OPPORTUNITY CLUSTERS

Identifying pathways to good jobs in metro New Orleans

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Summary

Ten years after Hurricane Katrina, the conversation in metro New Orleans is less about post-disaster recovery and more about the challenge that many communities face today: the need to shape an economy that works for people. Leaders here are working to grow good jobs, help the long-term unemployed, and reduce racial disparities in employment and incomes.

This special report aims to help local leaders find ways to expand economic opportunity as metro New Orleans enters its tricentennial and second decade post-Katrina. Specifically, this new analysis provides information on which parts of the local economy provide "good jobs"—jobs in industry clusters that have the potential to help workers without a four-year college degree earn enough to support themselves and their families and eventually move into the middle class. The report focuses on the period from 2010 through 2014, setting a new baseline from which local leaders can plan and benchmark the region's future.

This report finds that:

1. **The share of metro New Orleans residents living in families struggling to make ends meet had swelled to 41 percent by 2013 despite a growing economy.** By 2013, there were 495,300 people in metro New Orleans earning below the living wage, of which 55 percent were working-age adults. As the number of adults and children living in struggling families has grown, so has the number of low-paying jobs in the metro area. Seven out of 10 jobs the metro area added between 2010 and 2014 were in industries that paid below the average local wage.
2. **There were 184,000 good jobs in metro New Orleans in 2014, but these jobs are slow-growing and there may not be enough of them.** Good jobs—jobs that are accessible to low- and middle-skilled workers and offer stable incomes and upward mobility—represented 33 percent of all the metro area's jobs in 2014. These good jobs were found in high numbers and concentrations across a range of occupational fields, from production to maintenance and from management to health care. Yet good jobs in the metro New Orleans area grew by 2.2 percent from 2010 to 2014, while other jobs expanded by 6.1 percent.
3. **Nearly half of metro New Orleans' good jobs were in traded industry clusters, yet many of these clusters are losing their competitiveness.** About 42 percent of the metro area's good jobs and nearly half of private-sector good jobs are in clusters that drive the metro area's economy. These clusters include manufacturing, transportation and distribution, and energy and petrochemicals. A few local-serving clusters also provide many good jobs that are accessible to lesser-skilled job seekers.
4. **Working-age adults of color and women are more likely to be found in struggling families and less likely to hold good jobs in metro New Orleans.** Blacks account for half of all working-age adults in struggling families but only a quarter of workers holding good jobs. Likewise, women—many of whom are single parents—represent 57 percent of the working-age adult population in struggling families but only 38 percent of workers holding good jobs.
5. **To build shared prosperity, leaders in metro New Orleans can better align existing economic development, workforce, and education efforts to grow good jobs and connect low- and middle-skilled workers to them.** Leaders can shore up the growth and competitiveness of the region's traded opportunity clusters, enable employers to play a more proactive role in economic and workforce strategies, and better target existing career pathways strategies to the working poor, workers of color, and working-age women, many of whom are single parents.

While cities throughout the nation are grappling with similar issues of uneven economic growth, the leaders and citizens of metro New Orleans have an opportunity to apply the implications of these findings to deepen the suite of innovative reforms already underway and help the region emerge as a model of economic and social progress.

Introduction

Since August 2005, the leaders and citizens of metro New Orleans have confronted three different crises as they worked to restore the very assets that make the region unique and put it on a path to inclusive growth and sustainability. Amidst a daunting Hurricane Katrina recovery effort, the community navigated the Great Recession of 2007–2009 and the Deepwater Horizon oil spill of 2010.

Despite these setbacks, New Orleans has achieved substantial progress. The metro area has posted solid job growth since the recession, driven by a diverse set of industries. The community has developed strong federal, corporate, and philanthropic partnerships. It has used these partnerships to forge important reforms, particularly around schools, housing, workforce, entrepreneurship, and criminal justice. And the region, with state and federal partners, is in the midst of implementing a comprehensive plan to restore the critical network of marshlands and other infrastructure that protects the communities and businesses along the Gulf Coast.[1]

However, as the New Orleans area settles into a new normal, it confronts basic questions of social and economic performance that beset many American cities today. Many of metro New Orleans' new jobs have come from the lowest-paying industries. As low-paid work has grown, the earnings of many local families have shrunk. Median household incomes are lower today than they were before Katrina. And the share of the metro area's residents living in poverty has grown, especially in the suburbs. These challenges are particularly acute by race and ethnicity. The employment rate among black men has dropped precipitously—part of a longer-run trend. Today, about half of black men in the metro area are employed, compared to seven in 10 among white and Hispanic men.[2]

Ten years after Hurricane Katrina, the conversation in metro New Orleans is less about post-disaster recovery and more about the challenge that many communities face today: the need to shape an economy that works for people. Leaders here are striving to grow good jobs, help the long-term unemployed, and reduce racial disparities in employment and incomes. What sets metro New Orleans apart today is not the challenges it faces but the effort the community is putting in to develop solutions.

This special report aims to help the New Orleans community find ways to expand economic opportunity as the metro area enters its tricentennial and second decade post-Katrina.[3] Specifically, this new analysis identifies the parts of the local economy that provide "good jobs"—jobs that have the potential to help workers without a four-year college degree earn enough to support themselves and their families and eventually move into the middle class.

To start, this paper examines trends in the incomes of local families and workers. Here we define and analyze the families in which workers earn less than the living wage—the hourly wage that full-time, year-round workers need to cover local living expenses (see Appendix A)—and thus struggle to make ends meet. The paper then examines "clusters" of interrelated industries that offer the greatest number or highest share of "good jobs"—jobs in occupations that are accessible to workers with less than a four-year degree, provide stable income and benefits, and offer pathways to living-wage jobs. Finally, we compare the characteristics of workers in struggling families to the current holders of good jobs. Throughout, the report focuses on the period from 2010 through 2014, setting a baseline from which local leaders can plan and benchmark the region's future.

We treat this report as a starting point for further analysis and local discussions on what these findings mean for existing policies and strategies. We intend to examine these trends—and their implications—in greater detail in the near term. For now, we hope this analysis sparks greater awareness among citizens and leaders and catalyzes collective problem-solving, a hallmark of the new New Orleans.

Findings

Metro New Orleans has staged an unlikely economic comeback in recent years.[4] Though its recovery came slowly in the few years following Hurricane Katrina, the metro area has posted strong growth since it emerged from the Great Recession. This growth has generated new jobs for the metro area's residents. However, this growth has coincided with a troubling decline in the incomes of many of metro New Orleans' workers and families. Today, two out of every five of the metro area's residents live in families that struggle to earn enough income to make ends meet. Expanding economic opportunity for workers in these struggling families must be a priority going forward.

1. The share of metro New Orleans residents living in families struggling to make ends meet had swelled to 41 percent by 2013 despite a growing economy.

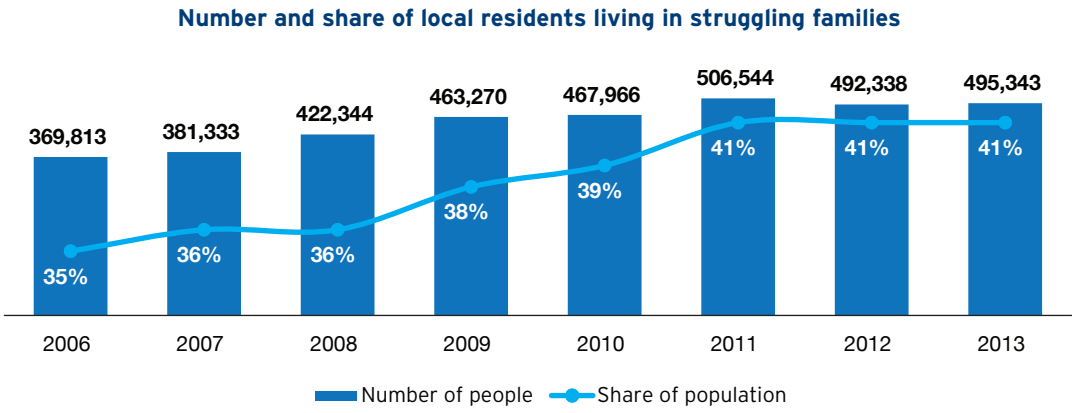
After years of fragility, metro New Orleans' economy emerged from the recession poised for growth. From early 2010 through the end of 2014, the metro area's output and jobs grew an average 1.7 and 1.4 percent per year, respectively—their best pace since the late 1990s.[5] By the start of 2015, this growth had pushed metro New Orleans' output and jobs to within 10 percent of their pre-Katrina levels.[6]

However, even as the metro area's economy has grown, earnings have shrunk. Average annual wages have declined in the years since the recession ended as the average number of hours worked per week has fallen.[7] Lower-income workers have felt the decline in average annual wages more acutely. The bottom 80 percent of income earners in the metro area—those earning less than about $60,000 per year—saw their average annual wages decline by 4.7 percent from 2010 to 2013.[8] Meanwhile, those workers in the top 20 percent of earners saw their average annual wages grow by 2.5 percent.[9]

And as local incomes have fallen, poverty has increased. The share of the metro area's residents who are poor grew from 17.4 percent in 2010 to 19.3 percent in 2013—the 15th highest poverty rate among the nation's 100 largest metropolitan areas.[10] The metro area's rising poverty rate only partially captures how the falling incomes of most workers have affected local families. In most places the local cost of living and supporting a family is actually much higher than the poverty level. In 2013, the federal poverty threshold for a family of four was $23,545 per year. However, to make ends meet in metro New Orleans, we estimate a family of four would actually need to earn nearly double that—an annual income of $44,491.[11] Based on these estimates of the local cost of living, twice as many of metro New Orleans' residents live in families that struggle to make ends meet as live in poverty. And this share has been growing.

Over 495,000 people or 41 percent of metro New Orleans' population of 1.2 million people lived in struggling families in 2013. This is a dramatic increase over the number of residents that lived in struggling families prior to the Great Recession. In 2006, 370,000 people or 35 percent of the metro area's total population of 1.1 million people lived in these struggling families.[12] From 2007 to 2009, this number grew as the recession took hold—and as lower-income families continued to return to the region following Hurricane Katrina. As Figure 1 shows, the number of people living in struggling families has barely declined since 2010 when the recession ended.

Figure 1. The share of residents living in families that struggle to make ends meet has grown



Source: Brookings analysis of American Community Survey microdata and the MIT Living Wage Calculator.

As of 2013, about 274,000 or 55 percent of these people who lived in the metro area's struggling families were working-age adults between 18- and 65-years-old. In this analysis, we focus on the attributes of these working-age adults in struggling families because they support a disproportionate share of the metro area's children and face special barriers in finding good jobs.[13] As Table 1 shows, working-age adults in struggling families differ significantly from their higher-income peers by age, gender, education, and race.[14] In fact, 41 percent are between 18- and 35-years-old, compared to 30 percent of higher-income working-age adults. Women represent 57 percent of working-age adults in struggling families, compared to 47 percent among working-age adults in higher-income families. Among working-age adults in struggling families, 87 percent have less than a four-year college degree, compared to 64 percent of higher-income working-age adults. And two-thirds of working-age adults in struggling families are of color, compared to one-third of higher-income working-age adults.

Table 1. Working-age adults in struggling families are more likely to be younger, female, and of color compared to higher-income peers

	Age % 35 or below	Gender % Female	Education % Pre-BA	Race % People of Color	Dependents % with children	Labor force participation rate
Below living wage	41%	57%	87%	65%	39%	59%
Above living wage	30%	47%	64%	37%	36%	84%
Total	34%	51%	73%	47%	37%	75%

Source: Brookings analysis of American Community Survey microdata

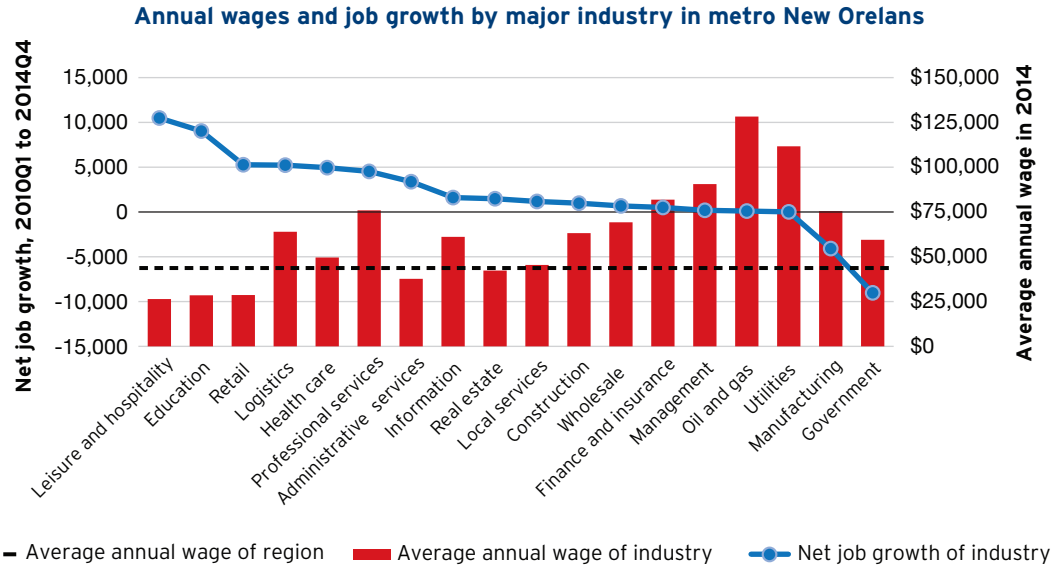
Some believe that the newcomers to the metro area are better off than long-time residents. According to this analysis, working-age adults in struggling families are not more likely to be native Louisianans than those in higher-income families. Roughly two-thirds of both groups were born in the state.

