How **family-sustaining jobs** can power an **inclusive recovery** in America's regional economies

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February 2021

Metropolitan Policy Program
at BROOKINGS

Introduction

America has a wage problem. In the past two decades, inflation-adjusted wages have remained stagnant for most workers, and low-wage jobs have accounted for a large and increasing share of the nation's job growth.[1] Pre-COVID-19, 44% of U.S. workers ages 18 to 64 earned low wages.[2] Among 26 countries in the Organisation for Economic Cooperation and Development (OECD), the United States ranks highest in the share of its workers earning low pay.[3]

The prevalence of low-wage work not only creates tremendous financial strain for individual families—it also has distressing societal implications. As Dani Rodrik and Charles Sabel argue, "bad jobs, by undermining social structures that underpin economic prosperity, create enormous negative externalities."[4] When low-wage jobs are commonplace, and especially if they are geographically concentrated, individuals in those jobs not only have to contend with their own economic insecurity, but also with all the negative social and political consequences of being in an economically insecure neighborhood, city, or society.

The COVID-19 pandemic has brought this crisis to new heights, as unemployed and underemployed low-wage workers—particularly women and people of color—face severe economic insecurity.[5] In the depths of the COVID-19 pandemic, the economy shed low-wage jobs at eight times the rate of high-wage jobs.[6]

For those local and regional leaders responsible for crafting economic recovery strategies, there is intense pressure to grow back lost jobs and reconnect workers to them. In a historic economic crisis, a reasonable view is that "any job" is better than "no job." The risk with this approach, however, is that it will yield a recovery without any material improvement in worker incomes and living standards. A prosperous recovery from the COVID-19 crisis will be driven by high-quality jobs, either by growing them or upgrading existing jobs into higher-quality jobs.[7] The evidence on this is clear: An increased supply of quality jobs at the local level can increase labor force participation, productivity, and economic performance.[8]

How will local leaders know if their recoveries are being driven by higher-quality jobs, and that those jobs are paying enough to lift families out of their current economic insecurity?

1. **Struggling families:** Leaders must understand the baseline economic costs of sustaining a family in their region, and how many families were struggling to make ends meet.
2. **Family-sustaining wage thresholds:** Leaders must understand the wages required to help those struggling families cover their cost of living, and the number of jobs that currently pay those wages.
3. **Family-sustaining wage job deficits:** Leaders must understand the gap between the current number of family-sustaining wage jobs and what is required to lift a significant share of families out of struggling status.

This report provides pre-pandemic data for each of these metrics. Our objective is practical: These family-sustaining wage thresholds can guide public-private partnerships that want to rebuild a more socially stable and prosperous economy in the wake of COVID-19,[9] partnerships that will implicate a broad range of leaders and institutions, including:

- Economic development officials who choose businesses to attract and retain
- Workforce development officials who place workers into jobs and connect incumbent workers to training
- Philanthropies that support education, training, and business development for disadvantaged workers and communities
- Unions that organize and represent the interests of workers
- Chambers of commerce and business leadership groups focused on the long-term health and prosperity of their local economies

But to build those coalitions, local leaders need data and a framework around which to target their efforts. In the next section, we introduce our data and methods, followed by our findings on family-sustaining wage thresholds and job deficits for the nation's metropolitan areas. We conclude with implications for how family-sustaining jobs can power regional economic recovery strategies.

> **The evidence on this is clear: An increased supply of quality jobs at the local level can increase labor force participation, productivity, and economic performance.**

Why it’s hard to comprehensively measure job quality in localized, publicly available data

Prior research has concluded that job quality is multifaceted and derived from a combination of a job’s earnings, security, and work environment.[10] The National Fund for Workforce Solutions has characterized good jobs using nine factors, each with numerous indicators that collectively cover basic elements of a job, assistance that supports job performance and stability, and career advancement and personal development.[11] The Good Jobs Institute similarly includes nine components, including pay and benefits, schedules, career paths, security and safety, meaningfulness, personal growth, belonging, achievement, and recognition.[12] The Urban Institute’s recent review of 11 job quality definitions found that while level of pay is the only ubiquitous element that appears in every definition, there’s little evidence on which elements are most important for worker well-being.[13] The main takeaway from these efforts can be summarized in Gallup’s “Not Just a Job” report from 2019: non-monetary aspects of jobs are very important to workers.[14] Those non-monetary benefits, in fact, tend to be positively correlated with wage levels. A review of evidence on declining job quality finds that low-wage workers experienced the largest decline in employer-paid health insurance and pensions, and a surge in undesirable work arrangements such as temporary and part-time work.[15]

The evidence is clear that job quality has multiple components, and understanding each of these variables has been the subject of employer assessment tools from organizations such as the Good Jobs Institute and the Aspen Institute’s Working Metrics team. These tools enable businesses to upgrade job quality through specific assessments and metrics, but are currently unable to be scaled to entire local economies due to the lack of consistent, comparable data across metropolitan areas in business-specific measures of job stability, benefits, career pathways, and other metrics.

At the same time, there is a considerable body of research that estimates the wage levels required to achieve a base level of economic self-sufficiency for different family types. One widely adopted threshold is two-thirds of the median wage for a full-time/full-year worker. This method, however, does not consider a worker’s expenses.[16] A second approach is need-based living wage measures, which acknowledge the localized cost of living of different household types and earner structures.[17] This comprehensive accounting is an excellent workforce counselling tool that accurately assesses the income and expenses for individual family types, but has yet to be distilled to a single, actionable wage threshold to inform regional economic goals, strategies, and policies.

