The rise of the US health-care sector over the past several decades has been remarkable. As Figure 1 [page 3, top] shows, in 1970, the country devoted slightly more than 6 percent of GDP to health care, about 1 percent more than other nations. Today, the nation devotes almost 18 percent of GDP to health care, which is larger than spending on cars, clothing, food, furniture, housing, fuel, and recreation combined — and is a full 8 percent above the average in comparable countries.

Health outcomes haven’t kept up, as shown in Figure 2 [page 2, bottom left]. US life expectancy was slightly below the average of comparable countries in 1980. Today it has fallen far below that of these other countries, with life expectancy actually declining for the first time in decades.

These striking facts have motivated a sharp increase in the quality and quantity of work in the NBER Health Care Program. From a handful of working papers in 1992, this program has grown to produce an average of more than 100 working papers a year in the last three full years. These papers reflect the larger interest of the economics profession in health issues. In 1990, the American Economic Review published just two articles about health; now it publishes about five a year. In the American Economic Journals in Economic Policy and Applied Economics, major new general-interest journals that cover health topics, about one in eight articles published in 2017 focused on health. The Health Care Program has expanded and drawn in a new generation of health economists.

In this review, I cover developments in the NBER Health Care Program over the last seven years. This has been a period both of substantial upheaval in the health-care sector and of rapid growth of studies of that sec-

*Jonathan Gruber is the Ford Professor of Economics at MIT. He is an NBER research associate and has been director of the bureau’s Health Care Program for the past decade. Gruber was an architect of health care reform efforts in Massachusetts and consulted with the Obama Administration on creation of the Affordable Care Act.
Instead, I will highlight a few key areas of research with 674 working papers posted in the program since 2012. These studies have covered a broad array of topics, and it is impossible to do them justice in this short review. Instead, I will highlight a few key areas of study by NBER researchers, with apologies to the large number of authors of studies that I am excluding.

The Affordable Care Act

The ACA is the most significant government intervention in the US health-care system since the introduction of Medicare and Medicaid. Moreover, it was introduced both in a data-rich environment in which many datasets can be used to analyze its impacts, and in a manner that generated quasi-experimental variation that can be used to convincingly estimate those impacts. In particular, the enormous expansion of the Medicaid program to all those whose income is less than 133 percent of the poverty line, which occurred only in a subset of states and over time in those states, provides a natural case study for understanding the impact of expanded insurance coverage. This has provided a wonderful environment for economic research.

Health Care Program affiliates’ research on the ACA has covered a wide variety of areas, but has focused primarily on the impacts of the ACA on insurance coverage, health-care utilization, and health, as reviewed by Benjamin Sommers and me. Studies show that the ACA clearly has expanded coverage [Figure 3] through provisions such as extending coverage of dependents up to age 26,[3] expanding Medicaid,[4] and subsidizing premiums in the new exchange.[5] Notable is the finding of that last paper that much of the increase in Medicaid enrollment was not from those who were newly eligible, but from those previously eligible who had now enrolled in the program.

There has also been a clear increase in health-care utilization in response to broadened insurance coverage.[6] Early studies have generally found positive impacts of the ACA on population health, but more work is needed to assess the long-term impacts on health.

A particularly notable area of research on the ACA has been focused on the impact of the law’s provisions on labor market behavior, with mixed results. Research on a large restriction on health insurance coverage in Tennessee before the ACA showed an associated significant rise in labor force participation, suggesting that expansions under the ACA might reduce the supply of labor. But studies of both the expansion of insurance to young adults[7] and the overall effects of the ACA exchanges and Medicaid exchanges[8] do not find significant impacts on labor supply.

A common refrain in health economics is that the most expensive piece of medical technology is the physician’s pen, yet there is relatively little understanding of the physician behaviors that drive medical spending. A set of recent papers has made enormous progress in helping us understand physician decision-making and its implications for the health-care system.

One of the enduring mysteries in health care is the enormous variation among physicians in treatment styles. These differences emerge in physician training, and David Cutler, Jonathan Skinner, Ariel Dora Stern, and David Wennberg use surveys of physicians to show that much of the variation reflects physician beliefs unsupported by clinical evidence.[9] There is mixed evidence on the welfare implications of physician treatment variation, Gautam Gowrisankaran, Keith Joiner, and Pierre-Thomas Léger find that physicians randomly assigned to different emergency department doctors who are more skilled see higher resource use, but not necessarily better outcomes.[10] In contrast, Janet Currie, W. Bentley MacLeod, and Jessica Van Parys find that for heart attack patients, there is large variation in treatment intensity across providers, and those who treat more intensively deliver better outcomes.[11]

A related question is whether more information provided to patients can improve outcomes and performance. Jonathan Kolstad finds that when “report cards” were introduced on surgeon outcomes in Pennsylvania, surgeons responded strongly to poor performance relative to their peers, suggesting a strong role for “intrinsin motivation.”[12] At the same time, Erin Johnson and M. Marit Rehav[13] and in another study, Michael Frakes, Annapurna Jena, and I find that when physicians are themselves patients, they receive a quality of care similar to that of comparable non-physician patients.[14]
One recent development in health economics is an ongoing integration of the field of industrial organization, allowing for new lessons about physician (and other provider) market behavior. For example, Kate Ho and Ariel Pales find that when physicians are more highly “captured” (paid a fixed amount per patient, rather than receiving cost-based reimbursement), they are more likely to refer patients to lower-cost hospitals.18 Lawrence Baker, M. Kate Bundorf, and Daniel Kessler study the rapidly growing phenomenon of vertical integration among physicians, whereby generalists and specialists merge their practices; the researchers find that such integration raises prices for both types of physicians, particularly in less-competitive markets.19 Jeffrey Clemens and Joshua Gottlieb find that when private insurers set reimbursements for patients, they closely follow the rates set by hospitals, showing that these hospitals strategically discharge patients when there is a large financial bonus for doing so, leading to worse patient outcomes.20 Liran Einav, Amy Finkelstein, and Neale Stavish find that the Medicare rate differs strongly from private-payer prices, raising issues in the rapidly growing Medicare Market for generic drugs and find a limited number of competitors for many generics, decreasing the price reduction that can be expected after patent expiration.32 At the same time, both they and Richard Frank, Andrew Hicks, and Berndt find that overall generic drug prices are falling substantially over time.33 In one particularly important market segment, Coore and Berndt find that the prices of specialty drugs fell significantly after a generic entered the market.34

Health Insurance Markets

A particularly notable feature of US health-care markets is the relatively unregulated multi-payer system for financing care, and more than 100 work- ing papers in a single year focused on the health insurance market. In particular, the wide variety of health insurance choices facing consumers and firms raises at least two important questions. The first is how well do consumers do in choosing their health insurance plan, given the complicated nature of this decision. Jason Abulack and I document that individuals appear to make highly inconsistent choices of health insurance plans, that these choices don't get better with more experience, and that limiting choice sets can lead to improved choice outcomes.39 Saurabh Bhargava, George Loewenstein, and Justin Sydnor and Chenyuan Liu and Sydnor deliver particularly compelling evidence for choice inconsistencies by showing the pervasive nature of “drowned” choices in health insurance markets.39 Richard Domurat, Isaac Mitzka, and A. Justin Yin run a field experiment randomly providing reminders about insurance deadlines to consumers; they find that such reminders are particularly effective among the healthiest consumers.40 The second major issue with health insurance choices is the potential for adverse selection and the need for risk adjusters to offset this market failure. Several studies have documented how concerns over adverse selection drive insurer behavior, leading, for example, to higher premiums for small firms with richer employees, or to lower plan generosity when Medicare enrollees could more easily move from plan to plan.41 A series of studies by Thomas McGuire and his co-authors explored the theoretical and empirical determinants of optimal risk adjustment, raising issues such as the combina- tion of different forms of reinsur- ance papers in a single year focused on the health insurance market. 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International Comparisons

There is a long-standing recognition that the UK and US are outliers in terms of health-care spending relative to GDP. This suggests that our nation has much to learn from other countries, and an array of studies has brought key lessons to the fore.

A number have focused explicitly on comparing the US to other nations. Cutler and Adriana Lleras-Muney review the evidence from around the world on how education improves health outcomes.66 Alice Chen, Emily Oster, and Williams provide evidence that the steep gradient in infant mortality in the US compared with the UK policy that imposes strict penalties for employees who do not take vacations to sick employees coming to work leads to more lost time for sickness.47

A notable recent development is the rapid growth of work by Health Care Program affiliates on developing countries, likely motivated by synergies with NBER’s Development Economics Program. Topics vary from the impact of universal health care provision in Turkey,68 to investigations of adult mortality after a tsunami in the Indian Ocean,69 to experimental evidence on the impact of the recently introduced tax on sugary drinks in India,70 to studies illustrating the poor quality of primary health care in India,71 to the impact of a tobacco control campaign in Uruguay.

Where to Next?

The studies summarized here only begin to describe the enormous scope of work that has been undertaken by affiliates of the NBER’s Health Care Program over the past seven years. These researchers are pushing the boundaries of knowledge of a wide variety of directions, and their efforts are likely to continue in the coming years. The ongoing implementation of the ACA provides a fruitful laboratory for studies of the role of insurance, while the continual threat of unfunded increases in health-care costs will inspire new work on drivers of spending. The introduction of innovative new genetic therapies will motivate ongoing work on R&D and the financing of new treatments. The increasing depth and diversity of new health-care spending sources in the US and around the world, makes ever more exciting research feasible.


29 “Mergers When Prices are Negotiated: Evidence from the
Research Summaries

The Economics and Politics of Market Concentration

Thomas Philippon

Business concentration and profit margins have increased across most industries in the United States over the past 20 years, and it has accelerated since 2002. Figure 1 illustrates these trends together with the declines of the labor share and private investment. The ratio of after-tax corporate profits to value added has risen from an average of 7 percent from 1970 through 2002 to an average of 10 percent in the period since 2002. Firms used to reinvest about 30 cents of each dollar of profit. Now they only invest 20 cents on the dollar.

Good versus Bad Concentration

A crucial research question is whether these trends reflect market power and rent seeking or more benign factors, such as a shift toward intangible assets with returns-to-scale effects. The main difficulty is that the relationship between concentration and competition is ambiguous.

