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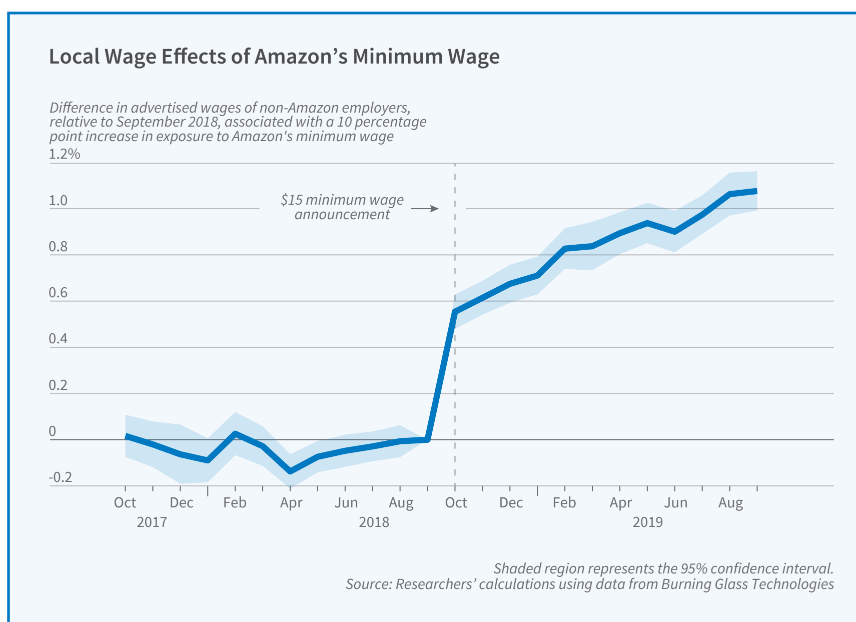
The Effects of Major Retailers Raising Their Minimum Wages

Between 2014 and 2019, five major national retailers — Amazon, Walmart, Target, CVS, and Costco — implemented company-wide minimum wages. Ellora Derenoncourt, Clemens Noelke, David Weil, and Bledi Taska investigate the impacts of these policies on low-wage workers who are not employed by these firms in **Spillover Effects from Voluntary Employer Minimum Wages** (NBER Working Paper 29425). They first illustrate their findings using Amazon's $15 minimum wage, which was announced in October 2018 and took effect that November 1. They then show these patterns generalize to the other large retailer minimum wages.

Utilizing data from approximately 7 million online job postings between February 2014 and February 2020, the researchers find that a 10 percent rise in average Amazon wages is associated with an increase of 2.3 percent in the average advertised wage at non-Amazon firms in the same labor market.

The researchers construct a measure of the extent to which workers in a given job and location are exposed to Amazon's minimum wage: the fraction of job postings for a job that offered wages below $15 an hour in the year before the announcement. About 56 percent of non-Amazon job postings in the researchers' data sample promise wages below this threshold. In the announcement month, going from zero to 10 percent exposure to Amazon's minimum wage is associated with about a 0.6 percent rise in non-Amazon advertised wages. The increase in non-Amazon wages persists for at least a year after the announcement. The researchers find similar wage increases at highly exposed employers after other large retailers announce their minimum wage policies.

> Minimum wage announcements by national firms have striking spillovers to other firms. Many employers responded to Amazon's $15 minimum wage by matching it.



Shaded region represents the 95% confidence interval.
Source: Researchers' calculations using data from Burning Glass Technologies

The most frequent response of non-Amazon employers to Amazon's announcement is to raise wages to match the $15 minimum wage. For firms exposed to Amazon's minimum wage, there is a 17 percentage point increase in the probability of wages being exactly $15 an hour after the announcement. This bunching behavior is also exhibited by employers responding to other retailers' policy announcements, and it results in a concentration of post announcement wages around the

voluntary minimum wage. Using worker-reported salary data, the researchers confirm that these increases in advertised wages are also reflected in the hourly wages paid to workers.

When large retailers raise minimum wages, there are also small drops in employment. The estimates range from a 0.4 percent to a 1.3 percent decline in employment at firms other than the major retailer when Amazon's or a similar firm's minimum wage raises other firms' wages by 10 percent. These estimated employment effects are comparable to some recent estimates in the minimum wage literature.