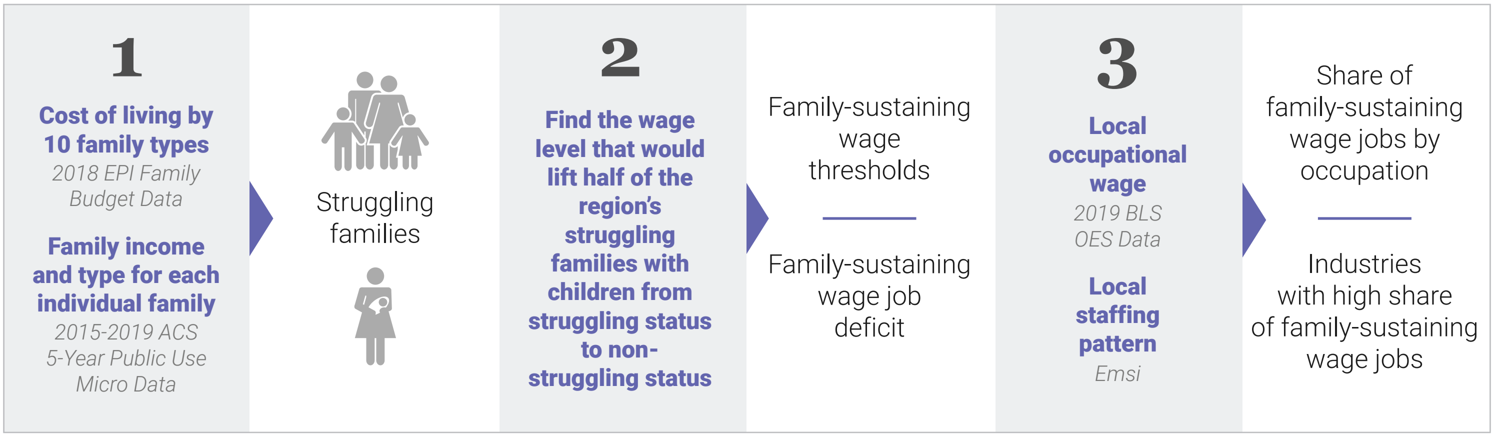
We review the literature above to: 1) endorse the multifaceted nature of job quality; 2) outline how current data sources address critical regional labor market questions; and 3) conclude where gaps need to be filled. With this context, we outline our methodology in the next section.

Data and methods

This report focuses on families with children and at least one working-age adult currently in the labor force. We focus on families with children for two reasons. First, a simple way to know whether a regional labor market is functioning well is when workers can not only live as a single person, but also cover the expenses of starting and growing families. For the first time in the country's history, Americans are having fewer children than they considered ideal, and nearly 60% of childless millennials indicate that they are not having kids because it is too expensive.[18] The second reason is that the economic insecurity of parents has a long-term negative impact on children's health, cognitive development, and school outcomes.[20] In this way, insecurity for parents has a double impact, as growing up in or near poverty has been shown to curtail the productive potential of children. The report, therefore, uses families with at least one child as its sample. Our interactive allows users to see how wage thresholds vary when childless households are included as well.

From our pool of families with children, we have a three-stage process. First, for each metropolitan area, we estimate the number of families with children whose wages were not high enough to cover their cost of living (as of 2019). Second, we identify a "family-sustaining wage" threshold that could lift half of those families out of struggling status (more on this decision below). Finally, we identify the occupations and industries that provide family-sustaining wage jobs. A description of the underlying data and methods of analysis is available in the technical appendix.

Chart 1. How we estimate family-sustaining wage thresholds and family-sustaining job deficits



Findings

Finding 1

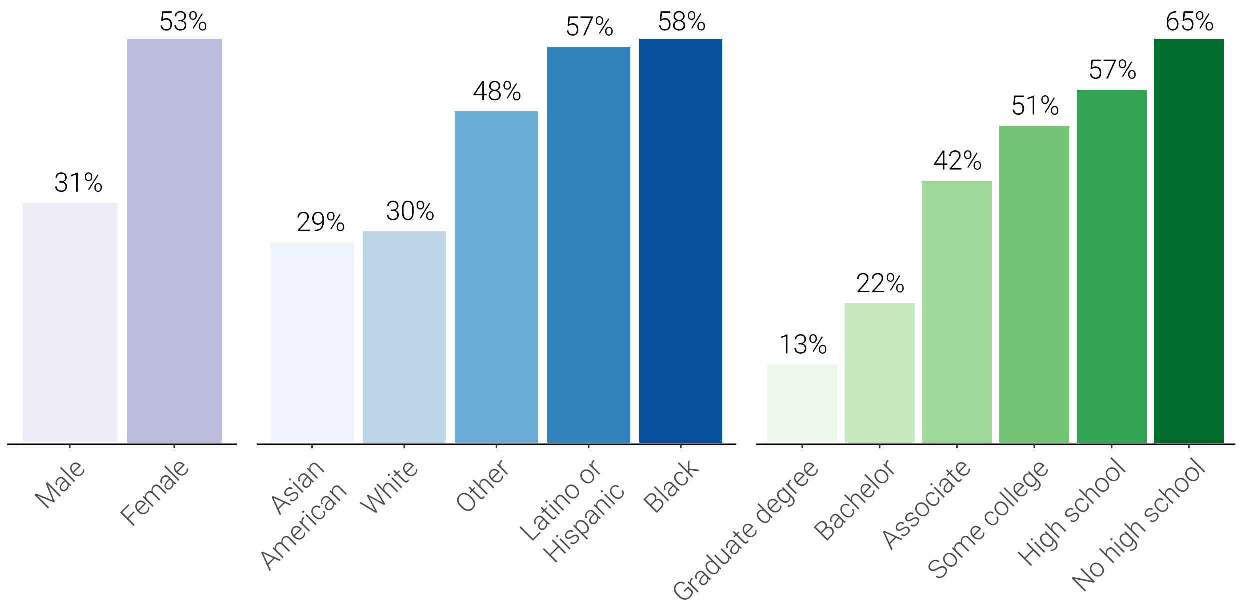
Forty-four percent of families with children were struggling to make ends meet before COVID-19

In 2019, about 14 million households with children—44% of all such households—did not earn a pre-tax, pre-transfer income that covered their expenses. Families headed by women (53%), Black (58%), and Latino or Hispanic (57%) individuals and individuals without a high school diploma (65%) are much more likely to be struggling economically (Chart 2).

These national trends mask striking variations at the local level (Map 1). Among the 53 "very large" metro areas with populations exceeding 1 million residents, over 50% of families with children were struggling to make ends meet in Miami, Riverside, Calif., Los Angeles, Las Vegas, Phoenix, Orlando, Fla., and Tucson, Ariz. At the lower end of the spectrum, the share of struggling families was slightly above 30% for Pittsburgh, Boston, and Seattle.