Concentration and competition are positively related when shocks to entry costs play a dominant role in the data. For example, lower search costs make competition play a dominant role in the telecom sector. It can be the case in competitive sectors. The coexistence of competition and concentration can be explained in a variety of ways. The relationship between productivity growth and concentration is ambiguous, and the political economy literature highlights the role of policy versus the role of market power.

Some industries fit the efficient concentration hypothesis, while others fit the rent-seeking pattern rather well. It has proved difficult to obtain a convincing answer by looking only at the United States, but the comparison with other regions—Europe in particular—is quite illuminating. Until the 1990s, US markets were more competitive than European markets. Today, however, many European markets have lower excess profits and lower regulatory barriers to entry. The US maintains a particular exemplar of the evolution of concentration and markups over time: telecommunications and airlines.

Figure 1

Twenty years ago, access to the internet was cheaper in the US than in Europe. In 2018, however, the average monthly cost of fixed broadband in the US was twice as high as in France or Germany. Air transportation is another industry in which the US has fallen behind. The rise in concentration and profits aligns closely with a controversy over whether that increase is the result of mergers as in Europe or Government policy as in the US, or a combination of both. The political economy literature highlights the role of policy versus the role of market power. Theoretical explanations for Europe are actually relatively simple. When the insti-tutions of the EU’s Single Market were designed in the early 1990s, there was significant suspicion among member states that each would try to impose its domestic agenda on the common regulators. Gutiérrez and I show that the Nash equilibrium of the reg-ulatory-design game plays out differently at the national and EU levels. At the national level, politicians want to influence regulators. At the EU level, however, they are mostly worried about influences from other countries. As a result, the member states jointly decided to make EU institutions more fiercely independent than would have done at the national level. This is how Europe has become the world’s independent central bank as well as the most independent anti-trust agency in the world. Over the following 20 years, the logic of the single market has slowly pushed Europe toward freer and more competitive markets.

Understanding how US markets became less competitive is more complicated. There are many possible explanations. Some concentration has been driven at least in part by increasing returns to intangible assets. The creation of a large e-commerce platform is an example. Another reason, as Nicolas Crouzet and Janice Eberly argue, is that intangible capital generates high returns and high rents at the same time.

Over the past 20 years, however, negative concentration has become relatively more prevalent in the United States. Recent increases in concentration have been associated with weak productivity growth and declining investment rates. Firms in concentrating industries engage in more profitable and e-commerce reflects efficiency gains in the retail industry. The wholesale trade sector also seems to fit this pattern. The telecom industry, on the other hand, fits the rent-seeking pattern rather well. It has become increasingly concentrated, and German Gutiérrez and I show that US consumers today pay twice as much for cell phone and broadband internet services as citizens in nearly all other developed countries. Some high-tech sectors combine features of the two types of concentration. One reason, as Nicolas Crouzet and Janice Eberly argue, is that intangible capital generates high returns and high rents at the same time.

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ing. Unfortunately, this is where the lack of data on firm-level prices and difficulties in making adjustments for labor quality create empirical challenges. There are also tricky econometric issues when we use granular data to test this relationship. A fair assessment is that we do not know for sure.

Two trends that are specific to the US in the 2000s help us to shed light on the issue. One is what Gürtler and I call the failure of free entry. When profits increase in an industry, new firms should enter. When profits shrink, existing firms should exit or consolidate. Economic theory predicts higher entry in industries with higher market-to-book values, also known as Tobin’s q. Intuitively, Tobin’s q measures expected profits (valued by the market) per unit of scarcity costs (book value). We study whether the number of firms increases in industries where Tobin’s q is high and decreases in industries where it is low.

Figure 2 shows that free entry was alive and well from the 1960s to the late 1990s. The positive elasticity implies that, when the industry median Tobin’s q increased, more firms would enter the industry. Specifically, an increase in Tobin’s q of one unit, as from 1 to 2, coincided with an increase in the number of firms in the industry of about 10 percent over the next two years. Consistent with free entry, one see that free entry was concentrated in high q industries and exit from low q ones.

But this is no longer the case. The elasticity has been close to zero since 2000. A fundamental regulatory mechanism that was at the heart of the Chicago School argument for not worrying about market dominance by a few large firms seems to have broken down. If free entry fails, the laissez-faire argument fails. The other striking trend in the US during the 2000s is the rise in business lobbying and campaign finance contributions. Lobbying and regulation can explain the failure of free entry if incumbents use them to alter the playing field. Incumbents may, for example, influence antitrust and merger enforcement as well as regulations, ranging from the length and scope of patents and copyright protection to financial regulation, non-compete agreements, occupational licensing, and tax loopholes. Consistent with these ideas, we find that the elasticity of firm entry to Tobin’s q

The failure of free entry has negative implications for productivity, equality, and welfare in general. If capital sticks in declining industries and does not move to promising ones, the economy suffers: productivity growth is low, wages stagnate, and standards of living fail to improve.

Figure 2


Interbank Network Risk, Regulation, and Financial Crises

Matthew S. Jaremski

The financial crisis of 2008–09 intensified interest in how relationships within the financial system can amplify and transmit shocks. At a basic level, financial interconnections across banks allow the same shocks to hit different banks at different times, causing them to have different balance-sheets. This transfers risk across banks and exacerbates the possible harm from any one bank’s failure. At a more aggregate level, if individual shocks and bank behaviors are not independent, then the failure of one bank can cause a chain reaction of failures, pushing the entire banking system into an aggregate failure. This is especially true when banks rely on their correspondent bank relationships to finance short-term wholesale funding needs, and not through the deposits of their retail customers. So, when one bank in the network fails, its correspondent banks try to withdraw their deposits, leading to a regional or even national banking crisis.

Matthew S. Jaremski is a research associate in the NBER’s Development of the American Economy Program and an associate professor in the Department of Economics and Finance of the Jon M. Huntsman School of Business at Utah State University. His research explores the inter- section of financial economics and economic history. Topics include the effects of interbank networks on financial instability, the role of regulation in bank outcomes, the connection between financial development and economic growth, and the determinants and consequences of financial crises. A unifying theme is using unique historical variation to study dynamics that are obscured or hard to isolate in modern data.

Jaremski received a BA in economics, classical civilizations, and business administration from Austin College in 2006 and his PhD in economics from Vanderbilt University in 2010. Before joining Utah State, he was an associate professor at Colgate University and has held visiting positions at Yale University and the Office of Financial Research at the US Treasury. He grew up in Dallas, Texas and currently lives in Logan, Utah, with his wife. He enjoys hiking and swimming during the summer, and board games and movies during the winter.

Commodity Shocks and Regulation

As in 2008–09, asset price booms and busts historically were often intertwined with lending booms and busts. Rising asset prices can stimulate lending and increased leverage, which in turn cause asset prices to rise further. Similarly, falling asset prices can force debt contractions and deleveraging that reinforce the decline in asset prices. The interrelationship between asset prices and lending changes thus raises important questions, including how various regulative policies affect the vulnerability of the banking system to asset price shocks, and how bank lending and instability can exacerbate asset price movements. I have sought to use the unique variations in the historical environment to examine the roles that lending and regulation play in boom-and-bust events.

David Wheelock and I examine bank lending in the boom-bust cycle affecting US agricultural land prices during and after World War II.
War 1. The wartime collapse of European agriculture drove commodity prices sharply higher, and, for the United States, constrained the external demand shock that sparked a boom in farmland prices. However, European production bounced back quickly, driving down US crop prices and initiating a wave of farm foreclosures and bank failures in the early 1920s. Using a county-specific measure of farmland prices, we show that rising crop prices encouraged entry of new banks and balance sheet expansion of new and previously established banks. The leverage of chartered banks, as well as those established during the war, were especially aggressive lenders and much more likely to close when the bust occurred. Moreover, deposit insurance amplified the deleterious effects of rising crop prices, whereas higher capital requirements dampened them. We also find that bank closures exacerbated the collapse of farmland values during 1920–25. Thus, our research provides new evidence of how banks can both be affected by and contribute to asset price booms and busts, and how banking policies can influence the feedback loop around such events.

Charles Calomiris and I closely examined the effects of deposit insurance.2 Our findings not only corroborate prior literature on the moral-hazard consequences of deposit insurance, but also show how the introduction of deposit insurance created an external demand shock. We find that deposit insurance caused risk to increase by removing the market discipline that had been constraining uninsured banks’ decision-making. This allowed chartered banks to increase their riskiness in order to achieve profits that deposit insurance did not yet shield (Forthcoming in Journal of Economic History).


3 The Federal Reserve System was established in December 1913. Return to Text


7 “How was the Quantitative Easing Program in the 1930s Unwound?” Jaremski M, Mathy H. NBER Working Paper 22578, September 2019. Return to Text


9 Our analysis indicates that the cessation of the largely exogenous gold inflows is the only factor that can explain the sudden decline in excess reserves in early 1941. Between the trough of the Great Depression in 1933 and the end of World War II, excess reserves fell in only two periods. The first and only temporary decline in early-to-mid-1937 occurred when gold inflows slowed after the gold bloc countries devalued and the Fed raised reserve requirements. Excess reserves quickly rebounded, however, during the recession of 1937–38. The second and more permanent decline in excess reserves started in early 1941 and corresponded to the cessation of gold flows from Europe during the war. Excess reserves were on track to have unwound fully, even without the issuance of war bonds or an increase in reserve requirements in late 1941. Therefore, policy tightening was unnecessary. Instead, by allowing funds to disperse naturally after the gold inflows had ceased, the Fed prevented any large spikes in markers and was able to slowly unwind its QE program.

To conclude, history not only plays a key role in shaping the institutions and markets that exist today, but also enables the study of important dynamics that are sometimes obscured in modern data. Recent research, for instance, has highlighted the relationships between inter-bank network, regulation, and financial crisis. The literature shows that the concentration of inter-bank funds in a few institutions can lead to and exacerbate instability. However, the structure of the networks is often shaped by the regulatory and economic environment surrounding the banks. Insights from studies of the Great Depression and other stress episodes where interbank connections are known, therefore, provide valuable design of better policies to contain the spillovers associated with counterparty exposures.