Wage spillover effects are larger in areas with lower state and local minimum wages, as well as for jobs that are geographically closer to large retailers. Labor market tightness does not appear to affect the extent of labor market spillovers, suggesting that other factors, such as norms or market power, may influence firms' wage-setting decisions.

—Aaron Metheny

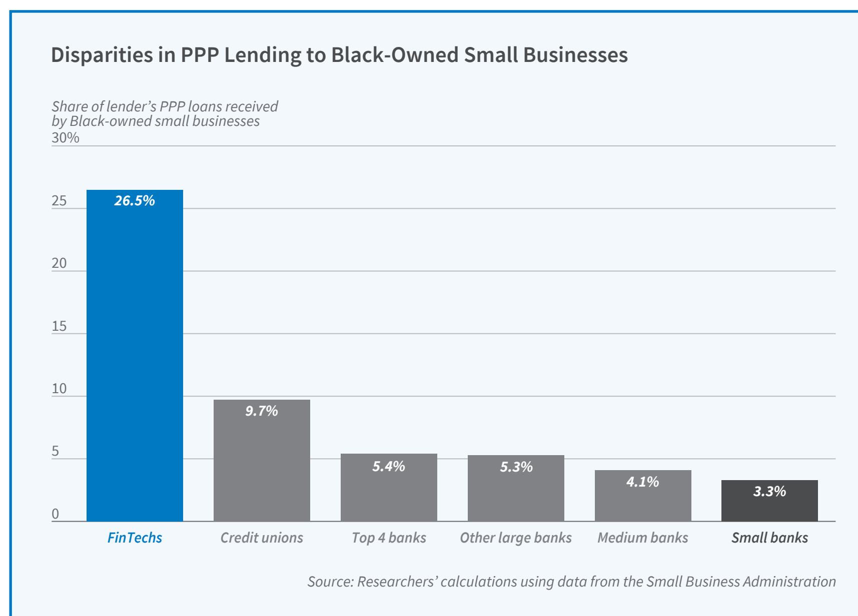
Racial Disparities in Paycheck Protection Program Lending

The Paycheck Protection Program (PPP) was designed to help businesses retain employees as they weathered the COVID-19 pandemic. Private lenders administered PPP loans at virtually no risk to themselves, as the loans were federally guaranteed. In **Racial Disparities in Access to Small Business Credit: Evidence from the Paycheck Protection Program** (NBER Working Paper 29364), Sabrina T. Howell, Theresa Kuchler, David Snitkof, Johannes Stroebel, and Jun Wong examine whether racial bias may have affected the distribution of loans under this program.

They analyze nearly 6 million PPP loans made between April 2020 and February 2021, when program rules were changed to give explicit priority to small firms and minority-owned businesses. Within the sample, Black-owned businesses accounted for 8.6 percent of all loans. They accounted for 3.3 percent of loans issued by small banks, compared with 26.5 percent of loans made by fintech lenders. Although fintech lenders made just 17.4 percent of overall loans in the sample, they processed 53.6 percent of loans received by Black-owned businesses.

The researchers found that two-thirds of the lending disparity can be accounted for by differences in business characteristics between Black-owned and other businesses. After controlling for business differences, the study found no significant racial disparity among loans issued by the top four banks. But Black-owned businesses remained disproportionately less likely to obtain their PPP loans from small and mid-sized banks, and more likely to obtain PPP loans from fintech lenders. These differences could not be accounted for by lenders' preference for extending loans to businesses with which they had preexisting banking relationships, by a preference for businesses with healthier bottom lines, or by differential fraud rates. The researchers also found no evidence that the observed lending disparity was primarily driven by differential propensity of Black-owned firms to seek out loans from fintech firms. To assess the potential role of discrimination, the researchers compared the behavior of small and mid-sized banks based in areas with different levels of "racial animus," which was measured using the percentage of an area's Google searches that contained racially charged language, responses to surveys designed to detect prejudice, and the extent of local housing segregation. They found that in regions with higher racial animus, Black-owned businesses were particularly likely to get their PPP loans from fintech lenders, and less likely to get them from small- or medium-sized banks.