Chart 2. Families headed by women, Black, and Latino or Hispanic individuals and individuals without a high school diploma are more likely to be struggling

Share of families with children that are struggling by household head



Source: Brookings analysis of American Community Survey 2019 data and Economic Policy Institute Family Budget Calculator data.

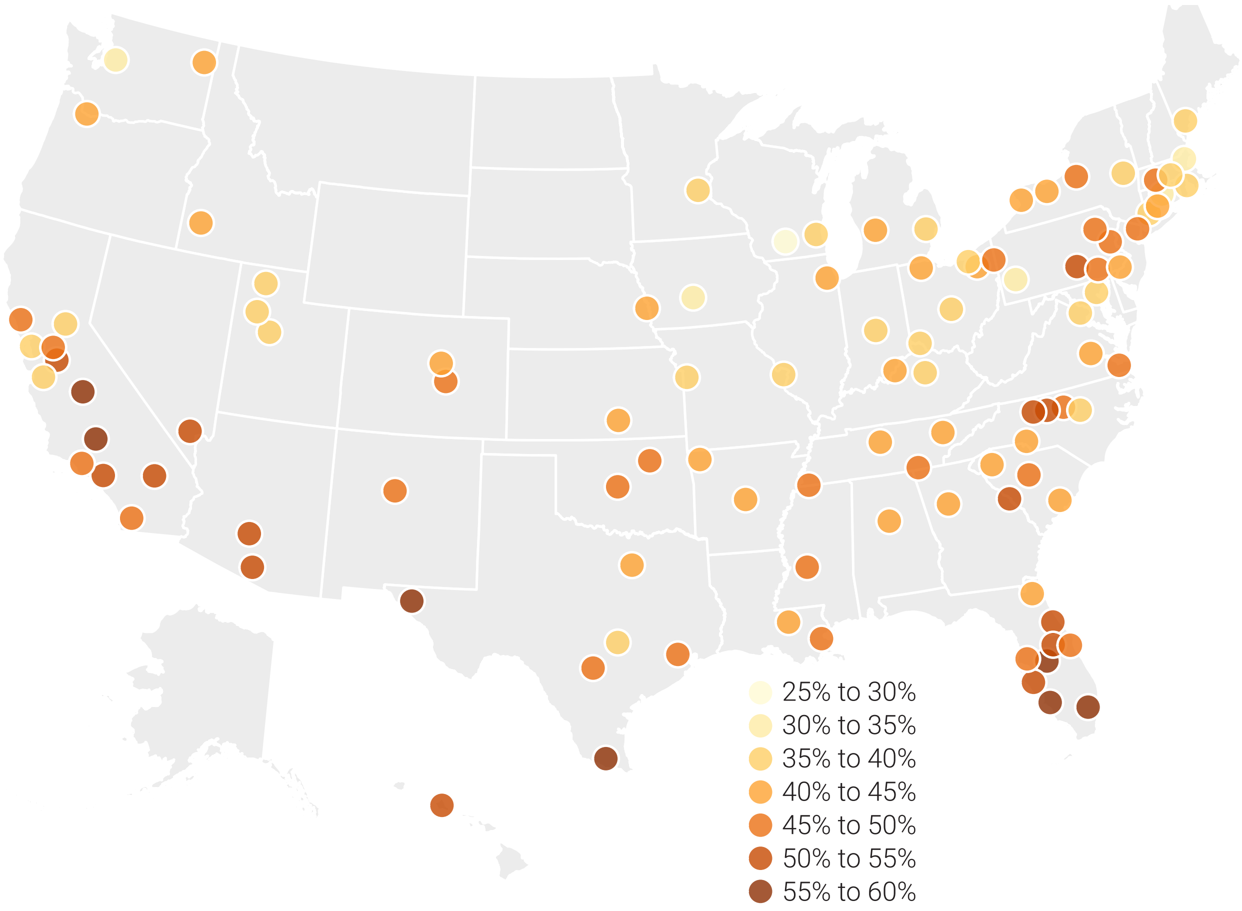
"Large" metro areas (those with populations between 500,000 and 1 million) exhibit similarly high shares of struggling families with children. Shares range from nearly 60% in McAllen, Texas, Lakeland, Fla., El Paso, Texas, and Bakersfield, Calif. to about 30% in Madison, Wis., and Des Moines, Iowa.

Even at the low end, this means more than one-quarter of families with children are not being paid enough to make ends meet across major metro areas—and this was before the COVID-19 recession.

The COVID-19 recession has compounded the pre-existing challenge of struggling families in our metro areas. Low-income adults are more likely to get infected with and die from COVID-19 due to their occupations, pre-existing chronic conditions, and inadequate access to health services.[21] While employment rates have rebounded for high-wage workers, employment rates for low-wage workers were still 23% below their pre-pandemic levels in December 2020.[22] Asian American women have experienced the largest employment rate decline of any demographic group, followed by Latino or Hispanic men.[23]

Geographically, many of the metro areas that had highest share of struggling families in 2019—including Miami, Bakersfield, Calif., and Greensboro, N.C.—have also experienced the largest job losses during the COVID-19 recession.[24]

Map 1. Shares of struggling families vary from 25% to nearly 60% in US metro areas
Share of families with children who are struggling in large and very large metro areas



Source: Brookings analysis of American Community Survey 2019 data and Economic Policy Institute Family Budget Calculator data.