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Economics and Behavioral Health

Johanna Catherine Maclean

Behavioral health disorders include serious mental illness and substance use disorders. These conditions are costly both to affected individuals and to society. Individuals with behavioral health disorders experience interpersonal problems, employment difficulties, reduced overall health, and increased risk of death. Behavioral health disorders can complicate general health treatment. These conditions are costly to society because they place demands on the criminal justice, social service, and health-care systems, and because they reduce labor market productivity. Behavioral health conditions cost the US economy more than $1 trillion each year. The causes of these disorders are complex, and likely include both genetic and environmental factors.

Behavioral health disorders are relatively common. The most recent government data suggest that in 2017, 4.2 percent of all US adults — 11.2 million people — met diagnostic criteria for serious mental illness, and 7.2 percent — 19.2 million people — had substance abuse disorders. Approximately 1 percent — 3.1 million Americans — met criteria for both disorders. A much larger share of the population engages in misuse of substances through activities such as binge drinking and recreational use of drugs, or experiences episodes of poor mental health such as mild depression or anxiety.

The United States is in the midst of an unprecedented drug-use epidemic. In 2017, 70,237 US residents are known to have died from a drug overdose. The drug-use epidemic has been largely attributable to opioids. There are 130 opioid-related overdose deaths each day, a rate that has increased more than sixfold since 1999. The opioid epidemic is believed to have begun in the 1990s and 2000s through overprescription of opioids for the treatment of pain. It has evolved over time to involve heroin and synthetic opioids. Abby Alpert, David Powell, and Rosalia Pacula, along with William Evans, Ethan Lieber, and Patrick Power, have documented that an unexpected, to consumers, reformulation of OxyContin in 2010, which limited the ability to abuse this then-most commonly used prescription opioid, led many users to transition to heroin and, more recently, to fentanyl and other synthetic opioids.

Synthetic opioids are less expensive to manufacture but are more potent than heroin and prescription opioids. Figure 1 documents trends in annual overdoses associated with any opioid, heroin, and synthetic opioids (other than methadone, which is a medication used to treat opioid use disorder). The sharp uptick in the later period is ascribed to fentanyl in particular. Federal, state, and local governments have adopted a range of policies to address the opioid epidemic: prescription drug monitoring programs, shutdowns of “pill mills,” a crackdown on doctors and pharmacies selling illegal drugs, and exchanges and funds to support treatment.

At the same time as the country is facing social costs from escalating drug misuse, government data suggest that suicide rates are also increasing. The overall rate and rates for men and women from 1999 through 2017 are shown in Figure 2. While behavioral health disorders generally cannot be cured, there is substantial medical evidence that these disorders can be managed. This confluence of factors creates an important potential role for public policy, which can provide insurance that is sufficiently generous, in terms of covered benefits, to allow appropriate treatment.

In a series of studies, my colleagues and I explore how insurance expansions can influence behavioral health-care service use and associated outcomes. To study these questions, we combine insight from health economics with clinical knowledge of behavioral health disorders. Both are important for studying these questions. We rely heavily on survey and administrative data sets maintained by the US government specifically to track behavioral health outcomes.

An important feature of the behavioral health-care delivery system, in particular the substance use disorder (SUD) system, is limited use of insurance payments. Many providers operate outside insurance payment systems, accepting self-payments or relying on government grants and contracts to support treatment. Combining this feature with unique challenges faced by those with behavioral health disorders, such as stigma, makes the extent to which expanding insurance leads to changes in outcomes an empirical question.

Evidence from Public Markets

Medicaid, which finances health-care services for low-income people, is the largest purchaser of US behavioral health care. Brendan Saloner and I examine the effect of Affordable Care Act (ACA) Medicaid expansions on SUD treatment, specialty treatment, and medical services obtained in non-specialty settings such as physicians’ offices. Medicaid-enrolled adults have elevated need for behavioral health-care treatment and are less likely to receive this modality of care than privately and Medicare-insured adults. The ACA reflects a major transformation of many areas of the health-care system. Pre-ACA, experts asserted that “no illness will be more affected than substance use disorders.” We find that ACA-Medicaid expansion increased Medicaid coverage among patients receiving specialty care, and use of Medicaid to pay for treatment. Given the limited use of insurance within the SUD treatment delivery system, this latter finding is important; ACA-Medicaid allowed low-income adults with SUDs to enroll in Medicaid, and providers were able to accept that insurance as a form of payment. Our effect sizes are quite large, suggesting that new forms of financing are available, patients and providers are elastic in their responses. We do not observe changes in admissions; we hypothesize that capacity constraints within the SUD treatment delivery system may have stilled effects in the short run, as we examine the situation two years post-expansion.

In continuing research, we are exploring the longer-run effects, using data from four years post-expansion, and we observe increases in hospitalizations, which is in line with our hypothesis. When we consider prescriptions for medications financed by Medicaid, we are less clear on survey and administrative data sets maintained by the US government specifically to track behavioral health outcomes. Similarly, Elson Blunt, Ioana Popovici, Steven Marcus, and I examine the effect of loss of employer-sponsored insurance on substance use disorder (SUD) treatment delivery. We show that when new treatment options are available, patients accept that insurance as a form of payment, suggesting that this expansion is making new treatment options available to lower-income adults.

Sebastian Tello-Trillo, Douglas Webber, and I examine the effect of losing public insurance on hospitalizations for behavioral health-care outcomes. We exploit a large-scale and unexpected

Figure 1

Source: Mortality data from the National Vital Statistics System, National Center for Health Statistics

Figure 2

Source: Mortality data from the National Vital Statistics System, National Center for Health Statistics
Evidence from Private Markets

State governments have attempted to increase coverage of behavioral health services through Medicaid and state coverage contracts. Beginning in the 1970s, states have required either that private insurers include a minimum set of SUD treatment services, and Medicaid covered a relatively generous set of SUD treatment services, and Medicaid covered these services. We find no evidence that this reform led to changes in the number of admissions to treatment or in the types of payment that providers were willing to accept. Massachusetts is unique in that this state had one of the lowest uninsured rates in the country prior to its reform, thus our null findings may reflect ceiling effects.

Lessons Learned

Our findings are heterogeneous; there does not appear to be a “one size fits all” policy for addressing behavioral health issues. The effects of expanding coverage are much more nuanced and appear to depend on the affected population, treatment setting, and outcome. The mixed findings suggest that, while there is promise in using insurance policies to improve behavioral health decision-makers must carefully assess the context in which a policy change is being considered.

Medicaid disenrollment that occurred in the state of Tennessee in 2005 (TennCare). This disenrollment led to 190,000 low-income adults losing coverage that had included a generous set of behavioral health-care services. We show that losing TennCare decreased the number of SUD-related hospitalizations, while the number of mental illness hospitalizations was unchanged. Patients with SUDs were not able to fill in the Medicaid gap and instead had to self-finance health-care services following an insurance loss. We also show that, post-disenrollment, patients with SUDs were no longer able to replace Medicaid with private and Medicare coverage, while patients with SUDs were not able to fill in the Medicaid gap and instead had to self-finance health-care services after the disenrollment. We hypothesize that patients with SUDs face important financial, economic, and cognitive challenges that limit their ability to find substitute coverage following an insurance loss. We also show that, post-disenrollment, behavioral health outcomes decline, plausibly through reduced treatment for SUDs and other changes, such as increased financial strain, as has been shown by Laura Argy et al.14

Evidence from Private Markets

The Massachusetts health-care reform of 2006 is viewed by many policy experts as the blueprint for the ACA. Both reforms aimed to achieve universal insurance through expansions of public and private coverage. Saloner et al leverage the Massachusetts experiences to study how a large-scale insurance expansion in both the public and private markets might influence specialty SUD treatment. Massachusetts compelled private insurers to provide a relatively generous set of SUD treatment services, and Medicaid covered these services. We find no evidence that this reform led to changes in the number of admissions to treatment or in the types of payment that providers were willing to accept. Massachusetts is unique in that this state had one of the lowest uninsured rates in the country prior to its reform, thus our null findings may reflect ceiling effects.

Lessons Learned

Our findings are heterogeneous; there does not appear to be a “one size fits all” policy for addressing behavioral health issues. The effects of expanding coverage are much more nuanced and appear to depend on the affected population, treatment setting, and outcome. The mixed findings suggest that, while there is promise in using insurance policies to improve behavioral health decision-makers must carefully assess the context in which a policy change is being considered.

3 “Key Substance Use and Mental Health Indicators in the United States: Results from the 2017 National Survey on Drug Use and Health,” Bue J, Hadden S, Lipari R, Park Lee E. Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, Rockville, MD, 2018. Return to Text
Household Expectations: From Neuroscience to Household Finance and Macroeconomics

Camelia M. Kuhnen

Recent work in neuroscience and neuroeconomics has provided valuable insights into the factors that drive individuals’ financial behaviors. These insights can be used by economists to better understand individuals’ beliefs and behaviors. Moreover, aggregate-level implications can be drawn from these micro-level findings.

Neuroscientist Brian Knutson and I documented an asymmetry in the brain in the processing of gain and loss information.3 This discovery of asymmetric encoding of positive and negative outcomes led to a hypothesis that could be tested experimentally in the context of financial decision-making. In experiments conducted in three countries—the United States, Romania, and Germany—I found that there is learning occurring differently depending on whether gain or loss has taken place. Specifically, negative outcomes induce overly pessimistic beliefs about investment payoffs.4 This is because, in an environment characterized by negative payoffs, people put too much weight on each additional bit of bad news. This experimental finding suggests that, at the aggregate level, recessions could last longer and be more severe than predicted by statistical models, in part because of undue pessimism among individuals.

Participants in my experiments were temporarily exposed to environments characterized by only positive or only negative payoffs; they exhibited a clear bias toward pessimism in learning the loss domain. Outside of the laboratory, however, many people have encountered negative outcomes on a regular basis, experiencing significant adversity. Do they process information differently depending on whether gain or loss has taken place? The large-scale evidence we find using the national unemployment rate, as well as self-reported household choices such as equity investments, is consistent with prior theories: All else equal, those with higher uncertainty about the economic environment are more pessimistic.5 This dis-advantage does not just impact the lens through which individuals view economic opportunities in a glass half-full versus glass half-empty manner. It also impacts perceived uncertainty about the economic environment.6

Kuhnen’s research spans neuroeconomics, household finance, and empirical corporate finance, with an emphasis on labor and personnel issues. She has BS degrees in finance and in neuroscience from MIT and a PhD in finance from Stanford University. Prior to joining the University of North Carolina at Chapel Hill, she was an associate professor of finance at Northwestern University’s Kellogg School of Management.

