "unsocialized". Rebecca Menes (Harvard) asked if different ethnic groups were used to break strikes. Discussion then moved to the effect of strikes on workers and firms. Menes inquired about the post-strike ramifications of using strike breakers and whether they were able to obtain permanent positions, Robert Gallman (North Carolina) wanted to know what fraction of workers were replaced by strikebreakers, and Ferrie asked about indirect benefits to non-striking firms. The audience also provided several suggestions. Price Fishback (Arizona) recommended studying strike duration, Claudia Goldin (Harvard) suggested looking at a city's proximity to other cities, and Peter Temin (MIT) proposed using occupational rather than industrial categories to examine the effect of strike breakers on skilled and unskilled workers.

Robert Margo (Vanderbilt), in his joint project with Lynn Kiesling (William and Mary), "New Evidence on Ante-

bellum Poor Relief: Preliminary Findings," uses previously untapped archival data from the manuscript Censuses of social statistics of 1850 and 1860 to study the determinants of public pauperism during the late antebellum period. The writers discovered that the incidence of pauperism increased dramatically in the 1850s, particularly in urban areas, partly as a consequence of economic distress as reflected in stagnant or falling real wages. Moreover, increased immigration and urbanization added to the surge in pauperism.

Discussion began by focusing on the nature of the data. Dora Costa (MIT) inquired if the data provided information on sex. John Wallis (Maryland) asked whether the data were reported on a case or an individual basis and whether towns were incorporated. Goldin asked about the level of jurisdiction used. Tom Weiss (Kansas) wondered whether there was a means test for poor relief, and Gallman asked about grants of long-term *versus* short-term relief. Jeremy Atack (Vanderbilt) also wondered how the workers were counted: if a person received relief twice, was he counted twice? Questions then moved to more substantive issues. Gallman inquired about the effect of private poor relief. Eugene White (Rutgers) asked whether the two dates used in the paper were in the same business cycle phase. Finally, Richard Steckel (Ohio State) suggested looking at diaries for case histories, so that poor relief could be studied at an individual level.

The last paper presented in the morning session was by Claudia Goldin and Larry Katz (Harvard), on "The Origins of Technology-Skill Complementary" in manufacturing. Their study is motivated by the current concern with relationships among specific technologies, capital and the wage structure. Goldin and Katz demonstrate that relative complementarities existed from 1909 to 1929, associated with such technologies as continuous and batch processing and the adoption of electric motors. Industries using more capital per worker and a higher proportion of electric motive power employed more educated blue-collar workers in 1940 and paid these workers substantially more from 1909 to 1929.

Wallis suggested comparing their data against 1880 rather than 1940. Raff wondered whether the industries with high-paying jobs attracted or indeed demanded

workers with high school educations. Margo raised concerns about educated workers migrating from rural to urban regions. Michael Haines (Colgate) asked whether scale economies and education intensity were connected. Temin observed that the early 19th-century horsepower figures may be dominated by mills. Goldin then asked for suggestions to explain why purchased electricity rather than total horse power seems to matter. Ken Sokoloff (UCLA) proposed vintage effects, Haines proposed factory reorganization, and Temin recommended examining growth rates of industries.

Following lunch, Dora Costa presented a chapter from her forthcoming book. Her paper, on the "Evolution of Retirement", uses census data to re-examine trends in retirement of older men by individual characteristics such as age, foreign birth, race and residence. She examines explanations focusing on factors pulling men out of the labor force (e.g., the growth of Social Security, private pension plans and income) and those focusing on factors driving men out of the labor force (e.g., sectoral shifts in labor force composition, poor job opportunities and ill health).

Calomiris inquired whether labor force participation might have been higher in 1880 because people lived longer than they had expected and did not save, whereas the workers today save more because they expect to live longer. He also asked how Costa dealt with workers dying while still in work, opposed to those who continued to work or who retired. Margo suggested that the uniform downward shifts in labor force participation by age group may be consistent with a life-cycle model with permanent increases in life-cycle income. Temin wondered if the phenomenon of retirement could be viewed as a social rather than an individual process. Margo then raised several points concerning income effects: How much of the growth in leisure was due to non-labor income? Can one use data from the public use sample to identify home ownership? Did better capital markets contribute to retirement rates by facilitating savings?

The first day ended with dissertation research by Chulhee Lee (Chicago), "The Expected Length of Retirement and Life-Cycle Savings, 1850-1990." He estimates the expected length of retirement at age 20 for 1850-1990 based on mortality and retirement experiences of each cohort. This information is then used to calculate the counterfactual life cycle savings-income ratio that would have resulted if saving for retirement had been the only motive for wealth accumulation. He finds that the

counterfactual savings-income ratio is fairly consistent with the actual savings rate for 1900-1940. However, counterfactual savings and actual savings diverge after 1940. Lee argues that the discrepancy can be explained by an increase of retirement savings in public funds.

Discussion focused on the model of retirement, with Shawn Kantor (Arizona) asking whether the model was realistic. Margo suggested that Lee explore an alternative intertemporal model and study its comparative statics. He noted that savings would be a function of interest rates in an intertemporal model, and that Lee's specified zero interest rate may thus be problematic and misleading, and that the model does not reflect bequest motives. Haines suggested that housing be included as an asset, as did Calomiris for capital assets, and Rosenbloom for the real value of individual Social Security benefits.

The theme of the second day's morning session was industrial organization. The first paper was given by Sukkoo Kim on "The Rise of Multi-unit Firms in U.S. Manufacturing," which examines forces leading to that rise and documenting its continuation in the 20th century. He finds that multi-unit firms emerged and grew in clusters of industries characterized by economies of scale, scope, research and development, sales administration and capital and energy intensities.

The paper generated some confusion concerning data on multi-unit establishments. There were two sources: the Census of Manufactures, which categorized the data by establishment, and the enterprise statistics, which categorized the data by firm. Naomi Lamoreaux (Brown) suggested using a more consistent language to distinguish the two. Further questions focused on the enterprise statistics. Atack asked about the measure of firm size, and whether salaried employees were included, and Lamoreaux asked about inclusion of warehouses and stores. Raff wondered how "establishment" was defined on the questionnaire form, and also inquired if information was provided for multidivisional organizations. On more substantive issues, Margo asked if Kim can say whether or not the average distance of plants of multi-unit firms had increased over time. Lamoreaux recommended distinguishing between vertical and conglomerate integration and testing Chandler's hypothesis more rigorously.

Daniel Raff (Pennsylvania), in "What Really Happened at Highland Park? Microeconomic History and the Coming of Mass Production," uses internal information

(found at the Detroit Public Library) from the Ford motor company to examine the firm's transition to mass production. Total factor productivity at Ford declined slightly between 1909-10, before increasing 72% between 1910-11. The annual growth in productivity flattened to approximately 40% between 1911-13, then fell to 3% between 1913-1914. According to Raff, these figures indicate that mass production involved significant complementarities in production.

Lance Davis (Cal Tech) wondered whether the data distinguish between finished and semi-finished cars. Margaret Levenstein (Michigan) commented that she would be surprised if the inventory data included depreciation. Temin inquired if the information on costs was derived from a simple algorithm. Calomiris asked if there was information on the location of branches. Many in the audience wondered why Ford shipped parts to assembly plants rather than shipping finished automobiles directly to dealers. Haines inquired about the proportion of assembly parts shipped to branches. Menes recommended examining data on transportation costs, and Davis suggested finding information on branch plants. Finally, Sokoloff asked what weights were used for autos sent to branches *versus* those sent to dealers in the calculation of total factor productivity, and whether the data can yield transfer prices.

The last paper of the morning session was from dissertation research by Tomas Nonnenmacher (Illinois) on "Law, Emerging Technology, and Market Structure: The Development of the Telegraph Industry, 1838-1868." He finds that the organization of the telegraph industry completed a full circle between 1845 and 1868, as it evolved from monopoly to strong competition to cartel and back to monopoly. The early telegraph network offered low-quality service, especially on messages sent over the lines of several firms. Low-quality infrastructure, coupled with the incentives of firms to supply low-quality service, made the network slow and unreliable. In this paper, Nonnenmacher examines the period after 1853, when the bulk of the system's integration occurred. He finds that the causes of integration were related to increased reliability and speed of the network, a desire to erect barriers to entry, feeder-trunk controversies and changes in the legal rules governing the industry.