Finding 2

Only six metro areas offer median wages above the family-sustaining wage threshold

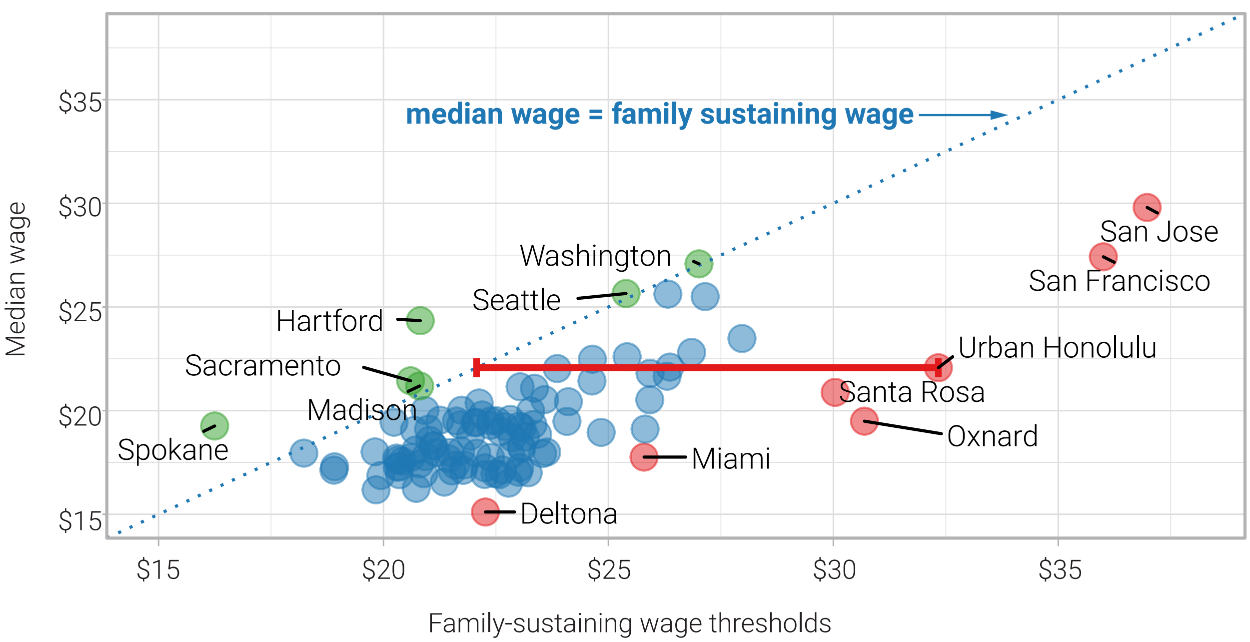
The prevalence of low-wage jobs has created a significant share of families with children that are struggling to make ends meet. This section builds on that analysis by introducing two new metrics—a **family-sustaining wage threshold** and a **family-sustaining wage job deficit**—that would help reduce the number of struggling families in each metropolitan area. Family-sustaining wage thresholds represent the wage level that would lift half of the region's struggling families with children out of struggling status, given the families' current earnings structures and number of wage earners.

Across the nation's very large metro areas, the family-sustaining wage threshold varies significantly. Metropolitan areas with very high housing costs—such as San Francisco and San Jose, Calif.—top the list with the highest family-sustaining wage threshold at $36 per hour, followed by New York and Washington, D.C. On the low end, five metro areas have family-sustaining wage thresholds of $20 per hour, including Louisville, Ky., Cleveland, Sacramento, Calif., Cincinnati, and Oklahoma City.

If the region creates, or improves **X number of jobs** with "family-sustaining" wage at **$Y per hour**, it would allow **Z number of struggling families** to make ends meet.

Chart 3. Across U.S. metro areas, the median wage is not providing the median struggling family with economic security

Median wage and family-sustaining wage thresholds in large and very large metro areas



Source: Brookings analysis of American Community Survey 2019 data, Economic Policy Institute Family Budget Calculator data, and Bureau of Labor Statistics (BLS) Current Employment Statistics data.

For large metro areas, family-sustaining wage thresholds show similar variation, from $30 per hour in Honolulu, Oxnard, Calif., and Santa Rosa, Calif. to $19 per hour in Fayetteville, Ark., Akron, Ohio, Knoxville, Tenn., Youngstown, Ohio, and Toledo, Ohio. (See interactives for data for all 192 metro areas.)

Importantly, the family-sustaining wage threshold is higher than the median wage in all but six large and very large U.S. metro areas (Chart 3).

Chart 3's diagonal line illustrates where a metro area's median wage equals its family-sustaining wage. Only six metro areas—Hartford, Conn., Sacramento, Calif., Madison, Wis., Spokane, Wash., Seattle, and Washington, D.C. are above this line, meaning they offer a median wage higher than their family-sustaining wage threshold. While Seattle and Washington, D.C. are among the nation's most expensive regions to raise children, the high family-sustaining wage threshold there is offset by equally high median wages (above $25 per hour).

For metro areas below the diagonal line, their horizontal distance from the line measures the **family-sustaining wage gap**, or the difference between the local median wage and local family-sustaining wage. It represents the additional hourly wages required (or the cost of living that should be reduced) for the typical job to provide economic security for the median struggling family. This family-sustaining wage gap is more than $6 in metro areas such as Honolulu, Miami, Deltona, Fla., and four costal metro areas in California.

Understanding the family-sustaining wage threshold allows us to gain a better understanding of the shortage of jobs in a metropolitan area that pay those wages. The **family-sustaining job deficit** is the estimated number of jobs that pay family-sustaining wages that are needed to lift 50% of struggling families with children out of struggling status.

As of 2019, the United States had a family-sustaining job deficit of 9 million jobs, or about 7% of full-time positions. For very large metro areas, the family-sustaining job deficit accounts for more than 10% of all jobs in Providence, R.I. and Riverside, Calif. on the high end, and about 4% in Pittsburgh and San Jose, Calif. on the low end. For large metro areas, the family-sustaining job deficit is more than 15% in Worcester, Mass., New Haven, Conn., Bakersfield, Calif., and Bridgeport, Conn., and around 5% in Madison, Wis., Lexington, Ky., Akron, Ohio, and Des Moines, Iowa.

