The NBER Digest

NATIONAL BUREAU OF ECONOMIC RESEARCH

April 2021

INSIDE THIS ISSUE

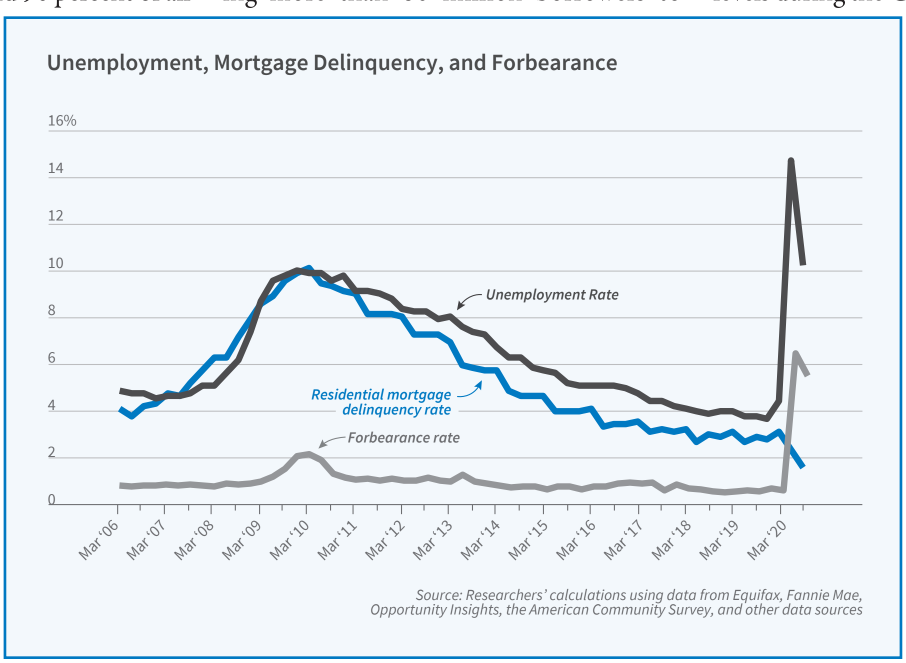
- How Patients Fare When Private Equity Funds Acquire Nursing Homes
- Evaluating the Head Start Program for Disadvantaged Children
- NYC's Youth Summer Jobs Program and the Rate of Criminal Activity
- Building Wealth through the OregonSaves Program for Retirement Savings
- Cost Disparities in Mandating Electricity for New Home Heating

Lessons from Pandemic-Related Debt Forbearance

The Coronavirus Aid, Relief, and Economic Security (CARES) Act, enacted in March 2020, included a range of different policies designed to address the economic impact of the pandemic. In addition to income-based interventions such as stimulus checks and unemployment insurance, it also sought to limit household debt distress by mandating forbearance — a temporary suspension of debt repayment requirements — on about two-thirds of outstanding mortgages and 90 percent of all student loans. Unlike income-linked stimulus payments, debt forbearance targets households over a range of income levels that are facing credit constraints. The private sector also extended a significant amount of debt relief during the same period.

In **Government and Private Household Debt Relief during COVID-19** (NBER Working Paper 28357), Susan F. Cherry, Erica Xuewei Jiang, Gregor Matvos, Tomasz Piskorski, and Amit Seru follow a representative panel of more than 20 million US consumers and analyze debt forbearance actions during the COVID-19 pandemic. Loans worth $2 trillion entered forbearance during the pandemic, allowing more than 60 million borrowers to miss $70 billion on their debt payments by the end of the first quarter of 2021.

> Low-income and less creditworthy households were more likely to obtain debt forbearance during the pandemic, but 60 percent of the forbearance dollars went to households with above median incomes.



Economic crises are usually accompanied by significant household debt distress, which increases sharply with unemployment. In contrast, household debt distress levels during the COVID pandemic did not rise; they actually fell relative to the pre-pandemic period. The large amount of debt relief might help explain this.