Many questions were raised concerning the telegraph industry's technology and organization. Temin asked whether each firm owned its own wires, and if firms generally used the same routes as well as the same poles

along the route. He also inquired about the technology of connected feeder and trunk lines and whether licenses were geographically exclusive. Gary Libecap (Arizona) raised several questions: What caused firms to become regional monopolies, where did the firms obtain their equipment, and were both Bains and Morse codes used to transmit messages? Questions then addressed the extent of competition and the pricing behavior of these firms: by Temin about measuring the extent of competition, by Lamoreaux about price discrimination, and by Libecap about quality of service provided by downstream firms. There were miscellaneous queries about what happened to the lines built by the government during the Civil War, about price data (Sokoloff suggested looking at advertisements), and whether the Civil War had any influence on the quality of transmission. Finally, Lamoreaux suggested comparing the evolution of the telegraph industry with that of the railroad industry.

The afternoon sessions were devoted to demography. Richard Steckel (Ohio State) presented an outline of the forthcoming book, *The Backbone of History: Health and Nutrition in the Western Hemisphere*, which he edited with Jerome Rose. He described in greater detail his chapter, "A History of Skeletal Indicators of Stress," which examines the benefits, problems and methods of measuring health from skeletal remains. Steckel uses indicators of nutrition, disease, trauma and stress to derive an index of health.

Discussion focused mostly on the data. Margo noted that there might be an index number problem, at which point Menes suggested checking the robustness of different weighting schemes. Ferrie inquired whether the historical data could be compared to contemporary data. Other participants asked whether skeletal indicators are comparable across individuals by age and whether the influence of genetics had been taken into account. The issue of selection bias in the sample was raised, as well as of the sample size itself.

Michael Haines, in "The Relationship between Infant and Child Mortality and Fertility: Some Historical and Contemporary Evidence for the United States," explores the relationship between fertility and infant (and early childhood) mortality at the turn of the 20th century. Using the 1900 and 1910 public use micro-samples of the United States Census, Haines finds that only about 10 to 30% of all child deaths were directly replaced by births, although hoarding seemed to have been more considerable. Gross replacement was found to be in the range of 60 to 80%,

and reductions in infant and child mortality (such as have occurred in the 20th century) would have had a direct offset in reduced birth rates by about 25%.

The discussion centered on the model and on the empirical technique. Rosenbloom wondered if the paper had an underlying model of demand for children. Margo responded that the regressions were not motivated by a life-cycle fertility model, so the estimated equations were not behavioral equations from an optimization problem. Others asked whether the model was identified. Margo suggested that special assumptions, such as the assumption of a homogeneous population, perhaps made the regression identifiable. Goldin wondered whether one could assume a homogenous population, and recommended looking at natural experiments. Rosenbloom suggested studying epidemics and multiple births.

Urban economics was the main theme of the third day. David Cutler (Harvard) opened with "Are Ghettos Bad? Evidence from 20th Century America" (joint with Edward Glaeser and Jacob Vigdor, also of Harvard). The authors assess the spatial isolation of blacks from whites using a measure of dissimilarity and a measure of isolation. They identify three periods of segregation: the birth of the ghetto (1890-1940), sustaining the ghetto (1940-1970), and shrinking the ghetto (1970-1990). They find that segregation was highly correlated across cities over time, although there were clear regional differences in levels and changes in segregation. In the past 20 years, the growth of the Hispanic population has accounted for some, but not all, of the changes in segregation. Finally, segregation has declined much more for educated than for less educated blacks.

Margo thought the indexes might be sensitive to aggregation problems, suggested additional indexes, and also proposed adding income as another explanatory variable, since a standard monocentric model with income differences would also generate a natural level of segregation. Calomiris wondered whether one should use an absolute or relative measure of segregation and whether in-migration could be tested independently of city characteristics. David Galenson (Chicago) inquired whether the geographic unit was a ward or a city. White asked why there was a low level of segregation in the South, and Levenstein noted that information on business ownership by race is available for southern cities. Finally, Ferrie asked whether segregation is caused by changes in out-migration or in-migration rates, and Steckel inquired if there was a way to examine the

relationship between spatial and social segregation.

The next paper was given by David Galenson, on "Neighborhood Effects on the School Attendance of Irish Immigrants' Sons in Boston and Chicago in 1860." Evidence drawn from the manuscripts of the 1860 federal Census of Population reveals that the son of an Irish immigrant living in a poor immigrant neighborhood in Boston was less likely to attend school than his counterpart in Chicago. According to Galenson, Boston immigrants faced discrimination from a public school monopoly, whereas Chicago immigrants benefited from competition between public and parochial schools.

In the ensuing discussion, Atack asked whether there was a close relationship between neighborhood as used in the paper and the actual physical distance of residences. Levenstein inquired about the location of parochial schools and the level of segregation of neighborhoods. Rosenbloom asked about the attendance rates of all students, and Margo wondered whether the schools were graded. White commented that the Archbishop of New York had used innovative methods, such as establishing a bank, to finance parochial schools. Libecap wanted to know whether there were systematic differences in literacy rates and economic opportunities between Chicago and Boston, as did Calomiris about differences in returns to education. Menes asked if higher public school quality acted as an entry barrier to parochial schools. Ferrie suggested looking at other types of schools such as those run by Jesuits, and Sokoloff suggested looking at education in other New England cities.

Robert Margo and Jeremy Atack examine the relationship between land price and location by studying the prices of vacant land relative to prices in the central business district of New York City in their paper, "Location, Location, Location! The Market for Underdeveloped Urban Real Estate: New York, 1845-1900." Their study, which draws upon new archival sources from newspaper listings of transactions for vacant lots, finds that, with respect to a simple univariate monocentric model, their estimate of the price gradient for land mirrors those in previous studies; that is, the gradient for distance from the central business district flattens over time, while the fit of the regression equation erodes.

Some in the audience observed that it was difficult to imagine vacant lots in Manhattan. Menes interjected by noting that there are many reasons why vacant lots came

(continued on page 29)

## THIRD WORLD CONGRESS OF CLIOMETRICS PRELIMINARY PROGRAMME SCHEDULE

### Thursday 10th July

1.00-2.00 pm Lunch and Registration

2.00-3.30 pm Parallel Sessions

A1: S. Broadberry (Warwick)

*How Did the United States and Germany Become Richer than Britain: A Sectoral Comparison of Productivity Levels, 1870-1990*

A2: M. Shanahan and M. Correll (South Australia)

*In Search of the Kuznets Curve: A Reexamination of the Distribution of Wealth in the United States between 1650 and 1990*

B1: J. H. Brown (Georgia Southern)

*Contracts versus Price Information: The SONJ Case*

B2: B. Gupta (St. Andrews)

*The International Tea Cartel in the Great Depression: Response of Firms in India, Ceylon and Indonesia*

3.30-4.00 pm Tea

4.00-5.30 pm Parallel Sessions

A1: P. Lains (Lisbon)

*Exports from Third Europe: Portugal, 1850-1914*

A2: G. Federico (Pisa) and A. Tena (Carlos III, Madrid)

*Was Italy a Protectionist Country?*

B1: P. Hoffman (Cal Tech), G. Postel-Vinay (INRA-EHESS, Paris) and J-L. Rosenthal (UCLA)

*What do Notaries do? Overcoming Asymmetric Information in Financial Markets: The Case of Paris, 1751*

B2: P-C. Hautcoeur (Rutgers)

*Information Asymmetries, Agency Costs, and the Financing of French Firms, 1890-1939*

5.30-6.15 pm Invited Lecture (N. Crafts, LSE)

7:00-8.30 pm Reception at the Residenz

### Friday 11th July

8.30-10.00 am Parallel Sessions

A1: T. Dick (Lethbridge) and J. Floyd (Toronto)

*Capital Imports and the Jacksonian Economy: A New View of the Balance of Payments*

A2: M. Hauptert (Wisconsin-La Crosse) and H. Bodenhorn (Lafayette)

*The Demand for Antebellum Bank Notes Revisited*

B1: P. Solar (Free University of Brussels)

*The Birth and Death of European Flax and Jute Spinning*

*Firms c. 1830 - c. 1910*

B2: J. Foreman-Peck and E. Boccaletti (Oxford)

*The Supply of and Demand for French Entrepreneurship in the 19th Century*

10.00-10.30 am Coffee

10.30 am-12 pm Parallel Sessions

A1: A. Klug (Ben Gurion) and E. White (Rutgers)

*Forecasting the Great Depression: Evidence from the Railroad Shippers' Forecasts*

A2: P. Fishback and S. Kantor (Arizona)

*The Effects of New Deal Expenditures on Local Economic Development*

B1: L. Brandt and A. Hosios (Toronto)

*Credit and Insurance in Rural China*

B2: S. Kurosa (International Center for Japanese Studies)

*Fertility and Economic Correlates in Japan, 1800-1930*

12.00-1.00 pm Lunch

1.00-2.30 pm Parallel Sessions

A1: G. Clark (UC-Davis)

*The Tragedy of the Commons Revisited: Efficiency and Institutional Evolution as Illustrated by the English Common Fields*

A2: G. Grantham (McGill)

*Contra Ricardo: The Macroeconomics of Pre-Industrial Agrarian Economics*

B1: A. Seltzer and D. Merrett (Melbourne)

*Human Resource Management Policies of the Union Bank of Australia: Panel Evidence from the 1887-1894 Entry Cohorts*

B2: I. Garskova (Moscow Lomonosov)

*Discrimination and the Labor Market in the Oil Industry in Baku in the Late 19th and Early 20th Centuries*

2.30 pm Tour of Munich for Participants and Families

City sight-seeing and visit to Castle Nymphenburg, residence of the Bavarian Kings.