Finding 3

Tradable and supply chain industries concentrate higher shares of family-sustaining jobs

Family-sustaining jobs are not spread evenly across every segment of the economy. A common categorization is to separate local industries from tradable industries. Local industries are those in which businesses sell their goods and services to local buyers. Tradable industries are industries in which businesses sell their goods and services nationally and globally. Mercedes Delgado and Karen Mills further segmented the tradable versus local economy into business-to-consumer industries (B2C) and supply chain industries—those in which businesses sell their goods and services primarily to governments and businesses. They found that tradable and supply chain industries have unique attributes that lead to the creation of better-paid jobs.[25]

This is seen most clearly by examining the concentration of family-sustaining jobs across seven distinct economic segments (Chart 4). Applying the industry classification framework

Table 1. Industry categorizations

Sector	Selected six-digit NAICS industries
B2C Local Health care	General Medical and Surgical Hospitals Offices of Physicians (except Mental Health Specialists) Nursing Care Facilities (Skilled Nursing Facilities)
B2C Local Main Street	Full-Service Restaurants Limited-Service Restaurants Supermarkets and Other Grocery (except Convenience) Stores
B2C Tradable Manufacturing	Poultry Processing Animal (except Poultry) Slaughtering Pharmaceutical Preparation Manufacturing
B2C Tradable Services	Colleges, Universities, and Professional Schools Hotels (except Casino Hotels) and Motels Direct Property and Casualty Insurance Carriers
Supply Chain Local	Temporary Help Services Janitorial Services Plumbing, Heating, and Air-Conditioning Contractors
Supply Chain Tradable Manufacturing	All Other Plastics Product Manufacturing Commercial Printing (except Screen and Books) Aircraft Manufacturing
Supply Chain Tradable Services	Corporate, Subsidiary, and Regional Managing Offices Custom Computer Programming Services Engineering Services

Source: Mercedes Delgado and Karen Mills, "A New Categorization of the U.S. Economy: The Role of Supply Chain Industries in Innovation and Economic Performance" (Cambridge: MIT Sloan School of Management, 2017).

developed by Delgado and Mills, we found that supply chain tradable services industries are more likely to concentrate a higher share of family-sustaining wage jobs across major metro areas.

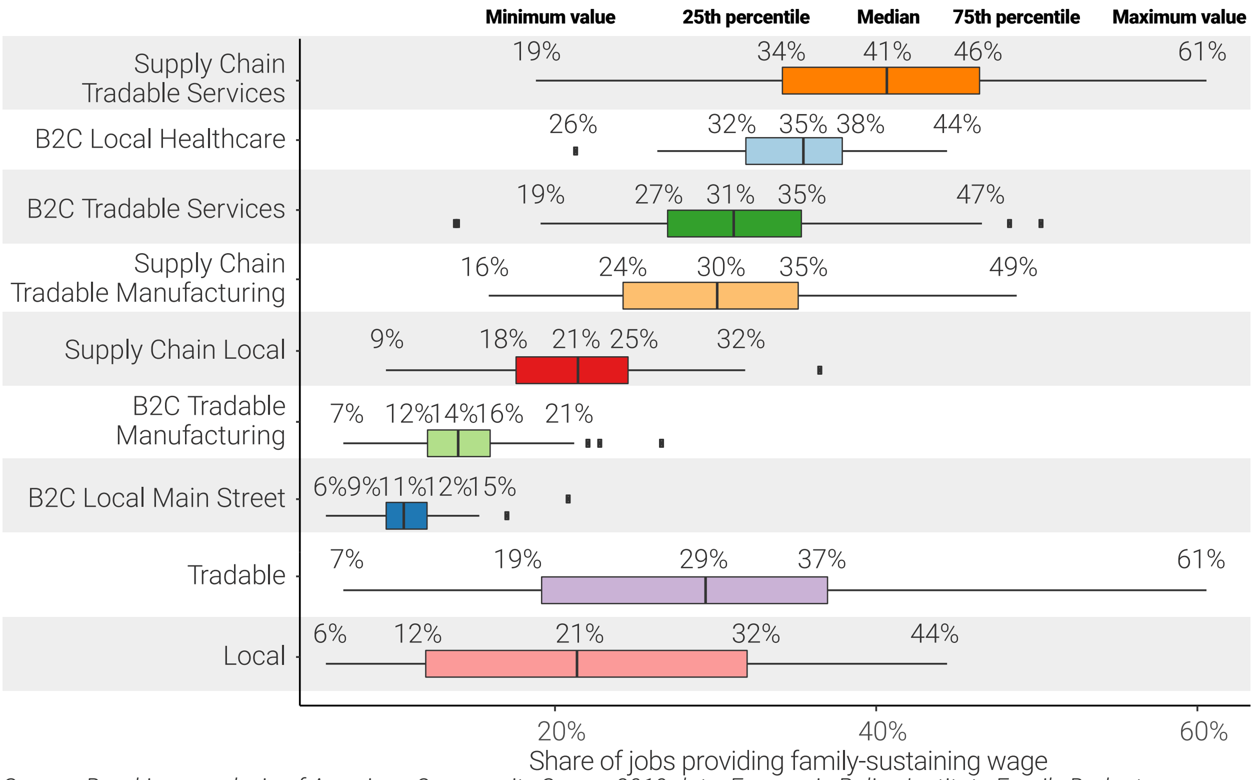
That noted, there is significant variation across metro areas *within* industry segments. For example, in Buffalo, N.Y., 35% of jobs in business-to-consumer tradable services industries are family-sustaining wage jobs, which means that Buffalo has a higher share of family-sustaining wage jobs in this industry segment than 75% of U.S. metro areas. In Riverside, Calif., 27% of jobs in B2C tradable services industries are family-sustaining wage jobs, which places it at the 25th percentile. In the median metro area—Richmond, Va.—31% of jobs in B2C tradable services industries are family-sustaining wage jobs.

Consumer-facing "Main Street" industries and business-to-consumer tradable manufacturing (manufacturers of food, beverage, apparel, etc.) tend to have the lowest share of family-sustaining wage jobs. In the median metro area, only 12% of jobs in Main Street industries are family-sustaining wage jobs, and only 14% of jobs in B2C tradable manufacturing industries pay family-sustaining wages.

Depending on what types of jobs constitute the local industries and how wage levels compare to the family-sustaining wage threshold, the industries that provide high shares of family-sustaining jobs may vary significantly in different labor markets. Our online interactive provides metro-by-metro data in more detail.