Macroeconomic Optimism by Income Level

Pairwise Correlation of Uncertainty in Expectations of Economic Variables

-0.5 -0.4 -0.3 -0.2 -0.1 0.0 0.1 0.2 0.3 0.4 0.5

-0.5 -0.4 -0.3 -0.2 -0.1 0.0 0.1 0.2 0.3 0.4 0.5

This dis-advantage does not just impact the lens through which individuals view economic opportunities in a glass half-full versus glass half-empty manner. It also impacts perceived uncertainty about the economic environment. This idea comes from work in cognitive science and neuroscience that shows that life adversity, which is characterized by environmental instability, influences learning. Specifically, individuals faced with adversity per-ceive that the overall envi-ronment is volatile.6

In a recent study, Elyas Fermand, Geng Li, Ingrid Ben-David, and I find that lower-SES indi-viduals are more uncertain in their micro- and macro-level economic expectations, and all else being equal, more uncertain individuals engage in more cautious behaviors.7 We use data from the Federal Reserve Bank of New York Survey of Consumer Expectations (SCE) covering more than 1,200 households each month, 2013 to 2017. Respondents report their expectations about three vari-ables: their personal income growth, the national inflation rate, and the rate of growth of national home prices over the upcoming 12 months. The elicitation procedure cap-

20 NBER Reporter • No. 4, December 2019

21 NBER Reporter • No. 4, December 2019
NBER News

Abhijit Banerjee, Esther Duflo, and Michael Kremer Awarded Nobel Prize

Abhijit Banerjee and Esther Duflo of MIT and Michael Kremer of Harvard University, all of whom are long-time NBER research associates, were awarded the 2019 Nobel Prize in Economic Sciences. The prize recognizes their contributions to development economics and the study of global poverty.

The laureates’ work “has considerably improved our ability to fight global poverty. In just two decades, their new, experiment-based approach has transformed development economics,” the Royal Swedish Academy of Sciences said in a statement announcing the award.

However, the full announcement of the Nobel Prize award may be found here; the Royal Swedish Academy also provided a longer explanation of the scientific contributions that underlie this work.

On December 8, 2019, the laureates delivered lectures in Stockholm on the subject of their prize-winning work. Banerjee and Duflo each lectured on “Field Experiments and the Practice of Economics,” Kremer lectured on “Experimentation, Innovation, and Economics.”

Banerjee’s lecture

Duflo’s lecture

Kremer’s lecture

With this year’s awards, 32 current or past NBER research affiliates have received the Nobel Prize: William Nordhaus and Paul Romer, 2018; Richard Thaler, 2017; Oliver Hart and Bengt Holmstrom, 2016; Angus Deaton, 2015; Lars Hansen and Robert Shiller, 2013; Alvin Roth, 2012; Thomas Sargent and Christopher Sims, 2011; Peter Diamond, 2010; Paul Krugman, 2008; Edward C. Prescott and Finn Kydland, 2004; Robert F. Engle, 2003; Joseph E. Stiglitz, 2001; James J. Heckman and Daniel L. McFadden, 2000; Robert C. Merton and Myron S. Scholes, 1997; George J. Stigler, 1982; Theodore W. Schultz, 1979; Milton Friedman, 1976; and Simon Kuznets, 1971.

In addition, six current or past members of the NBER Board of Directors have received the Nobel Prize: George Akerlof, 2001; Robert Solow, 1987; and the late William Vickrey, 1996; Douglass North, 1993; James Tobin, 1981; and Paul Samuelson, 1970.
New Research Associates and Faculty Research Fellows Named

The NBER Board of Directors appointed 41 new research associates at its September 2019 meeting. Research associates (RAs) must be tenured faculty members at North American colleges or universities; their appointments are recommended to the board by the directors of the NBER’s 20 research programs, typically after consultation with a steering committee of leading scholars.

The new research associates are affiliated with 26 different colleges and universities; they received their graduate training at 24 different institutions. As of December 1, 2019, there were 1,256 research associates and 307 faculty research fellows. With the exception of one scholar who was previously a research associate, resigned while in public service, and was re-elected, all of the new research associates were previously faculty research fellows. Most were recently granted tenure at their home institutions and therefore became eligible for RA status.

Two new faculty research fellows (FRFs) were also appointed in July 2019. FRFs are appointed by the NBER president, also on the advice of program directors and steering committees and following a call for nominations in January. They must hold primary academic appointments in North America.

The names and affiliations of the newly promoted and newly appointed NBER affiliates, along with the names of the universities where they received Ph.Ds., are listed below. The entry in italics designates the RA who was reappointed.

Research Associates

- Nikhil Agarwal, MIT (Industrial Organization)
- Jennie Bai, Georgetown University (Asset Pricing)
- Yan Bai, University of Rochester (International Finance and Macroeconomics)
- Matilde Bombardini, University of British Columbia (Political Economy)
- Jaroslav Borovička, New York University (Asset Pricing)
- Laurent Bouton, Georgetown University (Political Economy)
- Richard Burkhauser, Cornell University (Aging)
- Leonardo Burzyn, University of Chicago (Political Economy)
- Rafael Dix-Carneiro, Duke University (International Trade and Investment)
- Will Dobbie, Harvard University (Education)
- Michael Ewens, Caltech (Productivity, Innovation, and Entrepreneurship)
- Benjamin Faber, UC, Berkeley (International Trade and Investment)
- Thibault Fally, UC, Berkeley (International Trade and Investment)

- Xavier Giroud, Columbia University (Corporate Finance)
- Joshua Goodman, Brandeis University (Education)
- Koichiro Ino, University of Chicago (Environment and Energy)
- Amir Kermani, UC, Berkeley (Monetary Economics)
- Jared Kessler, University of Pennsylvania (Public Economics)
- Carl Kitchens, Florida State University (Development of the American Economy)
- Joanna Lahey, Texas A&M University (Aging)
- Robin Lee, Harvard University (Industrial Organization)
- Derek Lemoine, University of Arizona (Environment and Energy)
- Shanjun Li, Cornell University (Environment and Energy)
- Adrienne Lucas, University of Delaware (Children)
- Rosalie Liccardo Pacula, University of Southern California (Health Economics)
- Seth Richard-Shubik, Lehigh University (Health Economics)
- Raffaella Sadun, Harvard University (Productivity, Innovation, and Entrepreneurship)

Faculty Research Fellows

- Christina Patterson, University of Chicago (Monetary Economics)
- Winnie van Dijk, University of Chicago (Public Economics)
Economics of Artificial Intelligence

An NBER conference on Economics of Artificial Intelligence took place in Toronto September 26–27. Research Associates Ajay K. Agrawal, Joshua S. Gans, and Ari Goldfarb, all of the University of Toronto, and Catherine Tucker of MIT organized the meeting, which was sponsored by the Alfred P. Sloan Foundation and the Creative Destruction Lab. These researchers’ papers were presented and discussed:

- **David Autor**, MIT and NBER, and **Anna M. Salomons**, Utrecht University, “New Frontiers: The Evolving Content and Geography of New Work in the 20th Century”
- **James Bessen**, Boston University; **Maarten Goos**, London School of Economics; **Anna M. Salomons**, and **Wiljan van den Berge**, CPB Netherlands Bureau for Economic Policy Analysis, “Automatic Reaction – What Happens to Workers at Firms that Automate?”

Summaries of these papers are at www.nber.org/conferences/2019/AIF19/summary.html

Tax Policy and the Economy

An NBER conference on Tax Policy and the Economy took place in Washington, DC, September 26. Research Associate Robert A. Moffitt of Johns Hopkins University organized the meeting, which was sponsored by the Harry and Lynde Bradley Foundation. These researchers’ papers were presented and discussed:

- **Casey B. Mulligan**, University of Chicago and NBER, “The Employer Penalty, Voluntary Compliance, and the Size Distribution of Firms: Evidence from a Survey of Small Businesses”
- **John Beshears** and **David Laibson**, Harvard University and NBER; **James J. Choi**, Yale University and NBER; **Mark Iryw**, The Brookings Institution; **David C. John**, AARP Public Policy Institute; and **Brigitte C. Madrian**, Brigham Young University and NBER, “Building Emergency Savings Through Employer-Sponsored Rainy Day Savings Accounts”

Summaries of these papers are at www.nber.org/conferences/2019/TPE19/summary.html

Conferences

**Mathieu Aubry**, Ecole des Ponts ParisTech; **Roman Kraussl**, University of Luxembourg; **Gustavo Manso**, University of California, Berkeley; and **Christophe Spenglers**, HEC Paris, “Machines and Masterpieces: Predicting Prices in the Art Auction Market”

**Ajay K. Agrawal**, John McBale, National University of Ireland; and **Alexander Oetted**, Georgia Institute of Technology and NBER, “A Model of AI-Aided Scientific Discovery and Innovation”

**Daniel Rock**, MIT, “Engineering Value: The Returns to Technological Talent and Investments in Artificial Intelligence”

**Daniel Björkergren**, Brown University, and **Joshua Blumenstock**, University of California, Berkeley, “Manipulation-Proof Machine Learning”

**Mariano-Florentino Cuellar**, California Supreme Court and Stanford University; **Benjamin Larsen**, Copenhagen Business School; and **Yong Suk Lee** and **Mith Webb**, Stanford University, “Impact of Artificial Intelligence Regulation on Artificial Intelligence Adoption and Innovation”

**Ansgar Walther** and Tarun Ramadorai, Imperial College London; **Paul Goldsmith-Pinkham**, Yale University; and **Andreas Fuster**, Swiss National Bank, “Predictably Unequal? The Effect of Machine Learning on Credit Markets”

**Serh G. Benzell**, Boston University; **Laurence J. Kotlikoff**, Boston University and NBER; **Guillermo LaGarda**, Inter-American Development Bank; and **Jeffrey D. Sachs**, Columbia University and NBER, “Robots Are Us: Some Economics of Human Replacement”


