Medicaid today covers more Americans than any other public health insurance program. Introduced in 1965, its coverage was expanded substantially, particularly to low-income children, during the 1980s and the early 1990s.

Throughout Medicaid’s history, there has been debate over whether the program improves health outcomes. Two new NBER studies exploit variation in children’s eligibility for Medicaid, across birth cohorts and across states with different Medicaid programs, along with rich longitudinal data on health care utilization and earnings, to estimate the long-run effects of Medicaid eligibility on health, earnings, and transfer program participation.

In Childhood Medicaid Coverage and Later Life Health Care Utilization (NBER Working Paper No. 20929), Laura R. Wherry, Sarah Miller, Robert Kaestner, and Bruce D. Meyer find that among individuals who grew up in low-income families, rates of hospitalizations and emergency department visits in adulthood are negatively related to the number of years of Medicaid eligibility in childhood. The authors exploit the fact that one of the substantial expansions of Medicaid eligibility applied only to children who were born after September 30, 1983. This resulted in a large discontinuity in the lifetime years of Medicaid eligibility for children born before and after this birthdate cutoff. Children in families with incomes between 75 and 100 percent of the poverty line experienced about 4.5 more years of Medicaid eligibility if they were born just after the September 1983 cutoff than if they were born just before, with the gain occurring between the ages of 8 and 14. The authors compare children who they estimate were in low-income families, and otherwise similar circumstances, who were born just before or just after this date, to determine how the number of years of childhood Medicaid eligibility is related to health in early adulthood. Their finding of reduced health care utilization among adults who had more years of childhood Medicaid eligibility is concentrated among African Americans, those with chronic illness conditions, and those living in low-income zip codes. The authors calculate that reduced health care utilization during one year in adulthood offsets between 3 and 5 percent of the costs of extending Medicaid coverage to a child.

In Medicaid as an Investment in Children: What is the Long-Term Impact on Tax Receipts? (NBER Working Paper No. 20835), David W. Brown, Amanda E. Kowalski, and
Ithai Z. Lurie conclude that each additional year of childhood Medicaid eligibility increases cumulative federal tax payments by age 28 by $247 for women, and $127 for men. Their empirical strategy for evaluating the impact of Medicaid relies on variation in program eligibility during childhood that is associated with both birth cohort and state of residence. The authors study longitudinal data on actual tax payments until individuals are in their late 20s, and they extrapolate this information to make projections for these individuals at older ages. When they compare the incremental discounted value of lifetime tax payments with the cost of additional Medicaid coverage, they conclude that "the government will recoup 56 cents of each dollar spent on childhood Medicaid by the time these children reach age 60." This calculation is based on federal tax receipts alone, and does not consider state tax receipts or potential reductions in the use of transfer payments in adulthood.

Both studies use large databases of administrative records to analyze the long-term effects of Medicaid. The first study measures health utilization using the Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases for Arizona, Iowa, New York, Oregon, and Wisconsin in 1999, and those states plus Maryland and New Jersey in 2009. State hospital discharge data were also available from Texas and California. Data on all outpatient emergency department visits were available for six states in 2009. The second study examines data on federal tax payments and constructs longitudinal earnings histories for individuals who were born between 1981 and 1984. It also analyzes administrative records on Medicaid eligibility of children in this cohort.

— Linda Gorman

NIH Funding Spurs Private Patenting

The National Institutes of Health (NIH) is the largest funder of biomedical research in the United States. A perennial question about the NIH, and other government bodies that fund research, is what are the societal and medical benefits of all this government-funded research? Pierre Azoulay, Joshua S. Graff Zivin, Danielle Li, and Bhaven N. Sampat provide new evidence on the links between such research funding and innovation.

In Public R&D Investments and Private-Sector Patenting: Evidence from NIH Funding Rules (NBER Working Paper No. 20889), the authors find that NIH funding of biomedical research leads to increased biomedical patenting by firms without crowding out private investment in other research areas.

One of the challenges to evaluating the productivity of government-supported research is establishing direct links between specific research projects and specific results, such as cure of a disease or development of a new blockbuster drug or medical device. As other researchers and the authors have noted, scientific research usually doesn’t follow a straight path from laboratory to a publicly acknowledged success. Research build on the prior research of others, creating a complicated genealogy of projects which may have contributed to successful outcomes.

An additional $10 million in NIH funding generates 3.1 additional private-sector patents in the research area that receives the funding.

In their study, the authors examined NIH funding of biomedical research projects from 1980 through 2005 and sought to quantify the impact of that funding on the rate of patent production by pharmaceutical and biotechnology firms. They created an entirely new “bibliometric” database which allowed them to link NIH grants that had been cited in publications to patent applications that specifically cited those publications. This approach allowed the authors to track the often-circuitous path from NIH funding to subsequent patentable innovations. Using publication citations
Lisa B. Kahn and Erika McEntarfer provide evidence that the cyclical pattern in growth rates is likely driven by a partial collapse of movement up the job ladder in economic downturns. This suggests that low-paying firms fare relatively better in a downturn because workers at these firms who are hoping to move on to better opportunities get stuck in place. The authors find that advancement on the job ladder is 20 percent slower for those working at the lowest-paying firms in a major bust, compared with a boom. They also estimate that the distribution of new job matches shifts towards these lower-paying firms in a downturn. The combination of a poor initial match and a reduced likelihood of upgrading implies that new job matchers are particularly hurt by recessions.