About half of the working-age adults in the metro area's struggling families work at least part time. In metro New Orleans, 27 percent of working-age adults in struggling families work full time and 22 percent work part time. Another 10 percent are looking for work. These rates of employment and labor force participation, which are lower than among higher-income adults, may reflect barriers to finding work. The typical wages of those working-age adults in struggling families who are employed full time year-round may also reflect low incentives to work: These individuals earned an average of just $21,775 in 2013, or about $10.40 an hour.

Many of these working-age adults in struggling families have children to support, making the barriers they face to earning a living wage especially concerning. About 39 percent of working-age adults in struggling families live with at least one child. The average working-age adult in a struggling family supports 1.5 children, compared to 0.9 children among working-age adults in higher-income families that contain children. This means that a substantial portion of the metro area's children bear the brunt of low incomes. In fact, half of all children in metro New Orleans live in struggling families.

The increase in the number and share of the metro area's residents who live in struggling families coincides with the growth of low-paid work in metro New Orleans. In fact, the majority of the metro area's job growth in recent years has been driven by several broad industry groups that pay below-average wages (Figure 2).

Figure 2. Low-paying industries have driven much of metro New Orleans' recent job growth



Source: Brookings analysis of Moody's Analytics estimates.

The metro area added nearly 50,000 new jobs from 2010 to 2014.[15] Seven out of every 10 of these new jobs came from industries that pay an average annual wage less than the metro average.[16] And four out of every 10 new jobs came from hospitality, retail, or administrative services—the metro area's lowest-, third-lowest, and fourth-lowest-paying industry group, respectively.[17] Meanwhile, jobs in higher-paying industries, like oil and gas extraction, utilities, manufacturing, and government, experienced little to no growth or even negative job growth.[18]

Though this pattern of job growth has contributed to the metro area's falling unemployment rate, it has not raised the incomes of workers.[19] Many of the new jobs the metro area has added in lower-paying industries require relatively little education or work experience, which makes them more accessible and therefore more likely to help the metro area's less-skilled job seekers find jobs.[20] However, job growth in low-paid industries has not lifted the wages of most of the metro area's workers nor has it enabled many of them to earn enough to support their families.

* * *

These trends represent a significant challenge for metro New Orleans as it looks toward its future. The metro area's recent economic growth marks a turnaround in its trajectory. However, many residents have not enjoyed the benefits of that growth. For the metro area to sustain its recent pace of growth, it must encourage the creation of good jobs that provide opportunities for individuals to earn enough to support themselves and their families. Expanding access to these good jobs will help ensure that the current and next generations of New Orleanians have the resources they need to thrive.

2. There were 184,000 good jobs in metro New Orleans in 2014, but these good jobs are slow-growing and there may not be enough of them.

Working-age adults living in families that struggle to make ends meet need access to more jobs and better jobs. Given that most working-age adults in struggling families do not have a four-year college degree, they will need jobs that do not typically require one. And given that many working-adults in struggling families have children to support, they will need steady jobs with stable hours that offer regular income. Finally, working-age adults in struggling families need good jobs that pay a living wage.

What do these jobs look like in metro New Orleans? Following the logic above, we use three groups of criteria to identify "good jobs":

1. **Accessibility—**Good jobs are attainable for workers without a four-year degree
2. **Quality—**Good jobs provide stable, full-time employment and benefits
3. **Opportunity—**Good jobs offer pathways to living wages and financial security

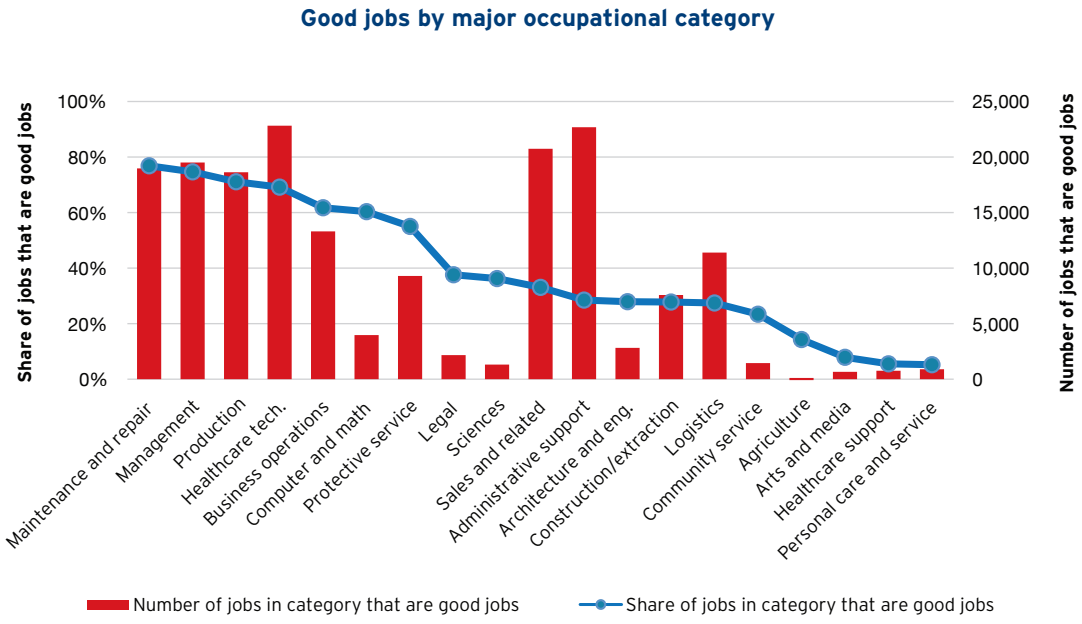
Occupations that meet all of the criteria under these three groups qualify as "good jobs" in metro New Orleans. Assessing these criteria involved a multipart analysis. To begin, we identified good jobs based on the accessibility and quality criteria mentioned above. To assess the potential opportunity provided by an occupation, we examined the expected future earnings of career pathways open to workers who start in a given occupation. Pathways and expected earnings are determined by the frequency of job transitions for an occupation, the number of job openings in other occupations available to incumbent workers, and the pay level of occupations incumbent workers are most likely to transition into. Crucially, a job can be high quality and provide pathways to financial security without being accessible; we do not count these types of jobs in our definition of "good jobs." Appendix A contains a detailed explanation of these criteria and our methodology for these analyses.

Under these criteria, we find that metro New Orleans boasted 184,000 good jobs in 2014. This represents one out of every three wage or salaried jobs. Good jobs are found in a diverse mix of 194 different occupations in the metro area—from machinists and phlebotomists to butchers, police dispatchers, and mail carriers—covering nearly every major occupational field (Figure 3). No single field holds a monopoly on the region's good jobs. Good jobs can be found in large and small occupational groups; those requiring advanced training and those that require no training; and fast-growing and slow-growing groups. Detailed information about which occupations provide good jobs is included in Appendix A.

Maintenance, management, production, and health care are among those occupational fields with the highest number and concentration of good jobs. Collectively, these four major occupational groups provide over 100,000 of the region's jobs, and some 80,000 good jobs. Registered nurses, alone, account for over 10,000 good jobs in the region.

Though good jobs are not as highly concentrated in sales and administration, these fields contain high numbers of good jobs (nearly 50,000 in total) due to their sheer size: They are the largest two major occupation groups in the metro area, providing 50 percent more jobs in total than maintenance, management, production, and health care fields combined. Sales representatives account for over 8,000 of the region's good jobs. Health care support and personal care are among those fields with the fewest and lowest concentrations of good jobs, accounting for some 30,000 total jobs and under 2,000 good jobs.[21]

Figure 3. Metro New Orleans provides good jobs in almost every major occupational field



Source: Brookings analysis of Current Population Statistics microdata and EMSI estimates.

Several highly technical fields contain high concentrations of good jobs, including skilled maintenance and repair professions (including heating, air conditioning, and refrigeration mechanics; industrial machinery mechanics; and farm equipment mechanics); health care (including dietetic technicians, phlebotomists, and medical records and health information technicians); computer and math (including network systems administrators); and production (including welders, machinists, butchers and meat cutters, and printing press operators). At the same time, good jobs can be found in office and sales occupations (including police dispatchers, shipping clerks, and insurance sales agents) that may be more accessible for lesser-skilled job seekers.

Metro New Orleans' good jobs have grown more slowly than "other jobs"—that is, jobs that do not meet at least one of the accessibility, quality, and opportunity criteria—and are more concentrated in fields that tend to be slower-growing. Collectively, the region saw a 2.2 percent increase in its numbers of good jobs from 2010 to 2014, while other jobs grew by 6.1 percent. During this time, there was almost no change in the number of health care technology jobs, and production service jobs declined by nearly 4 percent. By contrast, the fastest-growing fields in metro New Orleans, health care support and personal care (which saw 16 percent and 13 percent growth over this period, respectively), contained the lowest concentrations of good jobs. Among fields with the highest concentration of good jobs, jobs in maintenance and repair grew the fastest, at nearly 5 percent.

Although metro New Orleans provided a fairly numerous 184,000 good jobs in 2014, they are insufficient to absorb the 274,000 working-age adults living in struggling families—who could benefit from the opportunities these good jobs afford. In 2015, good jobs are projected to provide 6,360 openings in metro New Orleans.[22] In the following five years, from 2016 to 2020, the metro area is projected to add another 33,200 openings in good jobs.[23] Though promising, this would not be enough openings to provide opportunities for better jobs to even a meaningful portion of the 161,000 working-age adults who were actively participating in the labor force in 2013 yet still struggled to make ends meet for their families.

Defining a good job: Health practitioner support technologists and technicians

The occupation of health practitioner support technologist and technician is one of the 194 occupations that met all the criteria for accessibility, quality, and opportunity that we consider the hallmarks of good jobs. People in this occupation assist doctors, nurses, pharmacists, ophthalmologists, dieticians, or veterinarians in setting up exam rooms, preparing and administering medication, taking samples, and executing lab tests. About 3,700 people worked in this occupation in metro New Orleans in 2014.[24]

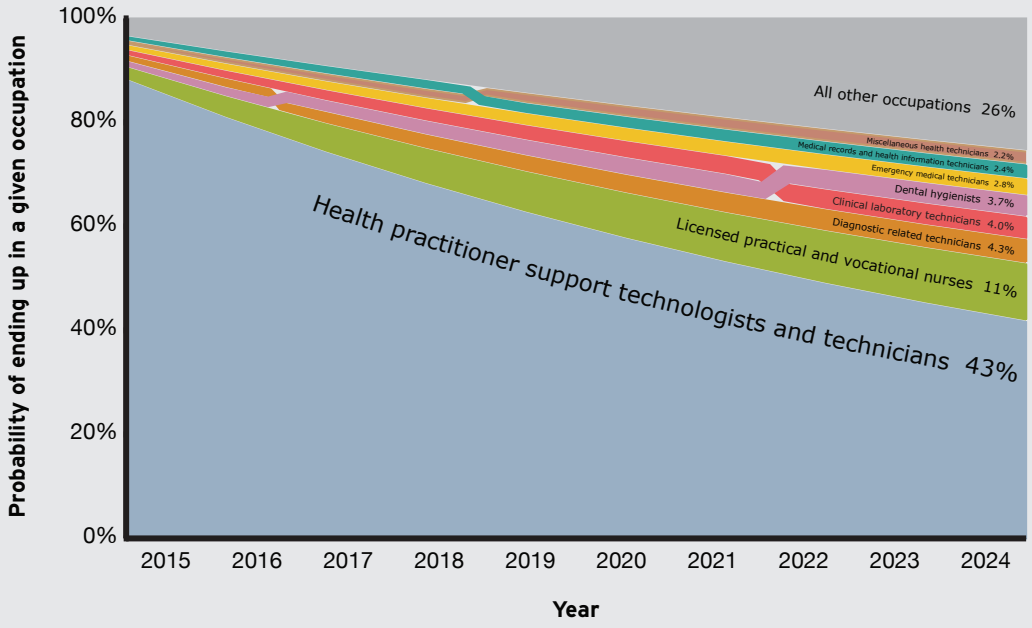
This job is accessible. Jobs in this occupation tend to be filled by individuals without a four-year college degree. Nationwide, 81 percent of people who work as a health practitioner support technologist or technician have less than a four-year college degree.[25] However, 57 percent have some college experience or an associate's degree, suggesting jobs in this occupation require some formal training.[26]

This is a secure, quality job. Most people who work as health practitioner support technologist or technician have steady jobs that provide benefits. About 70 percent work at least 35 hours per week or "full time," and at least 50 weeks per year or "year-round."[27] Of those who work full time year-round, about 83 percent receive employer-provided health care insurance—a proxy for job quality.[28]

This job provides pathways to higher earnings. Health practitioner support technologists or technicians in metro New Orleans earned an average wage of $15.15 per hour or $31,500 per year in 2014.[29] This is not enough to support most families in the metro area. However, our analysis has revealed that, based on job similarities and projected openings, people who start in this occupation have a good chance of moving into higher-paying occupations within 10 years. Figure 4 shows how the typical health practitioner support technologist or technician moves into other occupations over time. Based on the likelihood of such moves, we estimate that a person starting in this occupation in 2014 will earn $39,700 on average by 2024—enough to support a family.[30]

Figure 4. Health practitioner support technologists and technicians are more likely to switch to other occupations within 10 years than remain in their original occupation

Probability of moving from health support technicians to other occupations over time in greater New Orleans



Source: Brookings analysis of Current Population Statistics microdata and EMSI estimates.