Forbearance rates are higher in regions with the highest COVID-19 infection rates and the greatest deterioration in local economic activity as exemplified by high levels of unemployment insurance claims. Individuals with lower credit scores, lower incomes, and higher debt balances, and regions with a higher share of minority residents, received forbearance at a higher rate. Because higher-income households had higher credit burdens, conditional on getting forbearance, the dollar value of forbearance relief was tilted toward higher-income households. The researchers estimate that 60 percent of forbearance relief went to households with above-median incomes. This suggests that unlike policies based mainly on income, such as the stimulus check program, debt forbearance allowed less creditworthy borrowers with higher pre-pandemic incomes to obtain significant financial relief.

Private debt forbearance for debts which were not covered by the CARES Act provided more than a quarter of total debt relief. Exploiting a discontinuity in mortgage eligibility under the CARES Act, the researchers estimate that government-provided debt relief was about 25 percent more generous than that provided by the private sector.

The implementation of debt relief is also important. Student loans were automatically placed in administrative forbearance at zero interest, providing relief that the researchers note was not necessarily correlated with borrower need. Mortgage borrowers needed to request help. Among eligible borrowers, less than 10 percent appears to have taken up the option of debt relief. This suggests that allowing borrowers a choice of whether to request debt relief might have resulted in a potentially better-targeted and more cost-effective policy.

The researchers conclude by noting that the extent of forbearance overhang — that is, accumulated payments owed to lenders since March 2020 — is significant, especially for lower income households, and that unwinding it could have first-order consequences for household debt distress and the aggregate economy.

— Linda Gorman

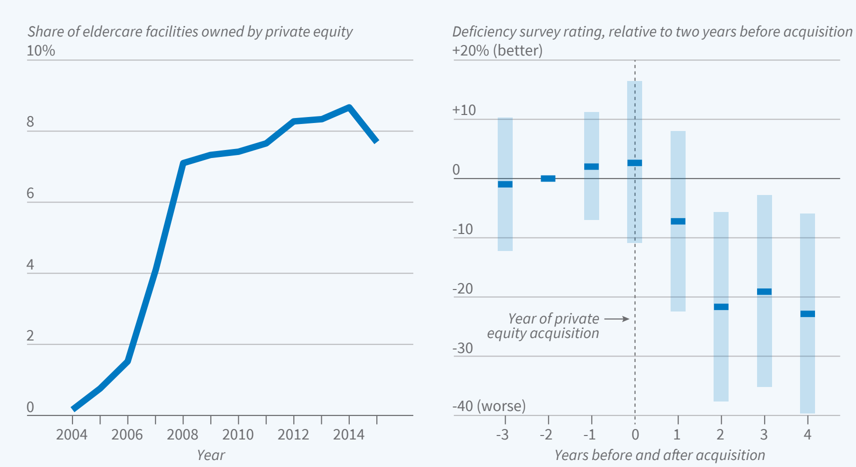
How Patients Fare When Private Equity Funds Acquire Nursing Homes

In 2005, private equity-owned firms owned less than 1 percent of skilled nursing facilities. By 2015, they owned 9 percent; the share is likely higher today. A new study explores the impact of their business model on patient outcomes and costs. In **Does Private Equity Investment in Healthcare Benefit Patients? Evidence from Nursing Homes** (NBER Working Paper 28474), Atul Gupta, Sabrina T. Howell, Constantine Yannelis, and Abhinav Gupta analyze Medicare data for a sample of more than 7 million patients over the period 2005–2017. They find that the patient mortality rate during a nursing home stay and the subsequent 90 days is 10 percent higher at facilities owned by private equity firms than at skilled nursing facilities overall.

Private equity-owned nursing homes face vastly different financial considerations than their for-profit and not-for-profit competitors. Private equity buyouts are typically financed with substantial borrowing. Analysis of the cost reports submitted to Medicare shows that after a buyout, a nursing home's average interest payments more than triple. To generate cash for investors, private equity managers often sell the nursing facility's property and lease the building back; this results in an average increase in lease payments of 75 percent post-buyout. Cash on hand declines by 38 percent after a private equity acquisition. This may leave homes hard-pressed to respond to something like a sudden need for personal protective equipment during the COVID-19 pandemic.

Purchases of nursing homes by private equity firms are associated with higher patient mortality rates, fewer caregivers, higher management fees, and a decline in patient mobility.