Chart 4. Tradable supply chain industries are more likely to have a higher share of family-sustaining wage jobs

Distribution of the share of family-sustaining wage jobs across different industry segments in large and very large metro areas

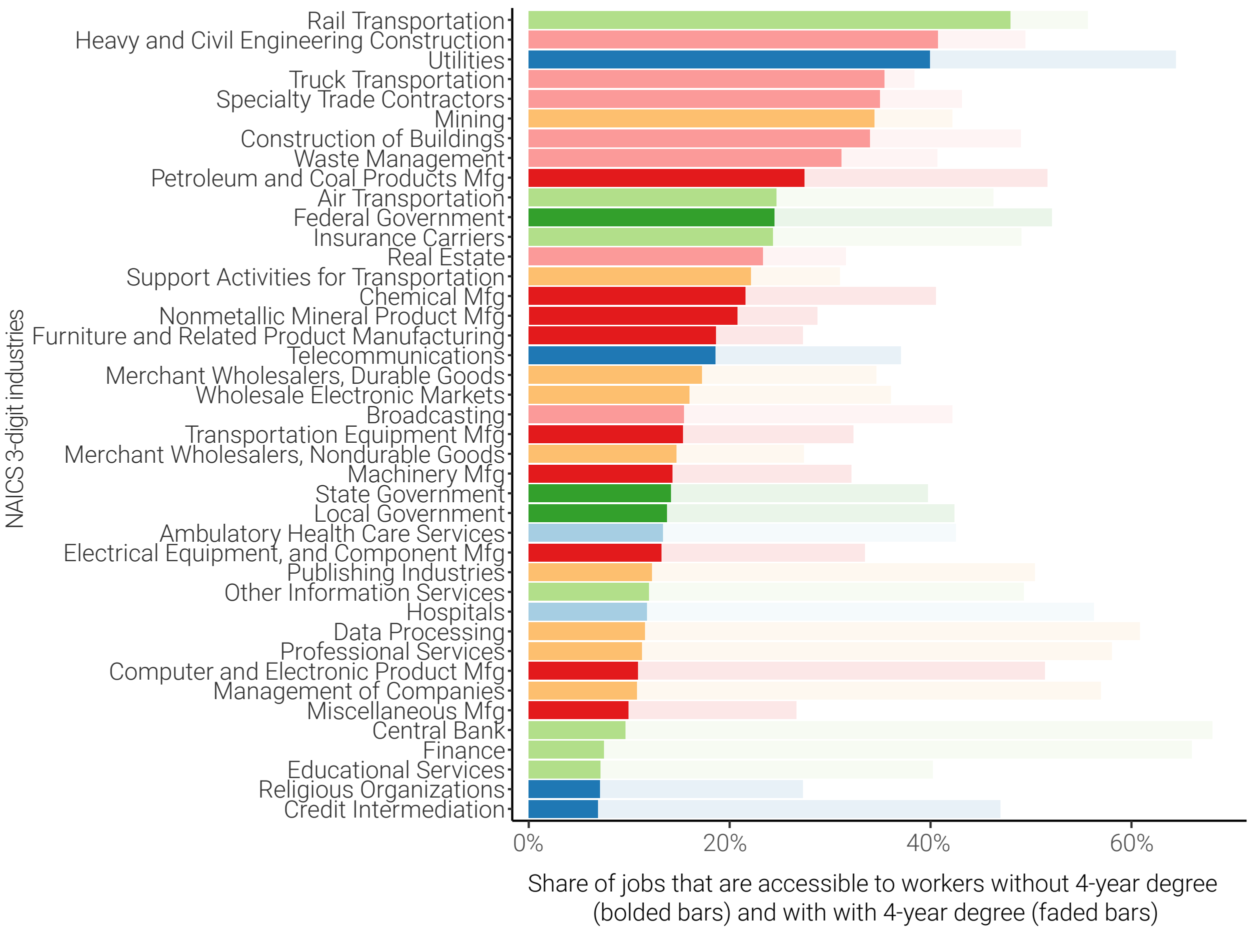


Source: Brookings analysis of American Community Survey 2019 data, Economic Policy Institute Family Budget Calculator data, and Emsi data.

In Cleveland, for example, finance, central banks, utilities, rail transportation, data services, professional services, the federal government, and management of companies (headquarters) are among the industries with: 1) at least 500 jobs; and 2) at least 70% of those jobs are family-sustaining wage jobs. However, not all these jobs are accessible to workers without a four-year college degree. Within those top industries, the share of family-sustaining jobs accessible to workers without a four-year college degree ranges from 7.4% in finance to 48% in rail transportation (Chart 5).

Chart 5. Industries that provide higher shares of family-sustaining jobs have varying levels of accessibility to workers without a four-year college degree

Industries provide above median share of family-sustaining wage jobs in Cleveland–Elyria, OH



Sector

B2C Local Healthcare | B2C Local Main Street | B2C Tradable Services | Government

Supply Chain Local | Supply Chain Tradable Manufacturing | Supply Chain Tradable Services

Education requirements

Four-year college degree or higher | Less than four-year college degree

Source: Brookings analysis of American Community Survey 2019 data, Economic Policy Institute Family Budget Calulator data, and Emsi data.

Implications

Family-sustaining jobs can provide a useful starting point for public, private, civic, and philanthropic leaders as they design, implement, and track economic recovery strategies. Our findings point to three potential interventions that would address economic insecurity in the wake of COVID-19 and build more resilient, opportunity-rich regional economies for the long term:

1. Talent development: Connect struggling workers to family-sustaining jobs.

Even amidst record unemployment, family-sustaining jobs remain unfilled in every metropolitan area. Our colleague Annelies Goger has provided a roadmap for how to turn massive layoffs into opportunities to reconnect displaced individuals to family-sustaining jobs by creating a more integrated system of working and learning, career navigation, and supportive services that will connect workers to in-demand, family-sustaining wage jobs.[26] Informed by real-time labor market data and fueled by future federal stimulus, investing in work-based learning and supporting the career transitions of displaced workers will be critical to building more effective talent pipelines for employers and growing a more productive economy during the recovery. For example, San Antonio voters approved a new 1/8 cent sales tax to invest $154 million from 2021 to 2025 to help 40,000 residents connect to the jobs of the future by providing them with tuition assistance, wraparound services, and emergency financial assistance.[27]