3. Nearly half of metro New Orleans' good jobs were in traded industry clusters, yet many of these clusters are losing their competitiveness.

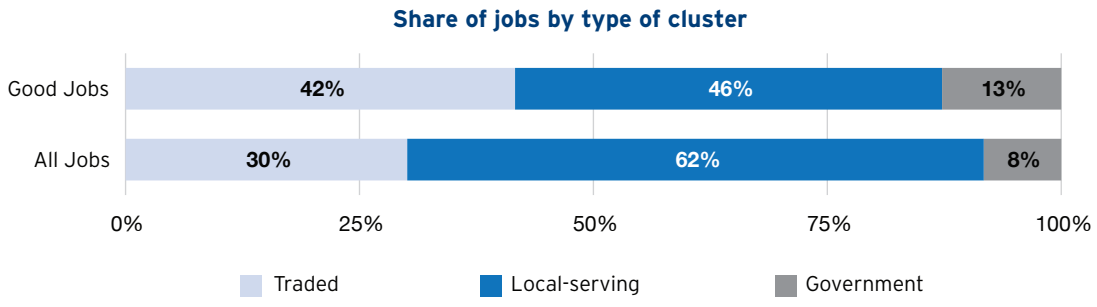
Though it is helpful to understand the fields and occupations in which good jobs span, it is equally important to know in which industry clusters they can be found. Occupations are useful units of analysis in that they say something about the particular duties and skills workers carry out in the course of their work. Education providers and workforce development efforts can use information on good jobs by occupation to tailor job training programs. However, employers must be involved in these efforts, to help design curricula and hire graduates. Furthermore, economic developers can use information about employers who provide good jobs to fashion strategies that bolster the public goods that can help boost firms' competitiveness and ensure they grow and create more good jobs.

In order to identify the types of firms and industries that provide good jobs, we began by looking at the distribution of good jobs among industries. To aid economic and workforce development efforts already in progress in the metro area, we aggregated industries into 68 distinct "industry clusters." "Clusters" is a term used in regional economics to refer to groups of industries that share special relationships with one another (see box, "Defining industries and clusters"). We organized these 68 clusters into 24 groups of clusters that share thematic similarities. A detailed summary of the methodology and a breakout for each detailed cluster is available in Appendix A and C.

In addition to spanning many fields and occupations, we find that good jobs span all parts of metro New Orleans' economy. Every cluster provides some number of good jobs. However, the number and concentration of good jobs varies greatly across the metro area's clusters. Some clusters provide a high number and concentration of good jobs—what we call "opportunity clusters."

The metro area's traded clusters—those clusters that tend to bring income into the region by selling the majority of their goods or services to customers outside of the metro area—provide an outsized share of metro New Orleans' good jobs.[31] Traded clusters stand out as especially promising places to focus economic development efforts. Traded clusters promote the metro area's economic growth. They also promote opportunity: Despite providing less than a third of the metro area's total jobs, traded clusters provide 42 percent of its good jobs and nearly half of all good jobs in the private sector. Several of the metro area's local-serving clusters, which sell products and services to local businesses and consumers, also provide pathways to good jobs, however. As the following findings show, these local-serving clusters may provide good jobs that are more accessible to less-skilled job seekers or those who face other barriers to getting good jobs.

Figure 5. Traded clusters provide a disproportionate share of the region's good jobs



Source: Brookings analysis of Current Population Statistics microdata and EMSI estimates.

Defining industries and clusters

Federal agencies use the North American Industry Classification System (NAICS) to group together firms based on similarities in the types of goods or services they produce. Firms in the same NAICS industry often produce similar products and services, compete in the same markets, or share similar production technologies, making the set of NAICS industries a useful, standardized tool for analyzing economic activity across different parts of the economy.

However, NAICS codes do not provide information on the interrelationship between firms across different industries; in certain situations, reliance on NAICS-defined industries can lead to inappropriately narrow categories that do not take into account the wider web of connections that characterize a regional economy.

The U.S. Cluster Mapping Project at Harvard Business School provides a way to group interdependent industries into "industry clusters." Clusters is a common term used in regional economics to refer to related firms and industries that enhance the value they add to their output by sharing supply chains or special inputs like goods, skilled workers, information, or knowledge.[32]

In metro New Orleans, we identify 68 distinct clusters, per the U.S. Cluster Mapping Project definitions. To these we add government—an important actor in any economy—and water management. The water management cluster, unique to metro New Orleans, comprises portions of other clusters. So unlike all the other clusters, jobs in water management are not mutually exclusive of other clusters.

We aggregate these 68 clusters into 24 groups of thematically related clusters. These contain clusters that share broad similarities in terms of product category and economic function, but are not defined by tight economic linkages to the same degree as firms within individual clusters. Groups of clusters represent a level of aggregation that is broad enough to enable an overview of the metro area's varied economic landscape, while specific enough to serve as a starting point for formulating cluster-based economic and workforce development strategies. For this reason, the following discussion is organized around "groups of clusters." Additional data on the performance and competitiveness of individual clusters are provided in Appendix C (available at http://www.brookings.edu/research/reports/2015/08/12-opportunity-jobs-new-orleans-shearer-liu-holmes-ng).

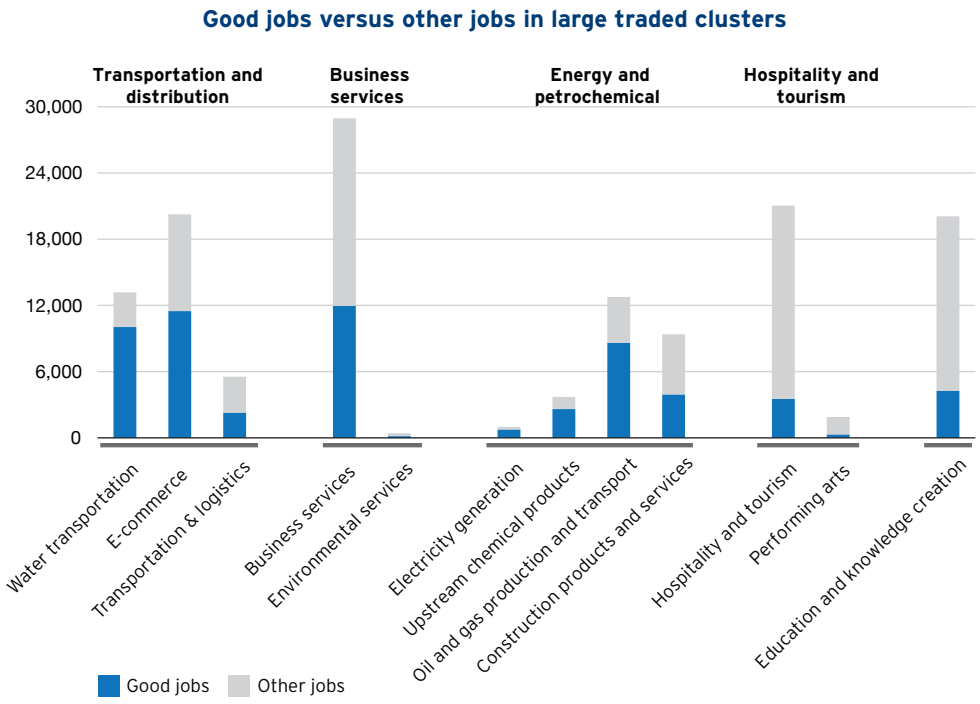
"Good jobs" in traded clusters

Metro New Orleans, like all regions, depends on its traded clusters to expand regional incomes and drive economic growth. These clusters include well-known players in trade, like manufacturing, transportation, or energy and petrochemicals (oil and gas), as well as traded services like business services, finance, or insurance (Figure 6). Clusters like hospitality, which includes hotels and casinos, and education also attract patrons from beyond the metro area—tourists and tuition-paying students—and so are also considered "traded."

In addition to being crucial to metro New Orleans' growth, traded clusters provide an outsized number of the metro area's good jobs. In fact, traded clusters provide 30 percent of all jobs in metro New Orleans but 42 percent of its good jobs. Of the 170,000 jobs in the metro area's traded clusters, 77,000 or 45 percent are good jobs. By comparison, one-third of all jobs in the region are good jobs.

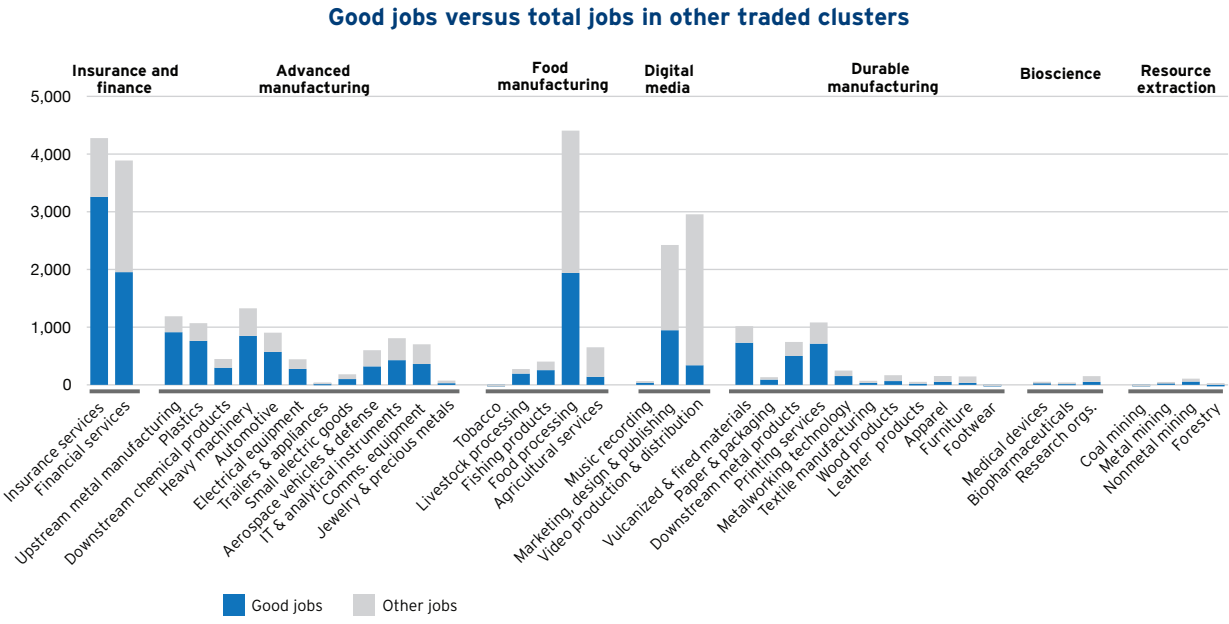
The number and concentration of good jobs varies among groups of traded clusters. At the high end, transportation and distribution provided 23,800 good jobs in 2014. At the low end, biosciences provided 116 good jobs (Figure 7). In advanced manufacturing, 63 percent of jobs are good jobs. By contrast, only two of every 10 jobs in hospitality and tourism are good jobs. Additional detail is found in Appendix B, available at http://www.brookings.edu/research/reports/2015/08/12-opportunity-jobs-new-orleans-shearer-liu-holmes-ng.

Figure 6. Several traded industry clusters provide some of the highest numbers and concentrations of good jobs in metro New Orleans



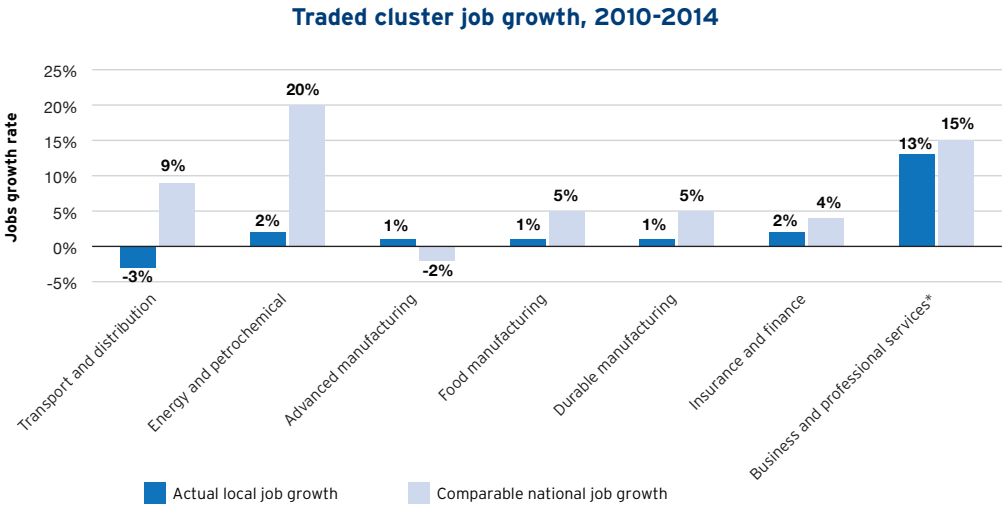
Source: Brookings analysis of EMSI estimates.

