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Article
The development of the American economy program

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Program Report

The Development of the American Economy Program

Leah Boustan, William Collins, and Claudia Goldin*

The mission of the Development of the American Economy Program is to research historical aspects of the American economy broadly defined. Its members are economic historians whose specific interests span many subfields within economics. Economic history is a distinct field, like macro, public finance, and labor, with a group of practitioners who self-identify as economic historians. Economic historians study parts of the past that are relevant to the issues of our day.

Recent work by Ran Abramitzky has demonstrated that economic historians have increasingly become more integrated into mainstream economics. During the past 20 years, an increasing fraction of articles in top economics journals have been in the field of economic history and have been written by economic historians. Historical data and episodes are used, Abramitzky notes, to test theory, to improve policy, to identify channels of causation, and to understand big questions through the natural experiments history offers. The methods used by those who self-identify as economic historians are increasingly like those of other economists, and new Ph.Ds in economic history have prospects similar to those in other fields. Furthermore, economists of all stripes are doing more economic history. Still, there are differences that make the field and its practitioners distinct.

In recent years, the topics of health and mortality, intergenerational mobility, the environment, education, banks, financial crises, the Great Depression, migration and immigration, and corporate governance have led the research interests of associates of the DAE Program. Big data and record

*Claudia Goldin, the Henry Lee Professor of Economics at Harvard University, has served as director of the NBER Program on the Development of the American Economy since 1989. Leah Boustan, professor of economics at Princeton University, and William Collins, Terence E. Adderley Jr. Professor of Economics at Vanderbilt University, will succeed her, becoming co-directors of the program beginning July 2017.
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Health and Economic Growth

Health is among the most important aspects of well-being that is not included in standard measures of national income. Studying health changes over the long run reveals both positive and negative dimensions of economic growth. Historically, greater income per capita has improved health through better nutrition. Income growth during the last century has enabled the innovation and diffusion of effective medicines and medical treatments. But economic growth has also fouled air and water, producing setbacks and occasional reversals in measures of health.

Health has been an important research topic for DAE members since the beginning of the program. In the past several years, they have made progress in understanding the magnitude of the negative side of economic growth and also have sought to learn when the detrimental consequences of economic growth were abated, whether through advances in science or intervention of enlightened professionals and dedicated public officials. This research is highly relevant for a number of current issues in both developing and developed nations.

Infant mortality was high in general in the past, and higher still in urban and industrial areas. Even in rich countries, historical infant mortality rates were higher than rates in the poorest nations today. But infant mortality began to decline around the turn of the 20th century. How this happened is explored by Marcella Alsan and Claudia Goldin in a study of Massachusetts, the first state to collect vital statistics and one of the earliest to commit vast resources to secure pure water for its citizens, pass laws to protect its watersheds, and build a mammoth sewerage system to service the area around its largest city, Boston. Using sharp changes in the years that the water and sewerage projects were completed across 54 cities and towns, Alsan and Goldin estimate that the two projects accounted for 37 percent of the total decline in infant mortality among fully treated municipalities during the 1880–1915 period.
Not every state had statistics as reliable as those from Massachusetts. Because mortality rates are computed from two separate series—births and deaths—and because not all states were reporting complete data until 1933, serious data issues can arise. In fact, as shown by Katherine Eriksson, Gregory T. Niemesh, and Melissa Thomasson, because deaths were better reported than births, infant mortality rates have been overstated for much of the 1915–40 period, particularly in southern states and for African Americans. In consequence, the long-run decline in infant mortality for certain groups has been overstated.

Industrialization was one of the great engines of economic growth, but it reduced life expectancy in the factory towns of 19th century England. Walker Hanlon has cleverly figured out how to identify the impact of industrial growth on mortality and has shown that industrial pollution was a major cause of mortality in that era, particularly in urban areas. Hanlon investigates the impact of “dirty” coal on British city growth and separates the positive impact of industrial growth from the negative pollution externalities. Cleaner ways to power industry with coal existed but were not adopted due to low coal prices, a lack of regulations, and the external costs that firms imposed on others. Hanlon shows that had Britain adopted more efficient coal use, it would have been substantially more urbanized by the early 20th century.

