



Center on Urban and Metropolitan Policy

Worker Advancement in the Low-Wage Labor Market: The Importance of ‘Good Jobs’

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“Wages depend not only on the characteristics of workers themselves, but also on the characteristics of the firms for which they work.”

Findings

An analysis of data on low-wage workers and their employers from 1996 to 2001 reveals that:

■ **Smaller firms, and those in the retail trade and service industries, pay lower wages than other employers when worker characteristics are held constant.** Worker turnover is also closely associated with wages: three-fourths of low-wage firms experience at least 100 percent turnover on an annual basis, compared to about one-third of high-wage firms.

■ **Almost half of workers who had persistently low earnings from 1996–98 earned somewhat higher incomes in 1999–2001.** Low earners who changed jobs during that time were considerably more likely to achieve higher earnings in the latter period than those who stayed at the same job.

■ **Most low-wage workers who increased their earnings over time did so by gaining employment at a**

higher-wage firm. Low earners who began working at “temp” agencies were more likely to gain subsequent employment at high-wage firms than were other low earners.

■ **Medium- and high-wage firms are more heavily concentrated in urban counties than in suburban or rural ones.** At the same time, certain better-paying industries that employ large numbers of less-educated workers, such as construction and manufacturing, are located outside urban counties more often than are other industries.

Giving for-profit and non-profit agencies a greater role in matching low earners to “good jobs” could raise earnings prospects for less-skilled workers, thereby enhancing their economic security over time.

I. Introduction

Improving the earnings of low-wage workers remains a significant social policy challenge. Despite early concerns about the effect of a surge of workers into the labor market in the late 1990s,

current and former welfare recipients have gained employment and retained jobs at impressive rates. But the ability of these workers to advance out of entry-level, low-wage employment has been quite limited. Average hourly earnings of welfare recipients remain in the range of \$7 to \$8 per hour,



even after years in the labor market. In fact, recent research finds that low-wage workers generally experience little earnings advancement as they gain work experience.²

How might policy-makers improve the earnings of low-wage workers over time, and help them achieve a greater degree of self-sufficiency? One traditional method of improving earnings has been to educate and train workers. In many ways, this strategy seems sensible in a labor market where the level of skills needed for success has continuously grown. But a large-scale investment in education and training is unlikely to occur at this time, and research has generally found that remedial education and training have fairly modest effects on the earnings of low-wage workers.³

This paper focuses on another method of improving earnings—namely, improving the extent to which less-skilled workers are matched to “good” jobs. This approach has its roots in both theory and practice. Among economists, it is well known that workers of any given skill level earn a wide range of wages, and that these wages depend not only on the characteristics of the workers themselves, but also on the characteristics of the firms for which they work.⁴ It is also well-established that the access of some groups of workers to these better firms and jobs, especially among minorities, is limited—because of weaker work credentials and employer networks, discrimination, geographic factors, and the like.⁵ As a practical matter, local workforce boards and “one-stop” offices often invest considerable resources in job placement programs. Any information that helps improve the quality of the jobs at which they place low earners would raise the return on that investment.

Within the policy world, at least a few prominent efforts have attempted to match low-wage workers to better jobs. For instance, in a national evaluation of welfare-to-work strategies at

sites across the country, low-wage workers in Portland, OR, had considerably higher levels of earnings than at any other site. At least part of the reason for their success appears to be an explicit policy in Portland of urging welfare recipients not to accept the first low-wage job that they found, coupled with efforts to help place those clients into better jobs.⁶ Elsewhere, the efforts of labor market “intermediaries” and/or local economic development have been touted as ways of improving both the kinds of jobs that less-skilled workers obtain and their performance on those jobs.⁷

A placement-oriented approach to worker advancement implies a number of questions for researchers and policymakers, including:

- **Definitions:** Exactly what is a “good job” for low-wage workers? How should we define low-wage workers?
- **Measurement:** What commonly observed characteristics of firms might indicate which are the best matches for these workers? How do we measure success in workers transitioning out of low earnings? How much does the quality of the firm matter in accounting for workers in the low-wage labor market?
- **Access to Good Jobs and Routes to Success:** How important is access to particular types of firms for low-wage workers? What are their most successful routes out of low earnings—gaining experience *within* low-wage firms or moving *across* firms in search of better jobs? Can labor market intermediaries such as “temp agencies” help match low earners to better jobs over time? What is the role of location in determining access to good jobs?
- **Policy Implications:** Should states and localities implement policies to raise the tendency of low earners in their areas to get good jobs—either

by attracting more such jobs to their jurisdictions or by improving low earners’ access to good jobs that are already there?