Figure 7. Other traded clusters provide smaller numbers of good jobs but at higher concentrations in metro New Orleans



Source: Brookings analysis of EMSI estimates.

Figure 8. Most of the region's traded clusters have grown, but more slowly than national counterparts



**A substantial portion of jobs in the business and professional services cluster is included in the water management cluster. See box on p. 15.*

Source: Brookings analysis of EMSI estimates.

Most of metro New Orleans' traded clusters have added jobs more slowly than national counterparts in recent years. Collectively, traded clusters added jobs at a rate of 3.9 percent from 2010 to 2014. As Figure 8 shows, this was slower than comparable growth rates in traded clusters throughout the United States.[33] This slower growth may reflect competitive deficits in some traded clusters—suggesting that these clusters may not be meeting their potential. Given their role in promoting opportunity throughout the economy, correcting such deficits could lift the incomes of struggling families.

Next we take a closer look at select groups of metro New Orleans' traded clusters, examining the number and concentration of good jobs, their prevalent occupations, and the competitiveness of each. These clusters are called out because of the especially large number or concentrations of good jobs they provide. Each also plays a significant role in the metro area's economy, in terms of the metro's specialization in these activities and the clusters they represent.

Transportation and distribution

Transportation and distribution comprises the distribution and electronic commerce cluster, the water transportation cluster, and the transportation and logistics cluster. Together these clusters represent jobs in interregional water, air, rail, and freight transportation as well as warehousing, wholesaling, and even ship building. These clusters cover activities related to interregional goods movement.

The logistics of goods movement require tremendous manpower in any region, especially in a port region like metro New Orleans. The group of clusters described above that are related to transportation and distribution are together the metro area's largest group of traded clusters measured both by the total number of jobs and by the number of good jobs. This group of clusters provided 39,000 jobs in 2014, 23,800 or 61 percent of which were good jobs.

Together, these clusters provide good jobs across a diverse range of occupations. General operations managers, supervisors of office workers, shipping clerks, truck drivers, maintenance workers, and sales representatives are some of the most common occupations that provide good jobs across all parts of transportation and distribution. In fact, these are the six most common good jobs in distribution. Sailors, ship captains, welders, riggers, loaders, and crane operators are the most common good jobs within water transportation. Aircraft mechanics and dispatchers together comprise 30 percent of good jobs in transportation and logistics.

Metro New Orleans' transportation and distribution clusters have not kept up with national job growth in recent years. From 2010 to 2014, the number of jobs in the local water transportation cluster declined by 14 percent while jobs in the comparable national water transportation cluster grew 9 percent. Locally, the distribution and commerce cluster did not add any new jobs, while nationally it grew by 9 percent. However, in transportation and logistics—the smallest of the three clusters—jobs grew 23 percent, while the comparable national cluster grew by 10 percent.

Energy and petrochemicals

Energy and petrochemicals comprise the oil and gas production and distribution cluster, the construction products and services cluster, the upstream chemical products cluster, and the electric power and generation cluster. These four clusters represent economic activity devoted to building, maintaining, and operating infrastructure for moving fuel and byproducts through metro New Orleans.

After transportation and distribution, metro New Orleans' energy and petrochemicals clusters are collectively the metro area's second largest source of good jobs among traded clusters. Together these clusters provided 27,000 jobs in the metro area in 2014, of which 16,000 or 59 percent were good jobs. Good jobs in energy and petrochemicals clusters span a broad range of occupations, from construction trades to maintenance workers to management and administrative positions. This breadth and diversity of positions and fields reflects the many skills needed to operate the metro area's energy infrastructure and the many opportunities these needs present to workers with a range of skills.

Energy and petrochemicals clusters as a whole are metro New Orleans' least competitive set of large traded clusters of opportunity. Though the local number of jobs in these clusters grew by 2 percent from 2010 to 2014, this did not match the national clusters' job growth, which was 20 percent. This discrepancy could be due to the growth of hydraulic fracturing and associated support activities in other parts of the country.

Advanced manufacturing

The group of advanced manufacturing clusters contains smaller clusters that produce advanced technologies. These are clusters that invest in product and process innovation and are especially high-value added.[34] Such advanced manufacturing clusters include automotive manufacturing, which is anchored by Textron, information technology and communications equipment manufacturing, aerospace, upstream metal manufacturing, and plastics. (A full list is in Appendix C.)

The group of advanced manufacturing clusters provides a sizable number of jobs in metro New Orleans. Collectively, advanced manufacturing clusters provided 7,790 jobs in 2014. Some 4,930 or 63 percent of jobs in these clusters were good jobs—making it one of the metro area's most opportunity-rich clusters. Of the clusters within advanced manufacturing, upstream metal manufacturing, plastics, and heavy machinery manufacturing had among the highest numbers and concentrations of good jobs.

Not surprisingly, the most prominent good jobs in advanced manufacturing clusters tend to be production occupations, especially those that are supervisory or related to operation of computers or equipment. However, maintenance workers, sales workers, operations managers, production managers, shipping clerks, and material movers also represent a significant portion of jobs in this group of clusters.

The group of advanced manufacturing clusters was one of the few in the metro area—traded or not—that grew faster than the comparable national cluster did from 2010 to 2014. This indicates that the metro area's advanced manufacturing clusters are collectively becoming more competitive. The upstream metal manufacturing cluster, plastics cluster, and automotive cluster were among those that grew the fastest, thus providing the biggest boost to advanced manufacturing's performance.

Other manufacturing

In addition to advanced manufacturing clusters, metro New Orleans is home to other types of durable and nondurable manufacturing clusters, like food manufacturing. Combined, the metro area's durable goods manufacturing clusters and its food manufacturing clusters are larger than advanced manufacturing in terms of total jobs and provide almost as many good jobs. Locally, food manufacturing provides 5,700 jobs, of which 2,500 or 44 percent are good jobs. Durable manufacturing provides 3,800 jobs in metro New Orleans, of which 2,400 or 63 percent are good jobs. Unfortunately, each of these two groups of clusters added jobs at a rate of just 1 percent over the four years from 2010 to 2014—five percentage points slower than their national counterparts.

Insurance and financial services

Though the combined insurance and financial services cluster does not comprise the largest number of good jobs in metro New Orleans, it boasts the highest concentration of good jobs of any group of clusters. Of the 8,100 jobs in the combined insurance and financial services cluster, 5,200 or 64 percent were good jobs in 2014. Insurance—which is anchored locally by Pan American Life—represented roughly two-thirds of these good jobs. Financial services represented the remainder. Traded financial services include activities like investment banking, brokerage, wealth management, and commercial credit.

Some of the most prominent good jobs in each cluster tended to be the same types of occupations. Supervisors of administrative workers, operations managers, and operations specialists featured prominently in each cluster. In financial services, loan officers represented 27 percent of good jobs. In insurance, insurance sales agents represented 33 percent of good jobs.

Job growth in the combined insurance and financial services cluster was neutral from 2010 to 2014. The combined cluster's jobs grew by about 2 percent—slightly slower than was the case nationwide.

Other traded clusters

Metro New Orleans' other traded clusters, like digital media, bioscience, and hospitality and tourism, receive considerable local attention but provide fewer good jobs relative to the other clusters identified above.[35]

The digital media cluster, which includes marketing and design services and video and sound recording, grew from 3,790 jobs in 2010 to 5,445 jobs in 2014—an increase of 44 percent. Most of this growth has been driven by low-paying jobs in the video production industry, which constitute roughly half the jobs in the cluster. By contrast, what might be considered high-tech or Internet economy jobs make up less than 5 percent of digital media jobs in metro New Orleans. Of the total jobs in digital media, 1,324 are good jobs—or one in four. Though the digital media cluster provides other benefits to the local economy, it may not be the most productive target for efforts to expand opportunity. Half of all jobs in the bioscience cluster are good jobs, making it a better target. But the cluster is tiny, providing 246 local jobs in total. It is also shrinking. It shed 13 percent of its jobs from 2010 to 2014 while the comparable national cluster grew by 6 percent.

The hospitality and tourism cluster is one of metro New Orleans' largest traded clusters, comprising jobs in hotels, casinos, arts and entertainment, and other leisure-oriented industries. Because of its size, this cluster is able to provide many good jobs. In fact, 3,800 jobs in the hospitality and tourism cluster were good jobs in 2014. But this is a small share—just 17 percent—of all jobs in the cluster. This is the lowest concentration of good jobs among any of the metro area's traded clusters.

Metro New Orleans' water management cluster

The water management cluster is centered on the restoration, protection, and management of water resources and water-related environments. As detailed in a recent report by The Data Center, the infusion of federal, state, and local investment following Hurricane Katrina and the Deepwater Horizon oil spill presents the metro area with a unique opportunity to grow a leading cluster in coastal and urban water management and innovation.[36]

The water management cluster is composed of elements from other traded and local-serving clusters, encompassing a range of activities in areas from pipeline construction and materials manufacturing to facilities management and computer programming. Altogether, this cluster accounts for 31,500 jobs. About 12,000 or 41 percent of these are good jobs. Good jobs in this cluster are spread across several occupational categories, including management, construction, business operations, and production. Specific occupations with the greatest number of good jobs in the cluster include general and operations managers, supervisors of construction and extraction workers, construction managers, business operations specialists, welders, and architectural drafters.

The water management cluster combines pieces of the metro area's economy that are particularly competitive. As a result, water management in metro New Orleans has grown at a faster rate than its comparable national counterparts, adding jobs at a rate of 21 percent compared to a national average of 16 percent between 2010 and 2014. The size of this cluster and its strong performance suggest that it may have the potential to be an enduring source of good jobs. Furthermore, the overlap in occupations and skills between water management jobs and other traded and local-serving clusters creates potential efficiencies for workforce development to scale efforts in these areas.

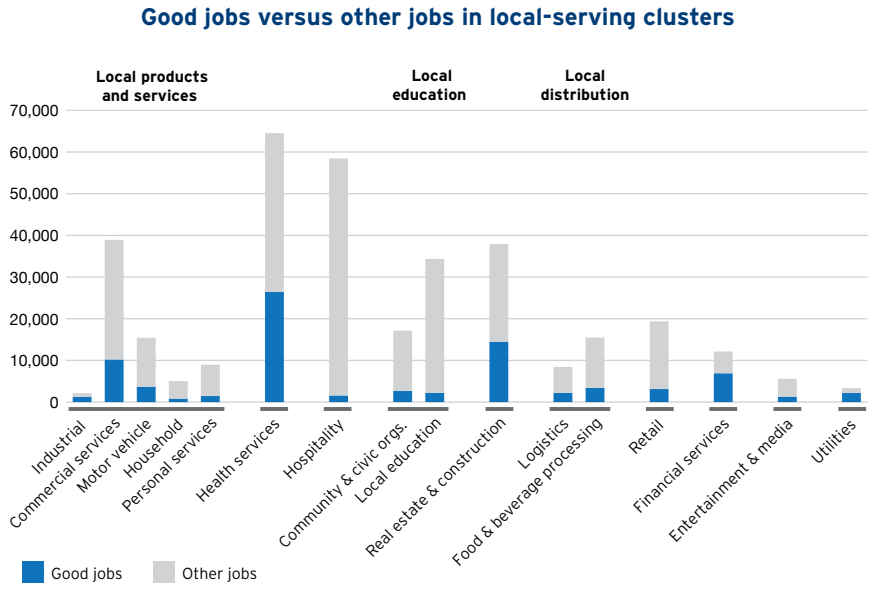
"Good jobs" in local-serving clusters

Though the metro area depends on traded clusters as the fundamental source of most of its growth, it relies on local-serving clusters to provide vital products and services the metro's businesses and households require. Local clusters comprise retail stores, restaurants, hospitals, doctor's offices, bank branches, plumbers and other trades, utilities, private schools, and countless other providers of goods and services that local residents patronize every day.

Combined, local-serving clusters provide most of the jobs in any regional economy, and metro New Orleans is no different. Local-serving clusters provided 347,000 or 62 percent of the metro area's jobs in 2014. However, only a quarter of these jobs are good jobs. This means that, though large in number (83,910 good jobs), local-serving clusters are small in terms of their concentration of good jobs.

Some local-serving clusters do boast concentrations of good jobs that rival or even exceed many of the metro area's traded clusters, however. Utilities, financial services, health care, and real estate and construction each provides more good jobs as a share of all jobs than the metro's average. Notably, health care provides 26,400 good jobs—the largest number of any traded or local-serving cluster.

Figure 9. A small handful of local-serving clusters provide nearly half of metro New Orleans' good jobs, but few local-serving clusters rival the concentrations of good jobs found in traded clusters



Source: Brookings analysis of EMSI estimates.