Babies were the proverbial “canaries in the coal mine” and died at higher rates as coal-fired electricity generation plants spread in the United States. Exploiting the expansion of the electric grid, Karen Clay, Josh Lewis, and Edson Severnini show the impact of coal pollution on infant deaths from 1938 to 1962, a period of rapid electricity expansion and unregulated emissions. In a related paper, they find that the deadly influenza pandemic of 1918–19 was considerably worse in areas heavily polluted by coal smoke from electric generating plants. Bituminous coal use for home heating varied across states, years, and months for various reasons. Using that variation, Alan Barreca, Clay, and Joel Tarr show the extent to which the reduction in soft coal use from 1945 to 1960, due largely to the greater availability of natural gas, saved both adult and infant lives.

The bottom line is that pollution from coal use in industry, electricity generation, and home heating had measurable and strong negative effects on health and life expectancy.

Economic growth has also led to enormous advances in health since the 1940s with the advent of modern antibiotics and scores of medical techniques and procedures. But some people were ill-served. Not only were they harmed at the time, but the legacy of their neglect is a mistrust of physicians and medicine more generally, as shown by Alsan and Marianne Wanamaker in their insightful analysis of the Tuskegee study. Black men with syphilis went untreated despite the existence of effective antibiotics so that the progression of the disease could be observed. Following disclosure of this in 1972, they show, distrust of medicine increased and persisted among black men, whose lower medical use led to reduction in their life expectancy amounting to about 35 percent of the life expectancy gap between black and white men in 1980.

Immigration and Migration

Immigration has long contributed to population growth and economic activity in the United States. However, immigration rates fluctuate due to changes...
in economic conditions and immigration policy. From 1850 to 1920, a period known as the Age of Mass Migration, 14 percent of the U.S. population was foreign born. After a long lull in immigration due to a series of restrictive quotas, the foreign-born share of the population has recently returned to its historical high.

Abramitzky and Boustan survey the historical literature on the economics of immigration, including migrant selection from the home country, immigrant assimilation into the U.S. labor market and society, and the effect of immigrants on native workers. A better understanding of past immigration waves, they note, can inform current thinking about the benefits and challenges of mass migration. DAE program members have broken new ground in the study of historical immigration flows, often by collecting new micro datasets that follow large samples of immigrants over time and by focusing on interesting subsamples of the immigrant population. Related work on migration within the United States has informed discussion about the recent slowdown in geographic mobility and the continued levels of racial residential segregation.

Linked data provide new evidence on questions of migrant selection and assimilation in the early 20th century. Abramitzky, Boustan, and Eriksson have pioneered the creation of large panel datasets of immigrants to the United States. One such matched sample links immigrants from Norway to their childhood homes, providing direct evidence on migrant selection. The results suggest that men with poorer economic prospects were more likely to migrate in the late 19th century. The fathers of migrants tended to have fewer assets and lower occupation-based earnings than the fathers of non-migrants. A similar pattern holds for internal migration within Norway.

Another data collection effort links migrants from 16 sending countries across the U.S. censuses of 1900, 1910, and 1920. The received wisdom is that immigrants began with an earnings disadvantage relative to natives but readily overcame this pay gap over time. These conclusions are drawn from cross-sectional data that compare recently arrived immigrants to immigrants of greater duration in the country. But the linked data show that the typical immigrant did not face a large initial earnings penalty upon arrival relative to native workers and moved up the occupational ladder at the same pace as natives. Differences across methods are due to lower skill levels among the more recent immigrant arrival cohorts, which cause initial earnings differences to appear larger, and the departure of negatively selected return migrants from the longer-standing cohorts. Immigrants did experience a substantial degree of cultural assimilation with time spent in the United States. Abramitzky, Boustan, and Eriksson show that, in the 1910s and 1920s, immigrant and native parents chose from different sets of first names for their children, but that immigrants erased half of this naming gap after spending 20 years in the country.

Immigrants with singular skills can have an outsized effect on the economy, beyond their numbers. Petra Moser, Alessandra Voena, and Fabian Waldinger study the effect of one such immigration flow — the 130,000 German Jews who fled the Nazi regime — on innovation. About 2,500 of these arrivals were university professors. The study focuses on academic chemists and finds spillover effects on U.S. scientists. Patenting rates increased in the patent subclasses in which German Jewish chemists had specialized before the war, particularly among young scientists who had never patented before.