Black-owned businesses were least likely to receive Paycheck Protection Program loans from small and mid-sized banks, where subjectivity was most likely to influence lending decisions.



Black business owners fared best when seeking PPP loans from sources that relied on automated lending processes commonly used in the fintech sector and by the nation's largest banks. They fared worst with small and mid-sized banks, where human subjectivity was more likely to influence lending

decisions. The researchers directly study the effect of automation by leveraging the fact that, during the PPP loan period, a number of small banks automated their loan origination processes. The share of PPP loans by small banks directed to Black-owned businesses rose substantially after automation, particularly in areas with higher racial animus.

The researchers conclude that machine learning algorithms can level the playing field for borrowers. "While concerns that algorithms may discriminate because they are trained on biased data are warranted," they write, their results suggest that "by eliminating manual review conducted by biased humans, automation could reduce the incidence of taste-based discrimination."

—Steve Maas

Administrative Burdens Lead Some Doctors to Avoid Medicaid Patients

Low reimbursement rates are not the only reason many providers decline to accept Medicaid patients. Administrative costs and bureaucratic hurdles doctors face in obtaining reimbursement also are significant factors.

In **A Denial a Day Keeps the Doctor Away** (NBER Working Paper 29010), Abe Dunn, Joshua D. Gottlieb, Adam Shapiro, Daniel J. Sonnenstuhl, and Pietro Tebaldi find that physicians are substantially less likely to be paid by Medicaid and that they lose 17 percent of Medicaid reimbursements to billing problems, more than triple the comparable magnitudes for Medicare or commercial insurer reimbursements.

The study is based on remittance data for 90 million patient visits between 2013 and 2015. The researchers tracked multiple rounds of interactions as insurers and providers jousted over such issues as whether services were justified, properly coded, authorized, and/or duplicative, and whether the patient was eligible for coverage. There are nearly 350 codes that designate reasons that claims can be adjusted or denied.

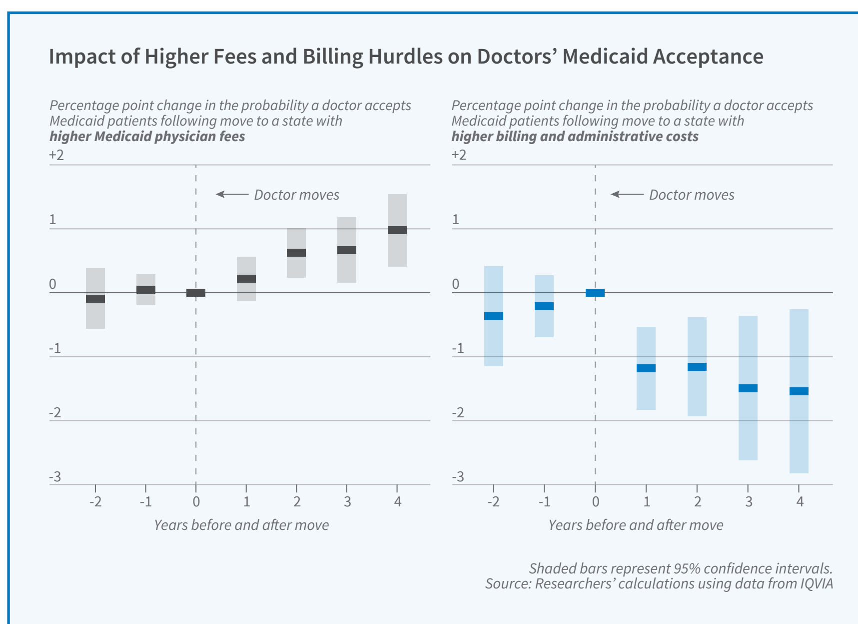
The researchers construct measures of the "costs of incomplete payments" as a percentage of original claims. The measures combine administrative expenses incurred by resubmitting claims and revenue foregone when claims are abandoned. Resubmission costs vary depending on factors such as the reason for the denial, the type of insurer, the size of the claim, and the state in which the service was performed.

