

# Public Sector Employment and Its Role in Local Economic Development

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We created a publicly driven employment index based on the following sectors, which receive significant levels of public funding: public administration (federal, state, and local); military; education; social services; and health care.

In the 100 largest US cities, publicly driven jobs make up an average of 31 percent of employment

Publicly driven employment varies considerably across these cities: in 12 of the largest US cities, more than 40 percent of jobs are publicly driven while in 9 cities, less than 20 percent of jobs are publicly driven.

Publicly driven employment in 2010 has a weakly negative association with total job growth over the following decade. However, growth in publicly driven jobs from 2010–19 has a weakly positive association with total job growth.

The field of economic development is premised on the notion that government can drive economic growth in a region, locality, or neighborhood. When considering the role of government in economic development, much of our attention focuses on tax incentives, corporate attraction, workforce readiness, and infrastructure development. But what about the role of the public sector—federal, state, and local—as employer or direct supporter of jobs? To what extent can public sector employment be a driving force in creating and inducing economic growth in cities across the country?

Direct public employment in the US is below the Organisation for Economic Co-operation and Development average (and far lower than the highest country, Norway; OCED 2021). Yet public sector jobs are spatially clustered, meaning they can have an outsized influence in some communities. Washington, DC, is an obvious example, but so are cities with a significant military presence (e.g., Norfolk, Virginia), cities with large universities (e.g., Ann Arbor, Michigan), state capitals (e.g., Cheyenne, Wyoming), and cities with multiple public institutions (e.g., Austin, Texas; Columbus, Ohio; and Lincoln, Nebraska).

However, direct employment is not the only way in which government spending influences local employment. To capture this, we created a publicly driven employment index that includes both direct government jobs (federal, state, local, and military) and jobs in sectors that receive substantial public funding (education, social services, and health care). This means that our definition of publicly driven jobs includes jobs at private universities and hospitals—institutions that are not in the public sector but that receive substantial public revenues through mechanisms like Pell Grants, Medicare, Medicaid, and research and development expenditures.

If anything, we believe our measure undercounts publicly driven jobs as data constraints prevent us from separating out private sector employment that is supported by government contracting and procurement (e.g., construction of public buildings or military contractors). We also do not take into account publicly driven spill-over or induced jobs, which are jobs in other sectors that are supported by public expenditure because public employees spend their salaries on services and goods in their local economy.

Our research questions are: (1) To what extent do US cities vary in publicly driven employment?; and (2) Do publicly driven jobs drive economic growth as

measured through total job growth? Direct public sector employment can increase employment in the short term and create private sector demand; however, in other cases it can crowd out private sector employment and reduce productivity (Baerlocher 2022).<sup>2</sup> Conversely, there has also been a substantial amount of scholarship linking education and medicine anchor institutions ("Eds and Meds") to local economic viability (Bartik and Erickcek 2008; Harkavy and Harmon 1999; Poethig et al. 2015).<sup>3</sup>

## RANKING CITIES BY PUBLICLY DRIVEN JOB SHARE

We find a wide variation in the share of total jobs that are publicly driven across the 100 largest US cities (table 1). At the low end is Paradise, Nevada, with just 8.6 percent of all jobs publicly driven, while Sacramento, California, is the highest, with 51.6 percent. More than three-quarters of the 100 largest cities have more than one in four jobs publicly driven.

TABLE 1
Percent of Jobs that Are Publicly Driven in the 100 Largest US Cities, 2019