Private Equity Acquisition of Eldercare Facilities



Light-blue bars represent 95% confidence intervals.
Deficiency survey ratings are constructed from deficiencies identified by independent contractors during audits.
Source: Researchers' calculations using data from the Centers for Medicare & Medicaid Services

To cut costs, private equity-owned nursing homes reduce staffing levels. Frontline caregivers — clinical nursing assistants and licensed practical nurses — see a 3 percent decline in hours compared with the industry average. However, registered nurses, who make up a much smaller segment of the care staff, see an 8 percent increase. The researchers attribute this increase to greater regulatory focus on registered nurses; for example, their availability is a factor in determination of Medicare reimbursements.

Taking the results on nurse availability together with the estimated effects on interest, lease, and management fees payments, the researchers infer that private equity ownership shifts operating costs away from staffing towards costs that are profit drivers for the private equity fund.

Private equity ownership on average leads to higher charges. The overall bill is more than 10 percent higher if a patient goes to a private equity-owned nursing home than another home.

The higher fees do not translate into better care, as measured by key Medicare indicators. Patients admitted to private equity-owned nursing homes are 50 percent more likely to be placed on antipsychotic medication. By sedating patients rather than applying behavioral therapy, nursing homes can reduce staffing needs. Private equity-owned homes also perform below average in two other key metrics of well-being: patients experience a greater decline in mobility and increased levels of pain.

—Steve Maas

Evaluating the Head Start Program for Disadvantaged Children

The Head Start program increases high school and college graduation rates and participation in the workforce, according to a new study by Martha J. Bailey, Shuqiao Sun, and Brenden D. Timpe.

In **Prep School for Poor Kids: The Long-Run Impacts of Head Start on Human Capital and Economic Self-Sufficiency** (NBER Working Paper 28268), the researchers estimate how the federal preschool program altered participants' life trajectories.

Launched in 1965, Head Start takes a multipronged approach to enriching young lives. In addition to building academic and interpersonal skills, it addresses health by providing nutritious meals, vaccinations, and screenings for childhood diseases and vision and hearing problems. It also encourages parental involvement and connects families to social services.

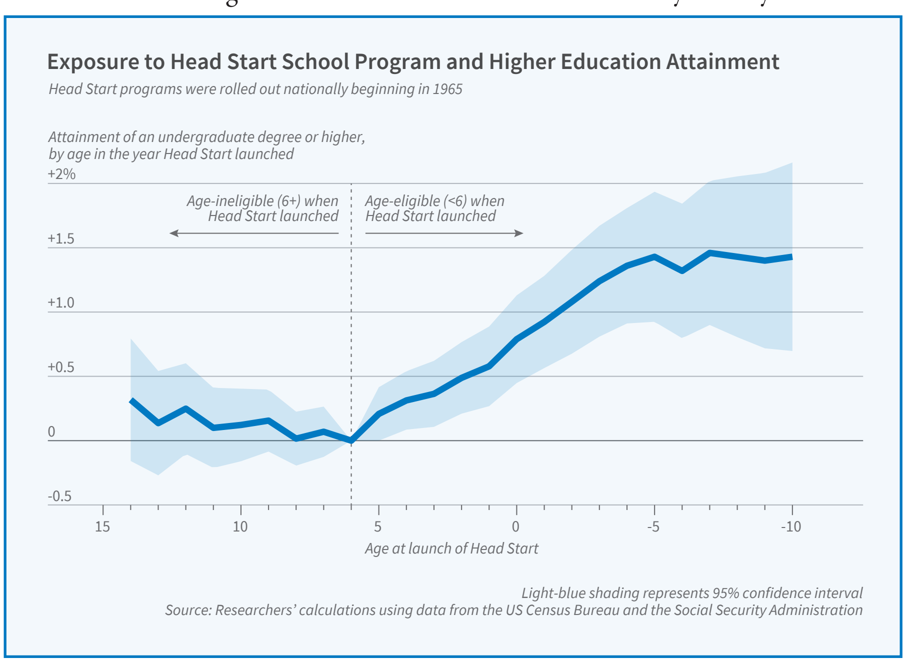
Head Start served about 20,000 children in 1965, and nearly 260,000 by 1970. Three-quarters of the beneficiaries were not White, and 62 percent came from families with less than $4,000 in annual income.