After describing our data sources and research methodology, we examine each of these questions in turn.

II. Methodology

Our analysis uses a new source of data that is currently being compiled at the U.S. Census Bureau through the Longitudinal Employer Household Dynamics (LEHD) program. These data are based primarily on state-level Unemployment Insurance (UI) quarterly earnings records and ES-202 data which capture information on employer size and industry. This information is also merged with other administrative and survey records on workers and employers. These data constitute longitudinal information on almost all employees in a state and all of their employers over long periods of time. As such, the LEHD data enable us to study the interactions between workers and firms that generate success for low-wage workers over time.

Below we use LEHD data for five states—Florida, Illinois, Maryland, Minnesota and Texas—over the period from 1996 to 2001. The data include all workers who are covered by the Unemployment Insurance system in each state. Those excluded are primarily agricultural workers (in some states), the self-employed, private household workers earning less than \$1000 per quarter, and employees of religious organizations. Those who leave the sample within the given time period—perhaps because they have moved to other states—are also excluded from our analysis.

Our first definitional question—what constitutes a “good job” for low earners—involves disentangling two

effects. Firm characteristics such as industry, size, and worker turnover influence the wages those firms pay. At the same time, worker characteristics like education and experience determine the wages they command. To assess the firm effects, LEHD staff have calculated a wage premium for each firm in our data.⁸ This premium is based on a statistical analysis that controls for the characteristics of each worker at a firm, and then generates a measure of the wage “markup” at that firm relative to others over time.⁹ In effect, the premium represents the average wage level at each firm, controlling for the quality of the people who are hired there.

Does getting a job at a high-wage employer influence outcomes for low earners? To answer this question, we must define and measure two additional concepts: “low-wage workers” and “success” in transitioning out of low-wage work.¹⁰ In defining low-wage workers, we would ideally like to focus on the “working poor;” that is, low-wage workers in low-income families who face serious obstacles to improving their livelihoods. Unfortunately, data limitations restrict our ability to clearly identify such workers and their families.¹¹

Accordingly, we have used our data to identify *persistently* low earners as those prime-age workers who are consistently attached to the labor market but whose annual earnings never exceed \$12,000 over a 3-year period.¹² By this definition, we avoid many of those workers who have low earnings due to their position in the life-cycle (i.e., students or the elderly) and those whose low earnings are quite transitory (such as workers who have recently been displaced from a good job). We still might capture others, like middle-income homemakers, who consistently choose part-time work. However, much of our analysis disaggregates our sample by gender as well as race, which better enables us to separate out homemakers from others whose low earnings are likely to be less voluntary.

In order to measure whether individuals succeed in transitioning out of low-wage status, we identify low earners over a recent three-year period (1996 to 1998), and then estimate how many have made “partial” or “complete” transitions out of low earnings during the subsequent three-year period (1999 to 2001). We define “partial escapers” as individuals who made over \$12,000 in at least some

years of the subsequent period, but who did not consistently earn over \$15,000 annually. In contrast, we define “complete escapers” are those workers who consistently earned more than \$15,000 annually in the subsequent period.

III. Findings

A. Smaller firms, and those in the retail trade and service industries, pay lower wages than other employers when worker characteristics are held constant.

As noted above, not only do the education and skill levels of workers determine the wages they earn, but also the characteristics of the firms where they are employed influence their earnings. In Tables 1 and 2 we present data on the characteristics of firms in the top and bottom quartiles, and in the middle two quartiles, of the wage premium distribution. Thus, these tables reflect the types of firms that pay low, medium, and high wages *independent of the characteristics of their workers*. The first of these tables considers the industries in which each type of firm is found; the second looks at firm size and turnover rates.

Table 1. Distribution of firms by wage premium and industry, 1996–1998

Industry	Percentage of firms			
	Low-wage	Medium-wage	High-wage	All
Construction	2.54	5.38	7.35	5.05
Manufacturing	3.42	12.59	26.10	13.22
Transportation and utilities	5.55	4.80	10.42	6.36
Wholesale trade	2.47	6.13	8.87	5.75
Retail trade	38.15	15.12	3.78	18.92
Finance, insurance and real estate	2.39	6.24	11.08	6.31
Services	38.62	42.12	25.20	37.09
Other industries	6.86	7.62	7.20	7.30
All industries	100.00	100.00	100.00	100.00

Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics program.