**Marcus Dillendörfer**, University of Illinois at Chicago, and **Eliza Forsythe**, University of Illinois, Urbana-Champaign, “Computerization of White Collar Jobs”


**Gillian Hadfield**, University of Toronto, and **Jack A. Clark**, Import AI, “Regulatory Markets for AI Safety”

**Bo Cowgill** and **Fabrizio Dell’Acqua**, Columbia University, “Biased Programmers? Or Biased Data? A Field Experiment about Algorithmic Bias”

**Prasanna Tambe** and **Lorin Hitt**, University of Pennsylvania; **Erik Brynjolfsson**, MIT and NBER; and **Daniel Rock**, MIT, “AI and Intrangible Capital”

**Susan Athey**, Stanford University and NBER, “The Value of Data for Personalization in Retail”


**Benjamin R. Handel** and **Jonathan T. Kolstad**, University of California, Berkeley and NBER; and **Jonathan Gruber**, MIT and NBER, “Managing Intelligence: Skilled Experts and AI in Markets for Complex Products”

Summaries of these papers are at www.nber.org/conferences/2019/AIF19/summary.html
Taxation of Business Income

An NBER conference on Taxation of Business Income took place in Cambridge on October 2–3. Research Associates Joshua Rauh of Stanford University and Owen M. Zidar of Princeton University organized the meeting, which was sponsored by the Smith Richardson Foundation. These researchers' papers were presented and discussed:

- Sebastian Bustos, Harvard University; Dina Pomeranz, University of Zurich; Juan Carlos Suárez Serrato, Duke University and NBER; José Vila-Belda, University of Zurich, and Gabriel Zucman, University of California, Berkeley and NBER, “Monitoring Tax Compliance by Multinationals: Evidence from a Natural Experiment in Chile”
- Sabrina T. Howell, New York University and NBER, and Filippo Mezzanotti, Northwestern University, “Financing Entrepreneurship through the Tax Code: Angel Investor Tax Credits”
- Scott R. Baker, Northwestern University and NBER; Stephen Teng Sun, Peking University; and Constantine Yannelis, University of Chicago and NBER, “Corporate Taxes and Retail Prices”
- Audrey Guo, Santa Clara University, “The Effects of Unemployment Insurance Taxation on Multi-Establishment Firms”
- Chritib Basri, University of Indonesia; Mayara Felix, MIT; Rema Hanna, Harvard University and NBER; and Benjamin A. Olken, MIT and NBER, “Tax Administration vs. Tax Rates: Evidence from Corporate Taxation in Indonesia” (NBER Working Paper 26130)
- Cailin R. Slattery, Columbia University, “Bidding for Firms: Subsidy Competition in the US”
- Max Risch, University of Michigan, “Does Taxing Business Owners Affect Their Employees? Evidence from a Change in the Top Marginal Tax Rate”
- Christine L. Dobrowie, Federal Reserve Board; and Paul Landefeld and Jake Mortenson, Joint Committee on Taxation, “Corporate Taxes and the Wage Distribution: Effects of the Domestic Production Activities Deduction”
- Enrico Moretti, University of California, Berkeley and NBER, and Daniel Wilson, Federal Reserve Bank of San Francisco, “Taxing Billionaires: Estate Taxes and the Geographical Location of the Forbes 400”
- Lucas Goodman, Katherine Lim, and Andrew Whitten, US Department of the Treasury, and Bruce Sacerdote, Dartmouth College and NBER, “Impacts of the 199A Deduction for Pass-through Owners”
- Cailin R. Slattery and Owen M. Zidar, “Evaluating State and Local Business Tax Incentives”

Summaries of these papers are at www.nber.org/conferences/2019/TBIf19/summary.html

Cities, Labor Markets, and the Global Economy Conference

An NBER conference on Cities, Labor Markets, and the Global Economy took place in Cambridge on October 25–26. Research Associates Edward L. Glaeser of Harvard University and Stephen J. Redding of Princeton University organized the meeting, which was sponsored by the Smith Richardson Foundation. These researchers’ papers were presented and discussed:

- Eran Hoffmann, Hebrew University, and Monika Piazzesi and Martin Schneider, Stanford University and NBER, “Jobs at Risk, Regional Growth, and Labor Market Flows”
- Jan Eckhout, University College London; Christoph Hedrich, Universität Pompeu Fabra; and Roberto Pinheiro, Federal Reserve Bank of Cleveland, “Technology, Spatial Sorting, and Job Polarization”
- Sharat Ganapati, Georgetown University; Woan Foong Wong, University of Oregon; and Oren Ziv, Michigan State University, “Entrepot”
- Cecile Gaubert, Patrick M. Kline, and Danny Yagan, University of California, Berkeley and NBER, “Place-Based Redistribution”
- Fabian Eckert, Princeton University, “Growing Apart: Tradable Services and the Fragmentation of the US Economy”
- Nicholas Bloom, Stanford University and NBER; Kyle Handley, University of Michigan and NBER; André Kurmann, Drexel University; and Philip A. Luck, University of Colorado Denver, “The Impact of Chinese Trade on US Employment: The Good, The Bad, and The Debatable”
- Gabriel Kreindler, Harvard University, and Yuhei Miyauchi, Boston University, “Measuring Commuting and Economic Activity inside Cities with Cell Phone Records”
- Costas Arkolakis, Yale University and NBER; Rodrigo Adián, University of Chicago and NBER; and Federico Esposito, Tufts University, “General Equilibrium Indirect Effects in Space: Theory and Measurement”
- Viktor Couture, University of California, Berkeley; Cecile Gaubert, University of California, Berkeley and NBER; Jessie Handbury, University of Pennsylvania and NBER; and Erik Hurst, University of Chicago and NBER, “Income Growth and the Distributional Effects of Urban Spatial Sorting” (NBER Working Paper 26442)

Summaries of these papers are at www.nber.org/conferences/2019/CLMf19/summary.html
Health, Wellbeing, and Children’s Outcomes for Native Americans and Other Indigenous Peoples

An NBER conference on Health, Wellbeing, and Children’s Outcomes for Native Americans and Other Indigenous Peoples took place November 1 in Cambridge. Research Associate Randall Akee of the University of California, Los Angeles and Faculty Research Fellow Emilia Simeanova of Johns Hopkins University organized the meeting, which was sponsored by the National Institute on Aging through the NBER Center for Aging and Health Research. These researchers’ papers were presented and discussed:

- Richard H. Steckel, Ohio State University and NBER, and Kris Inwood, University of Guelph, “Changes in the Well-Being of Native Americans Born in the Northwest, 1830–1900”
- Stefanic Schwert, University of Sydney; Mary Alice Doyle, Poverty Action; and Sven Silburn, Menzies School of Health Research, “Why did Australia’s Major Welfare Reform Lead to Worse Birth Outcomes in Aboriginal Communities?”
- Donna Fein, Federal Reserve Bank of Minneapolis, and Maggie Jones and David Scones, University of Victoria, “The Legacy of Indian Missions in the United States”
- Maggie Jones, “Student Aid and the Distribution of Educational Attainment”
- Brooks A. Kaiser, University of Southern Denmark, “Growth, Transition, and Decline in Resource Based Socio-Ecological Systems”
- Dustin Frye, Vassar College, and Christian Dippel, University of California, Los Angeles and NBER, “The Effect of Land Allotment on Native American Households during the Assimilation Era”

Summaries of these papers are at www.nber.org/conferences/2019/IPf19/summary.html

Macroeconomic Perspectives on the Value of Health

An NBER conference on Macroeconomic Perspectives on the Value of Health took place November 8 in Cambridge. Research Associate Chad Syverson of the University of Chicago organized the meeting, which was sponsored by the Robert Wood Johnson Foundation. These researchers’ papers were presented and discussed:

- David M. Cutler, Harvard University and NBER, “A Satellite Account for Health in the United States”
- Adriana Lleras-Muney, University of California, Los Angeles and NBER, and Flavien E. Moreau, University of California, Los Angeles, “A Unified Law of Mortality for Economic Analysis”
- Seidu Dauda, World Bank Group; Abe Dunn, Bureau of Economic Analysis; and Anne E. Hall, Department of the Treasury, “Are Medical Prices Still Declining? A Systematic Examination of Quality-Adjusted Price Index Alternatives for Medical Care”
- Mary O’Mahony and Lea Samek, King’s College London, “Health and Human Capital”

Economics of Infrastructure Investment

An NBER conference on Economics of Infrastructure Investment took place November 15–16 in Cambridge. Research Associate Edward L. Glaeser of Harvard University and James M. Poterba of MIT organized the meeting, which was sponsored by the Alfred P. Sloan Foundation. These researchers’ papers were presented and discussed:

- Colleen Carey, Cornell University and NBER, and David Molitor and Nolan H. Miller, University of Illinois at Urbana-Champaign and NBER, “Why Does Disability Insurance Enrollment Increase during Recessions? Evidence from Medicare”

Summaries of these papers are at www.nber.org/conferences/2019/MPIf19/summary.html

Labor Demand and Older Workers

An NBER conference on Labor Demand and Older Workers took place November 15 in Cambridge. Research Associate Kevin S. Milligan of the University of British Columbia organized the meeting, which was sponsored by the Alfred P. Sloan Foundation. These researchers’ papers were presented and discussed:

- Johanna Catherine Maclean, Temple University and NBER; Stefan Pichler, ETH Zurich; and Nicolas R. Ziebarth, Cornell University, “Mandated Sick Pay: Coverage, Utilization, and Welfare Effects”
- Joseph Marchand, University of Alberta, and Kevin S. Milligan, “Natural Resource Booms and Older Workers”
- Marco Angrisani and Erik Meijer, University of Southern California, and Arie Kapteyn, University of Southern California and NBER, “Sorting into Jobs and Labor Supply and Demand at Older Ages”
- Daron Acemoglu, MIT and NBER, and Pascal Restrepo, Boston University, “Demographics and Automation” (NBER Working Paper 24421)

Summaries of these papers are at www.nber.org/conferences/2019/LDOWf19/summary.html
Innovation Information Initiative