> Physicians lose an estimated 17.4 percent of Medicaid claims to billing problems, compared with losses of 4.9 percent for Medicare claims and 2.8 percent for commercial insurance claims.

Administrative costs were estimated based on the revenue points at which physicians decided claims were not worth pursuing.

In the data sample, the nationwide average loss on a Medicaid claim – the sum of processing costs for the doctor and the risk of having to abandon the claim – is 17.4 percent of the claim's value. That compares with shortfalls of 4.9 percent for Medicare and 2.8 percent for commercial insurers. In dollar terms, the average loss comes to $12.09 per Medicaid visit, $4.07 per Medicare visit, and $2.69 per visit covered by commercial insurers.

While Medicaid is federally funded, it is administered by the states. States vary in their reimbursement payments and procedures, and thus the bureaucratic burdens they place on providers vary. Incomplete payments range from 25 percent or more of Medicaid claim values in California, Texas, Georgia, Illinois, and Pennsylvania to under 10 percent of claim values in Colorado, Idaho, Washington, and Minnesota.



Impact of Higher Fees and Billing Hurdles on Doctors' Medicaid Acceptance

Shaded bars represent 95% confidence intervals.
Source: Researchers' calculations using data from IQVIA

The researchers employed two strategies to determine how the cost of doing business with Medicaid affects the supply of physician services. In one, they studied the behavior of physicians who moved between states with different payment rates and degrees of billing difficulty. In the other, they compared Medicaid acceptance decisions among physicians who belong to the same medical groups but practice in states with different reimbursement rules.

The conclusion from both strategies was that state-level reimbursement rates and costs of red tape affect provider willingness to accept Medicaid patients.

Among the physicians who moved out of state, a 10 percentage point higher rate of incomplete payments in the new state reduced the probability that after the move the doctor accepted Medicaid patients by 1 percentage point. Among the physicians in cross-state medical groups, such a difference in administrative costs correlated with an even greater reluctance to accept Medicaid. The researchers conclude that "While billing hassles could have benefits we don't measure, they clearly deter physicians from participating in Medicaid."

—Steve Maas

Remote Work by High-Skill Workers Hurt Local Service Economies

Drawn by shorter commutes and urban amenities, highly skilled, highly compensated workers in the information and management sectors moved to urban centers in recent decades, reviving cities and their service economies. As digital technologies spread, the capacity for working remotely expanded, but it was not widely utilized. That changed dramatically with the onset of the COVID-19 pandemic.

In **The Geography of Remote Work** (NBER Working Paper 29181), Lukas Althoff, Fabian Eckert, Sharat Ganapati, and Conor Walsh show that the COVID-induced shift to remote work has devastated the service economy that had catered to elite workers' needs. Urban neighborhoods with more high-skill service residents have seen larger population outflows and higher work-from-home numbers throughout the pandemic, as well as larger declines in visits to local consumer-service establishments and sharper drops in residents' spending on consumer services. Low-skill consumer service workers in big cities lost more hours per worker than their rural counterparts.

The researchers identify four job categories, which they label Skilled Scalable Services (SSS), that account for the largest share of remote work potential: Information; Finance and Insurance; Professional Services; and Management of Companies. They estimate that 79 percent of the jobs in these four categories can be done remotely.