City	Share of all jobs	Share of public administration jobs	Share of military jobs	Share of education jobs	Share of health care and social services jobs
Sacramento, CA	51.6%	27.1%	0.2%	6.5%	17.8%
St. Paul, MN	48.8%	14.6%	0.1%	11.0%	23.1%
Baltimore, MD	47.9%	10.3%	0.2%	15.2%	22.2%
Miami, FL	46.7%	12.1%	0.1%	18.0%	16.5%
Durham, NC	45.9%	3.1%	0.1%	19.5%	23.2%
Norfolk, VA	44.6%	2.7%	18.5%	10.9%	15.0%
Riverside, CA	44.0%	13.4%	0.1%	13.5%	17.0%
Stockton, CA	43.5%	9.4%	0.0%	9.9%	24.1%
Philadelphia, PA	42.6%	5.6%	0.1%	12.0%	24.9%
Santa Ana, CA	42.4%	20.7%	0.1%	11.9%	9.7%
Fresno, CA	41.6%	8.9%	0.3%	9.1%	23.3%
Newark, NJ	41.5%	7.2%	0.1%	18.8%	15.4%
Oakland, CA	39.9%	9.7%	0.1%	8.3%	21.8%
Pittsburgh, PA	39.5%	4.0%	0.1%	12.0%	23.5%
Madison, WI	39.4%	8.9%	0.1%	12.2%	18.1%
Chula Vista, CA	39.1%	4.8%	3.4%	12.4%	17.3%
Richmond, VA	38.9%	11.2%	0.6%	9.4%	17.9%
Winston-Salem, NC	38.9%	4.2%	0.4%	8.9%	25.4%
Buffalo, NY	38.4%	8.0%	0.2%	9.2%	21.1%
Laredo, TX	38.2%	3.6%	0.1%	15.5%	18.9%
Raleigh, NC	37.9%	14.0%	0.1%	8.8%	15.0%
Tucson, AZ	37.7%	5.8%	2.1%	12.3%	17.6%
Las Vegas, NV	37.4%	7.2%	0.8%	14.9%	14.3%
Corpus Christi, TX	37.1%	2.6%	1.5%	11.3%	21.8%
Washington, DC	36.6%	17.2%	0.6%	8.1%	10.9%
Cleveland, OH	36.6%	5.5%	0.0%	8.4%	22.6%
Lubbock, TX	36.3%	3.1%	0.2%	15.9%	17.2%
Boston, MA	35.9%	5.3%	0.1%	11.2%	19.2%
Bakersfield, CA	35.7%	4.8%	0.1%	12.7%	18.1%
Minneapolis, MN	35.2%	3.4%	0.1%	12.6%	19.1%
Lincoln, NE	35.2%	8.3%	0.3%	11.1%	15.5%
Anchorage, AK	35.0%	8.0%	9.9%	6.3%	15.5%
El Paso, TX	34.6%	3.8%	3.5%	10.7%	16.7%
Chesapeake, VA	34.3%	5.5%	4.9%	13.7%	10.3%
Detroit, MI	34.0%	6.6%	0.0%	7.1%	20.2%
Milwaukee, WI	34.0%	5.6%	0.0%	9.4%	19.0%
Toledo, OH	33.8%	4.0%	0.1%	9.6%	20.1%
New York, NY	33.5%	5.5%	0.1%	9.1%	18.8%