The effect of the Age of Mass Migration on the U.S. economy did not end with the tightening of the border in the 1920s. Sandra Sequeira, Nathan Nunn, and Nancy Qian find a positive relationship between migration flows to a county during the Age of Mass Migration and local income and education levels today. They isolate a causal effect of historical immigration flows at the local level by studying variation in the decade in which a county was first connected to the railroad, a link that had a stronger effect on subsequent in-migration if it occurred during a national immigration boom rather than during a lull.

Just as international migration to the United States has undergone dramatic swings, so too has mobility within the country, though the latter is not attributable to regulation. Raven Molloy, Christopher Smith, and Abigail Wozniak...
document that, after a period of high and relatively stable internal mobility from 1950 to 1990, interstate migration declined by half in recent years, from 3 percent to 1.5 percent of the population switching states annually.19 The researchers reject explanations rooted in demographic shifts and instead point to concurrent declines in job transitions, an intriguing topic that should encourage future work.

High rates of internal mobility in the mid-20th century were prompted, in part, by specific migration flows, including black migration out of the rural South and Dust Bowl migration from the Great Plains. Collins and Wanamaker create linked census datasets of black and white southern migrants observed in 1910 and 1930 and find that migrants who moved within or outside the South showed few signs of being positively selected.20 Instead, migration was widespread regardless of literacy or occupational status.

The Great Migration of black Americans to northern and western cities received book-length treatment by Boustan in a volume published in the DAE series Long-Term Factors in Economic Development.21 Traditionally, the Great Migration has been lauded as a path to black economic progress. Boustan argues that the migrants themselves gained tremendously—more than doubling their earnings by moving to the North—but the new arrivals competed with existing black workers, limiting black-white wage convergence in northern labor markets. Furthermore, many white households responded to black immigration by relocating to the suburbs. “White flight” was motivated not only by neighborhood racial change but also by the desire to avoid having to pay for the public services and fiscal obligations of increasingly diverse cities.

Internal mobility both across and within regions contributed to a dramatic rise in residential racial segregation in the United States from 1880 to 1940. By 1940, the high levels of racial segregation that characterize U.S. locations today already were well established. Trevon Logan and John Parman have developed a new measure of racial segregation that exploits the complete digitized census manuscripts of 1880 and 1940 and the fact that census enumerators tended to survey neighboring households in order.22 The Logan-Parman segregation index—the first to cover the entire nation—doubles in magnitude from 1880 to 1940 and increases at a similar rate in both urban and rural areas. Allison Shertzer and Randall Walsh develop a panel dataset following neighborhoods at the decadal level in the 10 largest northern cities from 1900 to 1930.23 They find sizable evidence as early as 1910 of white flight from neighborhoods that were attracting black migrants, with each black arrival prompting at least two white departures. Shertzer, Tate Twinam, and Walsh documented that municipal zoning codes, first introduced in the 1920s, were used to direct high-density development toward black neighborhoods, further entrenching patterns of residential segregation.

The Great Depression and the New Deal

Economic growth has not been without major reversals, most recently the recession of 2007–09 and most famously the Great Depression of the 1930s. DAE researchers have long worked toward a better understanding of the mechanisms that drive major recessions, as well as the effects of policy responses to macroeconomic crises. Several recent studies revisit the Great Depression, bringing new data and methods to bear on longstanding questions and often offering comparisons with the more recent downturn.

Public bond markets collapsed in the early years of the Depression, constraining the ability of firms with debt coming due to finance their operations. Thus, firms in the same market and subject to similar shocks may have been differentially affected by the Depression depending on the size and maturity structure of their preexisting debt. To study the effect of firms’ ability to obtain credit in the early 1930s, Efraim Benmelech, Carola Frydman, and Dimitris Papanikolaou build a dataset that includes the value and maturity of large industrial firms’ long-term debt.25 They find that firms with long-term debt coming due in the early 1930s cut employment by substantially more than others. Firms at the 90th percentile of the distribution of firms by the total amount of debt reaching maturity cut employment by 5 percent more than firms without maturing debt. The effect of financial frictions on employment was especially strong in areas where commercial banks failed, since this curtailed firms’ ability to substitute bank loans for bonds. In the aggregate, financial frictions appear to have caused large

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**Figure 3**

Output and Unemployment: The Great Depression vs. The Great Recession

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<tr>
<th>Real output, log deviation from pre-crisis</th>
<th>Unemployment rate</th>
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<td><strong>Great Recession</strong></td>
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The pre-crisis period, year 0, is 1929 for the Great Depression and 2007 for the Great Recession. Source: E. Benmelech, C. Frydman, and D. Papanikolaou, NBER Working Paper No. 23216

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NBER Reporter • No. 2, June 2017 5
declines in employment in large firms during the Depression, with effects that may have been two to five times larger than in the Great Recession.