Note: Low-wage firms are firms with an estimated firm-wage premium in the bottom quartile. High-wage firms are firms with an estimated firm-wage premium in the top quartile. Medium-wage firms are those firms that do not satisfy either of the two conditions.

The results show that there are marked differences in the proportions of high-wage and low-wage firms by industry, firm size, and turnover rates. For instance, Table 1 shows that some industries—including construction, manufacturing, transportation/utilities, and wholesale trade—have relatively high proportions of high-wage firms, while others—including retail trade—have higher proportions of low-wage firms. Within these broad industry aggregates, however, there is a good deal of variation in wages. Thus, some manufacturing industries (such as textiles and garments) pay quite low wages. Within retail trade, eating and drinking establishments pay quite poorly while supermarkets and department stores pay somewhat better. Within the service sector, health care and parts of business services pay fairly high wages, as does the separate finance/insurance/real estate sector.

A firm's wage premium is also systematically related to its other characteristics. Table 2 clearly shows that high-wage firms tend to be larger in size and to have much lower rates of worker turnover, even after controlling for worker characteristics. This suggests that the tendency of high-wage firms to pay more might reflect their better resources and/or higher-quality personnel policies, which are also reflected in lower turnover rates.¹³

The above results help to answer one of the important measurement questions we raised in the Introduction: turnover rate, size and industry are easily identifiable firm characteristics that might enable local labor market practitioners to infer something about an establishment's compensation policies relative to the skills and needs of its employees.

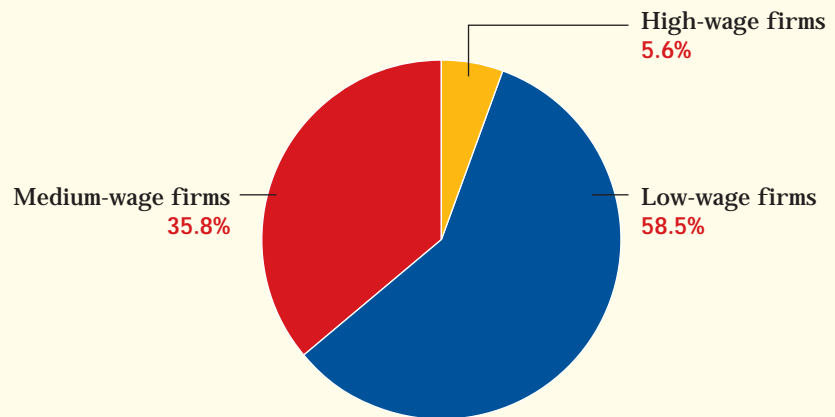
Do firm wage premiums influence the earnings of low-wage workers? In Figure 1 we graph the distribution of our persistently low earners across firms by their firms' wage premiums. The graph strikingly illustrates that most persistently low earners are

Table 2. Distribution of firms by wage premium, firm size and worker turnover rate, 1996–1998

Category	Percentage of firms			All
	Low-wage	Medium-wage	High-wage	
Firm size				
0 to <50	36.75	25.57	24.93	28.37
50 to <250	17.90	22.42	19.62	20.55
250 and up	45.35	52.01	55.45	51.08
All	100.00	100.00	100.00	100.00
Worker turnover rate				
0 to <0.2	4.62	6.52	11.72	7.28
0.2 to 1.0	20.31	45.55	51.23	40.25
1.0 and up	75.07	47.93	37.04	52.47
All	100.00	100.00	100.00	100.00

Note: Firm size is defined as the average of beginning of quarter 1 and end of quarter 4 employment. The worker turnover rate is defined as the annual sum of quarterly accessions and separations divided by firm size.

Figure 1. Distribution of workers with persistently low earnings by firm wage premium, 1996–1998



found in the bottom quartile of firms in terms of pay premiums. While this may, of course, reflect the fact that high-wage firms seek out workers whose personal skills and other characteristics make them better workers, it might also reflect the low earners' limited access to better jobs.

B. Almost half of workers who had persistently low earnings from 1996 to 1998 earned somewhat higher incomes in 1999 to 2001.