					Share of health
Cit	Share of all	Share of public	Share of	Share of	care and social
City	jobs	administration jobs	military jobs	education jobs	services jobs
Lexington, KY	33.4%	3.4%	0.1%	10.9%	19.0%
Long Beach, CA	33.3%	4.0%	0.2%	6.4%	22.7%
Los Angeles, CA	33.2%	5.9%	0.1%	9.1%	18.1%
Albuquerque, NM	33.2%	4.5%	0.6%	7.8%	20.2%
St. Louis, MO	32.1%	3.4%	0.4%	5.8%	22.6%
Cincinnati, OH	31.4%	3.7%	0.1%	8.5%	19.1%
Colorado Springs, CO	31.1%	2.7%	5.1%	7.3%	16.3%
Virginia Beach, VA	31.0%	0.5%	12.9%	1.7%	14.3%
New Orleans, LA	30.9%	4.6%	0.7%	11.3%	14.4%
Indianapolis, IN	30.9%	4.5%	0.1%	7.5%	18.8%
Columbus, OH	30.6%	4.4%	0.1%	11.3%	14.8%
Boise City, ID	30.1%	6.5%	0.3%	5.9%	17.4%
Fort Wayne, IN	30.0%	3.4%	0.1%	6.9%	19.6%
San Diego, CA	30.0%	3.8%	4.2%	8.7%	13.7%
Kansas City, MO	29.9%	6.3%	0.1%	6.3%	17.1%
Scottsdale, AZ	29.4%	1.7%	0.1%	4.2%	23.4%
Nashville, TN	29.4%	6.3%	0.1%	7.1%	15.9%
Mesa, AZ	29.3%	2.1%	0.2%	9.1%	17.9%
Orlando, FL	29.2%	5.9%	0.2%	9.4%	13.7%
Oklahoma City, OK	28.6%	6.7%	1.2%	5.6%	15.3%
San Antonio, TX	28.0%	2.3%	1.1%	6.9%	17.8%
Atlanta, GA	27.7%	6.7%	0.1%	10.4%	10.6%
Glendale, AZ	27.7%	1.3%	0.8%	12.0%	13.4%
Omaha, NE	27.6%	2.0%	0.3%	8.3%	17.1%
Austin, TX	27.3%	7.4%	0.1%	9.0%	10.9%
Gilbert, AZ	27.3%	1.3%	0.1%	9.1%	16.9%
Portland, OR	27.2%	3.3%	0.1%	9.7%	14.2%
Memphis, TN	26.8%	4.4%	0.2%	7.8%	14.4%
Seattle, WA	26.6%	3.4%	0.2%	7.8%	15.3%
Tampa, FL	26.4%	5.2%	0.9%	9.5%	11.0%
Aurora, CO	26.3%	2.1%	0.7%	7.4%	16.2%
Greensboro, NC	26.3%	4.2%	0.2%	7.2%	14.7%
Fort Worth, TX	26.0%	3.8%	0.3%	7.7%	14.3%
Tulsa, OK	25.9%	2.4%	0.1%	6.6%	16.9%
Wichita, KS	25.6%	3.8%	0.6%	5.8%	15.4%
Denver, CO	25.6%	6.2%	0.1%	7.0%	12.3%
Chicago, IL	25.4%	3.6%	0.1%	8.9%	12.8%
Jersey City, NJ	25.1%	6.0%	0.1%	8.9%	10.2%
St. Petersburg, FL	25.0%	4.1%	1.0%	2.4%	17.5%
Jacksonville, FL	24.7%	2.6%	2.9%	5.5%	14.0%
Reno, NV	24.2%	3.6%	0.3%	8.4%	11.9%
San Jose, CA	23.9%	3.3%	0.1%	6.7%	13.8%
Dallas, TX	23.4%	2.3%	0.1%	8.2%	12.9%
Hialeah, FL	23.4%	2.1%	0.1%	2.1%	19.1%
Phoenix, AZ	23.1%	4.5%	0.1%	6.0%	12.5%
Houston, TX	23.1%	2.7%	0.1%	6.6%	13.7%
San Francisco, CA	22.9%	3.8%	0.0%	7.2%	11.9%
Honolulu, HI	21.8%	3.3%	2.9%	2.7%	13.2%
Arlington, VA	21.4%	4.5%	3.2%	7.1%	7.0%
Plano, TX	21.2%	1.4%	0.1%	7.4%	12.3%
Henderson, NV	20.9%	3.8%	0.4%	2.8%	13.7%
Arlington, TX	20.7%	1.8%	0.1%	7.2%	11.6%
Irvine, CA	20.3%	0.9%	0.1%	11.2%	8.1%
Garland, TX	19.8%	2.9%	0.1%	1.7%	15.0%
Chandler, AZ	19.6%	1.0%	0.0%	6.9%	11.6%

City	Share of all iobs	Share of public administration jobs	Share of military jobs	Share of education jobs	Share of health care and social services jobs
Charlotte, NC	18.5%	2.3%	0.1%	4.5%	11.6%
North Las Vegas, NV	18.1%	2.6%	2.7%	0.9%	11.0%
Anaheim, CA	17.5%	0.8%	0.0%	4.2%	12.4%
Louisville, KY	14.7%	0.4%	0.2%	7.8%	6.3%
Fremont, CA	12.7%	0.4%	0.0%	4.1%	8.2%
Irving, TX	10.8%	1.0%	0.1%	3.3%	6.4%
Paradise, NV	8.6%	0.3%	0.0%	3.3%	5.0%

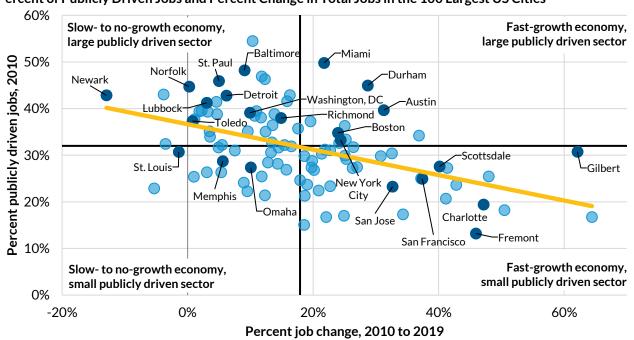
Sources: Authors' analysis of US Census Bureau 2019 Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics and 2015–19 five-year American Community Survey data.