Dinner on your own.

### Saturday 12th July

8.30-10.00 am Parallel Sessions

A1: M. Flandreau and J. Le Cacheux (OFCE)

*Budgetary Policies Under the Gold Standard: Europe, 1880-1914*

A2: C. Hefeker (Basel)

*The Political Economy of Fiscal Integration: The German Unification of 1871*

B1: J. Mokyr (Northwestern) and C. ÓGráda (University College Dublin)

*Famine, Disease and Famine Mortality: Lessons from the Irish Experience, 1845-1950*

B2: R. McGuire (Akron) and P. Coelho (Ball State)  
*An Exploratory Essay on the Role of Diseases in the Economics and History of American Slavery*

10.00-10.30 am Coffee

10.30 am-12 pm Parallel Sessions

A1: M. Bordo (Rutgers) and R. MacDonald (Strathclyde)  
*Violations of the Rules of the Game and the Credibility of the Classical Gold Standard, 1880-1940*

A2: N. Sussman and Y. Rubinstein (Hebrew University)  
*Exchange Rate Regimes, Monetary Policy and Inflationary Expectations – Evidence from the British Consol Market, 1790-1850*

B1: J. C. Brown (Clark)  
*Job Attachment and the Labor Market: Evidence from Munich before World War I*

B2: W. Collins (Harvard)  
*Wages and Labor Market Integration in Late 19th Century India*

12.00-1.00 pm Lunch

1.00-2.30 pm Parallel Sessions

A1: L. Alston (Illinois), G. Libecap (Arizona) and Bernardo Mueller (Brasilia)  
*Inconsistency in the Enforcement of Property Rights: Conflicts over Land on the Brazilian Amazon and US Western Frontiers*

A2: R. Sicotte (Carlos III, Madrid) and Cataline Vizcarra (Illinois)

*The Spanish Royal Tobacco Monopoly in Peru and New Spain, 1750-1810*

B1: V. Tassenaar and J. W. Drukker (Groningen)  
*Nutrition and Height in 19th Century Netherlands*

B2: J. Baten (Munich)  
*Economic Development and the Distribution of Nutritional Resources in Bavaria, 1797-1839: An Anthropometric Study*

2.30-4.00 pm Parallel Sessions

A1: A. Ritschl (Pompeu Fabra)  
*Nazi Economic Imperialism and the Exploitation of the Small: Evidence for Germany's Secret Foreign Exchange Records, 1938-1944*

A2: T. Yousef (Harvard)

*Egyptian Cotton Policy in the Interwar Period: A Bayesian Perspective*

B1: J. Ojala (Jyvaskyla)  
*Profitability and Productivity of Shipping in the Long-run: The Case of Finland, 1950-1914*

B2: M. Botticini (Northwestern)  
*A Loveless Economy? Intergenerational Altruism and the Dowry System, Cortona c. 1415-1436*

4.00-4.30 pm Tea

4.30-5.15 pm Invited Lecture (J. Williamson, Harvard)

5.30-6.30 pm Business Meeting, European Historical Economics Society

7.30 pm Conference Banquet

### Sunday 13th July

8.30-10.00 am Parallel Sessions

A1: M. Cha (Yeungnam)  
*Integration and Segmentation in International Grain Markets, 1878-1936*

A2: U. Woitek (Munich)  
*Integration of Grain Markets in Pre-Industrial Southern Germany*

B1: J. Ferrie (Northwestern)  
*Migration to the Frontier In Mid-Nineteenth Century America: A Re-examination of the Turner Thesis*

B2: S. Wegge (Lake Forest)  
*To Part or Not to Part: Emigration and Inheritance Institutions in 19th-Century Hesse-Cassel*

10.00-10.30 am Coffee

10.30 am-12.00 pm Parallel Sessions

A1: L. Davis (Cal Tech) and L. Neal (Illinois)  
*The Micro-Structure of Secondary Securities Markets – A Comparative Historical Perspective*

A2: M. Pammer (Linz)  
*Austrian Capital in Hungary, 1850-1914*

B1: J. Roses (European University Institute)  
*The Early Phases of Catalan Industrialisation: A Growth Accounting Approach, 1830-1861*

B2: J. Treble (Wales, Bangor)  
*Productivity in British Coal Mining: A Study Using Microdata, 1890-93*

12.00 pm Conference ends



## Hotel and Travel Information

**Hotel Reservations:** Local Arrangements Chair John Komlos and staff have reserved rooms at the hotels listed below. Participants are requested to fill out and return the Hotel Form with their Registration Form. Alternatively, you may call, fax, or send your reservation request via e-mail to the Congress secretary. You may also use our on-line forms at <http://www.eh.net/WCC> Hotels will send you confirmation of your reservation.

**Airline Reservations:** The travel agency for The Cliometric Society has reserved a block of seats on US Air at an average saving of \$300 per ticket.

These prices cannot be guaranteed for long. North American participants should call Travel Unlimited between 9 am and 5 pm EST. To qualify for discount fares, please make sure you have registered for the Congress. The travel agency's toll-free number is **1-800-466-7555**.

### Holiday Inn Crowne Plaza Muenchen

Leopoldstrasse 194

Telephone: 89-3 81 79-0 Fax: 89-3 81 79-8 88

Daily rate: DM 160-190

Singles, doubles with 2 queen-sized beds, suites. Full in-room baths and all "American amenities".

Various buffet breakfasts included. Children under 18 stay in parents' rooms free, but pay \$15 for breakfast.

Restaurant and pub, boutique and newsstand, Roman swimming pool, saunas, terrace.

Participants can make reservations by calling Holiday Inn toll-free numbers in their countries, and giving the group code name **CLI**

The following hotels are located in Schwabing, the "students and artists quarter" between the university and downtown, and advertise they are within walking distance of museums, theatres, and shopping.

### Hotel Savoy

Amalienstrasse 25

Telephone 49 89 28 10 61 Fax: 49 89 28 01 61

Singles DM 95

Doubles DM 120

Triples DM 180-250

Champagne breakfast buffet included. All rooms have private WC and bath or shower, telephone, radio, TV mini-bar. Quiet family-run hotel. Hotel will organize tours, obtain theatre tickets

### Hotel Alexandra

Amalienstrasse 20

Telephone: 49-89-28 40 01 Fax: 49 89 28 20 37

Daily rate: Singles DM 95

Doubles DM 120

Breakfast buffet included. In-room baths, telephone, TV, radio, mini-bar. "International" restaurant in hotel.

### Hotel Dachs

Amalienstrasse 12

Telephone: 49 89 28 20 86 Fax: 49 89 28 08 29

Singles without bath DM 78

....with bath/shower/WC DM 115-150

Doubles without bath DM 128

....with bath/shower/WC DM 172-195

Triples with bath/shower/WC DM 210

Showers located on each floor; most rooms have private baths or shower/WC. All rooms have telephones; TV on request. Quiet small hotel.

### Hotel Pension AM Siegestor

Akademiestrasse 5

Telephone: 49 89-39 95 50 or 51 Fax: 49 89 34 30 50

Singles DM 70

Doubles DM 95

Triples DM 145-170

*Youth hostel for participants 27 years of age or younger:*

### Hostel Jugendherberge Muenchen

Wendl-Dietrich Strasse 20 D-80634

Telephone: 49-89-12 11 56 Fax: 49-89-16 78 74 5

Daily rate: DM 29-34

Some doubles and larger "private" rooms; large dormitory-style accommodations. Some meals included. Close to public transportation.