In normal times, low-paying firms experience a high rate of worker separation, and therefore also do a lot of replacement hiring. In bad times, separations decline substantially at these firms, which reduce hires proportionately. This keeps the growth rate relatively constant over the

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**Employment Cyclicality and Firm Quality, 1998–2011**

Kahn and McEntarfer provide evidence that the cyclical pattern in growth rates is less sensitive to the business cycle than employment growth at higher-paying firms.

In NBER Working Paper No. 20698, *Employment Cyclicality and Firm Quality*, the authors use data from the Longitudinal Employer Household Dynamics program, a U.S. employer-employee matched database, for the period 1998 to 2011. They find that employment growth at low-paying firms varied less with the state unemployment rate than employment growth at higher-paying firms. This implies that the quality of jobs erodes in a downturn, as higher-paying firms shed a larger fraction of their workers than lower-paying firms.

Employment growth at low-paying firms is less sensitive to the business cycle than employment growth at higher-paying firms.

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Residential Segregation in the U.S. Rose Dramatically, 1880–1940

In The National Rise in Residential Segregation (NBER Working Paper No. 20934), Trevon Logan and John Parman introduce a first-of-its-kind measure of residential segregation based upon the racial similarity of next-door neighbors. Using the complete manuscript pages of the federal census to identify the races of next-door neighbors for the period 1880–1940, the authors were able to analyze segregation consistently and comprehensively for all areas in the United States, allowing for an in-depth view of the variation in segregation across time and space.

The authors find that residential segregation in the United States doubled from 1880 to 1940. The findings show that the likelihood of having opposite-race neighbors declined precipitously in every region of the United States. The likelihood of having opposite-race neighbors declined precipitously in every region of the United States.

Kahn and McEntarfer’s data indicate that the reduced ability to move on to better matches caused by a recession has a greater impact on workers in low-quality firms compared with those in high-quality firms. Their results show that workers finding new jobs in recessions are more likely to go to low-paying firms, and more likely to stay there once hired, than workers hired during better economic times.

The researchers conclude that these effects yield an estimated 2.6 percent reduction in average firm quality a year after matching for those who find a job in a recession compared with a boom. This corresponds to $75 per month lower average firm pay, and translates into roughly half of the advancement made by workers finding a job during a boom.

— Matt Nesvisky
Rising Macroeconomic Volatility Is Associated with Increases in Foreign Assets

The more volatile a nation’s economy relative to its partners, the more resources its residents choose to hold in foreign assets, according to research reported in *Macroeconomic Volatility and External Imbalances* (NBER Working Paper No. 20872). A 50 basis point (one-half of one percentage point) rise in the volatility of GDP over 10 years is positively associated with an increase in net foreign assets equal to around 8 percent of GDP, write authors Alessandra Fogli and Fabrizio Perri. They develop an open-economy model to explain this dynamic, in which countries face shocks to their macroeconomic volatility.

“The key mechanism is precautionary motive: more uncertainty induces residents to save more, and higher savings are in part channeled into foreign assets,” they write. “We conclude that both data and theory suggest uncertainty/volatility is an important determinant of the medium/long run evolution of external imbalances in developed countries.”

This study suggests both empirically and theoretically that macroeconomic volatility is a major factor in explaining how some nations develop external imbalances and others don’t.
Momentum Trading, Return Chasing, and Predictable Crashes

Trading strategies that mechanically construct portfolios using the momentum strategy—which consists of buying recent winners and selling recent losers—have recently attracted growing attention.

In Momentum Trading, Return Chasing, and Predictable Crashes, (NBER Working Paper No. 20660), authors Benjamin Chabot, Eric Ghysels, and Ravi Jagannathan provide new evidence on the risks and returns of momentum investing using historical data from Victorian Era London and the mid-1920s to the present-day United States.

During both periods, the momentum strategy generated positive, abnormal returns but exposed investors to occasional sharp losses or “crashes.” The excess return associated with momentum trading averaged roughly 1 percent per month between 1867 and 1907. During both periods, however, momentum investors suffered periodic crashes. The authors find these momentum crashes were predictable. Investment managers could have increased the Sharpe Ratios of their portfolios by reducing exposure to momentum strategies when it was more likely to crash. The fact that fund managers employing algorithmic momentum strategies suffer occasional dramatic losses suggests these managers either cannot anticipate momentum crashes or lack the incentives to take actions to avoid crashes.

Even when the risk of a momentum ‘crash’ is high, managers still have incentives to commit other people’s money to the momentum strategy.

The authors conjecture that those who possess the necessary trading skills to efficiently execute the momentum strategy typically manage other people’s money. The authors use a theoretical model to analyze the incentives of money managers who collect a fee for investing third-party funds and compete for the funds of return-chasing investors. They find that at even times when the likelihood of a momentum crash is high enough that managers would not commit their own funds to the momentum strategy, the competition for the funds of return-chasing investors and the incentives in compensation contracts combine to entice managers to keep other peoples’ money invested in momentum.

— Claire Brunel