Banking crises are a central theme in the economics of the Great Depression, and yet there is still much to learn about how the banking system’s distress spread geographically and was communicated to the real economy. Kris Mitchener and Gary Richardson closely examine the pyramidal structure of the interbank deposit network to understand how, during banking panics, heavy withdrawals by banks transmitted distress through balance-sheet effects and reduced lending prior to the bank holiday of 1933.26 Ultimately, because the Fed did not provide sufficient liquidity to distressed correspondent banks, withdrawals of interbank balances worsened the Depression. The researchers compare the role of bank distress during the Depression with the role of sharp reductions in lending by “shadow banks” in 2007–08.

In a related paper, Jon Cohen, Kinda Cheryl Hachem, and Richardson focus on “relationship lending,” in which commercial banks and businesses have a long-term relationship that provides banks with substantial information about the quality of borrowers.27 Bank suspensions in areas characterized by high levels of relationship lending, they find, had relatively large effects on economic activity, such that approximately one-third of the economic contraction in the early 1930s could be attributed to the collapse of commercial banking.

Shifting from studies of the descent into Depression to studies of the recovery, Joshua Hausman, Paul Rhode, and Johannes Wieland investigate how the dollar’s devaluation in 1933 boosted the agricultural sector and thereby yielded significantly positive macroeconomic effects.28 They show that this “farm channel” was an important impetus to growth in industrial output from March to July 1933. The empirical connection is revealed in the geographic pattern of demand for automobiles in the spring of 1933, when farming areas had large increases in demand. This may reflect the relatively high marginal propensity to consume among farmers who were heavily burdened with debt prior to devaluation and disproportionately benefited from the policy change. The researchers caution that in other settings—modern Japan, for example—redistribution through devaluation could have unintended consequences by redistributing income away from groups with relatively high marginal propensities to consume.

Many DAE researchers have studied the range of programs and policies established under Roosevelt’s New Deal, the central legislative response to the Great Depression. Price Fishback has been a key scholar in the area. His summary of the vast literature about the New Deal provides an appreciation for the multiplicity of programs and goals in play. Some programs worked at cross-purposes and others had unintended consequences, for better or worse.29 Fishback clarifies that whether the New Deal is considered a “success” depends largely on the specific policy, time frame, and subpopulation one has in mind.

Old Age Assistance (OAA) was one of several important social insurance programs implemented during the 1930s. Daniel Fetter and Lee Lockwood exploit the full-count 1940 census of population to measure how this program affected older men’s labor supply.30 Established under the Social Security Act of 1935, OAA provided matching funds to state-administered, means-tested old-age support programs. Using variation across states in program generosity, they find clear labor supply effects of the OAA program. They report that OAA reduced the labor force participation rate of 65- to 74-year-old men by 5.7 percentage points in 1940, in part due to high implicit tax rates in OAA means testing. They add, however, that the social welfare costs of the work disincentives were small.

In related work, Fetter studies how state-level variation in the design of the OAA program influenced payments to the elderly and the fraction of the elderly that received program support.31 Before the Depression, support for the low-income elderly was a family and local responsibility. The New Deal greatly increased federal and state involvement. Using variation across states in requirements for local funding, Fetter finds that shifting funding responsibility from localities to states increased payments per elderly person, primarily by raising the number of benefit recipients. The results suggest that if states had not taken on some funding responsibility for the federal match, OAA recipiency would have been far lower than it was—5 percent rather than 22 percent of the elderly.

3. “Infant mortality” is the death of a child from birth to one year of age [0, 1] in a particular year and is usually expressed as a rate per 1,000 live births in that year. The highest rates per 1,000 live births in 2015 were about 100 (e.g., Afghanistan, Mali, Somalia), with most extremely poor nations in the 60 to 80 range (e.g., Angola, Burundi, Chad, Côte d’Ivoire, Equatorial Guinea, Gambia, Liberia, Niger, Sierra Leone, Uganda, Zambia). In 1880, the rate was 160/1,000 live births in Massachusetts, a relatively high-income state at the time, and was 180/1,000 in the more urban parts of the state. Return to Text
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