***Please see next page for Registration and Hotel Reservation form.***

**World Congress of Cliometrics Registration Form**  
*Please provide the information requested, and send by April 1 to*

The World Congress Secretary  
109 Laws Hall • Miami University  
500 East High Street • Oxford OH 45056 • USA  
Telephone: 513-529-2850 • Fax: 513-529-6992  
E-mail: conf.secretary@eh.net

**Personal Information**

Name \_\_\_\_\_  
Affiliation \_\_\_\_\_  
Box/Dept. \_\_\_\_\_  
Street Address \_\_\_\_\_  
City \_\_\_\_\_ State/Province \_\_\_\_\_  
Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Telephone \_\_\_\_\_ Fax \_\_\_\_\_  
E-mail Address \_\_\_\_\_

*Conference books will be mailed to participants May 15. Please provide the address where we should send your book and other correspondence in May and June if different from your address above:*

**Registration Information**

Individual Congress Participant: \$60\_\_\_\_\_  
Undergraduate/Graduate Student Participant: \$45\_\_\_\_\_  
I will have people accompanying me to the Congress, at an additional \$35 per person.  
Number:\_\_\_\_\_ Total additional fees:\_\_\_\_\_

Total Registration Fees: \_\_\_\_\_

**Payment Method:**

\_\_\_ Check in US dollars drawn on a US bank enclosed, payable to The Cliometric Society.

Visa or Mastercard: Number \_\_\_\_\_

Expiration Date \_\_\_\_/\_\_\_\_

**Hotel Reservation Request** from list on page 17. Hotels will send confirmation of your reservation.

Preferred Hotel \_\_\_\_\_ Alternate Hotel \_\_\_\_\_

Room Type \_\_\_\_\_ Number in your party \_\_\_\_\_

Arrival Date/time \_\_\_\_\_ Departure Date/time \_\_\_\_\_

Special requests or additional information (e.g., nonsmoking room):

**ASSA Report** (continued from page 1)

of economics and only rarely interacts with history. He believes the most important contribution of cliometrics is a historical perspective on a number of current policy debates, citing, for example, research on government policies designed to alleviate racial inequality. His own work has shown that, contrary to arguments put forward by Welch, Epstein and others, government activism has played a historically important role in improving black welfare, particularly with policies from the 1930s that increased the level and improved the quality of schooling.

Next, Fogel read some reflections by John Meyer (Harvard), who could not attend, whose work with Alfred Conrad is widely credited with launching the cliometric revolution. Meyer argues that cliometrics has proven itself a viable and important field of economics over the past 40 years, averring that critics of the discipline have been largely misguided, although some of their strictures have been evocative and productive. He illustrated this point with two commonly-held criticisms: 1) cliometricians are overly indulgent in their use of counterfactuals, and 2) they dehumanize historical figures with excessive use of theory and statistics. Meyer counters that the first criticism is largely invalid because, like cliometrics, the basic policy formulation process relies heavily on (implicit) counterfactuals. The second may once have had some merit, but there are numerous examples of qualitative contributions by cliometricians in the past 10 to 15 years.

Finally, Douglass North (Washington U.) offered his thoughts on the evolution of the discipline and its relevance to current public policy issues. North views cliometrics as still bound by the "strait jacket of neoclassical theory;" this constraint, however, has lessened as underlying theory has broadened. Cliometrics has a great deal to offer economic theory, particularly on the importance of institutions and the process of economic change. He argues that an understanding of institutions will improve our ability to analyze demographic change, technological change, and human capital accumulation. Lastly, he cited the transformation of Eastern Europe as an example of the relevance of institutional analysis to current economic policy. [Roundtable papers will be published in full in the May issue of the *American Economic Review*. Eds.]

With Richard Sutch (UC-Berkeley) presiding, Livio Di Matteo (Lakehead) opened the session on "Savings and

Risk" by revisiting the question of wealth accumulation over the life-cycle. There are two problems with the existing literature: first, authors rely exclusively on parametric regressions which assume a quadratic relationship between wealth and age and, second, wealth is aggregated across asset types. He estimates the age-wealth relationship using a non-parametric regression model for probated wills of 3,476 Canadian decedents with as many as 16 asset types, also providing a sensitivity analysis for the life-cycle hypothesis. He concludes that standard techniques overstate the rate of wealth accumulation (particularly for the young) and that different asset types are accumulated at different rates over the life-cycle.

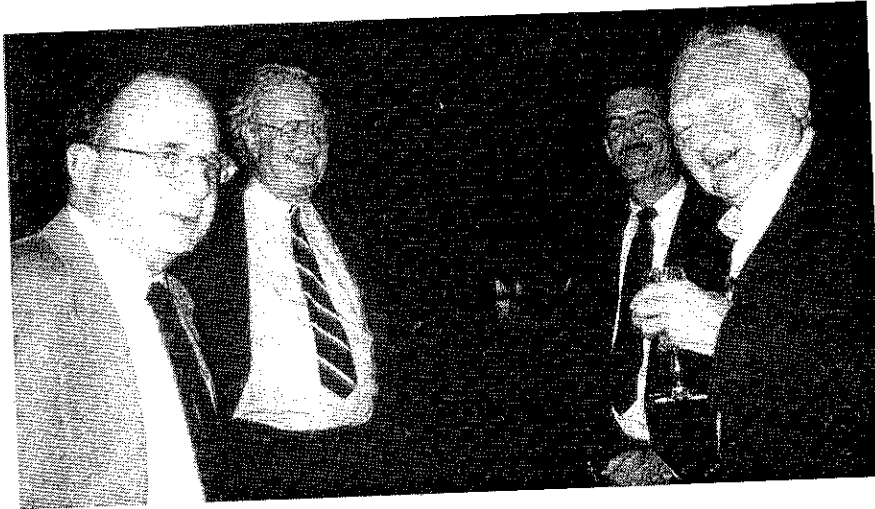
Sutch commented that the profession should take considerable comfort from similarities between Di Matteo's non-parametric estimates of wealth accumulation and the least squares estimates of others, but wondered whether the non-parametric method was appropriate, since it provides no theoretical structure for the age-wealth relationship. As a result, the estimated profile may be sensitive to outliers. Di Matteo responded that his method gives extreme values a reduced weight; an objective of his paper is to examine the consequences of the artificial quadratic assumption. MacKinnon suggested that Di Matteo examine whether different types of individuals held different forms of wealth (e.g., did farmers hold a large proportion of their wealth in the form of land?).

Herbert Emery (Calgary) and George Emery (Western Ontario) then related the decline from the 1890s to the 1930s of sickness insurance provided by the Independent Order of Odd Fellows, Canada's largest fraternal order. They examine the usual suspects: government social programs, the Great Depression, the rise of commercial group insurance, and the emergence of health care payments as the primary cost of sickness. These factors, they conclude, can offer only a partial explanation, because the real value of Odd Fellows' insurance began to fall two decades prior to their emergence. The primary reason for the decline was changing preferences of the Order's members. Both wages and the average age of members began rising in the 1890s, which made self-insurance (savings) an increasingly viable alternative to the Odd Fellows' sickness insurance.

Sutch observed that the failure of an alternative provider to emerge as the Odd Fellows reduced their provision of benefits supports a demand-driven explanation, as in the Emerys' paper. MacKinnon suggested that the authors buttress their case with direct evidence on insurance

provision; for example, they might try to determine, at a micro-level, whether corporate insurance was substituted for Odd Fellows' insurance or whether self-selection into and out of the Order is consistent with their explanation.

positive relationship between wealth and the proxy does not necessarily imply a role for non-transportable human capital. He also noted that, although human capital and matching appear to be relevant explanations for 1870 and 1992, incentive models are potentially relevant only for the 1992 data.



Photos by Joan Underhill Hannon

Mike Bordo, Trevor Dick, Eugene White, and Lance Davis

In the third paper presented, Mary Eschelbach Gregson (Knox) discusses the importance of non-transportable human capital – knowledge of a specific location or work environment – in wealth accumulation both in the mid 19th-century rural midwest and in contemporary America. She estimates earnings functions for 1870 and 1992, using data from a linked sample of six townships in the 1860 and 1870 Censuses and from the Current Population Survey. As proxies for non-transportable human capital, she includes a dummy variable for “present in the 1860 Census” in the 1870 earnings function and “tenure at current employer” for the 1992 earnings function. She finds that non-transportable human capital was an important determinant of wealth in both periods, but more important in the latter year.