The researchers analyze data from the US Census Bureau and the Social Security Administration. Their sample includes 22.5 million children born between 1950 and 1980 when they were aged 25 to 50, from 2000 to 2018. By including cohorts before the advent of Head Start, the researchers are able to rule out factors that may have influenced trends in particular counties. Using birth county and date-of-birth data, they measure childhood access to Head Start, while controlling for state-level economic and policy changes that could have influenced outcomes independently of the program. While the dataset does not identify individual Head Start participants, it allows for measurement of exposure. To estimate the impact of the program, the researchers compare adult outcomes for cohorts of Head Start-eligible children (ages 5 and under) with cohorts of those who were ineligible (ages 6 and over) as the program rolled out at county level from 1965 to 1980.

Low-income children who participated in Head Start were 2.7 percent more likely to finish high school, 8.5 percent more likely to enroll in college, and 39 percent more likely to finish college.

They find that children who participated in Head Start were 2.7 percent more likely to finish high school, 8.5 percent more likely to enroll in college, and 39 percent more likely to finish college than were their ineligible counterparts. Head Start decreased the likelihood of adult poverty by 23 percent and dependence on public assistance by 27 percent. Participants were 4 percentage points (5 percent) more likely to have been employed, and they spent on average two more weeks working in a given year than comparable individuals in ineligible cohorts.

The researchers suggest that Head Start may have influenced women and men in dif-



ferent ways, noting that its “effects on [a woman’s] human capital may have helped her marry a higher-earning spouse and, potentially, work less for pay and more in the household.” They find that Head Start reduced poverty rates among women by 31 percent.

They also note that the program may have contributed to the building of healthier, better-educated communities, but they have not attempted to quantify those effects.

— *Steve Maas*

NYC’s Youth Summer Jobs Program and the Rate of Criminal Activity

A key goal of youth employment programs is reduction in young people’s involvement with the criminal justice system. In **The Effects of Youth Employment on Crime: Evidence from New York City Lotteries** (NBER Working Paper 28373), Judd B. Kessler, Sarah Tahamont, Alexander M. Gelber, and Adam Isen explore whether participation in summer youth employment programs (SYEPs) has a significant effect during the summer of the program or only after the summer ends. They investigate whether participation decreases the chance that youth end up in contact with the criminal justice system, and whether there are benefits for youth who are not at high risk for criminal activity before participating in the program.

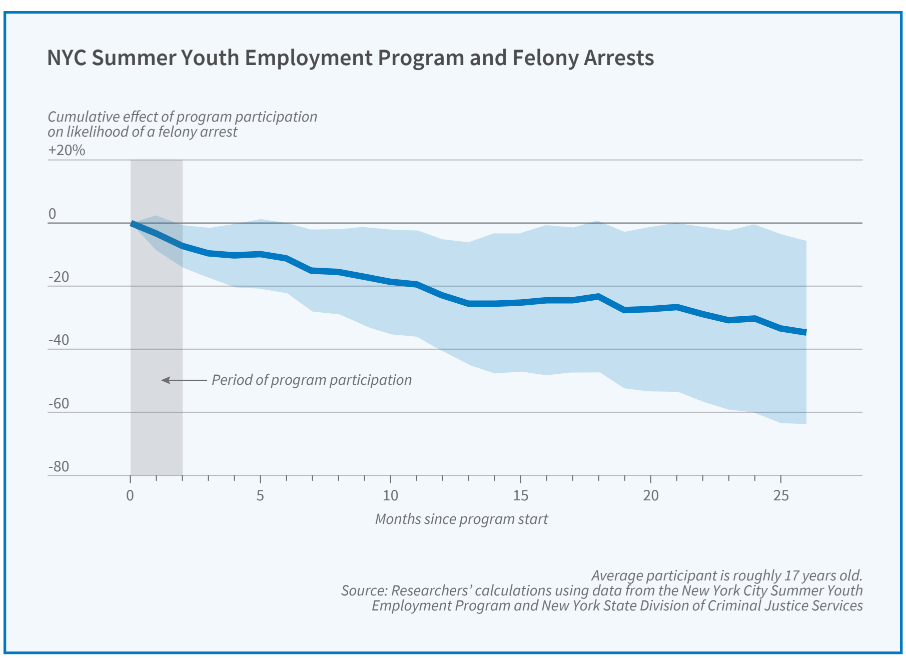
The researchers link four years of data from the New York City Summer Youth Employment Program — the country’s largest such program — to criminal records data maintained by the New York State Division of Criminal Justice Services, enabling them to investigate the outcomes of 163,447 youth who participated in New York’s SYEP lottery between 2005 and 2008. Because the New York SYEP draws from a broad swath of youth, they are able to analyze the program’s effect on both at-risk and low-risk youth. About 3 percent of the applicants had been arrested before the program summer; the researchers deem them to be at risk of future contact with the criminal justice system.