Health care

Like other metro areas, the health care cluster is a large part of greater New Orleans' economy. The cluster provides 65,000 jobs, of which 26,400 or 41 percent are good jobs. This makes the health care cluster the single largest cluster by number of good jobs, among both traded and local-serving clusters. As in other metro areas, however, the cluster's size is a consequence of local demand, not a driver of growth. Health care practitioners and technicians comprise the bulk of good jobs in this cluster, with registered nurses alone making up 42 percent of the cluster's good jobs. Besides health care technicians, good jobs in the health care cluster are most commonly held by supervisors of administrative support staff, health services managers, and billing clerks. The growing demand for health services and the size of the cluster mean this cluster will continue to provide significant numbers of good jobs in the near future.

Local services

This cluster covers a broad range of establishments providing commercial and personal services, such as carpet cleaning, appliance repair, and veterinary care. While locally oriented, these services are integral to the smooth functioning of the local economy.

The local services cluster is the top employer in the metro area, accounting for more than 70,000 jobs, of which 17,000 or 25 percent are good jobs. The diversity of establishments in this cluster is mirrored by the diversity of its top occupations, with general and operations managers, supervisors of retail salespersons, and paralegals representing the occupations with the highest number of good jobs.

Real estate and construction

The real estate and construction cluster contains 14,500 good jobs, representing 38 percent of total employment in the cluster and the third largest number of good jobs among local-serving clusters. Good jobs in this cluster are predominantly found in the construction and maintenance occupations, with managerial roles comprising another significant share. Electricians, supervisors of construction and extraction workers, and appliance mechanics, among others, provide the greatest number of good jobs in this cluster.

Other local-serving clusters

Metro New Orleans' economy includes several other local-serving clusters. Although these clusters employ a large number of workers, a relatively small percentage of them occupy good jobs. For example, the entertainment, hospitality, and retail clusters provide 83,000 jobs, but only 6,000 or 7 percent of these are good jobs. Local financial services and utilities, where 57 percent and 65 percent of percent of jobs are good jobs, are two exceptions; however, their comparatively small size means that together they contribute only 9,000 good jobs to the metro area.

Government

The government sector contains upwards of 46,000 jobs, of which 23,000 are good jobs. These jobs tend to be accessible and stable. Protective service occupations, such as police and patrol officers and firefighters, are among the top sources of good jobs in this sector. Administrative support, business operations, and management occupations represent a significant portion of good jobs as well, in roles such as postal carriers, records clerks, compliance officers, and general and operations managers.

While comparable public sector employment dropped by 4 percent nationwide between 2010 and 2014, the decline was felt more sharply in metro New Orleans, where jobs in the sector shrank 7 percent over the same time period. Nonetheless, these jobs still account for 8 percent of all jobs in the metro area and nearly 13 percent of all good jobs. As public sector payrolls stabilize, the local community has an opportunity to quickly increase the number of good jobs further still by, among other things, raising the minimum wage for government employees.

* * *

This analysis of metro New Orleans' clusters of opportunity finds that the metro area's traded clusters are especially good sources of good jobs. Nearly one out of every two new jobs in traded clusters is a good job, on average. In contrast, one out of every four new jobs in local-serving clusters is a good job. Efforts to strengthen the competitiveness and boost the growth of key traded clusters are likely to have an outsized impact on the expansion of economic opportunity for local residents. Specifically, groups of clusters related to manufacturing, energy and petrochemicals, and transportation and distribution typically provide especially high numbers and/or concentrations of good jobs. Many of the good jobs in these clusters require less training or experience and so may be better suited to working-age adults who are less-educated.

As the next section shows, growing good jobs is only half the challenge of ensuring that more of the metro area's residents can benefit from economic growth. Workers in struggling families must be connected to good-job openings and be able to be hired for them.

4. Working-age adults of color and women are more likely to be found in struggling families and less likely to hold good jobs in metro New Orleans.

This analysis finds a large number of good jobs in metro New Orleans in opportunity clusters that have the potential to provide better incomes for thousands of workers and families. However, the population currently employed in good jobs does not resemble the population of working-age adults living in struggling households. In particular, working-age adults of color are far more likely to be in struggling families, and far less likely to occupy good jobs.

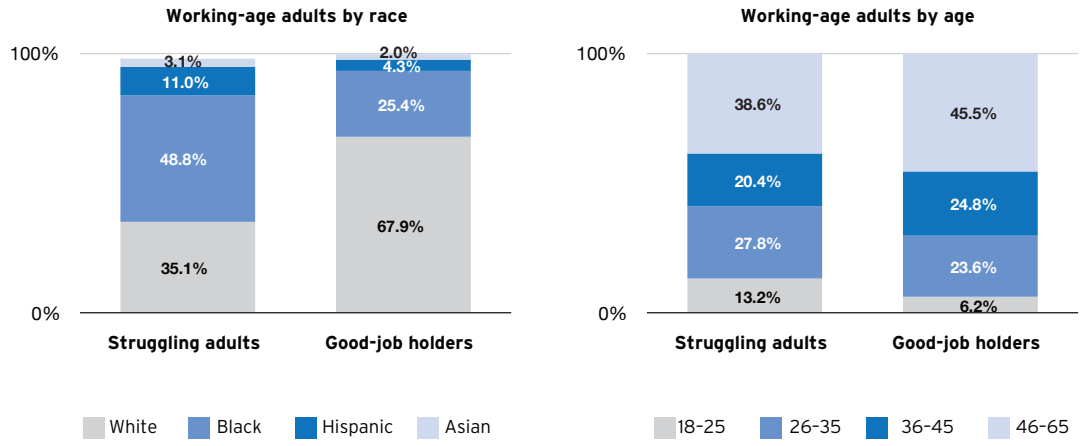
Race and ethnicity

Compared to people who hold good jobs, working-age adults in struggling families are more likely to belong to minority racial and ethnic groups (Figure 10). While blacks make up 35 percent of the metro area's population, they represent half of working-age adults in struggling families. Yet despite being more likely to belong to a struggling family, blacks are underrepresented among holders of good jobs: Just a quarter of good jobs are held by black workers, while 68 percent are held by white workers. The same is true for other racial and ethnic minorities. Hispanics also represent a disproportionate share of working-age adults in struggling families but account for a relatively small share of holders of good jobs. These disparities could reflect differences in educational attainment, but they may also reflect differences in the social networks through which individuals learn about and obtain employment, or disparate hiring practices that put people of color in struggling families at a disadvantage.

Age

Working-age adults in struggling families are younger than those who tend to occupy good jobs. Working-age adults between the ages of 18 and 35 years old make up a quarter of metro New Orleans' total population but 40 percent of the working-age adults in struggling families. Though they are more likely to be in struggling families, these younger working-age adults are less likely to hold one of the metro area's good jobs. Slightly less than 30 percent of the metro's good jobs are held by people age 18 to 35.

Figure 10. Holders of good jobs are older and less racially and ethnically diverse than working-age adults in struggling families



Source: Brookings analysis of 2013 American Community Survey 1-year microdata and EMSI estimates.

This imbalance may reflect two facets of how the labor market for good jobs functions. First, the good jobs identified in this analysis tend to be held by people with at least some postsecondary education or credential as well as by older people. Within metro New Orleans, the median age of workers in good jobs is 43 years old versus 38 years old for all local workers. This suggests that good jobs may be more accessible to people with more prior training or experience than many young people have. Second, young adults who are entering the labor force often choose or are referred to jobs that seem most accessible to them, such as lower-skilled and low-paid jobs in retail or hospitality.

Gender

Women account for 57 percent of all working-age adults in struggling families. This may be due to the fact that women head a disproportionate share of single-parent families.[37] While working-age women in struggling families are less likely to be in the labor force than working-age men (56 percent of women versus 63 percent of men), they still represent a greater share of people from struggling families who are employed. Women account for 54 percent of all *employed* working-age adults in struggling families. While women represent the bulk of working- age adults and employed adults in struggling families, they represent only 38 percent of workers who currently occupy good jobs. This imbalance may imply that good jobs may not offer the kinds of accommodations needed by working parents.

Education

Struggling workers are less educated than the workers currently in good jobs, and good jobs tend to require postsecondary education.[38] Just 40 percent of working-age adults in struggling families have completed any form of postsecondary education. Nearly a quarter have not completed high school. By contrast, 70 percent of the good jobs we identified are held by a worker with more than a high school diploma. These data illustrate the significant difficulties that struggling workers in the metro area face if they hope to be able to move into good jobs. Working-age adults in struggling families who have less than a high school diploma will have an exceedingly hard time getting a good job in metro New Orleans. However, even those who have graduated high school will require some postsecondary education in order to be a competitive job seeker in the market for good jobs.

* * *

What follows are recommendations to help bridge the education gap and other social and economic roadblocks that may prevent workers in struggling families from accessing the metro area's good jobs. If workers in struggling families—and especially minority workers, young workers, and women—are able to get onto good career tracks earlier, the whole metro stands to benefit in the long run.

5. To build shared prosperity, leaders in metro New Orleans can better align existing economic development, workforce, and education efforts to grow good jobs and connect low- and middle-skilled workers to them.

This report finds that metro New Orleans boasts many good, accessible jobs that provide opportunities to earn higher incomes over time. Yet many of those jobs are concentrated in clusters that are struggling to stay competitive. Good jobs are also not filled proportionally by women, people of color, or those with less educational attainment—who make up relatively large segments of the population of working-age adults in struggling families. While more analysis can be done to deepen our understanding of opportunity clusters and the needs of the job seekers who would benefit from them, we hope these initial findings can inform existing efforts to grow good jobs and make them more accessible to more workers in the region. The reward will be stronger industries and more stable household incomes throughout metro New Orleans.

To their credit, leaders and organizations in metro New Orleans have initiated many efforts that can aid in this goal. There is emerging consensus among local and regional economic development entities to prioritize those clusters in which the region has a competitive advantage, such as clusters in energy and petrochemicals, advanced manufacturing, transportation and distribution, digital media, and water management. For each cluster, there are strategies around marketing and business recruitment, retention and expansion, and workforce development.

On workforce and skills development, the region has launched a number of new initiatives. Many of these workforce initiatives involve employers in priority industries. There are also efforts to remove barriers to employment for particular segments of the population to allow more people to participate in workforce training programs. While the number of workforce programs and activities is extensive, the following descriptions highlight some of the core efforts to create a pipeline of workers for the key industries that drive the metro area's prosperity:

- **Connecting disconnected youth:** Mayor Mitch Landrieu has launched several efforts to help young people who are not employed or in school gain the skills and work experience they need to earn a paycheck. These include the city's summer jobs program, the NOLA for Life mentoring initiative, and a new local action plan to execute the city's commitment to the national My Brother's Keeper initiative. Further, the Cowen Institute at Tulane University and the Partnership for Youth Development have launched EMPLOY, an effort to create education and career pathways for young adults who are out of school.
- **Preparing young people through career technical education (CTE**): Local leaders have begun to implement the state's new Jumpstart program. This is a collaboration between K-12 public and charter schools, community colleges (like Delgado and Nunez), and businesses to provide career programs, recognized credentials, and workplace experiences that prepare high school students for success in certain career fields. The program includes "career diplomas" available in area high schools so students can graduate with specialized skills training and certificates, such as in a construction craft, medical technology, or welding.[39]
- **Providing adults, especially black males, with training and career pathways:** The City of New Orleans created the Network for Economic Opportunity to carry out a multidimensional strategy to connect working-age disadvantaged job seekers (primarily focused on, but not limited to, black men) to career pathways in key industries. To do that, the strategy involves outreach partners (such as churches, neighborhood groups, and public libraries) to identify job seekers. It involves a starting list of employers, such as anchor institutions and infrastructure agencies, including the airport authority and water/sewer board. And the network creates new "opportunity centers," which pool intake services across workforce training centers into integrated one-stop centers that better align and standardize job training and placement services. Supporting this is the state's new adult education program, called WorkReadyU, which shifts the emphasis of these programs toward in-demand work skills and career pathways.

In short, metro New Orleans has a full portfolio of initiatives underway to expand economic growth and opportunity, including several that are relatively new or in a pilot phase. But, with too many residents still earning below the living wage or potentially stuck in part-time or dead-end jobs, the pressure is on to learn from these worthy pilots and ramp up efforts at sufficient scale to make a dent on growth and income trends.

The following are recommendations for local leaders to consider as they continue to push the envelope on economic and workforce development strategies in ways that can increase opportunity for more workers and industries in metro New Orleans.

A. Shore up New Orleans' most distinctive opportunity clusters by investing in the fundamental drivers of traded sector growth—innovation, skills, and regional ecosystems.

Traded sectors are not only the primary source of income and productivity in a region but also the source of 42 percent of good jobs for broad segments of the labor force in metro New Orleans. They also indirectly fuel an additional 46 percent of the region's good jobs in local industries. Thus, strong traded sectors are a prerequisite to broad-based prosperity.