Much of the discussion centered around what her proxies really measure. Sutch argued that the 1860 dummy may reflect unmeasured ability or motivation. MacKinnon suggested that it may reflect sample selection bias – of farmers present in 1860, the more successful were more likely to appear in 1870. Susan Carter (UC-Riverside) questioned the interpretation of human capital – the most important aspect of human capital may be learning how to learn, rather than learning specific skills. Seltzer commented that the labor economics literature offers three explanations for an upward sloping tenure-earnings profile: human capital, matching, and incentive theory. A

savings over the life-cycle, revealing that Americans were low savers at the turn of the century; it appears that the disincentive effects of federal programs have been exaggerated.

Sutch said how pleased he was that the paper contained over a dozen citations to his own work, but noted that the data were only for employees, and one reason people save is to become self-employed. James agreed, but said it was unclear the omission would bias his results since the self-employed proportion of the work force has changed little over time. MacKinnon wondered whether it was necessary to frame the question in terms of government policy. James replied that their work addresses the extensive literature about government crowding-out of private savings.

The session on “Southern Labor Markets,” with Alex Field (Santa Clara) in the chair, began with a paper by Lawrence Boyd (Hawaii at Manoa), who uses new time series techniques to re-evaluate existing data on miners' wages. His paper draws upon the theoretical result that the piece rate for miners should be equal to the elasticity of output with respect to piece-rate labor. He tests this proposition using cointegrating regressions and data from the *Historical Statistics*. Results indicate that the relationship does not exist as predicted, which, in turn, calls into question the aggregation procedure used for *Historical*

*Statistics.* Finally, he performs the same tests on disaggregated wage data from West Virginia, finding that these series conform to the predictions of his model.

Discussant Robert Margo (Vanderbilt) commented on the low power of the cointegration test and pressed Boyd for further interpretation of his results, noting specifically that although the cointegration coefficient does not differ for unionized mines, the markup might. Boyd responded that his results might be due to a long-run increase in the labor supply and the ineffectiveness of collective bargaining until the 1930s.

Brad Hansen (Mary Washington) then revisited the issue of wage flexibility prior to the First World War. His analysis of data for building and manufacturing

trades in Virginia indicates far more wage flexibility than has been found in a number of recent studies. His results show that wages of blacks were more flexible than those of whites and that the wages of men were more flexible than those of women. The differences, he argues, are largely attributable to occupational segregation. Finally, he finds that an index of wages in the building trade is more flexible than the mean daily rate of pay, suggesting that low-skilled, low-wage workers were more likely to be laid off during recessions.

While Boyd's results indicate improving spatial efficiency over time, Margo remarked, Hansen's imply worsening macroeconomic efficiency, that is, a greater downward wage flexibility in Virginia than in other states. A possible explanation may be sampling bias in the original data, but since little information exists about the sampling procedure, this proposition would be difficult to test. Margo conjectured that firms may have reduced hours in response to economic contractions, and the same degree of flexibility might thus not be evident from hourly wages.

In the third presentation, Anthony Patrick O'Brien

(Lehigh) and James Irwin (Central Michigan) examined the status of former slaves in the post-bellum South. Their paper analyzes data from the 1880 and 1900 Agricultural and Population Censuses in order to test the conventional wisdom that most former slaves became farmers, as either sharecroppers or tenants. They find that, in five cotton states in 1880, a majority of black household heads were

classified as laborers and only about a third as farmers. By 1900 those classified as farmers had increased to 49%, suggesting that freed slaves did progress up the agricultural ladder. To determine whether these results were due to incorrect classification by census enumerators, they link individual records from the Population and Agricultural Censuses for four



*Saturday night in N'awlins: William Sundstrom, Mary MacKinnon, and Robert Margo enjoying the Clio party*

rural Mississippi counties. The results indicate that, if anything, the proportion of black household heads recorded as farmers is too high.

Kyle Kauffman (Wellesley) opened discussion by asking what O'Brien and Irwin saw as the "conventional wisdom," since they seem to support other recent work also arguing that former slaves began as wage laborers. Kauffman questioned using Mississippi data, because tenancy there was more common than elsewhere in the South, and would thus lead to an overestimate of black economic progress. Margo suggested the results could be driven by data anomalies, and asked whether the census classification of sharecroppers was consistent over time. He observed that a number of household heads had been classified as employers despite using only unpaid family labor.

Alan Dye (Barnard) was chair of the session on "International Comparisons," which opened with a paper by Siddarth Chandra and Timothy Vogelsang (both of Cornell). Chandra presented their analysis of structural and technological change in Javan sugar production, 1840 to 1870, when the island was subject to population



Before: Alan Dye, John Nye, and John Hanson  
discussing International Comparisons

pressure, famines, and institutional change attributable to changes in Dutch governance policy. They estimate production functions for the Javan sugar industry using data from Dutch Cultivation Reports, concluding there was considerable structural change between 1847 and 1851, the years of the worst famines and of the implementation of the Dutch "labor tax." Finally, they argue that their results provide evidence of involution – technological change induced by the need to support a growing number of people on a limited amount of land.

Dye commented that their estimation techniques ignore potential factor bias in technological change, and do not incorporate capital into the production function estimates. He remarked that their theory pertains to sugar cultivation, but the estimates are based on sugar manufacturing. Chandra agreed, but noted that data on capital and cane sugar production are unavailable for this period.

In the next presentation, John Hanson (Texas A & M) discussed the tendency for post-colonial Third World countries to adopt socialism and retain it through the 1980s. His paper argues that there are two important theoretical determinants of socialism: modernity and culture, as measured by life expectancy at birth for the former and by the extent to which an organized religion had taken hold in the population for the latter. He concludes that modernity, Protestantism and Islam have inhibited socialism, but that Catholicism has had little or no effect.

Richard Sicotte (Carlos III) disagreed: because the

model's dependent variable is cross-sectional, it cannot explain the timing of the adoption of socialism. Issues of timing may be important for the poorer parts of the Third World, where a turn to socialism might have been more likely after a short-term economic downturn. He also argued that the model was entirely demand-side, but Third World countries may not always get the governments they want. The audience raised questions about reverse causality (which Hanson thought unlikely) and possible applications to the current transition in the formerly Soviet economies.

John Nye (Washington U.) then reported on the "oddest project" he has undertaken (in this case with Eric Helland of Ball State), analyzing the application of Benford's Law to economic data. Benford's Law states that first digits of naturally occurring phenomena do not appear equally often; smaller numbers occur more frequently. Series that do not conform to Benford's Law are probably either inherently "unnatural" or have been tampered with deliberately. They apply the law to a number of well-known macroeconomic data sets and find that, although national income statistics follow it, a number of constructed series, such as the Penn World Tables and Soviet Bloc GDP statistics, do not.

Dye concurred about the oddness of the project, commenting, "It's an interesting paper – I'm not sure what to do with it." He noted that there is no underlying theory to state which data sets should follow the law, and that there may be problems deriving from truncation, rounding up, and pricing conventions. Seltzer added that future data tamperers might take note of Benford's Law in order to avoid detection. Boyd suggested that the law may be used as a test of reasonableness (*e.g.*, for calculating GDP in non-market economies).

Michael Bordo (Rutgers) presented the session's final paper, "If Only Alexander Hamilton Had Been Argentinian," written with Carlos Végh (UCLA). They examine reasons for the great differences in post-independence inflation experiences of Argentina and the United States, despite a number of economic similarities between the two. Gold prices in the United States tended to increase during periods of war but to revert to their mean level during peacetime, whereas in Argentina there was no tendency toward post-war reversion, and prices ratcheted upward continually. Bordo explains this result using a model of public finance which suggests an inflation tax might be optimal in the presence of debt ceilings and high collection costs (which would likely be the case in war

time). Finally, they argue that, unlike the United States, Argentina had an important constituency for high inflation (cattle ranchers with high nominal debt).

Discussant Pierre Siklos (Wilfrid Laurier) opined that perhaps a more appropriate title for the paper would be "Why Alexander Hamilton Could Not Have Been Argentinian." Much of his discussion centered around the importance of political factors: there may have been large and important differences in political stability, in the extent of rule by law, and in the nature of democratic institutions. He also thought that Bordo's model may indeed be driven by these factors; that is, political instability may determine collection costs, and the choice of institutions may determine the rate of inflation.

Gavin Wright presided over the session on "Agricultural Mechanization." The first paper, by Wayne Grove (Colgate), discusses determinants of the diffusion of the mechanical cotton harvester in the US. Shortly after the end of World War II, the mechanical harvester was adopted rapidly – first by farmers in the western cotton states, shortly thereafter by farmers in the Mississippi Delta, and then in the remainder of the South. Economic historians have offered a number of explanations for this pattern, relating to labor costs, differences in farm size, southern culture, and environmental factors. Grove argues that the relative cost of machine and hand harvesting should determine adoption of the harvester, and finds that the regional order is consistent with relative costs. However, environmental and technological factors produced much more rapid diffusion rates in the Southeast once the adoption threshold had been reached.