The researchers find that participation in SYEP decreases the chance that a participant is arrested during the program summer by 17 percent, and decreases the chance they are arrested for a felony during the program summer by 23 percent. Effects are still larger for arrests that lead to convictions: SYEP participation decreases the chance that youth are convicted of a crime committed during the program summer by 31 percent. The felony conviction rate drops by 38 percent. The total number of arrests — which differs from the chance of a participant being arrested because some youth are arrested multiple times during the summer — declines by 14 percent. The drop in arrests is driven primarily by the at-risk group — the 3 percent of youth studied who had prior contact with the criminal justice system. The researchers did not find a statistically significant impact on justice system involvement by either at-risk or low-risk youth in the years after the program summer.

The researchers estimate that the New York SYEP prevents 34 arrests per thousand youth in the program summer. Applying estimates from other studies of the social cost of crime, they conclude that the reduction in criminal activity and criminal justice system engagement associated with the program is worth between $650 and $1,250 per participant for the at-risk youth. Using the lower estimate suggests that the benefits of averted arrests during the program summer cover about 47 percent of program costs for at-risk youth; the higher valuation estimates would imply almost complete coverage of program costs. Estimated benefits for the low-risk group are dramatically lower, in the range of $2 to $3 per participant. The researchers conclude that the criminal justice social cost savings of the program are largely concentrated among the at-risk population.

— *Lauri Scherer*

Participation decreases the chance of any arrest during the program summer by 17 percent, and the chance of a felony arrest by 23 percent.



Average participant is roughly 17 years old.
Source: Researchers’ calculations using data from the New York City Summer Youth Employment Program and New York State Division of Criminal Justice Services

Building Wealth through the OregonSaves Program for Retirement Savings

The state-sponsored automatic enrollment program facilitates saving among lower-wage workers without access to an employer's retirement plan, but take-up is modest.

Roughly half of Americans working in the private sector lack access to a company-sponsored retirement plan. Typically, they work for smaller companies that pay lower-than-average earnings and have higher-than-average turnover.

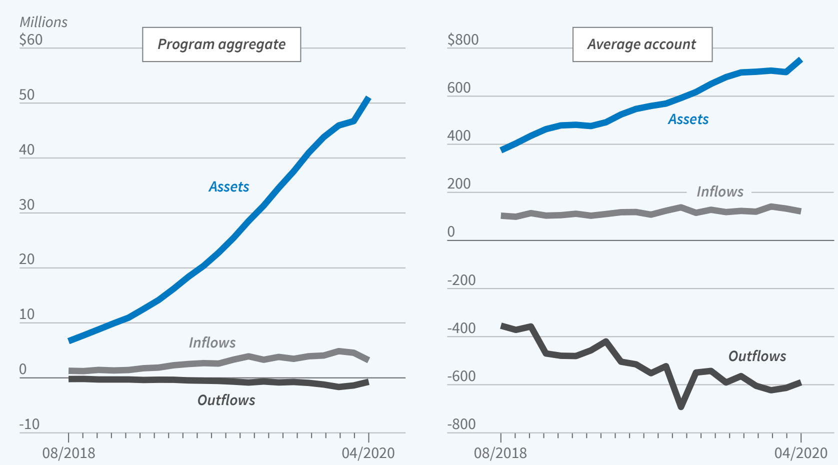
To help these workers, Oregon has created a state-sponsored retirement program for employees of companies that do not offer such plans. This program — the first of its kind in the United States — automatically enrolls eligible workers and provides them with an account that resembles a Roth IRA.