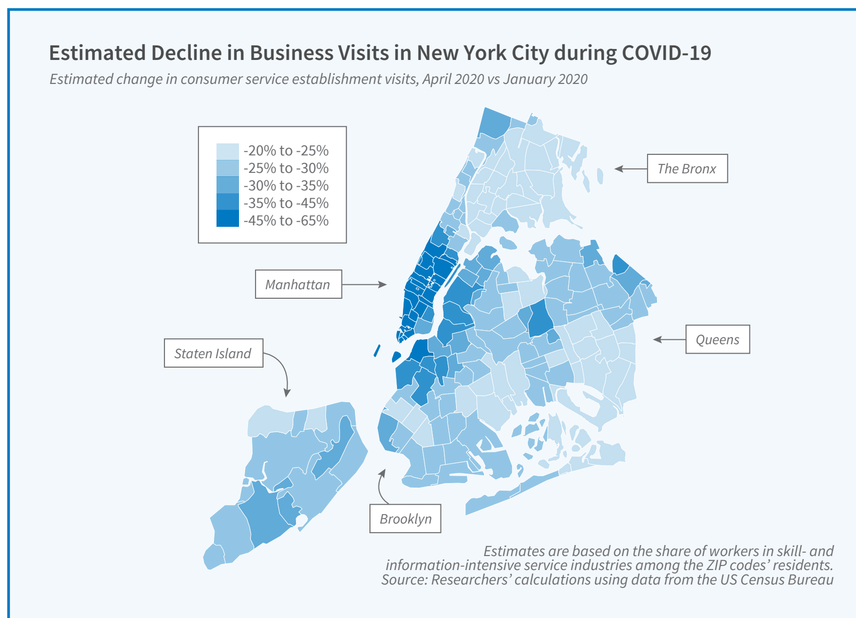
> High-skill workers' service demand plunged early in the pandemic as some relocated and others rarely left home.

Drawing on monthly census surveys, the researchers track the rate of remote work across cities and industries. In May 2020, the overall remote work rate was 40 percent. When they rank cities by their density, however, they find significant variation. In the densest cities, the remote work rate was more than 50 percent, compared with 20 percent in the least dense cities. The percentage of SSS workers who worked remotely was twice that of the rest of the economy. Correspondingly, the share of SSS employment is twice as high in the densest cities as in the least dense.

By the fall of 2020, zip codes in high-density cities experienced nearly a 10 percent drop in population, while population increased by 5 percent in low-density cities, according to cellphone data. These population flows were reflected in housing demand. Zillow data on rental prices show larger declines in neighborhoods with higher pre-pandemic shares of SSS workers than in other areas. Within cities, the 10 percent of zip codes with the most SSS workers saw rents fall 16 percent more than the 10 percent of zip codes with the fewest SSS workers.

Estimated Decline in Business Visits in New York City during COVID-19

Estimated change in consumer service establishment visits, April 2020 vs January 2020



Estimates are based on the share of workers in skill- and information-intensive service industries among the ZIP codes' residents. Source: Researchers' calculations using data from the US Census Bureau

County-level data collected by Facebook suggest that SSS workers who did not relocate rarely ventured more than a few blocks from their homes. A higher share of SSS workers in a zip code was associated with a greater decline in foot traffic to hotels, restaurants, coffee shops, bars, barbershops, and other service-sector businesses. In New York City, for example, the decline in consumer visits in affluent areas of Manhattan and Brooklyn with a high density of SSS workers was twice as great as in parts of the Bronx and Brooklyn where fewer SSS workers live. The researchers estimate that a hypothetical zip code in New York with no SSS residents would have seen consumer visits decline by 38 percent between January

2020 and April 2020, while the decline could have been 80 percent or more in an area with many SSS workers.

The researchers note that if the transition to remote work for SSS occupations persists after the pandemic, the densest cities could permanently lose high-skill residents and the consumer businesses they support.

—Steve Maas

Better Management Enables Better Tax Planning Too

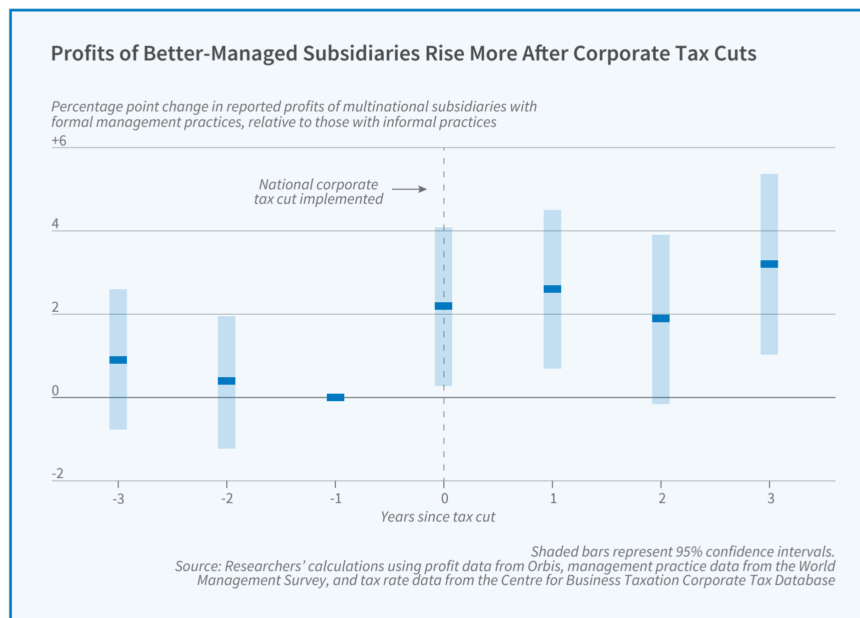
Better management leads to higher profits, but among multinational manufacturers this is primarily true for their operations in low-tax countries. In high-tax countries, better management is often associated with lower profits. The reason, according to a new study, seems to be profit shifting.