Note: Cells are shaded on a sliding scale with 0 percent shown as white and 100 percent shown as blue.

### CLASSIFYING CITIES BY PUBLICLY DRIVEN JOBS AND JOB GROWTH

We next examine how publicly driven jobs are associated with city total job growth over time (figure 1). Publicly driven employment in 2010 has a weakly negative association with total job growth over the next decade. But the role of a strong publicly driven sector spurring urban economic growth is mixed and, often, dependent on place and context.

FIGURE 1
Percent of Publicly Driven Jobs and Percent Change in Total Jobs in the 100 Largest US Cities



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**Sources:** Authors' analysis of US Census Bureau 2010 and 2019 Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics and 2015–19 five-year American Community Survey data.

To explore trends further, we separate cities into quadrants: (1) slow- or no-growth economy cities with a large publicly driven sector (top left); (2) fast-growth economy cities with a large publicly driven sector (top right); (3) fast-growth economy cities with a small publicly driven sector (bottom right); and (4) slow- or no-growth economy cities with a small publicly driven sector (bottom left).

Illustrative of quadrant one—cities with slow- or no-growth, large publicly driven sectors—is Baltimore. Baltimore ranks third in our publicly driven jobs index at 48 percent of all employment in 2010. However, the city only experienced 9 percent employment growth from 2010 to 2019, well below the top 100 city average of 18 percent. Baltimore is home to federal and state agencies and several universities. But its high level of public employment may be a cautionary tale—more a reflection of a dearth of private sector activity than exceptional strength from the publicly driven sector.

Yet, while they can't bring prosperity alone, publicly driven sector jobs can be the foundation of growing a city's economy. Illustrative of quadrant two—cities with fast-growth, large publicly driven sectors—is Durham, North Carolina. The city is home to more than a dozen colleges and universities, and the Duke University Health System anchors a substantial medical sector. As a result, Durham had a substantial level of publicly driven employment in 2010 at 45 percent. It is also growing rapidly. Durham experienced 29 percent job growth between 2010 and 2019. As a central component of the Research Triangle—the tricity area of Durham, Chapel Hill, and Raleigh—Durham has used its base of public investment as a springboard, with its higher education institutions (and those of Chapel Hill and Raleigh) incubating a substantial number of tech and biotech companies.

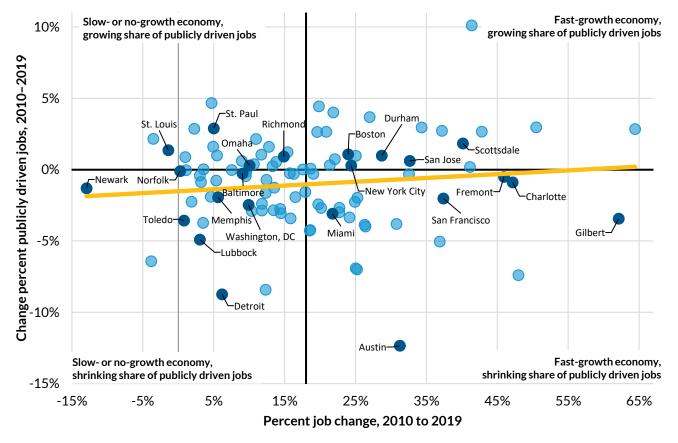
The publicly driven sector helped catapult Durham to rapid growth, but another city in North Carolina illustrates that there are pathways to growth that do not rely on the publicly driven sector. Charlotte, North Carolina, is in quadrant three—cities with fast-growth, small publicly driven sectors. Despite having only 19 percent of its jobs in publicly driven sectors in 2010, Charlotte added 47 percent to its jobs total from 2010 to 2019. The city's economy is built around the financial industry.<sup>4</sup>

A low level of public investment, however, may miss opportunities to spur on the private sector. Omaha, Nebraska, illustrates quadrant four—cities with slow- or no-growth, small publicly driven sectors. Omaha ranks 71st of the 100 largest cities on index with only 27 percent of its workforce publicly driven in 2010. In the 2010s, the city only had 10 percent job growth, ranking 72nd. The city's population grew by 18 percent between 2010 and 2020,<sup>5</sup> but population growth outpaced job growth. Omaha is home to four Fortune 500 companies (Berkshire Hathaway, Union Pacific, Mutual of Omaha, and Kiewit); however, the city has been less successful in fostering new business starts.