Two years after the launch of OregonSaves, although a significant fraction of eligible workers have opted out of the plan, more than 67,700 individuals have accumulated balances of more than $50 million through the program.

Understanding why many workers are opting out is critical to any assessment of the program, according to researchers John Chalmers, Olivia S. Mitchell, Jonathan Reuter, and Mingli Zhong. In **Auto-Enrollment Retirement Plans for the People: Choices and Outcomes in OregonSaves** (NBER Working Paper 28469), they find that the program has meaningfully boosted savings, and identify several rational reasons for the high drop-out rate.

One of the main motivations for offering an automatic enrollment program is that many workers procrastinate about retirement savings. A 2014 survey found that only 22.1 percent of workers without access to an employee retirement plan had opened an individual retirement account (IRA), and only 7.6 percent were actively contributing to one.

OregonSaves Program Assets, Inflows, and Outflows, 2018–2020



Assets are averaged for all accounts, inflows and outflows only for those with corresponding activity
Source: Researchers' calculations using administrative data from OregonSaves

The average account balance in OregonSaves is modest — $754 — and the average monthly inflow is $117. As accounts matured, the share of accounts with inflows fell from two-thirds in August 2018 to one-third in April 2020 at the onset of the pandemic. The researchers identify three factors that may explain the variation in take-up and contributions.

The first is search costs. Learning about and enrolling in an IRA represents a barrier to saving for many workers, especially those with low earnings. OregonSaves is likely to reduce the cost of finding and enrolling in a savings plan for workers who are likely to be less financially literate and less engaged in retirement planning, especially relative to workers with higher and more stable earnings. As of April 2020, 34.3 percent of the Oregon workers who were covered by the program had a positive account balance. This is broadly consistent with estimates of the marginal fraction of workers who are drawn into private retirement plans when those plans introduce auto-enrollment.

A second explanation for not participating in the saving program is that workers may not be able to afford to save for retirement because they cannot meet current expenses. Just under a third of participants opting out of OregonSaves offer this explanation for their decision. Some workers are likely to be better off paying current bills rather than trying to save for the future.

A third explanation for limited participation in OregonSaves is that employees may think additional retirement savings will not help them much, either because they don't plan to retire or because they earn so little that Social Security benefits would typically cover in retirement most of what they earned while working. The share of earnings replaced by Social Security is progressive, and it can approach 80 percent for workers in the lowest quintile of the earnings distribution.

The researchers conclude that the OregonSaves experience highlights the challenges of encouraging saving among workers with low and volatile wages and high job turnover, but does suggest that meaningful savings are possible.

—Laurent Belsie

Cost Disparities in Mandating Electricity for New Home Heating

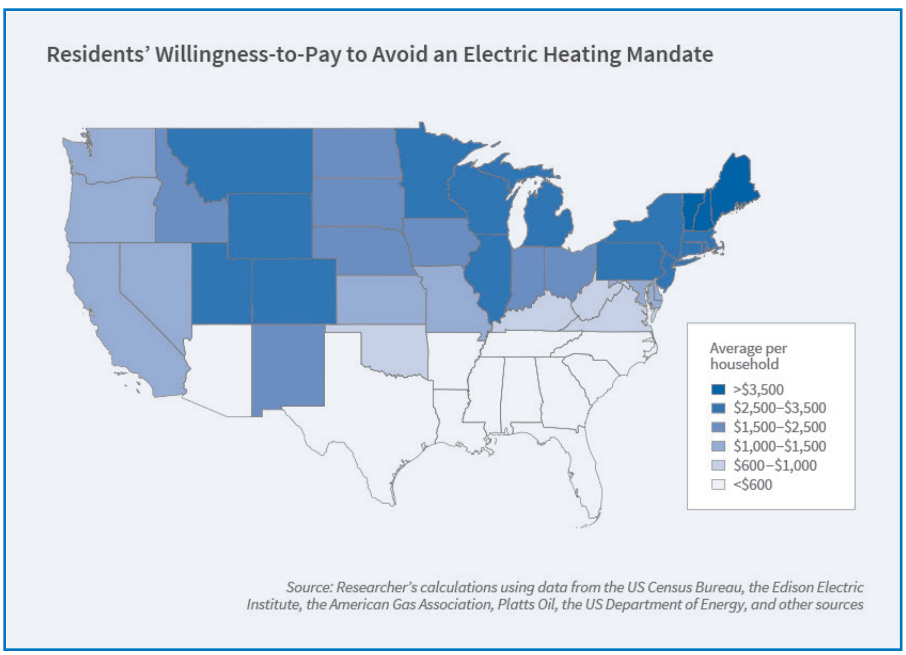
The share of American homes heated with electricity was only 1 percent in 1950 but has increased steadily to 39 percent in 2018. In **What Matters for Electrification? Evidence from 70 Years of US Home Heating Choices** (NBER Working Paper 28324), Lucas W. Davis investigates the key determinants of this increase using data on heating choices from millions of US households.