2. Economic development: Target business growth in sectors that concentrate family-sustaining jobs.

Economic development resources are scarce, and therefore traditional economic development tools such as incentives and business retention and expansion resources ought to be reserved for those businesses and industries that are generating family-sustaining jobs. Long-term economic development strategies should prioritize investments in spurring entrepreneurship and technological innovation, which in turn leads to job creation in those tradable industries that disproportionately concentrate family-sustaining wage jobs.[28] For example, the city of Indianapolis, in partnership with Develop Indy, has targeted its economic development incentives to businesses creating family-sustaining wage jobs and co-investing in training, child care, and transit support for their workers.[29]

3. Raise the floor: Upgrade existing jobs that are not offering a family-sustaining wage.

Talent development and economic development strategies alone will not close the nation's opportunity deficit without upgrading existing jobs that are not currently offering family-sustaining wages. Local and state governments can use minimum wage laws, sectoral bargaining, and wage boards to increase pay in lower-wage industries.[30] In 2014, Seattle formed an Income Inequality Advisory Committee (IIAC) composed of a diverse set of perspectives from unions, businesses, nonprofits, and the chamber of commerce. Charged with the negotiation and creation of an actionable set of recommendations for improving wages, then-Mayor Ed Murray and the IIAC developed the research and data framework for what would eventually lead to the city council's phased-in minimum wage ordinance of $15 per hour in April 2015.[31] In addition to policy reforms, job quality interventions could also be pursued through new customized business services that are provided to small and midsized employers to upgrade their management, operations, and human resources capabilities with the objective of improving productivity and wages.[32] Genesis, a pilot project run by the Illinois Manufacturing Excellence Center (IMEC), was designed to improve job quality by integrating "people" guidance (workforce engagement, productivity, employee stability) with "product" guidance (cost reduction, quality improvement, technology adoption) for small- to medium-sized manufacturers. The program was customized for each company, with services determined by surveys and focus groups with frontline employees. Genesis companies reported increased sales, higher job retention, wage gains for workers, and lower turnover.[33]

> **"Family-sustaining jobs can provide a useful starting point for public, private, civic, and philanthropic leaders as they design, implement, and track economic recovery strategies.**

Conclusion

The COVID-19 recession has only exacerbated the challenges of being a worker who earns low wages in the United States. Fortunately, the COVID-19 pandemic has also strengthened local communities' resolve to mitigate the worst of the crisis, address these inequities head-on, and lay the foundation for a prosperous recovery.

These local coalitions can use the information in this report to better understand the share of families that were struggling prior to the crisis (and likely continue to be), and whether the jobs being created in their region were paying enough for those families to thrive. From that baseline, communities and their leaders can establish regional targets to create and upgrade jobs that pay a family-sustaining wage, and connect more workers in struggling families to those jobs.

That will require complex collaboration, which in turn will require significant resources. But simply rebuilding the economy on a foundation of low-wage work will miss an historic opportunity to invest in a higher-quality, more inclusive economic future.

> **“Fortunately, the COVID-19 pandemic has also strengthened local communities' resolve to mitigate the worst of the crisis, address these inequities head-on, and lay the foundation for a prosperous recovery.**

Technical appendix

Identifying struggling families

We identify struggling families by comparing localized families' basic expenses to family income data from U.S. Census Bureau's household surveys. Estimates of families' basic expenses come from family budget data developed by Economic Policy Institute (EPI). The EPI budget outlines the resources different types of families need to attain a reasonably secure, yet modest, standard of living. The standard accounts for differences in a family's county of residence and its size in determining food, housing, child care, transportation, medical care, and miscellaneous household expenses.

EPI estimates these expense categories for each county in the United States (as of 2018, the latest available data) for 10 family compositions (Table 2). Expenses for the missing family compositions are estimated using the extrapolated family expenses from the 10 matched ones.

For more details concerning the calculation of expenses in each category, please visit EPI's website: **https://www.epi.org/publication/family-budget-calculator-documentation/**.

APPLICATION TO HOUSEHOLD SURVEY DATA

American Community Survey (ACS) microdata provides subfamily estimates for each household based on family interrelationships. Unrelated individuals living in the same nonfamily households are treated as separate units. Because this report focuses on whether a regional labor market provides opportunities for people to start and grow a family, we further limit our sample to families with children, and those with at least one working-age adult currently in the labor force. Working-age adults are defined as those between 18 and 65 years old, and who are not full-time students (those who are between 18 and 24 and currently in school).

Table 2. Types of family compositions

1 adult					2 adults				
0 children	1 child	2 children	3 children	4 children	0 children	1 child	2 children	3 children	4 children

Source: Authors.

COMPARING FAMILY INCOME TO FAMILY EXPENSES

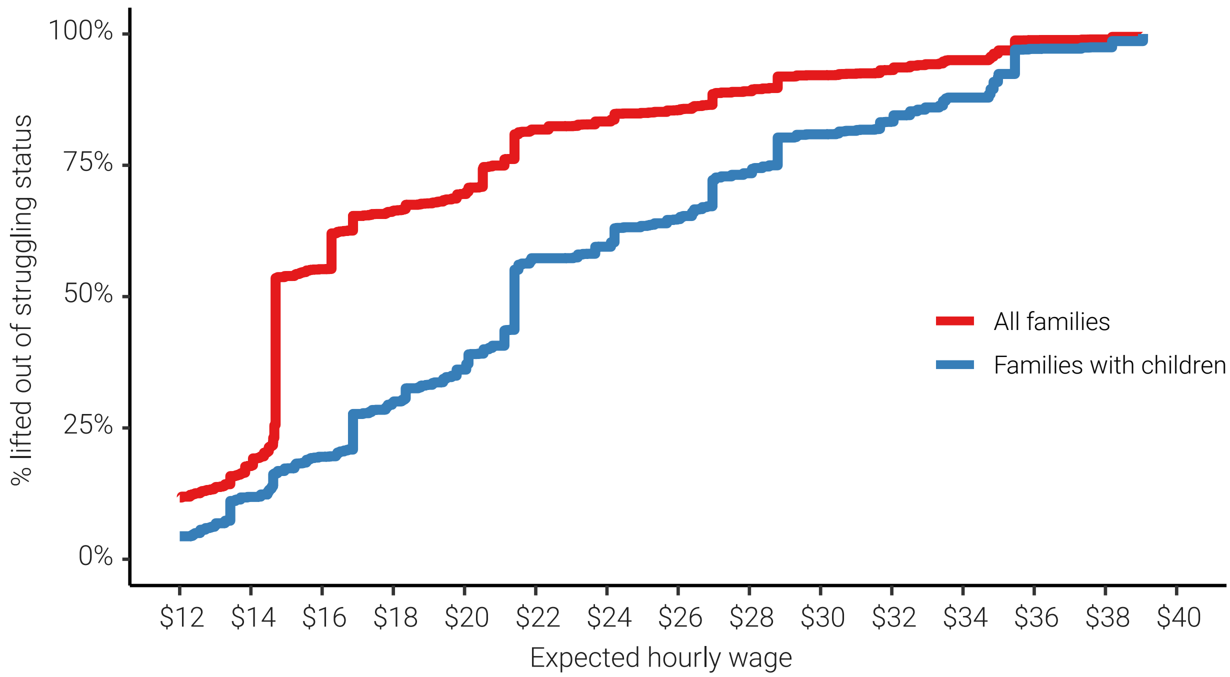
We then calculate each family's total annual income by summing each family member's non-transfer sources of income, including wage income, rental/investment income, and business income. For two-adult families with kids, if one of the adults is not working, we assume the person to be a family caregiver and subtract the child care cost from their family expenses. Due to the limitations of the family budget data, we did not adjust child care expenses according to children's ages. "Struggling families" are families whose total non-transfer family income is lower than their corresponding family budget, adjusted to 2019 dollars.