The researchers suggest that well-managed manufacturing firms that excel at regularizing and predicting production can make the necessary moves during the year to shift their paper profits from operations in high-tax to those in low-tax nations. The result is that many multinational enterprises (MNEs) in the manufacturing sector consistently report near-zero profits in high-tax nations while reporting high profits in low-tax nations, even though the productivity of their factories in both locales is high.

In **Organizational Capacity and Profit Shifting** (NBER Working Paper 29225), Katarzyna A. Bilicka and Daniela Scur find that the average MNE subsidiary in a country with a relatively low corporate tax rate of 22 percent reports a return on assets that is nearly 3 percentage points lower than a comparable subsidiary in a country with a relatively high 30 percent corporate tax rate.

By matching 15 years' worth of information management practices with accounting data for nearly 1,400 MNEs operating in 21 countries, the researchers conclude that subsidiaries with certain management practices generate higher revenues, but that on average, those revenues do not translate into higher reported profits in high-tax nations. The type of management practice that most consistently correlates with low profits in high-tax nations are those related to a firm's ability to monitor production. While good managers can matter, the researchers argue that managers cannot shift profits without appropriate firm-wide structures. Profit-shifting ability also varies with the level of centralized decision-making.

Multinational manufacturing enterprises that are better at monitoring and planning production are likely also more adept at shifting their profits to low-tax countries.



One way to reduce a subsidiary's tax burden is to take advantage of tax provisions such as investment incentives. Well-managed firms may be more effective at claiming tax relief that they are entitled to. Beyond that step, however, well-managed MNEs can use three common strategies to lower the overall tax burden across their networks of subsidiaries. These are debt shifting, transfer pricing, and patent location.

To shift debt, a subsidiary in a high-tax nation borrows money from a subsidiary in a low-tax one. The high-tax unit deducts the interest payments, reducing its profits, while the low-tax unit receives those payments, which are taxable, but at a lower rate than the deductions. Transfer pricing involves a high-tax unit buying intermediate products from a low-tax unit at inflated prices, thus reducing the profits of the high-tax unit and increasing those of the low-tax unit. Finally, firms may have some flexibility to locate their patents in a low-tax country. This means that the profits the patents generate are taxed at low rates. When subsidiaries in high-tax locations pay royalties on those patents to their low-tax counterparts, the royalty payments lower profits in the high-tax location and raise them in the low-tax one.

The researchers note that there are some limits to profit shifting: firms don't want high-tax units to show losses, which might damage investor perceptions or trigger provisions in debt covenants. Transfer pricing may also be limited because, when goods are easily priced in other markets, tax authorities may challenge the tax-motivated pricing rules.

—Laurent Belsie

Bond Markets Pay Attention to Countries' Political Leanings

Some nations are more likely to elect left-leaning central governments than others. In **Sovereign Spreads and the Political Leaning of Nations** (NBER Working Paper 29197), Ionut Cotoc, Alok Johri, and César Sosa-Padilla investigate the relationship between a country's political composition and the interest rate on its sovereign debt, and develop a quantitative model to explain their empirical results.