The study finds that changing energy prices is by far the most important factor, explaining more than 70 percent of the increased use of electric heat over this period. Adjusted for inflation, average residential electric rates have fallen 58 percent over the past seven decades while natural gas rates have risen 27 percent and heating oil prices 79 percent. In the 1950s, the early movement to electrify space heating was led by four states — Washington, Oregon, Nevada, and Tennessee — that could tap cheap electricity generated by the federally owned Bonneville Power Administration and Tennessee Valley Authority.

Geography is also a key factor, accounting for 11 percent of the historical growth. Homeowners in warmer states often prefer electric heating because the capital costs are lower, and a rising share of housing construction is taking place in those warmer states. More than half of the homes in the Southeast, and 90 percent of the homes in Florida, now use electric heat.

The paper then uses these data and framework to estimate household willingness-to-pay to avoid an electrification mandate. More than 30 cities in California have limited or prohibited natural gas in new homes, and cities in Massachusetts, New York, Rhode Island, and Washington have reworked building codes to encourage new homes to incorporate electric heat.

> While the cost of mandating use of electric heating in new homes in Florida would average only $85 a year, in some Northern states it could top $4,000.



The study finds that the cost of an electrification mandate for new homes varies across places. In warm states, households are close to indifferent between electric and natural gas heating, so the cost of an electrification mandate would average less than $500 a year per household. In Florida, it would average just $85 a year. In the Northeast, however, it would be more costly, especially in Massachusetts, which had some of the most expensive electricity in the nation. In New England's coldest states — Maine, Vermont, and New Hampshire — the average cost of switching to electricity for new homes would be more than $4,000 a year.

— Laurent Belsie

NBER

The National Bureau of Economic Research is a private nonprofit research organization founded in 1920 and devoted to conducting and disseminating nonpartisan economic research. Its officers are:

James M. Poterba—President and Chief Executive Officer
John Lipsky—Board Chair
Peter Blair Henry—Board Vice Chair
Robert Mednick —Treasurer

The NBER Digest summarizes selected Working Papers recently produced as part of the NBER's program of research. Working Papers are intended to make preliminary research results available to encourage discussion and suggestions for revision. Neither the Working Papers nor The Digest have been subject to peer review or review by the NBER Board of Directors.

The Digest is free. It is not copyrighted and may be reproduced with appropriate attribution of source. Please provide the NBER's Public Information Department (radin@nber.org) with copies of anything reproduced.

Requests for Digest subscriptions, changes of address, and cancellations may be sent to Digest, NBER, 1050 Massachusetts Avenue, Cambridge, MA 02138-5398 (please include the current mailing label), or emailed to subs@nber.org. Print copies of the Digest are only mailed to subscribers in the US and Canada; those in other nations may request electronic subscriptions at www.nber.org/drsubscribe/.

Individual copies of NBER Working Papers are available online free of charge to affiliates of subscribing organizations, such as universities and colleges, and to employees of NBER corporate associates. All visitors to the NBER website receive three free downloads each year, after which there is a charge of $5 per downloaded paper. To place an order, please email the NBER's Subscriptions Department at subs@nber.org or call (617) 588-1405. A full subscription to the NBER Working Paper series entitles the subscriber to all new papers, recently more than 1,200 per year. The standard annual rate for a full digital subscription is $2,675; the online academic rate is $1,230. Hard-copy subscriptions and partial subscriptions also are available; rates may be found at nber.org/wpsubscribe.html.