Joseph Ferrie (Northwestern) suggested that Grove's model might suffer from endogeneity: causal links between harvester adoption and wage and non-wage labor costs could go in both directions. Discussion also focused on labor costs and migrant workers. Grove responded that labor was mobile and that Mexicans had been allowed temporary entry into the US to harvest cotton under the Bracero Program.

Craig Heinicke (Baldwin Wallace) then examined the decline of cotton production in the US South following World War II. His paper offers three possible explanations: effects of the Federal Soil Bank and allotment programs, rising wage costs eroding the profitability of labor-intensive cotton production, and a reduction in the cotton to livestock price ratio. He concludes that wage movements, relative prices and allotments all acted

to reduce the cotton crop, but that the Soil Bank had little or no effect.

Ferrie remarked he was encouraged that the return on alternative investments and government programs were no longer being ignored in the literature on crop mix, but noted that Heinicke himself ignores non-wage costs for cotton and livestock, and credit constraints on tenants who might have wanted to shift out of cotton. The discussion also speculated about the appropriate counterfactual alternative to growing cotton – perhaps forest products or the defense industry.

The session ended with a critical analysis of the threshold model of tractor diffusion, in a paper by Alan Olmstead (UC-Davis) and Paul Rhode (North Carolina). That model states that tractors, with high fixed costs and low variable costs will be adopted only on farms larger than a certain critical size. Olmstead and Rhode argue to the contrary, that the existing literature does not capture the full market dynamics involved with changing technology; the prices of horses and feed, for example, should be treated as endogenous. Adoption of tractors will reduce the price of horses, which in turn raises their competitiveness, and thus the threshold farm size is continually variable. In addition, they argue, it is unclear which costs should be treated as fixed and which as variable for either tractors or horses. Consequently, the calculation of threshold size is ambiguous, since it depends upon relative fixed and variable costs.

Ferrie agreed that it was time to play down the threshold approach, and suggested Olmstead and Rhode incorporate effects of sharing and custom work into their analysis. The authors replied that sharing was rare, but that custom service was more common. Wright argued that it is not



*After: Nye pondering Benford's Law*

surprising that use of horses and tractors coincided, given the endogeneity of prices, since the costs of the two systems were very close at any given time. Much of the ensuing discussion centered on why, in the absence of thresholds, there was still an S-shaped adoption curve. Rhode commented that gradual technological improvements might produce this result.

The final session, "Lessons from the Past," chaired by John James, was sponsored jointly with the American Finance Association. Caroline Fohlin (Cal Tech) began with an examination of the practice of interlocking directorates in German universal banking – bank representation on firms' supervisory or executive boards. She offers two explanations for these interlocks: that bank representation would have facilitated monitoring, and that banks could have obtained board seats through their underwriting activities. Using evidence from the boards of 400 firms at the turn of the 20th century, she finds that debt-equity ratios were no higher for firms with interlocking directorates than for those without. She sees this as evidence against the monitoring hypothesis. She finds also that firms listed on the stock exchange were more likely to have had an interlocking directorate, which she views as favoring the underwriting explanation.

James remarked that the results imply interlocks were by-products of securities exchange trading, and that the causality would flow from economic growth to networks. This leads to the relationship between financial development and economic growth, a topic not addressed in the paper. Finally, he asked whether the German banks had really been venture capital firms. Fohlin replied that this may have been true to some extent, since brokerage accounted for a substantial part of bank revenues.

Next, Jon Moen (Mississippi) and Ellis Tallman (Reserve Bank of Australia) examined the relationship between Bank of England policies and the US economy about 1900. They argue that Bank of England policies may unintentionally have hurt third countries through their effects on international gold flows. To test this hypothesis, they estimate a vector autoregression model of US gold outflows, finding that American real and financial variables explain most of the gold flows. However, the Bank of England's gold holdings and interest rates also had an effect through their influence on the exchange rate.

Bordo's commentary was largely directed to asking which variables in the model should be regarded as endogenous. He noted that the model assumes that the Bank of England's actions were endogenous to the American economy. Since it is possible that the Bank's actions were precipitated by such events in the US as interest rate changes, their estimates for the Bank of England variables could be biased. He also commented that the United States conducted monetary policy through the Treasury, and this may have interacted with the Bank of England's policies.

In the final paper presented, David Zalewski (Providence) and J. Peter Ferderer (Macalester) examine the relationship between the gold standard, interest rate uncertainty and real output during the Great Depression. They argue that the gold standard can lead to interest rate uncertainty because shocks to foreign interest rates cannot be absorbed through exchange rates. This, in turn, affected real output because authorities were forced to intervene to defend the gold standard. To test this theory they estimate a GARCH (generalized autoregressive conditional heteroskedasticity) model of interest rate changes, which shows that interest rates followed a GARCH process (*i.e.*, there was volatility clustering) and that maintenance of the gold standard increased the conditional volatility of interest rates. They conclude that real output growth suffered as a result of interest rate volatility.

Bordo's discussion centered on the nature and direction of the causal relationship. He argued that it may have been uncertainty surrounding the maintenance of the gold standard, rather than the gold standard *per se*, that led to interest rate volatility. He also pointed out that there may be reverse causality in the relationship between volatility and output. James thought that the results might be driven largely by outliers, which would explain "wrong" signs on the gold standard in the GARCH regressions for Belgium and France.

In addition to all the enjoyable sessions there was a cocktail party for "members and friends of The Cliometric Society" which your reporter could not attend. Next year the ASSA meetings will be held in Chicago; the Call for Papers for the Clio sessions appears on the back page of this issue.



**IEHA Preconference** (continued from page 4)

Joerg Baten and John Murray (Toledo) inquired into the optimal height of a marriage partner in 19th century Bavaria, analyzing the heights of married and unmarried women. Their finding is that taller women were generally more likely to marry.

Sara Horrell, Jane Humphries and Hans-Joachim Voth (all of Cambridge) concluded from their analysis of family budget surveys that the nutritional status of boys born in female-headed households was worse compared with boys from male-headed households. The changing composition of household heads over time indicated that this factor should be considered in further anthropometric analysis. Lance Brennan, John McDonald and Ralph Shlomowitz (all of Flinders) analyzed gender differences in Indian heights, finding that higher social castes with better nutrition displayed greater height differentials between the sexes.

**8. What Does It Mean?**

The meaning of anthropometric history for economists and a comparison of height indices with other economic measures was the subject of the final group of papers.

Mary Gregson (Knox) and Farley Grubb (Delaware) proposed replacing the term "standard of living" with "health proxies." Discussion focused on criticizing traditional measures of "standard of living", with participants noting the empirical problems of measurement across different societies and across centuries. Edwin Horlings and Jan Pieter Smits (Utrecht) compared increasing human stature with 19th century economic development in the Netherlands. They find a strong relationship between height and real wages, but not with the GDP *per capita*, which increased much earlier in the 19th century, when both real wages and heights stagnated. Sebastian Coll explored the economic meaning of upward trends in heights by estimating a new model of the food consumption-height relationship.

The temporal and geographic scope of the new data sets and analyses presented, the willingness of all participants to read and discuss so many papers, and the feeling of cooperation at this conference are good omens for continued progress in this line of research.

Detailed comments on many of the papers are available at [http://www.vwl.uni-muenchen.de/lk\\_komlos/joerg.html](http://www.vwl.uni-muenchen.de/lk_komlos/joerg.html)

<http://www.eh.net>

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## Aging Veterans (continued from page 6)

diseases. He reported that recruits from healthier socioeconomic backgrounds were more likely to contract infections and to die from them. Based on the observed pattern of disease-specific mortality and timing of deaths, he attributed this unusual pattern to varying immunity conditions from prior exposure to disease. He also suggested that, for those diseases whose outcomes are expected to be influenced by nutritional status, wealth prior to enlistment predicts a healthier outcome. In addition, he addressed how to use other sources of information, such as manuscript schedules of the Census of Mortality and regimental history records in conjunction with the EI data, to control for geographical and regimental influences.

Haines asked whether the higher incidence of fatality among rural recruits could be explained by some selection mechanism that drew an unusually robust pool of recruits from urban areas. Lee responded that urban recruits did not enjoy an advantage over their rural counterparts in their post-war mortality. The audience also inquired about disease classification and the potential influence of wartime experience.