In this report, we found the region produces a sizeable number of quality accessible jobs with earnings potential, the bulk of which came from the following opportunity-rich clusters:

- Transportation and distribution
- Energy and petrochemicals
- Business and professional services
- Finance and insurance
- Water management (*includes firms in other sectors listed here)
- Manufacturing (advanced, food, durable)

Yet, the region may not be producing enough good jobs to keep pace with the supply of job seekers earning below the living wage. And some of those good jobs are found in industries that are losing ground to their peers nationally. Of the largest opportunity clusters, all but advanced manufacturing and water management are lagging behind their national counterparts. Weakness in these traded clusters may also explain weakness observed in local-serving opportunity clusters, such as health care and other local services, which are also adding jobs at a slower rate than their national counterparts.

To shore up these traded opportunity clusters, regional leaders must advance cluster-oriented investments and policies that enable firms and institutions in these clusters to collaborate, innovate, and move up the value chain. The foundation of these policies involve ways to help firms and actors in these clusters to convene and creatively problem-solve, develop and commercialize new products, adopt cost-saving technologies, find skilled labor and capable suppliers, and access modern, efficient infrastructure to reach customers domestically and abroad.[40] Each of these objectives reflects the importance of innovation, skills, and the unique ecosystems within regions that give firms in traded clusters the competitive advantages to concentrate and thrive.

While there is an important state debate underway to reform economic development incentives, leaders and metro New Orleans should put emphasis on policies that go beyond rewarding the relocation and attraction of individual firms and instead focus on the unique regional characteristics that support the growth of whole industry clusters. To come up with those policies and strategies, economic development and industry leaders in metro New Orleans must be able to identify the firms and institutions that make up the opportunity clusters, convene the large and small firms in these clusters on a regular basis, and have the industry itself articulate the trends and competitive inputs and capabilities it needs to expand, add jobs, and invest in the region.

Examples of smart cluster programs and strategies include $200 million in seed and commercialization grants provided by Colorado's Advanced Industries Accelerators programs; Massachusetts' Advanced Manufacturing Futures Fund to support initiatives like research and development and workforce competitiveness for advanced manufacturing firms and their collaborators; and the Seattle region's new energy efficiency cluster initiative that blends research and development, innovation, and skills training to accelerate the emergence of new capabilities in smart-building technologies.[41]

Finally, job growth alone is not the only measure of a traded cluster's success. Of equal importance is growth in economic output and productivity—measures more closely tied to the long-term competitiveness and, hence, the durability of jobs. Metro New Orleans needs not only good jobs but good jobs in industries that last, if it hopes to support the sustained wage growth and economic mobility of area workers.

B. Align education institutions, workforce training providers, and economic developers in metro New Orleans behind the same priority opportunity clusters.

Smart traded-cluster strategies are comprehensive in focus, spanning a range of shared inputs that matter to like firms, workers, and suppliers. The good news is that over the past two decades economic development and workforce development organizations have become increasingly cluster-oriented with greater collaboration between the two systems. Yet, their strategies still often operate on separate but parallel tracks. With the new federal Workforce Innovation and Opportunity Act (WIOA) going into effect, mandating a stronger emphasis on sector partnerships, career pathways, training for incumbent workers, and industry-recognized credentials, there are now more opportunities for workforce and economic development to align behind common regional strategies.[42]

In metro New Orleans, that means that leaders should come together to make sure that economic development, workforce development, and education efforts align around the same opportunity clusters. At the same time, these efforts should also prioritize training workers for the largest occupations that represent good jobs—maintenance, management, production, health care, and sales/administration—that cut across many of metro New Orleans' opportunity clusters.

For starters, leaders can take an inventory of existing sector-based efforts, including certificates and training for key occupations, to reveal how well New Orleans' economic development, K-12 and community college programs, initiatives targeting young adults who are disconnected from traditional labor markets, and other training initiatives map onto the needs of firms in opportunity clusters. Such a review would show where efforts could be better coordinated or less redundant, and where gaps still exist to ensure that employers and job seekers are being served in mutually beneficial ways. In many markets, there is a heavy emphasis on certificates, skills training, and job placement in health care, hospitality, and manufacturing. This report revealed good job opportunities in business services, water management, and energy and petrochemicals. In short, leaders can systematically ensure that the opportunity clusters identified in this study truly provide the glue that binds and strengthens workforce and economic development strategies in the region.

One real opportunity to better link and scale education, workforce, and opportunity clusters is with the regional JumpStart program and the state's WorkReadyU.[43] One of this study's more sober findings is that 70 percent of the region's good jobs are filled by workers with some postsecondary education, yet 35 percent of adults in struggling households in metro New Orleans have only a high school diploma and one-quarter have no diploma at all. Given the current nature of good jobs, high school students and mid-career adults will need to acquire vocational skills or postsecondary education to earn middle-class incomes. It is critical that area institutions and employers commit to both of these opportunities.

For example, Jumpstart in particular has the potential to better align education, workforce, and cluster development. The program could scale to include a range of certificates that are relevant to careers in opportunity clusters. Moreover, these could be made available to every high school student in the region, with dual learning opportunities offered by employers in such clusters. Structuring the program in this way can put young adults on the path to high-paying jobs in fields that will last in the region.

C. Engage business leaders and employers in strengthening hiring practices, job structures, and training investments for a better return.

The goal to increase opportunities for low- and middle-skilled workers must be shared by employers. They must view such strategies as advancing their bottom line and take a proactive role in shaping such strategies to mutual benefit.

While workforce development leaders in most regions believe their employer engagement is robust and effective, surveys of human resource executives regularly find that only a minority of firms actively engage in such partnerships or invest in training for front-line and middle-skilled workers. A survey conducted in 2014 of alumni from one of the nation's top business schools found that less than half of the firms where they worked offered internships or other work-based learning opportunities. Participation was even lower for small and mid-sized firms. In short, leaders in New Orleans should make sure that key employers, not just intermediaries, are in the driver's seat in adopting changes in their own employment strategies, developing effective cluster strategies and forging partnerships with skills providers.[44]

Nationally, employer interest is evolving as the challenges of skills gaps and weak pipelines to workers are forcing business associations and firms across the country to rethink traditional approaches to hiring and training, particularly for frontline and middle-skilled workers. The U.S. Chamber of Commerce Foundation and other business organizations—including self-organized employer collaborations—are taking action, establishing new forms of paid apprenticeships and other new approaches to investment and training for the workers upon whose skills these companies rely.

Each of those initiatives arises from a solid foundation of evidence that investing in workers and the training to make them successful provides a solid return on investment and competitive advantage, reducing the often hidden costs of turnover and increasing productivity.

In *The Good Jobs Strategy*, MIT Sloan School of Management Professor Zeynep Ton makes the case that even in low-cost industries, like retail, improving the quality of jobs and wages can pay financial dividends and make firms more competitive.[45] Drawing on more than a decade of research, Ton shows how operational excellence enables companies to maintain competitive prices while also ensuring good jobs for their employees and superior results for their investors.

In this spirit, employers in metro New Orleans can revise their recruiting and hiring practices to more precisely define the skills and qualifications workers need for success on the job. They can eliminate artificial barriers—such as degree requirements unrelated to actual skill needs—to broaden the pool of workers and adopt competency-based hiring, supporting the spread of nationally recognized credentials tailored to their industry. Employers can also ensure that they clearly "signal the market" by more precisely defining job requirements and expectations and developing new approaches to internships and other forms of work-based learning as well as other methods for strengthening the pipeline, thereby serving the interests of both workers and employers.

Firms can also lead regional efforts by organizing cluster-based, employer-driven industry consortia, working with training providers to design curricula, supporting opportunities for work-based learning, and refocusing their training budgets to invest in front-line workers.

D. Upskill the working poor so that they can earn more in better jobs.

According to these findings, nearly half of adults in struggling households have jobs. Their full- or part-time positions result in earnings that are not sufficient to support a household with children or improve the worker's standard of living. And often, these workers fall through the cracks of traditional workforce efforts.

To improve the earnings prospects of the working poor, local leaders can consider two approaches. First, they can develop a robust strategy to engage employers in investing in their frontline workers and support these workers' efforts to move up to middle-skill jobs. In addition, the new federal workforce legislation allows greater flexibility for public funds to be used for incumbent worker training.

In many parts of the country, health care clusters and manufacturers are leading the way in these programs—and delivering a return on investment through reduced turnover and greater productivity. Many major health care systems, for instance, are supporting workers in lower-wage positions, such as patient care assistants or diagnostic technicians, to earn certifications for technical positions and move up in the organization.

Leaders in New Orleans should seek to extend these kinds of best practices in moving frontline workers through career ladders, whether among employers in health care, manufacturing, or hospitality. Examples of innovative, employer-driven initiatives in each of these clusters are working effectively in other regions across the country.

Another way local leaders can help low-income workers pursue better job opportunities is by collaborating with organizations that specialize in programs targeted to the working poor as "outreach partners." Outreach strategies may involve entities that offer tax preparation services or other financial counseling for households eligible for the Earned Income Tax Credit (EITC), who are by definition the working poor and near-poor. Such organizations could pair existing financial counseling and services with career training and employment counseling to open up options for low-income workers interested in better jobs and careers.

In both cases, special attention needs to be paid to structuring adult training programs around existing work commitments.

E. Make the first-time, full-time job a "good job," especially for young adults.

The quality of a worker's first full-time job matters, as it can predict a worker's future earnings. Thus, it should be an important regional objective to help young people who want to enter careers right away to obtain a first job that puts them on a career path to the middle class. In metro New Orleans, more work can be done on this front. Young adults age 18–25 make up 13.2 percent of struggling adults in metro New Orleans but only 6.2 percent of workers in good jobs. In a separate Brookings study on young adult employment, we found that large shares of young people gravitate toward positions in low-wage industries, such as retail and hospitality, but that good-paying industries like manufacturing, transportation/logistics, and information/digital technology also employ significant numbers of younger workers and may offer better opportunities for career and wage advancement.[46] Regional programs that serve young adults and high school students should make employment in good jobs a central tenet.

As JumpStart develops, regional and state leaders should ensure that it incorporates work-based learning opportunities, such as internships, job shadowing, co-ops, and exposure programs to non-traditional careers (such as the Technical Skills Expo hosted by Greater New Orleans, Inc. and Delgado for area high school students). Such opportunities allow students to learn about meaningful careers and develop essential skills for job success that go beyond classroom learning to the practical world of work.

Similarly, the plight of young adults who are not employed and not enrolled in school demands additional attention, with particular focus on identifying onramps to training and careers in opportunity clusters that go beyond summer jobs.

F. Prioritize outreach to women as well as black men.

New Orleans' current emphasis on improving the employment prospects of black males is justified and remains urgent. While this report was unable to examine the combined racial and gender profile of the labor force due to data limitations, it did find that, regardless of gender, blacks represented half of working-age adults in struggling families yet held just one-quarter of the area's good jobs.

However, in terms of gender, this report finds that the majority of adults in struggling households are women (57 percent), including single mothers striving to raise a family. Despite their predominance, these women represent just 37 percent of holders of good jobs. Regional leaders should consider improving women's preparedness and access to good jobs. To that end, regional leaders could expand their outreach efforts in ways that target women, improve workplace conditions that support working parents, and expand the training opportunities beyond health care to a broader range of occupations. Furthermore, economic and workforce development leaders should consider strategies to attract women into predominantly male occupations in construction and manufacturing rather than just traditional "pink-collar" or personal care jobs, especially the lowest-skilled ones in health care.

G. Collaborate regionally, especially in expanding job opportunities in local governments.

National and local analyses, including the essay produced for this series by Marla Nelson, Laura Wolf-Powers, and Jessica Fisch, reinforce that poor persons and low-wage workers increasingly live in the suburbs.[47] Thus, efforts to improve the earnings potential of such workers must be addressed regionally, not simply in the city of New Orleans or not simply by individual higher education institutions that draw participants across the region. To be deliberate in reaching low- and middle-skilled workers across the region requires collaboration and involvement that crosses traditional boundaries and involves employers, economic development entities, training providers, and nonprofits in the surrounding parishes, from Jefferson to St. Tammany to St. Charles.

One potential place to act regionally on opportunity clusters is government jobs. While much of this analysis focused on job opportunities in traded and local-serving clusters, 18 percent of good jobs in the region are found in government. To start, area parishes could agree to take collective action as employers to provide training and good job opportunities for low- and middle-skilled adults. To that end, local governments can adopt some of the policies already implemented by the city of New Orleans, such as a "ban the box" measure (which would eliminate the previous-offense question from initial job forms) and a minimum wage increase for local government positions, thereby expanding the accessibility of such good jobs throughout the region.[48] Area parishes can also commit to creating their own workforce initiatives for positions in the public sector, as Hennepin County did in Minnesota when faced with looming vacancies due to pending retirements. Hennepin, the largest county in the Minneapolis-Saint Paul metro, partners with community colleges and training entities to provide customized training and on-the-job experiences for county government positions that pay a living wage.[49]

In short, the findings in this report give rise to a set of strategy implications that help the region generate more good jobs in durable industries while being deliberate in helping more underserved workers participate in and benefit from the region's future economic growth.

Conclusion

It has often been said that the goal of post-Katrina recovery efforts was to rebuild metro New Orleans as a better version of itself. Of course, New Orleans must not lose the cultural heritage, creativity and music, and coastal assets that make this region by the Bayou so distinct, drawing visitors from around the world and supporting a range of water-based industries. But at the same time, metro New Orleans must emerge as a more robust economy, driven by strong, diverse industry clusters, that produces greater income growth and opportunities for all its citizens amidst an environment that is safer and more resilient.