## **EXAMINING CHANGES IN PUBLICLY DRIVEN JOBS**

We also considered the relationship between the change in publicly driven jobs and overall job growth. We find a small positive correlation between job growth and change in share of publicly supported jobs from 2010 to 2019 (figure 2) but, again, considerable variation across cities. We again separate cities into quadrants: (1) slow- or nogrowth economy cities with a growing share of publicly driven jobs (top left); (2) fast-growth economy cities with a growing share of publicly driven jobs (top right); (3) fast-growth economy cities with a shrinking share of publicly driven jobs (bottom right); and (4) slow- or no-growth economy cities with a shrinking share of publicly driven jobs (bottom left).

FIGURE 2
Percent Change in Publicly Driven Jobs and Percent Change in Total Jobs in the 100 Largest US Cities



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**Sources:** Authors' analysis of US Census Bureau 2010 and 2019 Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics and 2015–19 five-year American Community Survey data.

# **IMPLICATIONS**

What should those interested in broadening prosperity in the US make of the role of the publicly driven sector in job growth? We find that having higher publicly driven job *levels* (in 2010) does not positively predict growth in total jobs on average. Yet *growth* in public jobs does positively predict growth in total jobs. It appears that many of the economic benefits of preexisting publicly driven jobs are already baked into the local economy and do not necessarily lead to growth. But policymakers are not off base when they seek to have publicly driven jobs move to their locality; these new jobs can induce some growth.

Yet the results indicate that the dynamics vary considerably across cities. We find that a large publicly driven sector is not necessary and it is not sufficient for growth. But neither is it irrelevant—it can be helpful. For some cities, publicly driven sector employment is an economic life support even if the cities are not growing or growing slowly (e.g., Baltimore, Maryland; Norfolk, Virginia; and Newark, New Jersey). For other cities, the publicly driven sector is a springboard that generates private market expansion (e.g., Durham, North Carolina; Austin, Texas; and Miami, Florida). Some cities unfortunately cannot count on even the publicly driven sector as an advantage and are not attracting private industry (e.g. St. Louis, Missouri; Detroit, Michigan; and Memphis, Tennessee). And, finally, some cities find pathways to growth without the publicly driven sector (e.g., Charlotte, North Carolina, and Seattle).

Although we focus on it in this research, publicly driven employment is but one of many factors that influences economic growth. Other factors include climate and population movement into the Sun Belt (Glaeser and Tobio 2007); industrial shifts such as a declining manufacturing sector nationwide (Harris 2020); attraction of a diverse and highly educated workforce (Florida 2005); prevalent industries and their associated wages (Moretti 2012); clustering of anchor institutions and innovative businesses (Katz and Wagner 2014); race-based disinvestment<sup>6</sup>; and pursuit of lower costs of living.<sup>7</sup>

It is also important to note that publicly driven jobs are often good jobs, providing a pathway to the middle class. While racial disparities in wages still exist in the public sector, they are more muted than in the private sector. For example, white households in private sector employment held ten times as much wealth as Black households, but white households in public sector employment only held double the wealth of Black households (Madowitz et al. 2020). While it does not typically provide the highest salary jobs, the public sector often supports middle-class earnings with job stability.

In large US cities, the publicly driven sector is a vital source of jobs. Even in the city with the lowest share in our index (Paradise, Nevada), 1 in 12 workers have publicly driven jobs. Even so, the US has a relatively low degree of public sector employment by international measures. Whether publicly driven jobs serve as a backstop against private disinvestment or as a forward-looking engine of industry creation and business starts, these jobs are an integral part of local economies. But not all publicly driven job sectors are equal, as military and public administration jobs diverge from education, health care, and social service jobs in predicting total job growth.

Cities can seek to leverage jobs that are either directly or indirectly funded by public expenditure to position themselves for spillover benefits and to spur growth. Direct and indirect public employment is an oft-forgotten governmental resource that can be used more intentionally.