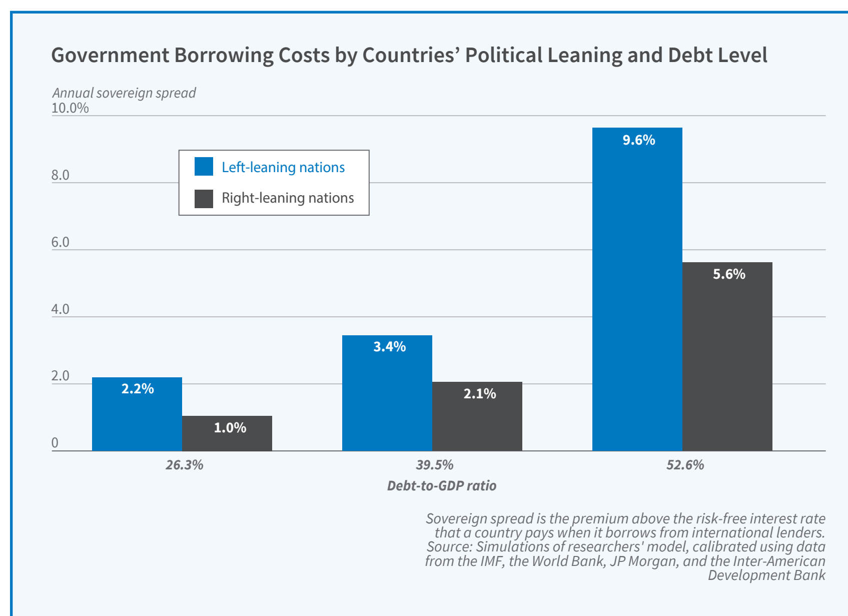
The researchers analyze data from 56 countries over the period 1975 to 2020, including information from the International Monetary Fund and the World Bank on national debt levels, government spending, private consumption, trade balances, and interest rates on national debt repayment. The political affiliation of national governments is calculated from the Inter-American Development Bank's Database of Political Institutions.

Two empirical regularities emerge from the data on borrowing costs. First, countries with a higher propensity to elect left-wing governments pay, on average, higher interest rates on their national debt. For example, a 50 percent increase in the propensity to elect left-wing governments is associated with an increase in spreads of between 80 and 115 basis points. Second, countries with a higher average ratio of debt to GDP also pay higher interest rates. A one percentage point increase in a nation's debt, relative to its GDP, raises its borrowing cost by an average of 5.5 basis points.

The researchers explore the link between government spending and the reelection chances of incumbent leaders from left- and right-leaning parties. They find that a 1 percent increase in the ratio of government spending to national income increases a left-leaning government's re-election probability by about 0.95 percentage points. For a right-leaning government, however, the effect of a comparable increase in government spending is smaller: 0.72 percentage points. Thus, left-wing governments gain more electoral support per unit of increase in public spending than right-wing governments.

Countries that are more likely to elect left-leaning governments face higher borrowing costs, on average, in global capital markets.

The study focuses on each government's decision of whether to repay its debt or to default. All else equal, a government's incentive to default increases with its debt level and decreases with national income. While increased public spending generates more electoral support in both left-leaning and right-leaning political systems, in the former the greater increase in electoral support for a given increase in public spending provides governments with a greater incentive to spend. Left-leaning electorates are more likely to vote to replace governments that adopt fiscal austerity measures in order to repay debt during economic downturns. "...[T]his cost encourages defaults and discourages fiscal austerity while increasing the likelihood of electing left policymakers," the researchers find. These factors give left-wing governments an incentive to spend more and make them more likely to engage in procyclical fiscal policy (increasing spending relatively more in good times and cutting it relatively less in bad times).



Sovereign spread is the premium above the risk-free interest rate that a country pays when it borrows from international lenders.
Source: Simulations of researchers' model, calibrated using data from the IMF, the World Bank, JP Morgan, and the Inter-American Development Bank

Simulations from the quantitative model, calibrated to the historical experience, suggest that household welfare is higher in nations with right-leaning electorates because lower default incentives lead to less frequent defaults and lower borrowing costs for the national government, and because lower government spending leaves more room for more highly valued private consumption.

—Linda Gorman

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