The longitudinal nature of the LEHD data allows us to examine the degree of income mobility that workers experience over time, and the employer

Table 3. Distribution of workers with low earnings in 1996–1998 by earnings status and firm wage premium, 1999–2001

Earnings status in 1999-2001	Percentage of workers		
	Job changers	Job stayers	All low earners
Still low earners	46.00	64.05	54.03
Partial escapers	44.16	32.53	38.98
Complete escapers	9.84	3.42	6.98
All	100.00	100.00	100.00

Note: Earnings status categories are defined in the text. A worker is a “job changer” if her primary employer in the 1999-2001 period is different from her primary employer in the 1996–98 period. The primary employer is the one with whom the worker had the highest earnings for the greatest number of quarters over the three-year period.

characteristics associated with those transitions. In Table 3, we examine the earnings in 1999 through 2001 for those workers who were persistently low earners in 1996 through 1998. The findings in the right-hand column reflect that 39 percent of all workers who were persistently low earners in the earlier period “partially escaped” this status in the subsequent period. That is, they earned above \$12,000, and perhaps even above \$15,000, in some years but not consistently above \$15,000. Only 7 percent of low earners in 1996-1998 “completely escaped” that status in the following three years by consistently earning above \$15,000 annually. Thus, slightly more than half of low-wage workers in the first three-year period continued to earn low wages over the second three-year period.

For those workers who were able to at least partially escape low earnings, one can imagine two different routes they may have taken. In the first scenario, the employee stayed with the same establishment and “climbed the ladder,” garnering increasing compensation for higher experience and seniority. In the second scenario, the employee changed jobs and moved to another, perhaps higher-paying, firm. We also examine these two “routes to

success” in Table 3, which compares the rate at which persistently low earners transitioned out of that status during the subsequent three-year period, based on whether they stayed with the same employer (job-stayers) or changed employers (job-changers).¹⁴

Our results show that workers who changed jobs were more likely than those who stayed at the same job to escape low-earning status. Fifty-four (54) percent of job-changers partially or fully escaped low-earner status in the subsequent period, versus 36 percent of job-stayers. In fact, if we ask a slightly different question—what percentage of “escapers” changed jobs as opposed to staying with the same employer?—the results are even more striking: fully two-thirds of partial escapers, and three-fourths of full escapers, changed their primary employers across the three-year periods under consideration.¹⁵

Thus, it is not impossible to rise about poverty-level earnings by staying with the same employer and climbing the experience/seniority ladder. But most who achieve success in (or getting out of) the low-wage labor market do so with a change in their employers. Furthermore, we must also note that job-changing can certainly have its “down side” as well as its “up side”;

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Table 4. Distribution of workers with low earnings in 1996–1998 by earnings status, firm wage premium, and job-change status in 1999–2001

Earnings status in 1999–2001	Percentage of workers		
	Low-wage firms	Medium-wage firms	High-wage firms
Job changers			
Still low earnings	55.93	40.39	3.69
Partial escapers	29.59	59.70	10.70
Complete escapers	13.95	61.71	24.34
All	40.17	51.01	8.82
Job stayers			
Still low earnings	62.58	34.58	2.74
Partial escapers	50.75	45.98	3.27
Complete escapers	35.01	55.01	9.97
All	57.85	38.99	3.16

job-changers sometimes suffer larger losses, as well as larger gains, relative to job-stayers.¹⁶ Finally, we note that these results hold up for smaller samples of workers for whom we have greater detail on personal characteristics and family income.¹⁷

C. Most low-wage workers who increased their earnings over time did so by gaining employment at a higher-wage firm.

Earlier, we established that low-wage workers were relatively concentrated at firms that paid low wage premiums. Would these workers earn more if they found employment at a higher-wage firm? Would their wages increase as they gained more experience even at a lower-wage firm?

Our primary finding is that a low-wage worker’s tendency to escape that status depends heavily on her ability to find employment at a high-wage firm. Table 4 elaborates on the information in Table 3 by presenting information on the wage premium levels paid by employers in 1999–2001 for both job-changers and job-stayers. Among those workers who stayed with their original employer, over 60 percent of those

who still had low earnings in 1999–2001 were with low-wage firms. In contrast, only 35 percent of the complete escapers out of low earnings worked at low-wage firms.

Among those workers who changed employers, the contrast is even more striking: over half of those who still had low earnings ended up with another low-wage employer, while only 14 percent of those who completely escape low-earner status are with low-wage employers. For both groups, the ability to rise out of low earnings is strongly associated with gaining employment at a medium- or high-wage firm.