The NBER's Innovation Information Initiative convened December 6–7 in Cambridge. Research Associates Adam B. Jaffe of Brandeis University, Bronwyn H. Hall of University of California, Berkeley, and Bhaven N. Sampat of Columbia University were joined by Osmat Azzam Jefferson of Queensland University of Technology, Samuel J. Klein of MIT, and Matt Marx of Boston University in organizing the meeting, which was sponsored by the Alfred P. Sloan Foundation. The following researchers made presentations about existing or prospective data-creation projects and opportunities:

- Gaëtan de Rassenfosse, Ecole polytechnique federale de Lausanne (EPFL), "Linking Products to Patents"
- Jeffrey M. Kuhn, University of North Carolina, "Applications of Textual Similarity to Measure Construction and Evaluation"
- Deyun Yin, World Intellectual Property Organization, "Challenges and Solutions in the Construction of Chinese Patent Database"
- Ashish Arora and Sharon Belenzon, Duke University and NBER, and Lia Sheer, Duke University, "The Role of Company Names and Ownership Changes in the Dynamic Reassignments of Patents"
- Osmat Azzam Jefferson, Queensland University of Technology, "Lenslab and the Lens public API"
- Matt Marx, Boston University, "Toward a Complete Set of Patent References to Science"
- Lisa D. Cook, Michigan State University and NBER, "Race, Ethnicity, and Patenting: USPTO's New Data Collection Effort"
- Samuel J. Klein, "Prior Art"
- Mitsuru Igami, Yale University, "Mapping Firms' Locations in Technological Space"
- Dominique Guellec, Observatoire des Sciences et Techniques, "Novelty and Impact"
- Martina Iori, Sant'Anna School of Advanced Studies, "The Complexity of Knowledge"

Summaries of these papers are at www.nber.org/conferences/2019/EIf19/summary.html

India in the Global Economy

The NBER, along with the Indian Council for Research on International Economic Relations (ICRIER) and the National Council for Applied Economic Research (NCAER), two research organizations based in New Delhi, India, sponsored a meeting in New Delhi and Neemrana, India, December 13–15. The meeting, which focused on "India in the Global Economy," was the 21st gathering in this series of research exchanges. The meeting included NBER researchers as well as economists from Indian universities, research institutions, and government departments. NBER Research Associate Abhijit Banerjee of MIT organized the conference jointly with Rajat Kathuria of ICRIER. The meeting included remarks on current policy developments from Nirmala Sitharaman, the Honorable Union Minister of Finance and Corporate Affairs for India.

The NBER participants were: Neeraj Kaushal, Columbia University; Edward Glaeser and Rema Hanna, Harvard University; Anne Krueger and John Lipsky, Johns Hopkins University; Parag Pathak and James Poterba, MIT; Stephen Redding, Princeton University; Alan Auerbach, University of California, Berkeley; Kathleen McGarry, University of California, Los Angeles; Karthik Muralidharan, University of California, San Diego; Marianne Bertrand and Raghuram Rajan, University of Chicago; Charles Engel, University of Wisconsin; and Michael Peters, Yale University. Each delivered a research presentation and participated in discussion with Indian counterparts in related fields.

Topics discussed included the economics of fiscal policy and tax design; urbanization; global economic growth and trade; the effects of aging populations on health status and economic performance; education, skills, and human capital acquisition; the challenge of job creation; and inequality and economic mobility.

Program and Working Group Meetings

Chinese Economy

Members of the NBER's Chinese Economy Working Group met September 26–27 in Cambridge. Research Associates Nancy Qian of Northwestern University, Shang-Jin Wei of Columbia University, and Daniel Xu of Duke University organized the meeting. These researchers' papers were presented and discussed:

- Jing Cai, University of Maryland and NBER, and Adam Szewdl, Central European University, "Direct and Indirect Effects of Financial Access on SMEs"
- Li Feng and Haofei Wang, Shanghai Jiao Tong University; Jun Qian and Lei Zhu, Fudan University, "Stock Pledged Loans, Capital Markets, and Firm Performance: the Good, the Bad and the Ugly"
- Alain de Janvry and Elisabeth Sadoulet, University of California, Berkeley; Guojun He, Hong Kong University of Science and Technology; Shaoda Wang, University of Chicago; and Qing Zhang, Renmin University of China, "Influence Activities and Bureaucratic Performance: Evidence from a Large-Scale Field Experiment in China"
- Daniel Berkowitz, University of Pittsburgh; Yi Lu, National University of Singapore; and Mingqin Wu, South China Normal University, "What Makes Local Governments More Accountable? Evidence from a Website Reform"
- Hannming Fang, University of Pennsylvania and NBER; Linke Hou, Shandong University; Mingxing Liu and Pengfei Zhang, Peking University; and Lixin Colin Xu, The World Bank, "Factions, Local Accountability, and Long-Term Development: Theory and Evidence"
- Harald Hau and Difei Ouyang, University of Geneva, "Capital Scarcity and Industrial Decline: Evidence from 172 Real Estate Booms in China"
Members of the NBER’s Political Economy Program met October 11 in Cambridge. Research Associates Ernesto Dal Bó of the University of California, Berkeley and Francesco Trebbi of the University of British Columbia organized the meeting. These researchers’ papers were presented and discussed:

- Meera Mahadevan, University of California, Santa Barbara, “The Price of Power: Costs of Political Corruption in Indian Electricity”
- Avinash Dixit, Princeton University, “‘We haven’t got but one more day’ — The Cuban Missile Crisis as a Dynamic Chicken Game”
- Michael Callen, University of California, San Diego and NBER; Saad Golzar, Stanford University; Soledad A. Prillaman, University of Oxford; and Rohini Pande, Yale University and NBER, “Does Revolution Work? Post-Revolutionary Evolution of Nepal’s Political Clauses”
- Abhay Aneja, Stanford University, and Carlos Avenancio, Indiana University, “The Effect of Political Power on Labor Market Inequality: Evidence from the 1965 Voting Rights Act”
- Katherine Casey, Stanford University and NBER; and Abou Bakarr Kamara and Niccolò Meriggi, International Growth Centre, “An Experiment in Candidate Selection” (NBER Working Paper 21680)

Summaries of these papers are at www.nber.org/conferences/nber.org/conferences/2019/CEf19/summary.html

Political Economy

Members of the NBER’s Political Economy Program met October 11 in Cambridge. Research Associates Ernesto Dal Bó of the University of California, Berkeley and Francesco Trebbi of the University of British Columbia organized the meeting. These researchers’ papers were presented and discussed:

- Meera Mahadevan, University of California, Santa Barbara, “The Price of Power: Costs of Political Corruption in Indian Electricity”
- Avinash Dixit, Princeton University, “‘We haven’t got but one more day’ — The Cuban Missile Crisis as a Dynamic Chicken Game”
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- Abhay Aneja, Stanford University, and Carlos Avenancio, Indiana University, “The Effect of Political Power on Labor Market Inequality: Evidence from the 1965 Voting Rights Act”
- Katherine Casey, Stanford University and NBER; and Abou Bakarr Kamara and Niccolò Meriggi, International Growth Centre, “An Experiment in Candidate Selection” (NBER Working Paper 21680)

Summaries of these papers are at www.nber.org/conferences/nber.org/conferences/2019/CEf19/summary.html

Market Design

Members of the NBER’s Market Design Working Group met October 18–19 in Cambridge. Research Associates Michael Ostrovsky of Stanford University and Parag A. Pathak of MIT organized the meeting. These researchers’ papers were presented and discussed:

- Liran Einav, Stanford University and NBER; Amy Finkelstein, MIT and NBER; Yunan Ji, Harvard University; and Neale Mahoney, University of Chicago and NBER, “Voluntary Regulation: Evidence from Medicare Bundled Payments”
- Amanda V. Agan, Rutgers University and NBER; Bo Cowgill, Columbia University; and Laura K. Gee, Tufts University, “Salary Disclosure and Hiring: Field Experimental Evidence from a Two-Sided Audit Study”
- Nicole Immorlica and Brendan Lucier, Microsoft Research; Jacob D. Leshno, University of Chicago; and Irene Y. Lo, Stanford University, “Information Acquisition Costs in Matching Markets”
- Christina Aperjis, Power Auctions LLC; Lawrence Ausubel, University of Maryland; and Oleg V. Baranov, University of Colorado Boulder, “Supply Reduction in the Broadcast Incentive Auction”
- Yannai A. Gonczarowski, Microsoft Research; Lior Kovalio and Noam Nisan, Hebrew University of Jerusalem; and Assaf Romm, Hebrew University of Jerusalem and Stanford University, “Matching for the Israeli ‘Mechinot’ Gap-Year Programs: Handling Rich Diversity Requirements”
- Tayfun Sönmez and M. Bumin Yenen, Boston College, “Affirmative Action in India via Vertical and Horizontal Reservations”
- Mohammad Akharpour, Stanford University; Julien Combe, University College London; Yinghua He, Rice University; Victor Hiller, Université Paris II; Robert Shimer, University of Chicago and NBER; and Olivier Tercieux, Paris School of Economics, “Unpaired Kidney Exchange: Overcoming Double Coincidence of Wants without Money”
- Gianluca Brezo and Sven Seuken, University of Zurich, and Benjamin Lubin, Boston University, “Machine Learning-Powered Iterative Combinatorial Auctions”
- Nick Arnosti, Columbia University, and Peng Shi, University of Southern California, “Design of Lotteries and Waitlists for Affordable Housing Allocation”

Summaries of these papers are at www.nber.org/conferences/nber.org/conferences/2019/MDf19/summary.html
Members of the NBER’s Public Economics Program met October 24–25 in Chicago. Program Director Amy Finkelstein of MIT and Research Associate Neale Maloney of the University of Chicago organized the meeting. These researchers’ papers were presented and discussed:

- **Hunt Allcott**, New York University and NBER; **Joshua J. Kim**, Stanford University; **Dmitry Taubinsky**, University of California, Berkeley and NBER; and **Jonathan Zinman**, Dartmouth College and NBER, “Payday Lending, Self Control, and Consumer Protection”
- **Patrick Bayer**, Duke University and NBER; **Peter Q. Blair**, Harvard University and NBER; and **Kenneth Whaley**, Clemson University, “Is Spending on Schools Efficient? A National Study of the Capitalization of School Spending and Local Taxes”
- **Michael Gelman**, Clazemont McKenna College; **Shachar Kariv**, University of California, Berkeley; **Matthew D. Shapiro**, University of Michigan and NBER; and **Dan Silverman**, Arizona State University and NBER, “Rational Illiquidity and the Marginal Propensities to Consume: Theory and Evidence from Income Tax Withholding and Refunds”
- **Cailin R. Slattery**, Columbia University, “Bidding for Firms: Subsidy Competition in the US”
- **Juliana Londono-Velez**, University of California, Los Angeles and NBER, “Can Wealth Taxation Work in Developing Countries? Quasi-Experimental Evidence from Colombia”