Following a break, Dora Costa presented her work on the effects of income and health on retirement. She discussed how to extract health information from the surgeons' medical examination records on ratings of disability and body build, and explained how the longitudinal EI data allow analysis of the influence of occupation on retirement decisions. Costa then presented some of her conclusions. Pension income had a strong effect on the probability of a veteran's retirement. The income elasticity of retirement was much higher in the early 20th century than it is today. Farmers were not less likely to retire than non-farmers, implying that the decline of agriculture does not explain declining labor force participation of older males. Elderly veterans with higher pension incomes were more likely to live separately from their children, indicating a high demand for privacy even at the turn of the century.

The ensuing discussion centered on two main themes: the representativeness of the veteran sample and the reliability of pension ratings. Costa responded that army recruits were representative of the northern white population in terms of socioeconomic characteristics and patterns of mortality, and that about 90% of veterans received pensions by 1910. She also noted that the incidence of fraud in pension applications does not appear to be significant.

The first day concluded with a presentation by David Weir (Chicago), who offered an outsider's perspective on using the Union Army data set. His presentation focused mainly on height and mortality. He demonstrated that, even when quite restrictive subsampling is used to define the population at risk, one still obtains a sizable sample. Furthermore, the mortality schedule for men aged 50 and above derived from that sample matches the West-18 model life table very closely, boosting confidence in the quality of these data. Weir's presentation was particularly encouraging to the audience, in that he showed it is possible to derive interesting results from the EI data in a relatively short time, even for someone who had not been intimately involved in the project.

Presentations on the second day focused on medical examinations reported in the surgeons' certificates. The morning session was chaired by Larry Wimmer. First, Nevin Scrimshaw (Food, Nutrition and Human Development Program) reviewed motivations for undertaking the difficult task of extracting data from the handwritten surgeons' certificates. We know that height and body-mass-index (BMI) distributions can be related to early adverse functional outcomes, as well as to premature mortality from infectious disease and poor work performance. Mortality from infectious diseases fell rapidly in the late 19th and early 20th centuries in Europe and the US even before specific therapies were known, and may have been related to changes in height and BMI in these populations. Scrimshaw stressed that use of this new set of medical information, in conjunction with EI life-cycle data, will enable researchers to examine in detail the relationships among nutrition, body build, environment, socioeconomic status, and health. Prior to collection of the EI data, such research had seemed an impossible task.

The next presentation was by Costa on the Union Army pension system and disability ratings. She stressed that understanding the pension system is important to interpreting the EI data, because of sample selection bias, as well as others. She reviewed the history of the pension system, including changes in eligibility, in pension payments, and in the number of pensioners. Costa also explained the nature of, and changes in, the rating system. Because the law defining a pensionable condition changed over time, and because instructions to the examining board of surgeons changed as well, interpretation both of the summary ratings of disabilities and of the more detailed descriptions found in the surgeons' certificates requires careful consideration of the pension law and the instructions in effect on the dates of examinations.

Robert Mittendorf (Chicago) then explained the environment from which the surgeons' information came, the nature of the surgeons' certificates, and reviewed the evolution of the "Instructions to Surgeons" from 1870 to 1928. Over time, the "Instructions" became more directive and sophisticated instruments. The 1870 "Instructions" provided administrative guidance, but no directions for the physical examination, whereas the 1928 "Instructions" provided detailed guidance for conduct of the medical examination. Mittendorf also discussed the "Instructions" in the context of the various pension laws. Examples of Surgeons' Certificates were shown. A live data-entry demonstration gave the audience a feel for the information contained in an actual surgeons' certificate and how it was entered. He showed how the entry process was designed to minimize or eliminate any medical judgment on the part of the person entering the data, thus assuring data integrity.

After a break, Louis Nguyen (Washington U.) explained the preliminary scheme of classification and categorization of the data into analytical variables, a scheme already in use for several phases of the collection and cleaning processes. Although considerable effort had gone into processing and organizing the medical information into a form that would be familiar to a clinician with modern medical training, he stressed that equal care had been taken to preserve information useful to public-health epidemiologists or medical historians.

The afternoon session, chaired by Costa, presented some preliminary epidemiological research using the surgeons' data. Mark Rudberg (Chicago) and Sven Wilson presented their study of the natural history of congestive heart failure (CHF), including prevalence, cumulative incidence, etiology, and mortality. They reported that prevalence and incidence rates in the Union Army veteran sample are substantially higher than estimates from modern studies. Early mortality from CHF, however, is less prevalent, although 10-year mortality rates are similar. Research is under way to improve understanding of etiological differences that may influence both the onset of CHF as well as subsequent mortality.

Rush commented that the estimated prevalence rates might be high because the most debilitated individuals would have had the greatest incentive to be examined. Wilson responded that further controls for that type of selection bias need to be investigated. Bhargava suggested that one potential for the high survival rates in the veterans' sample may be the ratio of fat to lean body

mass, which was likely to have been much different for that group relative to modern populations. The comparability of methods of estimating prevalence rates over time was also discussed.

Day two ended with Sven Wilson's presentation on trends in disability compensation for different chronic conditions. Originally, the pension system compensated for only war-related injuries and disabilities, but, over time, other conditions (and, ultimately, age itself) became eligible for compensation. Wilson noted that several conditions, readily treatable with modern techniques, seriously affected the Civil War veterans. After 1900, for example, 14% of the compensation was for diarrhea and hemorrhoids. Hernias, another treatable condition today, accounted for 5% of the compensation. Some important diseases, such as cancer, however, do not appear frequently in the data, because of the state of medical knowledge at the time.

The final day opened with Richard Sutch (UC-Berkeley) and Susan Carter (UC-Riverside) reporting on the compilation of the Millennial Edition of *Historical Statistics of the United States, Colonial Times to the Present*. [For an article on this project, see the *Newsletter*, October 1996 (Vol. 11, No. 3). *Eds.*] Participants suggested additional data to be included in the new edition. Weir asked whether time series data on cohorts could be reported. Roderick Floud (London Guildhall) suggested that marketing data collected by the private sector would be useful.

In the final session of the conference, Roger Ransom (UC-Riverside) presented a paper, written with Sutch and Samuel Williamson (Miami), in which they explain the delayed provision of social insurance in the United States. Their main question is whether military pensions significantly lessened the need for, and therefore reduced the political appeal of, a program of national social insurance. They examine the effect of Union Army pensions on labor force participation of older men, using the Public Use Sample of the 1910 Census. Although the Civil War pension system had a significant influence on the propensity of veterans to retire, the authors show the aggregate effect was relatively modest and rather short-lived. A major reason for the alleged failure of the United States to develop state welfare programs for the elderly in the first decades of the 20th century, they suggest, may have been the success of private institutions for old-age security. Support for this view comes from the high savings rate, the increase

in the number of corporate pension plans, and the rapid growth of group insurance plans in the early 20th century.

Weir expressed some doubt about the age distribution of pensioners presented in the paper. Several members of the audience were concerned about the specification of the regression analysis employed to assess the effect of pensions on the odds of labor force participation. In response, Sutch explained how the regression results were mapped into the graphs of probability of labor force participation by Union veterans and non-veterans. Lee wondered if the authors' arguments were consistent with the trend in the labor force participation rate of older males between 1880 and 1940. Carter and Ransom replied that other factors should be taken into account to explain the trend, such as the decline in farming and the influx of immigrants. Lee also pointed out that although private institutions for old-age security increased rapidly, their coverage was still very small

relative to the total number of employees.

The conference brought together scholars from a variety of fields that too seldom intersect. It introduced a new body of data that has generated a great deal of interest and anticipation among this diverse group. Although the project is far from completion, if the enthusiasm of the conference participants is any indication, the research that will emerge in coming years using these data will be both broad in its appeal and major in its implications.

A copy of the Public Use Tape on the Aging of Veterans of the Union Army is now available for downloading from the anonymous ftp site at the University of Minnesota: [ftp.hist.umn.edu](ftp://ftp.hist.umn.edu) To download files, login as 'anonymous' and enter your e-mail address as the password. Files are located in the directory 'pub', in the sub-directory 'unionvet'; ftp programs should be set in binary mode to download files. The ftp Web site is <ftp://ftp.hist.umn.edu/pub/unionvet>

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### The Third Annual Cliometric Society Undergraduate Economic History Paper Prize

The goals of this award are to provide undergraduate students with an opportunity to achieve recognition for excellence in research and writing, to enable their work to reach a wider audience, and to encourage economic history teachers to cultivate undergraduate writing and research.