But how can low earners get better access to these jobs? A great deal of discussion these days concerns whether third-party institutions in the labor market—often known as “intermediaries”—can play a positive role by matching low-wage workers to better jobs. One such intermediary is the private “temp” agency. Critics have often claimed that temporary jobs are associated with low wages and benefits.

In contrast to these criticisms, our research provides evidence that low earners who start by working for

“temp” agencies enjoy greater labor market success over the long term than other groups of low earners. The results show that persistently low earners who worked for temp agencies in 1996–1998 enjoyed about 8 percent higher earnings in the subsequent period than other job-changers who were initially low earners. Furthermore, we find that all of this gain is attributable to the fact that temp agencies help low earners get more jobs with medium- and high-wage firms, especially in manufacturing.¹⁸

Of course, it is possible that temp agencies simply help these firms “cream” the best workers among low earners, and that these strong workers might have done well even on their own. Because we have controlled for some personal characteristics in our analysis, however, we find it unlikely that this “creaming” could explain all of the positive effects associated with employment at temp agencies. It is more likely that these agencies provide workers with access to the kinds of high-wage sectors that they would have difficulty gaining on their own. Thus, our results indicate that intermediaries in the labor market have the potential to play a positive role in improving the access of low earners to better jobs at better firms.

One other finding that emerges from our work is that women and minorities have more difficulty escaping low earnings than do white men. Indeed, about 10 percent of white men with low earnings in the initial period completely escape this status in the subsequent period, and about 45 percent do so at least partially, higher rates of “escape” than are achieved by any other group. Furthermore, at least part of the reason for white males’ higher rate of success is that they are more likely than other groups to gain employment at high-wage firms. This might reflect employer discrimination at some of these firms, better information and labor market “contacts” among white males, or perhaps geo-

Table 5. Distribution of firms by location, wage premium, and worker type, 1999–2001

Type of county	Percentage of firms			All
	Low-wage firms	Medium-wage firms	High-wage firms	
All firms				
MSA, central	69.66	77.46	84.99	77.38
MSA, other	23.74	18.35	13.17	18.14
Non-MSA	6.60	4.18	1.84	4.21
All	100.00	100.00	100.00	100.00
Firms employing workers with low earnings capacity				
MSA, central	68.75	75.04	79.63	74.08
MSA, other	24.36	20.13	17.08	20.78
Non-MSA	6.89	4.83	3.29	5.14
All	100.00	100.00	100.00	100.00

Note: A central county within a Metropolitan Statistical Area (MSA) is defined as county containing a city with a population greater than 50,000. Workers with low earnings capacity are defined as those with an estimated person wage effect in the bottom quartile.

“Good jobs for low earners are not as centrally located as those for high earners.”

Table 6. Distribution of construction and manufacturing firms by location and worker type, 1999–2001

Type of county	Percentage of firms		
	Construction	Manufacturing	All industries
All firms			
MSA, central	74.04	72.53	77.38
MSA, other	22.35	20.96	18.14
Non-MSA	3.61	6.51	4.21
All	100.00	100.00	100.00
Firms employing workers with low earnings capacity			
MSA, central	71.32	70.82	74.08
MSA, other	24.04	21.86	20.78
Non-MSA	4.64	7.32	5.14
All	100.00	100.00	100.00

graphic factors that make it easier for them than for minority groups to access these jobs.

D. While medium- and high-wage firms are more heavily concentrated in urban counties than elsewhere, some better-paying industries—like

construction and manufacturing—are relatively less concentrated there.

One possible barrier to accessing good jobs might be location. If those high-wage firms that are likely to hire low-wage workers are relatively dispersed, and public transportation is

either not available or inconvenient, there may be a substantial barrier to matching workers (especially minorities residing in inner-city areas) to jobs that facilitate wage advancement. Lack of information about these firms and/or lack of access to them through informal networks and “contacts” might also limit the ability of low earners to obtain these jobs.¹⁹

The data in Tables 5 and 6 provide somewhat crude evidence on this issue. Table 5 presents the distribution of low-, medium- and high-wage firms across different types of counties: the “central counties” in metropolitan areas, other counties in metropolitan areas, and those in non-metropolitan areas. The data show, not too surprisingly, that all kinds of firms are quite heavily concentrated in central counties of metropolitan areas, while relatively few are located in non-metropolitan areas. But medium- and especially high-wage firms are even more heavily concentrated in central counties than are low-wage firms—85 percent of high-wage firms are located in central counties, versus 70 percent of low-wage firms.