This report aims to help metro New Orleans achieve that vision. For leaders striving to expand the regional economy and improve the skills and employment prospects of the labor force, this first-of-its-kind analysis uncovers detail about where in the economy one can find or create good-paying jobs, with benefits and earnings potential for workers without a four-year college degree. We hope that these findings on opportunity clusters, including details about good occupations and the characteristics of workers who occupy them, can further unify and strengthen the efforts among economic development, workforce, and education groups and leaders in metro New Orleans.

The new New Orleans is already at the forefront of many reforms that matter to other cities, including in public education and criminal justice. By heeding the findings and recommendations in this report, leaders in metro New Orleans can also blaze another path of national significance—building an advanced economy that works for all.

Appendix A. Data and methods

Findings on clusters of opportunity in metro New Orleans come from three discrete pieces of analysis: (1) an analysis of adults in struggling families; (2) an analysis of job characteristics by occupation; and (3) an analysis of types of jobs in "clusters" of industries. We use two different types of data for our analyses. Family and occupational analyses are primarily based on Census Public-Use Microdata Sample—publicly available anonymized survey-response data for individuals and families from the American Community Survey (ACS) and the Current Population Survey (CPS).[50] Analyses of employment dynamics are based on proprietary data from Economic Modeling Specialists Intl. (EMSI) and Moody's Analytics. A detailed description of the data and methods used for each of the three pieces of analysis follows.

Analysis of "struggling families"

In this analysis, we quantify the number and characteristics of working-age adults in lower-income families in the New Orleans-Metairie, LA metropolitan statistical area. We developed definitions of "struggling families" and "working-age adults," described below. We applied these definitions to ACS public-use microdata from 2006 to 2013 to estimate the number of local working-age adults in struggling families and their demographic characteristics. These adults become the population for whom we aim to find "good jobs" in subsequent analyses.

Definition of "struggling families"

We define struggling families as those where combined family income is less than the local "living wage."[51] MIT defines the living wage, for various geographic areas, as the hourly wage that full-time, year-round workers need to earn to cover local living expenses.[52] We use the living wage levels defined for the New Orleans-Metairie, LA metropolitan statistical area in 2013.

MIT estimates a living wage for families with one or two adults and zero to three children. We extend these estimates to families with any combination of one to four adults and zero to three children in order to cover a wider swath of the population. We extrapolate from itemized costs in each of MIT's expense categories to reflect the addition of a third or fourth adult:

- For families with no children, we add $202 of **food-related expenses** for each of the third and fourth adults. For families with at least one child, we add $134.67 (two-thirds of $202) for each additional adult.
- We assume that in families with children and at least two adults, one adult covers child care. We therefore assume that these families have no **child care** costs.
- For families with no children, we add $144 of **medical expenses** to the monthly budget for each additional adult. For families with at least one child, we add $48 (one-third of $144) for each additional adult.
- We add **housing-related expenses** of $279 for the first additional adult, and another $139.50 (half of $279) for the second additional adult.
- Following MIT, we assume that **transportation expenses** do not increase at the same rate for both children and adults; we therefore add $10 per additional person for transportation costs.
- We add $56 for "**other expenses**" per additional adult in the family.
- We assume a tax rate of 14.75 percent is levied on household income for all family types.

For the remainder of the population living in families with more than four adults or three children, we define the living wage threshold as twice the federal poverty threshold by family size.[53]

Table 2. Living wage levels vary by family type					
Family Type:		Poverty wage[i]	Living wage (MIT)[ii]	Living wage (Brookings)[iii]	Required annual income (Brookings)[iv]
1 Adult	0 Children	$5.52	$10.51	$11.24	$23,379
1 Adult	1 Child	$7.46	$19.72	$20.45	$42,536
1 Adult	2 Children	$9.39	$23.36	$24.09	$50,107
1 Adult	3 Children	$11.32	$28.71	$29.44	$61,235
2 Adults	0 Children	$7.46	$15.82	$16.55	$34,424
2 Adults	1 Child	$9.39	$19.24	$19.98	$41,558
2 Adults	2 Children	$11.32	$20.66	$21.39	$44,491
2 Adults	3 Children	$13.25	$24.21	$24.94	$51,875
3 Adults	0 Children	$9.39	-	$21.80	$45,344
3 Adults	1 Child	$11.32	-	$23.83	$49,566
3 Adults	2 Child	$13.25	-	$24.98	$51,958
3 Adults	3 Child	$15.19	-	$28.51	$59,301
4 Adults	0 Children	$11.32	-	$25.81	$53,685
4 Adults	1 Child	$13.25	-	$26.48	$55,078
4 Adults	2 Child	$15.19	-	$27.61	$57,429
4 Adults	3 Child	$17.12	-	$31.14	$64,771

i Per 2013 federal poverty guidelines (http://aspe.hhs.gov/poverty/13poverty.cfm)
ii 2013 living wage estimates from MIT Living Wage Calculator
iii Reflects MIT living wage plus 73 cents for mortgage savings
Iv Before taxes

Expenses are estimated at the level of the family, and living wage thresholds therefore refer to the amount that family members collectively need to earn in order to cover expenses. For families with more than one adult, we make no distinction between single-earner and multiple-earner households in estimating the living wage; the same living wage threshold applies to both types of families. However, as noted above, for family types with more than one adult and at least one child, we assume that at least one adult covers child care duties, thus obviating the need to incur child care-related expenses and lowering the family's expense burden. In many cases child-rearing adults in these families may not work, meaning that other adults must earn enough to cover all the family's expenses.

We supplement these living wage estimates with the hourly amount required to save enough money over 10 years for a down payment and closing costs to purchase a median-priced home ($174,000 in 2013) in the New Orleans-Metairie, LA metro area. We assume the buyer will make a down payment of 4 percent of the home price and incur 4 percent in closing costs, which reflect the average terms of a Federal Housing Administration-insured mortgage for first-time home buyers. We assume that the buyer will earn a real 1.5 percent annual interest rate, accrued monthly, on his or her accumulated savings over 10 years. Using these assumptions, a full-time, year-round worker would need to earn an additional 73 cents per hour, over and above the living wage, in order to afford a median-priced home after 10 years.

Table 2 shows the poverty wage—the hourly wage that annualizes to income at 100 percent of the federal poverty level—MIT's living wage levels, our living wage estimates, and our estimates of total required annual income to cover living expenses and savings, for each family type.

Definition of working-age adults and target population

We define "working-age adults" as all persons age 26 to 65 years, as well as those 18 to 25 who are not enrolled in school.[54] Individuals in families that collectively earn less than the applicable living wage level are considered lower-income; we refer to these families as "families that struggle to make ends meet," or "struggling families." Our *target* population comprises working-age adults in struggling families.

Analysis of jobs by occupation

After identifying working-age adults in struggling families, our next objective was to identify occupations that (1) are attainable for workers with less than a four-year degree, (2) are stable and provide benefits, and (3) provide pathways to higher incomes and financial security in the future. To do this, we analyzed national and local data on occupations and job openings to identify occupations that offer attainable, stable jobs—what we call "good jobs"—with good pay or earnings potential.

Most of our analysis of occupations is based on either ACS or CPS public-use microdata for the whole nation: Restricting the sample to individuals in metro New Orleans alone did not allow us to draw robust conclusions from the data. The analysis of career pathways, described below, marries data on national labor dynamics to data on local economic trends to predict how the average local worker will move between occupations given local job opportunities.

The data and methodology for each analysis—of accessibility, job quality, and career pathways—are described in detail below. For all analyses, we define occupations by their 2010 Standard Occupational Classification (SOC) System codes.

Education requirements

A goal of this analysis is to identify good jobs available to workers with less than a four-year college degree. To do this, we examined the education requirements of each occupation. Using ACS public-use microdata from 2013, we calculated the national share of workers by occupation where the highest level of education achieved was: (1) less than high school; (2) a high school diploma or equivalent; (3) some college; (4) an associate's degree; or (5) a four-year college degree or higher. Based on natural cut points in the data examined, we define "accessible" occupations as those in which at least one-third of current jobholders have less than a four-year college degree. In 2013, 87 percent of workers were employed in the 379 occupations (out of the 487 observed in the data) that met this criterion.

Job quality

We analyzed job quality along two dimensions: regularity of employment and provision of employer-provided health insurance. Both analyses are based on ACS microdata from 2011 to 2013, where the sample universe comprises individuals in the labor force who are not enrolled in school.

- **Regularity of employment.** To assess employment regularity, we calculated the share of workers in a given occupation who were employed full time, year-round (i.e., at least 35 hours per week and at least 50 weeks per year, including paid leave). Nationally, across all occupations, the average share of workers who were employed full time year-round was 70 percent; we used this as our cutoff in our criteria for "good jobs." About 55 percent of national workers were employed in the 283 occupations that met this criterion.
- **Employer-provided health insurance.** Employer provision of health insurance has long been accepted as a signal of job quality.[55] Although the Affordable Care Act will require many employers to provide health insurance for full-time workers beginning in 2015-2016, no such mandate existed by 2013, the most recent year for which data are available. Thus, employer provision of health care continues to be a valid proxy for other dimensions of job quality. As with the employment regularity analysis, we calculated the national share of full-time year-round workers with employer-sponsored health insurance. Across occupations, the average was approximately 75 percent. We use a slightly lower cutoff of 70 percent in our criteria for "good jobs" based on natural breaks in the data.

Career pathways

This analysis aims to identify starting occupations that provide career pathways—including through other occupations—that could enable a local worker to earn a living wage at a stable job within 10 years. The analysis proceeds in three steps: First, we calculate the number of job openings by occupation in each year. Second, we model the probability of transitioning from one occupation into another, controlling for contemporaneous economic effects, using job openings calculated in the first step. Third, we substitute in projected future local job openings by occupation to predict the likelihood of occupation transitions in the New Orleans-Metairie, LA metro area in future years.

Data sources

The annual March supplement to the CPS reports an individual's current occupation and his or her occupation one year ago;[55] we use annual data from the March supplement for each year, 2011–2014.[56] Openings in a given occupation and year were calculated as the total number of workers in an occupation in the current year, net of those who were in the same occupation and industry in the previous year. These four years of data yield a sample of over 250,000 employed wage-or-salaried workers that approximate the average behavior of over 135,000,000 individuals each year, nationwide.

Occupation transition model

To identify the approximate probability that an individual in any occupation will transition to occupation "X" in the next year, we ran a series of ordinary least squares (OLS) regressions, where the dependent variable is a binary indicator for each of the 487 occupations observed in the pooled CPS dataset, and the independent variables are: predicted openings for that occupation in a given year and Census Division; a binary indicator for each possible occupation in the *previous* year; and year and Census Division fixed effects. We ran this regression 487 times—once for each occupation—substituting in a binary indicator for each observed occupation in turn:

$$occ_{\mathbf{1}} = openings_{1jt} + \left[occ_{1,t-1} + \cdots + occ_{487,t-1}\right] + year_t + region_j$$
$$occ_{\mathbf{2}} = openings_{2jt} + \left[occ_{1,t-1} + \cdots + occ_{487,t-1}\right] + year_t + region_j$$
$$\ldots$$
$$occ_{\mathbf{487}} = openings_{487jt} + \left[occ_{1,t-1} + \cdots + occ_{487,t-1}\right] + year_t + region_j$$

Because the dependent variable is binary, plugging in values for variables on the right-hand side of the equation (i.e., predicted future openings and "switching on" each last-year occupation indicator in turn) can be interpreted as a predicted probability of being in occupation X in the current year, given specified characteristics, including last year's occupation and regional economic conditions.

Transition-probability matrices

Using the above models, we created a series of 487-by-487 matrices with the predicted probability of transitioning from one occupation into any other in each of the next 10 years. We did this by substituting observed job openings from previous years with projected job openings by occupation from EMSI, for the New Orleans-Metairie, LA metro area, for each year between 2014 and 2024.

Next, we calculated the *cumulative* probability of occupation transitions after any number of years by multiplying each single-year matrix by the next. Multiplying the matrix for year one by the matrix for year two yields a third matrix, containing the cumulative probability of occupation transitions from year zero to year two; multiplying the matrix for year one by the cumulative-probability matrix for year two by the matrix for year three yields another matrix with the cumulative probability of occupation transitions from year zero to year three, and so on. We did this for all years, through the 10th, to find the probability of occupying any occupation after 10 years, given one's starting occupation.

Probability-weighted pay

Next, we multiplied the cumulative transition probability matrix for each year by a vector containing local average pay by occupation (also from EMSI) to determine expected pay by occupation in a given year, conditional on the probability of all occupation transitions from year zero until the present year. We did this for each year, 2015-2024, and then calculated the average annual rate of earnings growth over 10 years. We also summed the annual probability-weighted pay vectors to obtain a measure of expected cumulative pay over 10 years, by starting occupation, conditional on occupation transitions. These three measures—predicted annual pay, predicted pay growth, and predicted cumulative pay—factor into analysis of "good jobs," described below.