Selection Committee members will judge papers on significance of findings, soundness of method, originality, understanding of existing body of work, clarity of writing, and overall quality. The prize-winning paper will be published in *The Newsletter of The Cliometric Society*, and its author will receive a cash award and a complimentary one-year membership. The prize will be announced in the summer of 1997.

- Papers must be nominated by a member of The Cliometric Society.
- All types of papers will be accepted, e.g., archival research, statistical analysis, analysis and review of literature. Papers may cover any geographic area and any topic, as long as the primary focus is economic history.
- Papers must be written by a student who was an undergraduate during the 1996-97 academic year. 'Undergraduates' are defined as students in the first degree program of their higher education, e.g., US Bachelor's Degree. There are no age restrictions.
- Papers must be submitted by e-mail or on disk, using a commercial word-processing program. They must be *one* document, with graphs, charts, tables, etc., embedded in the text. A hard copy should also be submitted. Maximum length is 5,000 words, with an additional maximum of 5 pages of graphics. Papers must be in English.
- Author's name and address, nominating instructor, institution, and course title must appear only at the beginning of the document.

Papers must be received by **June 30, 1997.**

The Cliometric Society  
Miami University  
Oxford, OH 45056 USA  
[prize@eh.net](mailto:prize@eh.net)

*Submission of a paper is a grant permitting The Cliometric Society to publish the work in the Society's Newsletter and in the Economic History Services fileservers. Runners-up may be invited to submit abstracts of their papers for publication.*

**NBER Report** (continued from page 14)

to be available: draining canals, filling marshes, and sale of parish lots, among others. Wallis inquired if vacant lots had utility connections, and Kantor asked if the lots came with street addresses. Goldin responded that there was a well-specified method of assigning street addresses in Manhattan. Sunil Garg (Ohio State) asked about transactions for built-up lots, Steckel wondered whether one could separate out land and structure prices, and Wallis recommended looking at assessments. Weiss was concerned that the observed price increase for vacant lots might be due to sampling bias. Rosenbloom proposed that it might be useful to predict the location of the central business district from the prices of vacant lots.

The last paper with an urban theme was given by Rebecca Menes on "The Technology of the Machine: The Political Value of Private Information in American Cities 1900-1920." Menes generates a model predicting the conditions under which a city develops a machine as a "political technology", and finds that a machine can develop only if the value of political control of the city reaches some threshold value. Results from a logistic analysis of urban growth rates and the presence of foreign-born and "second-generation" Americans suggest that the cost of organizing the machine also may have been important in determining machine politics.

Several questions were raised about the definition of a "machine city." Weiss asked how to identify a machine; Menes responded that a machine must have a boss, a political hierarchy and vote trading. Emily Mechner (Harvard) asked if there were cities with bosses and vote trading but no political hierarchy; many southern cities fit that description, said Fishback. The audience also expressed concern over the model. Margo, Atack and Lamoreaux all wondered why the machine did not simply tax the disenfranchised. Galenson inquired if the model included transportation costs, and Kantor asked about the effect of adding public goods to the model. Other questions raised included whether highway building increased the potential returns to machines, whether there was competition between machines, and whether one could use the closeness of elections to measure returns to different political technologies.

Topics of the remaining papers ranged widely. For the final paper of the day, Emily Mechner presented her dissertation proposal "Barbados in the Age of its Transition to Sugar: Evidence from Deeds, 1638-1669." She

examines a preliminary sample of 302 deeds from the early 1640s and two smaller samples from the early 1650s and 1660s. She finds that most of the deeds in the sample involved plots of land of 20 acres or less, and that 82% were under 40 acres, and that the share of both small and large farms increased during the transition to sugar cultivation.

Most questions concerned the deeds and information needed to supplement them. Richard Sylla (NYU) asked where the deeds were recorded. Sokoloff suggested using tax records to determine how long an individual had lived on the island. Weiss suggested that data on Barbados may have been deposited in England. Lamoreaux proposed doing a longitudinal analysis by following individuals over time. Davis inquired whether the sample is complete or, if not, representative. Stephen Haber (Stanford) asked if there were incentives to misreport. Goldin noted that the bifurcation of the plot size distribution indicated an interesting pattern of development.

The final day began with a paper by Adam Klug (Ben Gurion) and Eugene White. In "Forecasting the Great Depression: Evidence from the Railroad Shippers Forecasts," the authors ask whether businesses had been able to forecast the economic downturn. Using survey data on railroad freight car shipments, they show that managers persistently failed to anticipate the collapse of 1929-1933. The finding is striking because, if managers had simply forecast demand from previous shipments, their errors would have been much smaller. Why businesses continued to make relatively optimistic forecasts remains an open question.

Calomiris was concerned about data frequency, commenting that one can find positive correlations from quarterly data, but negative correlations from annual data, and advising that the relevant data frequency is likely to depend on debt maturity patterns. Costa wondered if there were incentives to overestimate systematically, and what the costs might have been of doing so. Fishback inquired whether the railroads became better at distributing railroad cars over time, and Ferrie asked about signs of systematic shortage.

The next paper was delivered by Richard Sylla, on "Experimental Federalism: The Economics of American Government, 1789-1914." Sylla, for a chapter in the *Cambridge Economic History of the United States*, examines the origins of the American governmental structure – its federal, state and local components – and their long-

term trends, and also surveys the role of government in American economic development.

Temin commented that it was unclear whether the government had been ahead of the people, or *vice versa*, in settling the land west of the Mississippi. Wallis suggested that the more important role played by the government was in establishing property rights, thus enabling people to form common expectations and abide by common rules. Lamoreaux asked whether Hamilton's decision to pay off the Federal debt might have adversely affected the reputations of the states. Levenstein suggested otherwise, since most state borrowing was local; Wallis thought that Hamilton's actions might actually have increased their reputations. Calomiris stressed that Civil War enactments had broad influence on the federal government's role in banking, financial markets, railroads, social spending, war pensions, and so forth. Sokoloff thought that comparisons with other countries would be useful in assessing the importance of institutions, and Haber recommended a comparison with Mexico.

The final presentation of the conference was Stephen Haber's "The Efficiency Consequences of Institutional Change: Financial Market Regulation and Industrial

Productivity Growth in Brazil, 1866-1934." He examines one of the central hypotheses of the New Institutional Economics: that reform of institutions – the rules and regulations enforced by the State both permitting and binding the operation of markets – is crucial for economic growth. He finds that the reform in 1890 of Brazil's securities market regulations had a significant and positive impact on productivity in Brazilian textile manufacturing.

White wondered why the limited liability rule changed in 1890, and expressed concern over the simultaneity of regulatory reform and tariff reduction. Rosenbloom wondered what the appropriate counterfactual would be. Weiss suggested comparing Brazil with Portugal; White, with Spain. Klug asked why German-style investment banks did not emerge in Brazil. Rosenbloom thought there might be a selection bias for publicly-traded firms. Lamoreaux replied that this problem could be corrected by introducing initial stock offering prices. Finally, Calomiris suggested that the data show growth of additional firms rather than growth of existing firms.

As usual, the group assembled for a clambake at the Harvard Faculty Club. The program for summer 1997 will be arranged by Price Fishback and Shawn Kantor.

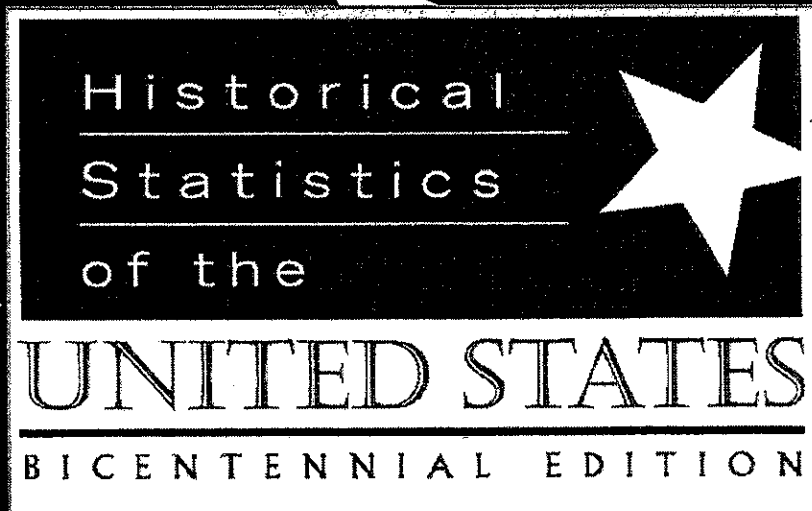
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