Determining family-sustaining wage thresholds and family-sustaining job deficits

Depending on the size of the family, the number of earners, and other non-wage income, different families necessitate different family-sustaining wage levels. The regionwide family-sustaining wage threshold target is set at the wage level that would lift ***half*** of the region's struggling families with children out of struggling status. We illustrate this process in Chart 6 using the Birmingham, Ala. metro area as an example. The family-sustaining job deficit is calculated as number of earners in ***half*** of all struggling families.

Chart 6. The family-sustaining wage threshold in Birmingham, Ala. is $14.70 for all families, and $21.40 for families with children

Hourly wage required to lift families out of struggling status



Source: Brookings analysis of American Community Survey 2019 data and Economic Policy Institute Family Budget Calculator data

Setting the family-sustaining wage job deficit was an informed but ultimately somewhat arbitrary exercise. Low-wage jobs will persist, even with the best labor market policies and macroeconomic conditions. The 50% represents an ambitious but achievable goal.

Identifying family-sustaining industries in each labor market

Different occupations and industries provide different levels of family-sustaining wage jobs. Understanding this variation helps to inform which occupations and industries are more likely to provide family-sustaining wage jobs. Extending our threshold to occupations and industries not only reveals this variation, but helps policymakers target their scarce resources to grow those occupations and industries best positioned to deliver opportunity.

DETERMINING FAMILY-SUSTAINING WAGE JOBS BY OCCUPATIONS

We first estimate the share of jobs that are at or above the local family-sustaining wage threshold for each occupation in the reference metropolitan area. The U.S. Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) provide a wage distribution for each occupation in each metropolitan area, at the 10th, 25th, 50th (median), 75th, and 90th percentiles. We identify the wage range in which the local family-sustaining wage threshold falls, and calculate the linear interpolant of those percentiles as the estimated percentage of jobs that are above the local family-sustaining wage threshold. In the following example (Table 3), the region's family-sustaining wage threshold of $22.50 per hour falls between the 50th percentile wage of the occupation ($20 per hour) and the 75th percentile wage ($24 per hour). The share of jobs that provides family-sustaining wages for this particular occupation thus approximates:

$$50\% - \frac{\$22.5-\$20}{\$24-\$20} \times (75\% - 50\%) \approx 34.4\%$$

ASSIGNING FAMILY-SUSTAINING WAGE JOBS BY OCCUPATION TO INDUSTRIES

We then estimate the share of family-sustaining jobs in each three-digit NAICS industry, based on the occupational makeup of an industry in the local labor market. We use metropolitan-level occupational staffing patterns from Emsi, adapted from national industry-occupation matrix data. For a detailed methodology of how Emsi regionalizes the national staffing patterns, please visit Emsi's method page: **https://kb.emsidata.com/methodology/regionalization-of-national-staffing-patterns/**.

CALCULATING THE SHARE OF FAMILY-SUSTAINING JOBS THAT ARE ACCESSIBLE WITHOUT A FOUR-YEAR DEGREE

The share of family-sustaining wage jobs that are accessible for people without a four-year college degree come from BLS data on education and training requirements for each detailed occupation. We apply this national projection locally to estimate the number of family-sustaining wage jobs that are held by people without a four-year college degree.

Table 3. Determining share of family-sustaining wage jobs by occupational percentile wage

Family-sustaining wage	Percentile	10%	25%	50%	75%	90%
$ 22.50	Hourly Wage	$11.00	$15.00	$20.00	$24.00	$29.00

Source: Authors.

Endnotes

1. Rachel E. Dwyer and Erik Wright, "Low-Wage Job Growth, Polarization, and the Limits and Opportunities of the Service Economy, "The *Russell Sage Foundation Journal.* 5 (4) (2019): 56-67.
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This report is made possible by the David M. Rubenstein President's Strategic Impact Fund, for which the authors are deeply appreciative. The authors thank Elise Gould and her colleagues at Economic Policy Institute for providing the Family Budget Calculator data. We also thank Gabriel Morrison for his important contributions to background research. We would also like to thank our former Brookings colleagues Isha Shah, and, especially, Chad Shearer for their guidance on this report's data and methodology as well as Marek Gootman for his advice on its practical application. We also want to thank colleagues who provided feedback on the report: Alan Berube, Annelies Goger, Molly Kinder, Tracy Loh, Mark Muro, and Martha Ross. The authors also thank Michael Gaynor for editing, Luisa Zottis for layout and design, Alec Friedhoff for his design of the data interactive, David Lanham for his communications leadership, and Jade Arn and Rowan Bishop for helping pull together a practitioner feedback session, and that session's participants: Brad Whitehead, Eduardo Velasquez, Sarah Burns, Sara Hintze, Meghan Durso, Laura Ward, Anika Goss-Foster, Cori Fain, and Janine Kaiser.

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