Criteria for "good jobs"

Using the findings from the above analyses, we characterize an occupation as "good" if it:

- Is accessible to workers with less than a four-year college degree (i.e., more than two-thirds of current jobholders do not hold a four-year degree);
- Is full time, year-round for at least 70 percent of current job holders;
- Offers health insurance to at least 70 percent of its full-time, year-round workers;
- Pays more than the living wage on average OR will, within 10 years, provide pathways to jobs in other occupations that pay above the living wage on average
- Enables the worker to save enough money for the down payment on a home of the median local home value within 10 years, using the assumptions described in the section above.

Based on the above criteria, we identified 194 good occupations, which collectively make up 179,080 or 34 percent of jobs in the New Orleans-Metairie, LA metro area.

Analysis of clusters of industries

After identifying good jobs by occupation, we assigned occupations that provide good jobs to clusters using North American Classification Codes and data from the U.S. Clusters Mapping Project. We analyzed the characteristics of these clusters and the characteristics of the people who occupy good jobs in these clusters to assess which "clusters" of industries provide a high number or share of good jobs.

Assigning occupations to industries and clusters

Using data from EMSI, we identified the distribution of jobs by occupations in each six-digit NAICS industry in the New Orleans-Metairie, LA metro area, and aggregated industries to clusters based on U.S. Clusters Project standard cluster definitions.[57] Next, we calculated the share of total jobs in each industry and cluster that were "good jobs," per the earlier analysis.

Demographic analysis of current jobholders

We used EMSI data to identify the gender, age, and racial distribution of workers currently in "good" occupations. For each of 487 observed occupations we first took the number of jobs belonging to each gender, age cohort, and racial group. We summed the number of jobs across all good occupations for each respective demographic group to yield the share of good jobs held by each group. The data on jobs by age came from EMSI in predetermined age cohorts; in order to calculate the median age of workers, we applied a standard linear interpolation technique to the share of jobs in each age cohort.

Endnotes

1. "Louisiana's Comprehensive Master Plan for a Sustainable Coast," 2012, available at http://coastal.la.gov/a-common-vision/2012-coastal-master-plan/ (accessed May 2015); Congressional Research Service, "Gulf Coast Restoration: RESTORE Act and Related Efforts," January 2014, available at http://www.fl-counties.com/docs/default-source/restore/gulf-coast-restoration-restore-act-and-related-efforts.pdf?sfvrsn=0 (accessed May 2015). Additionally, metro New Orleans is slated to receive a substantial portion of the $5 billion dollars awarded to Louisiana as part of the settlement with British Petroleum in relation to the 2010 Deepwater Horizon Oil Spill. This money will be spent to repair oil-damaged resources. For more information, see http://eli-ocean.org/gulf/agreement/ (accessed July 2015).

2. Allison Plyer, Nihal Shrinath, and Vicki Mack, "The New Orleans Index at Ten: Measuring Greater New Orleans' Progress Toward Prosperity" (New Orleans: The Data Center, 2015).

3. See http://2018nola.com/.

4. The New Orleans-Metairie, LA metropolitan statistical area is defined by the U.S. Office of Management Budget using local commuting patterns. It consists of the following parishes: Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. John the Baptist, St. Tammany, and St. James.

5. Brookings analysis of Moody's Analytics estimates, measured as the compound annual growth rate from the region's post-recession trough of 2010Q1 to 2014Q4 levels. Comparison is based on five-year compound annual growth rate for any combination of 20 quarters 1995–2014.

6. Brookings analysis of Moody's Analytics estimates.

7. Brookings analysis of Moody's Analytics estimates, Bureau of Labor Statistics data, and Bureau of Economic Analysis data. Average hourly earnings grew an average 1.1 percent per year in real terms from the first quarter of 2010 to the first quarter of 2015. However, the average number of hours worked per week declined from 38.6 to 35.3 hours during the same period. This contributed to a small decline in average annual earnings. Brookings estimates that the metro's average annual wages fell from $51,801 in 2010Q1 to $51,620 in 2014Q4, reported in 2014 dollars—an average annual decline of 0.1 percent in real terms.

8. Brookings analysis of American Community Survey microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center.

9. Ibid.

10. Brookings analysis of 2013 1-year American Community Survey data.

11. We base our estimates of the local living wage on the MIT Living Wage Calculator with certain modifications as described in Appendix A.

12. Brookings analysis of American Community Survey microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center. We count the number of individuals living in struggling families based on earned income. Many of these families receive other sources of income such as government assistance. However, here we aim to find the number of people living in families that are not self-sufficient. See Appendix A for more details.

13. In fact, children and working-age adults represent 87 percent of all people in the region's struggling families. People aged over 65 years represent the remainder. We do not focus on these older individuals that live in struggling families because 93 percent of them do not participate in the labor force and most appear to receive retirement income.

14. All figures on the demographic characteristics of the region's populations in struggling families come from a Brookings analysis of American Community Survey microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center.

15. Brookings analysis of Moody's Analytics estimates.

16. Ibid.

17. Ibid. Average annual wages in education are similarly low in a few other large metros, such as Louisville, Ky.; Akron, Ohio; Syracuse and Buffalo, N.Y.; and Las Vegas. On the high end, Boston pays $74,000 per year per job; San Jose, Calif. $71,000; and Philadelphia $54,000, likely due to the sub-activities that compose each region's particular education industry, e.g., private higher education institutions versus private primary schools.

18. Only manufacturing and government saw job losses. Some government job losses may be due to the private takeover of public hospitals in the region and/or to school reform. In this case, government job losses could appear as job gains in other industries like health care, education, or administrative services.

19. Brookings analysis of Bureau of Labor Statistics data.

20. Brookings analysis of Economic Modeling Specialists Intl. estimates and American Community Survey microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center.

21. Health care tech.—shorthand for technologists and technicians—includes doctors, nurses, and many types of professionally trained health care workers. Health care support occupations tend to require less training and include health care aides and assistants, phlebotomists, pharmacy workers, and transcriptionists.

22. Projections come from Economic Modeling Specialists Intl.

23. Ibid.

24. Economic Modeling Specialists Intl. estimates.

25. Brookings analysis of American Community Survey microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center at the University of Minnesota.

26. Ibid

27. Ibid.

28. Ibid.

29. Brookings analysis of Economic Modeling Specialists Intl. estimates.

30. Brookings analysis of American Community Survey microdata and Current Population Statistics microdata from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center at the University of Minnesota and Economic Modeling Specialists Intl. estimates.

31. The U.S. Cluster Mapping Project first identifies industry clusters by considering a swath of economic data on individual industries, including inter-industry input-output flows, occupational specializations, and spatial co-location patterns of jobs and establishments. Industries with economic linkages and interdependent attributes are then grouped together with the use of clustering algorithms. To identify clusters that are traded, the U.S. Cluster Mapping Project selects clusters that have both high employment specialization and spatial concentration across markets. Finally, the results are adjusted for consistency and verified by expert opinion. See http://www.clustermapping.us/content/cluster-mapping-methodology.

32. The concept of industry clusters was first introduced by Dr. Michael Porter. See Michael Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990).

33. To provide metro New Orleans with the appropriate performance benchmark, we compare the growth experienced by the metro's clusters with the growth that would have occurred if all components of the region's clusters had grown as fast as their national counterparts. Any given cluster is made up of the same set of industries in metro New Orleans as in the United States, but each industry's relative share of that cluster will differ by region. Thus, growth rates for a given cluster in metro New Orleans will differ from those for the same cluster nationwide in part due to their different industry compositions. So, in effect, we compare the metro's actual growth rate only with the growth rate expected based on national trends. In this report, we refer to this as the "comparable" national growth rate.

34. Specifically, these are clusters where at least half of all jobs come from industries that spend at least $450 per worker per year on research and development and at least one of every five workers are employed in STEM occupations. This definition of "advanced industries" comes from Mark Muro et al., "America's Advanced Industries: What They Are, Where They Are, and Why They Matter" (Washington: Brookings Institution, 2015).

35. See for example, http://gnoinc.org/initiatives/business-development/ and http://nolaba.org/new-orleans-industry-clusters.aspx.

36. Nihal Shrinath and Allison Plyer, "The Coastal Index: Tracking Development of the Water Management Cluster in Southeast Louisiana," The Data Center, available at http://www.datacenterresearch.org/reports_analysis/the-coastal-index-2015/.

37. This discrepancy is attributable in part to the greater share of single-parent households that are headed by women than men. According to our analysis, women account for 84 percent of all single parents in struggling families in metro New Orleans. Single parents must earn more than both their childless peers and workers in two-parent households in order to make ends meet. Thus, single mothers in New Orleans face a steep uphill battle, particularly given their relatively low likelihood of holding one of the region's good jobs.

38. We treat the educational attainment of current jobholders as a convenient—but imperfect—proxy for job education requirements. On-the-job work experience could be a substitute for higher levels of education; or, more-educated workers could choose to take jobs that require less education in the absence of better job opportunities.

39. Danielle Dreilinger, "8 Things to Know About Jump Start and Louisiana's Career Diploma," Times-Picayune, available at http://www.nola.com/education/index.ssf/2014/09/8_things_you_need_to_know_abou.html (accessed June 2015).

40. Mark Muro and Kenan Fikri, "Job Creation on a Budget: How Regional Industry Clusters Can Add Jobs, Bolster Entrepreneurship, and Spark Innovation" (Washington: Brookings Institution, 2015); Mark Muro et al., "America's Advanced Industries."

41. See http://www.advancecolorado.com/funding-incentives/financing/advanced-industries-accelerator-programs; https://malegislature.gov/Document/Bill/187/House/H4107.pdf; Rachel Barker and Amy Liu, "Smart Buildings the Next Step for Seattle"(Washington: Brookings Institution, 2015), available at http://www.brookings.edu/blogs/the-avenue/posts/2014/07/28-smart-buildings-seattle-barker-liu.

42. Rachel Gragg, "NSC's Initial Analysis of WIOA," National Skills Coalition, available at http://www.nationalskillscoalition.org/news/blog/nscs-initial-analysis-of-wioa (accessed June 2015.

43. See http://www.louisianabelieves.com/courses/jump-start-career-education.

44. Maureen Conway and Robert P. Giloth, editors, *Connecting People to Work: Workforce Intermediaries and Sector Strategies* (Aspen, Colo.: Aspen Institute, 2014).

45. Zeynep Ton, *The Good Jobs Strategy: How the Smartest Companies Invest in Employees to Lower Costs and Boost Profits* (New York: Houghton Mifflin Harcourt, 2014).

46. Martha Ross et al., "Unemployment Among Young Adults: Exploring Employer-Led Solutions" (Washington: Brookings Institution, 2015).

47. Marla Nelson, Laura Wolf-Powers, and Jessica Fisch, "Persistent Low Wages in New Orleans' Economic Resurgence: Policies for Improving Earnings for the Working Poor" (New Orleans: The Data Center, 2015). See also Elizabeth Kneebone and Natalie Holmes, "The Growing Distance Between People and Jobs in Metropolitan America" (Washington: Brookings Institution, 2015).

48. New Orleans City Civil Service Commission approved a "ban-the-box" measure in December 2013. (See article at http://www.nola.gov/mayor/press-releases/2013/20131216-ban-the-box/, accessed June 2015.) New Orleans is one of more than 70 cities, counties, and states that have adopted such measures to make criminal background checks less of a determinant in hiring. (See http://www.nelp.org/content/uploads/2015/03/Seizing-Ban-the-Box-Momentum-Advance-New-Generation-Fair-Chance-Hiring-Reforms.pdf, accessed June 2015.)

49. Jennifer Bradley, "The Changing Face of the Heartland" (Washington: Brookings Institution, 2015), available at http://www.brookings.edu/research/essays/2015/changingfaceoftheheartland#.

50. These data were obtained from the Integrated Public-Use Microdata Series provided by the Minnesota Population Center at the University of Minnesota, available at https://www.ipums.org/ (accessed April 2015).

51. In all instances we count only families that reside within the same household. Extended families with members living in separate households are counted as separate families. Separate families living in the same household are also counted as separate families.

52. Amy K. Glasmeier and the Massachusetts Institute of Technology, "Living Wage Calculator," available at http://livingwage.mit.edu/ (accessed April 2015).

53. We use the federal poverty thresholds that are part of the ACS microdata; these thresholds are updated each year by the Census Bureau.

54. Individuals between the ages of 18 and 25 who attend school full time are not part of our definition of the adult population. If these individuals live in families with at least one other adult, we classify them as children for purposes of comparing family earnings against the living wage. We exclude from our analysis altogether individuals between the ages of 18 and 25 who attend school full time and at the same time do not live with an adult. These individuals represent less than 1.5 percent of the New Orleans metropolitan area's population, and mainly comprise students living in group housing.

55. See, for example, Arne Kalleberg, Barbara Reskin, and Ken Hudson, "Bad Jobs in America: Standard and Nonstandard Employment Relations and Job Quality in the United States," *American Sociological Review* 65, no. 2 (2000): 256–78.

56. Because all occupations in the CPS are coded using OCC codes, we converted OCC codes to 2010 SOC codes for compatibility with the other analyses.

57. Michael E. Porter and Harvard University, "U.S. Cluster Mapping Project," available at http://www.clustermapping.us/ (accessed April 2015).

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