### ABOUT THE DATA AND PUBLICLY DRIVEN JOBS INDEX

To create the publicly driven jobs index, we use data from the US Census Bureau's Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LEHD) Workplace Area Characteristics data and data from the US Census Bureau's American Community Survey. We draw LEHD Workplace Area Characteristics data from 2010 and 2019 (or the most recent year available for each state if they have not provided 2019 data). We use 2015–19 five-year American Community Survey data.

We consider jobs to be publicly driven in the following sectors, given the significant levels of public funding they receive: public administration, military, education, social services, and health care. There are additional sectors that are substantially driven by public sector spending—for instance, private sector contractors supported by government grants and contracts—but data constraints in LEHD classifications prevent us from adding subsectors more granularly. We believe this new measure conservatively captures the impact of the public sector on local job markets. Our measure does not account for the induced jobs supported by the purchasing power of publicly driven employees.

The index consists of the share of jobs located in a city that are in publicly driven sectors using LEHD Workplace Area Characteristics. We use American Community Survey data to add in military employment, which is not included in the LEHD. We take the 2019 (or most recent available year of state data) job total, subtract the 2010 job total, and then divide this by the 2010 job total to reach percentage job change.

### **NOTES**

- <sup>1</sup> While the education and health care sectors include private-sector jobs, these sectors are still significantly publicly funded. Education includes private higher education but state governments and the federal government spend considerable sums on private higher-education institutions, including student aid, contracts, and grants. See Sophia Laderman, "Issue Brief: State Funding for Private Institutions," (Boulder, CO: State Higher Education Officers Association, 2021), https://shef.sheeo.org/wp-content/uploads/2021/05/SHEEO\_SHEF\_FY20\_IB\_Private\_Funding.pdf; Adam Andrezjewski, "Wealthy, Elite Universities Like Harvard Taxed You \$45 Billion in Last Five Years," OpenTheBooks, Substack, November 15, 2023, https://openthebooks.substack.com/p/wealthy-elite-universities-like-harvard. The health care sector includes private-sector health care jobs, but the federal government spends to such a degree in this sector that many of these jobs are supported at least partially by federal funds. For example, in FY2023 the federal government spent \$1.8 trillion on health insurance between Medicare, Medicaid, CHIP, tax benefits for employment-based coverage and health insurance marketplaces (e.g., Affordable Care Act or Basic Health Program), and other subsidies. See Congressional Budget Office, "Federal Health Subsidies for Health Insurance: 2023 to 2033," (Washington, DC: Congressional Budget Office, 2023), https://www.cbo.gov/system/files/2023-09/59273-health-coverage.pdf.
- <sup>2</sup> Caponi, Vincenzo, "The Effects of Public Sector Employment on the Economy," IZA World of Labor, January 2017, https://doi.org/10.15185/izawol.332
- <sup>3</sup> Patrick Harker, "Introducing the Anchor Economy Initiative: 'Eds and Meds' and Their Economic Impact," Federal Reserve Bank of Philadelphia, October 11, 2022, https://www.philadelphiafed.org/community-development/workforce-and-economic-development/221011-university-of-north-carolina;
- <sup>4</sup> Chuck McShane, "Industry Insights: Financial Services in the Charlotte Region," Charlotte Regional Business Alliance, February 25, 2021, https://charlotteregion.com/blog/2021/02/25/research-data/industry-insights-financial-services-in-the-charlotte-region/.
- <sup>5</sup> US Census Bureau 2010 Decennial Census; US Census Bureau 2020 Decennial Census.
- <sup>6</sup> We have documented this dynamic in our analyses of capital flows across several cities. These studies are listed at "Capital Flows," Urban Institute, accessed March 6, 2024, https://www.urban.org/policy-centers/metropolitan-housing-and-communities-policy-center/projects/capital-flows.
- <sup>7</sup> Orphe Divounguy, "Long-Distance Movers Targeting Less Competitive, Less Expensive Housing Markets," Zillow Research, January 2, 2024, https://www.zillow.com/research/zillow-uvl-mover-report-33548/.
- <sup>8</sup> Marokey Sawo and Julia Wolfe, "Building Back Better Means Raising Wages for Public-Sector Workers," Working Economics Blog, Economic Policy Institute, March 16, 2022, https://www.epi.org/blog/building-back-better-means-raising-wages-for-public-sector-workers/.

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