Summaries of these papers are at www.nber.org/conferences/2019/PEf19/summary.html

Members of the NBER’s International Finance and Macroeconomics Program met October 25 in Cambridge. Research Associates Guido Lorenzoni of Northwestern University and Vivian Yue of Emory University organized the meeting. These researchers’ papers were presented and discussed:

- **Chenzhi Xu**, Harvard University, “Reshaping Global Trade: The Immediate and Long-Run Effects of Bank Failures”
- **Jordi Galí**, CREI and NBER, “Uncovered Interest Parity, Forward Guidance and the Exchange Rate”
- **Javier Bianchi**, Federal Reserve Bank of Minneapolis and NBER, and **César Sosa-Padilla**, University of Notre Dame, “Reserve Accumulation, Macroeconomic Stabilization and Sovereign Risk”
- **Wenxin Du**, University of Chicago and NBER; **Benjamin M. Hebert**, Stanford University and NBER; and **Amy Wang Huber**, Stanford University, “Are Intermediary Constraints Priced?”

Summaries of these papers are at www.nber.org/conferences/2019/IFMf19/summary.html

Members of the NBER’s Economic Fluctuations and Growth Program met October 24 at the Federal Reserve Bank of Chicago. Research Associates Francisco J. Buera of the Washington University in St. Louis and Ayşegül Şahin of the University of Texas at Austin organized the meeting. These researchers’ papers were presented and discussed:

- **Monika Piazzesi** and **Martin Schneider**, Stanford University and NBER; and **Ciaran Rogers**, Stanford University, “Money and Banking in a New Keynesian Model”
Behavioral Finance

Members of the NBER’s Behavioral Finance Working Group met November 1 in Cambridge. Research Associate Nicholas C. Barberis of Yale University organized the meeting. These researchers’ papers were presented and discussed:

- Peter D. Maxted, Harvard University, “A Macro-Finance Model with Sentiment”
- Francesco D’Acunto, Boston College; Ulrike Malmendier, University of California, Berkeley and NBER; Juan Ospina, University of Chicago; and Michael Weber, University of Chicago and NBER, “Exposure to Daily Price Changes and Inflation Expectations” (NBER Working Paper 26237)
- Samuel M. Hartzmark and Samuel D. Hirshman, University of Chicago, and Alex Imas, Carnegie Mellon University, “Ownership, Learning and Beliefs”
- Nicholas C. Barberis, Lawrence J. Jin, California Institute of Technology; and Baolian Wang, University of Florida, “Prospect Theory and Stock Market Anomalies”
- Lars A. Lochotser, University of California, Los Angeles, and Tyler Muir, University of California, Los Angeles and NBER, “Volatility Expectations and Returns”
- Paul Goldsmith-Pinkham, Yale University, and Kelly Shue, Yale University and NBER, “The Gender Gap in Housing Returns”

Summaries of these papers are at www.nber.org/conferences/2019/MEf19/summary.html

Monetary Economics

Members of the NBER’s Monetary Economics Program met November 1 in San Francisco. Faculty Research Fellows Adrien Audretsch of Stanford University and Marco Di Maggio of Harvard University, and Program Directors Emi Nakamura and John Steinsson of the University of California, Berkeley organized the meeting. These researchers’ papers were presented and discussed:

- Andrés Blanco, University of Michigan, and Isaac Baley, Universitat Pompeu Fabra, “Aggregate Dynamics in Lumpy Economics”
- Saki Bigio, University of California, Los Angeles and NBER, and Yuliy Sannikov, Stanford University, “A Model of Intermediation, Money, Interest, and Prices”
- Anthony A. DeFusco and John A. Mondragon, Northwestern University, “No Job, No Money, No Refi: Frictions to Refinancing in a Recession”
- Greg Buchak, Stanford University; Gregor Matvos, Northwestern University and NBER; Tomasz Piskorski, Columbia University and NBER; and Amit Seru, Stanford University and NBER, “The Limits of Shadow Banking” (NBER Working Paper 25149)
- Ian Dew-Becker, Northwestern University and NBER; Alireza Tahbaz-Salehi, Northwestern University; and Andrea Vedolin, Boston University and NBER, “Macro Skewness and Conditional Second Moments: Evidence and Theories”
- Rohan Kekre, University of Chicago, and Moritz Lenel, Princeton University, “Monetary Policy, Redistribution, and Risk Premia”

Summaries of these papers are at www.nber.org/conferences/2019/MEF19/summary.html

Organizational Economics

Members of the NBER’s Organizational Economics Working Group met November 8–9 in Cambridge. Research Associate Robert S. Gibbons of MIT organized the meeting. These researchers’ papers were presented and discussed:

- Emily Breza, Harvard University and NBER; Supreet Kaur, University of California, Berkeley and NBER; and Yogita Shandasani, University of Pittsburgh, “Labor Rationing: A Revealed Preference Approach from Hiring Shocks”
- Gizem Kosar, Federal Reserve Bank of New York; Aysegül Şahin, University of Texas at Austin and NBER; and Basit Zafar, Arizona State University and NBER, “The Work-Leisure Tradeoff: Identifying the Heterogeneity”
- Paul Mohren, University of Michigan, “The Impact of the Retirement Slowdown on the US Youth Labor Market”
- Peter Q. Blair, Harvard University and NBER, and Benjamin Posmanick, Clemson University, “When Does Labor Market Flexibility Reduce Gender Wage Gaps?”
- Ellora Derenoncourt, Princeton University, and Claire Montialoux, University of California, Berkeley, “Minimum Wages and Racial Inequality”
- Stefano Dell’Aigna and Ulrike Malmendier, University of California, Berkeley and NBER; John A. List, University of Chicago and NBER; and Gautam Rao, Harvard University and NBER, “Estimating Social Preferences and Gift Exchange with a Piece-Rate Design”
- Brett R. Hickman, Washington University in St. Louis, and Jack Mountjoy, University of Chicago, “The Returns to College(s): Estimating Value-Added and Match Effects in Higher Education”

Summaries of these papers are at www.nber.org/conferences/2019/LSF19/summary.html

Labor Studies

Members of the NBER’s Labor Studies Program met November 7–8 in Chicago. Program Directors David Autor of MIT and Alexandre Mas of Princeton University organized the meeting. These researchers’ papers were presented and discussed:

- Canice Prendergast, University of Chicago, “Making A Difference”
- Mark J. Borgechulte, University of Illinois at Urbana-Champaign; Marius Guenzel, University of California, Berkeley; Canyao Liu, Yale University; and Ulrike Malmendier, University of California, Berkeley and NBER, “CEO Stress and Life Expectancy: The Role of Corporate Governance and Financial Distress”
- Francesco Decarolis and Paolo Pinotti, Bocconi University; Raymond Fisman, Boston University and NBER; and Silvia Vannucci, University of Utah, “How Do CEOs Make Strategy?”

Summaries of these papers are at www.nber.org/conferences/2019/LSF19/summary.html
Corporate Finance

Members of the NBER's Corporate Finance Program met November 8 at Stanford University. Research Associates John Graham of Duke University and Paola Sapienza of Northwestern University organized the meeting. These researchers' papers were presented and discussed:

- Matthew Smith, Department of the Treasury; Owen M. Zidar, Princeton University and NBER; and Eric Zwick, University of Chicago and NBER, “Top Wealth in America: New Estimates and Implications for Taxing the Rich”
- Simon Jäger, MIT and NBER; Benjamin Schoefer, University of California, Berkeley; and Jörg Huber, University of St. Gallen, “Resource Misallocation in Corporate Governance”
- Giuseppe Bertingier, ESSEC Business School and CEP; Frank Pisch, University of St. Gallen; and Claudia Steinwender, MIT and NBER, “Organizing Global Supply Chains: Input-Output Linkages and Vertical Integration” (NBER Working Paper 25286)
- W. Bentley MacLeod, Columbia University and NBER, and Victoria Valle Lara and Christian Zehnder, University of Lausanne, “On Building a Conflict Culture in Organizations”
- Katherine Casey, Stanford University and NBER; Edward Miguel, University of California, Berkeley and NBER; Rachel Glennerster, UK Department for International Development; and Maarten J. Vos, Wageningen University & Research, “Skill versus Voice in Local Development” (NBER Working Paper 25022)

Summaries of these papers are at www.nber.org/conferences/2019/CFf19/summary.html

Asset Pricing

Members of the NBER's Asset Pricing Program met November 8 at Stanford University. Research Associates Stefano Giglio of Yale University and Tarek Alexander Hassan of Boston University organized the meeting. These researchers' papers were presented and discussed:

- Matthew Smith, Department of Treasury; Owen M. Zidar, Princeton University and NBER; and Eric Zwick, University of Chicago and NBER, “Top Wealth in the United States: New Estimates and Implications for Taxing the Rich”
- Juan Morelli and Diego Perez, New York University, and Pablo Ortonello, University of Michigan and NBER, “Global Banks and Systemic Debt Crises”
- Wensin Du, University of Chicago and NBER, Benjamin M. Hebert, Stanford University and NBER; and Amy Wang Huber, Stanford University, “Are Intermediary Constraints Priced?” (NBER Working Paper 26009)

Summaries of these papers are at www.nber.org/conferences/2019/APf19/summary.html

Education

Members of the NBER's Education Program met November 14–15 in Cambridge. Program Director Caroline M. Hoxby of Stanford University organized the meeting. These researchers' papers were presented and discussed:

- C. Kirabo Jackson, Northwestern University and NBER, and Diether Beuermann, Inter-American Development Bank, “Do Parents Know Best? The Short and Long Run Effects of Attending the Schools That Parents Prefer” (NBER Working Paper 24920)
- Richard Murphy, University of Texas at Austin and NBER, Simon Burgess, University of Bristol; and Ellen Greaves, Institute for Fiscal Studies, “Deregulating Teacher Labor Markets”
- Cher Li, Colorado State University, and Basit Zafar, Arizona State University and NBER, “Ask and You Shall Receive? Gender Differences in Regrades in College”
- Peter Bergman, Columbia University, Eric W. Chan, Babson College; and Adam Kapor, Princeton University and NBER, “Housing Search Frictions: Evidence from Detailed Search Data and a Field Experiment”
- Kevin Mumford, Purdue University, “Student Selection into an Income Share Agreement”
- Christopher Neilson and Franco A. Calle, Princeton University, and Sebastian Gallegos, Inter-American Development Bank, “Screening and Recruiting Talent at Teacher Colleges Using Pre-College Academic Achievement”

Summaries of these papers are at www.nber.org/conferences/2019/EOF19/summary.html
Development Economics/BREAD

A joint meeting of the NBER’s Development Economics Program and BREAD (Bureau for Research and Economic Analysis of Development) was held November 22–23 in Cambridge. Oriana Bandiera and Robin Burgess of the London School of Economics, Research Associates Melissa Dell of Harvard University, Edward Miguel of the University of California, Berkeley and Dean Yang of the University of Michigan, and Program Directors Svea Rau of Northwestern University and Benjamin A. Olken of MIT organized the meeting. These researchers’ papers were presented and discussed:

- Katherine Casey, Stanford University and NBER, and Niccolò Meriggi and Abou Bakarr Kamara, International Growth Centre, “An Experiment in Candidate Selection” (NBER Working Paper 26140)
- Vittorio Bassi, University of Southern California; Tommaso Porzio, Columbia University; Ritwik Sen, Northwestern University; and Raffaella Muoio and Esau Tugume, BRAC Uganda, “Achieving Scale Collectively”
- Clare Leaver, University of Oxford; Owen Ozie, The World Bank; Pieter M. Serneels, University of East Anglia; and Andrew F. Zeilin, Georgetown University, “Recruitment, Effort, and Retention Effects of Performance Contracts for Civil Servants: Experimental Evidence from Rwandan Primary Schools”
- Richard Hornbeck, University of Chicago and NBER, and Martin Rotemberg, New York University, “Railroads, Reallocation, and the Rise of American Manufacturing”
- Adam Aberra and Matthieu Chemin, McGill University, “Does Legal Representation Increase Investment? Evidence from a Field Experiment in Kenya”
- Abhijit Banerjee and Esther Duflo, MIT and NBER; Arun G. Chandrasekhar, Stanford University and NBER; and Matthew Jackson, Stanford University, “Changes in Social Network Structure in Response to Exposure to Formal Credit Markets”
- Liran Einav, University of Chicago, “Voluntary Regulation: Evidence from Medicare Payment Reform”
- Abby E. Alpert, University of Pennsylvania and NBER, William N. Evans and Ethan Lieber, University of Notre Dame and NBER; and David Powell, RAND Corporation, “Origins of the Opioid Crisis and Its Enduring Impacts”
- Yiqun Chen, Stanford University, and Petra Persson and Maria Polyakova, Stanford University and NBER, “The Roots of Health Inequality and the Value of Intra-Family Expertise” (NBER Working Paper 25618)

Summaries of these papers are at www.nber.org/conferences/2019/EDF19/summary.html

Health Care

Members of the NBER’s Health Care Program met December 6 in Cambridge. Program Director Jonathan Gruber of MIT and Research Associates Leemore Dafny of Harvard University, Benjamin R. Handel of the University of California, Berkeley, and Neale Mahoney of the University of Chicago organized the meeting. These researchers’ papers were presented and discussed:

- Shooshan Danagoulian, Wayne State University; Daniel S. Grossman, West Virginia University; and David Shulsky, University of Kansas, “Office Visits Preventing Emergency Room Visits: Evidence from the Flint Water Switch”
- Liran Einav, Stanford University and NBER, Amy Finkelstein, MIT and NBER, Yunan Ji, Harvard University; and Neale Mahoney, “Voluntary Regulation: Evidence from Medicare Payment Reform”
- Pierre-Thomas Léger and Wu Jiashan, University of Illinois at Chicago, and Robert Town, University of Texas, Austin and NBER, “A Theory of Geographic Variations in Medical Care”
- Richard Domurat, University of California, Los Angeles; Isaac Menashe, Covered California; and Wesley Yin, University of California, Los Angeles and NBER, “The Role of Behavioral Frictions in Health Insurance Marketplace Enrollment and Risk: Evidence from a Field Experiment” (NBER Working Paper 26153)
- Abby E. Alpert, University of Pennsylvania and NBER, William N. Evans and Ethan Lieber, University of Notre Dame and NBER; and David Powell, RAND Corporation, “Origins of the Opioid Crisis and Its Enduring Impacts”
- Yiqun Chen, Stanford University, and Petra Persson and Maria Polyakova, Stanford University and NBER, “The Roots of Health Inequality and the Value of Intra-Family Expertise” (NBER Working Paper 25618)

Summaries of these papers are at www.nber.org/conferences/2019/HCf19/summary.html
Entrepreneurship

Members of the NBER’s Entrepreneurship Working Group met December 6 in Cambridge. Program Director Josh Lerner of Harvard University and Research Associate David T. Robinson of Duke University organized the meeting. These researchers’ papers were presented and discussed:

- Kristoph Kleiner and Isaac Hacamo, Indiana University, “Confidence Spillovers in Competitive Environments: Evidence from Entrepreneurship”
- Barbara Biass, Yale University and NBER, and Song Ma, Yale University, “The Education-Innovation Gap”
- Olav Sorenson and Rodrigo Canales, Yale University; Michael Dahl, Aarhus University; and M. Diane Burton, Cornell University, “Do Startup Employees Earn More in the Long Run?”
- Aymeric Bellon, University of Pennsylvania; J. Anthony Cookson, University of Colorado; Erik P. Gilje, University of Pennsylvania and NBER; and Rawley Z. Heimer, Boston College, “Personal Wealth and Self-Employment”

International Trade and Investment

Members of the NBER’s International Trade and Investment Program met December 6–7 at Stanford University. Program Director Stephen J. Redding of Princeton University organized the meeting. These researchers’ papers were presented and discussed:

- Dominick G. Bartelme and Ting Lan, University of Michigan, and Andrei A. Levchenko, University of Michigan and NBER, “Specialization, Market Access and Real Income”
- Joseph S. Shapiro, University of California, Berkeley and NBER, “The Environmental Bias of Trade Policy”
- Andrés Rodríguez-Clare, University of California, Berkeley and NBER; Mauricio Ulate, Federal Reserve Bank of San Francisco; and José P. Vásquez, University of California, Berkeley, “New-Keynesian Trade: Understanding the Employment and Welfare Effects of Sector-Level Shocks”
- Nezih Guner, CEMFI; Alessandro Ruggieri, Universitat Autònoma de Barcelona and Barcelona GSE; and James R. Tybout, Pennsylvania State University and NBER, “Trade, Offshoring, and the Job Ladder”
- Costas Arkolakis and Michael Peters, Yale University and NBER, and Sun K. Lee, Columbia University, “European Immigrants and the United States’ Rise to the Technological Frontier in the 19th Century”
NBER Books

Productivity in Higher Education

Caroline M. Hoxby and Kevin Stange, editors

How do the benefits of higher education compare with its costs, and how does this comparison vary across individuals and institutions? These questions are fundamental to quantifying the productivity of the education sector. **Productivity in Higher Education** uses rich and novel administrative data, modern econometric methods, and deep institutional understanding to explore productivity issues in the education sector. The authors examine the returns to undergraduate education, differences in costs by major, the productivity of for-profit schools, the productivity of various types of faculty, the effects of online education on the higher education market, and the ways in which the productivity of different institutions responds to market forces. The analyses recognize five key challenges to assessing productivity in higher education: the potential for multiple student outcomes in terms of skills, earnings, invention, and employment; the fact that colleges and universities are “multiproduct” firms that conduct varied activities across many domains; the fact that students select which school to attend based in part on their aptitude; the difficulty of attributing outcomes to individual institutions when students attend more than one; and the possibility that some of the benefits of higher education may arise from the system as a whole rather than from a single institution. The findings and the approaches illustrated can facilitate decision-making processes in higher education.

Social Security Programs and Retirement around the World: Working Longer

Courtney C. Coile, Kevin Milligan, and David A. Wise, editors

Developed countries during the last two decades have experienced a long-term decline in men’s labor force participation at older ages, followed by a more recent pattern of sharply rising participation rates. Participation rates for women at older ages also have been rising. What explains the trend reversal for men, the evolving pattern for women, and the differences in these trends across countries? The answers to these questions are pivotal as countries seek solutions to the fiscal and retirement security challenges posed by longer lifespans. This eighth volume of the International Social Security project, which compares the social security and retirement experiences of 12 developed countries, documents trends in participation and employment, and explores reasons for the rising participation rates of older workers. The chapters use a common template for analysis which facilitates comparison of results across countries. Using within-country natural experiments and cross-country comparisons, the researchers study the impact of improving health and education, changes in the occupation mix, the retirement incentives of social security programs, and the emergence of women in the workplace. The findings suggest that social security reforms and other factors such as the movement of women into the labor force have played an important role in labor force participation trends.

Innovation Policy and the Economy, volume 20

Josh Lerner and Scott Stern, editors

The chapters in this 20th volume of *Innovation Policy and the Economy* present research on the interactions among public policy, the innovation process, and the economy. One explores changes in the ability of the US to attract talented foreign workers and the role of sponsoring institutions in shaping immigration policy. Another explains how the division of innovative labor between research universities and corporate labs affected productivity growth and the transformation of knowledge into new products and processes. A third reviews a variety of innovation policies and their performance in the pharmaceutical sector. Next is a chapter on the effects of competition policy on innovation, “creative destruction,” and economic growth. A fifth chapter focuses on how experimental policy design can be a cost-effective way to attain program goals. The last chapter examines geographic disparities in innovation, joblessness, and technological dynamism and studies how reallocation of grants and geographically targeted entrepreneurship policy could affect labor supply and welfare.