Interestingly, this pattern is somewhat less pronounced for important sub-groups of firms. For instance, among firms that employ workers with lower earnings capacity—which we estimate from the data as a low “person premium”—those that pay high wages are somewhat less concentrated in central counties than firms employing more skilled workers.²⁰ When we look at certain high-wage industrial sectors that employ lots of less-educated workers, such as construction and manufacturing, concentration in central counties is considerably weaker (Table 6). Roughly 30 percent of construction and manufacturing firms that employ lower-skilled workers are located outside central counties.

This geographic cut is very crude, since it doesn’t distinguish between central-city and suburban areas within

central counties, and does not take into account transportation networks. While such distinctions could be particularly crucial for the large group of low earners who live in lower-income neighborhoods within central cities and rural areas, our findings do suggest that good jobs for low earners are not as centrally located as those for high earners. Efforts to improve low earners’ access to these jobs might have to account for local geographic barriers, among other factors.

IV. Conclusion

Our analysis finds strong evidence that one of the most effective ways to improve the earnings status of low-wage workers is to increase their ability to become employed in high-wage firms. These firms appear to provide more opportunities for upward wage growth (perhaps through on-the-job training and subsequent promotions) over time as well.²¹

How, then, can public policy facilitate these opportunities, especially at the state and local levels? Two broad strategies exist. One involves improving the access of low earners to existing high-wage jobs, while the other involves attempting to create more such jobs, particularly in geographical areas where few might now exist.

The first strategy, improving the access of low earners to existing high-wage jobs, is critically important. Our evidence suggests that at least one kind of “intermediary” agency in the labor market—the “temp” agency—already performs this function. A growing role for both for-profit and non-profit agencies that help place low earners into good jobs, and help them to overcome problems with transportation, information, employer discrimination, and other barriers, could further improve these linkages.

One criticism about this type of pol-

icity might be that, for every additional job at a higher-wage firm that goes to a low earner, someone else loses access to that job. However, this is not necessarily the case. Improving the process by which workers are matched to jobs can reduce the costs of recruitment and turnover to employers; those efficiency gains, in turn, can help firms generate more “good jobs” overall. Furthermore, higher-skilled workers who might have lost access to a particular good job are presumably better able to find another one than was the low earner who obtained some assistance in the job search process.

Still, improving the overall stock of good firms and jobs, especially in particular areas, is an appealing prospect. Are there effective ways to do so? Local economic development policies have long been based on the premise that it is possible to attract high-wage firms to local areas, especially through the provision of tax breaks and other special services. But the cost-effectiveness of these kinds of policies appears weak, especially when one considers the small percentages of these new jobs that go to low-income workers. Furthermore, cities and states often enter into bidding wars over high-wage companies that generate little net gain for anyone except the companies in question.²²

Recognizing these drawbacks, some observers have suggested a different approach to local economic development, one that combines service provision and technical assistance to companies, especially in the area of human resources, with efforts to improve the skills and access of low-income workers to good jobs. The Jobs Initiative funded by the Annie E. Casey Foundation in five major cities around the country is one example of a more comprehensive approach aimed at employers as well as low-income workers in local labor markets. Other examples with a strong focus on key sectors include QUEST in San Antonio, the Wisconsin Regional Training

Partnership, and the Cleveland Jobs and Workforce Initiative.²³ These efforts build local partnerships between employers, worker and community groups, skills providers, and other agencies to encourage better workforce preparation, more job training and better career ladders at firms, and ultimately better performance and advancement of workers in their jobs.

Of course, a lot more experimentation and rigorous evaluation of these approaches are needed before we can advocate for their expansion and replication. Still, our research findings indicate that efforts to encourage better employers and jobs along with more highly-skilled workers at the local level deserve to be pursued and developed.

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Endnotes

1. Fredrik Andersson is an economist with the Census Bureau's LEHD Program. Harry Holzer is a Professor of Public Policy at Georgetown University and Visiting Fellow at the Urban Institute. Julia Lane is a Principal Research Associate at the Urban Institute and Senior Research Fellow with the Census Bureau's LEHD Program.
2. Tricia Gladden and Christopher Taber, "Wage Progression Among Less-Skilled Workers." In D. Card and R. Blank, eds., *Finding Jobs: Work and Welfare Reform* (New York: Russell Sage Foundation, 2000).
3. James Heckman, Robert Lalonde and Jeffrey Smith, "The Economics and Econometrics of Active Labor Market Programs." In O. Ashenfelter and D. Card, eds., *The Handbook of Labor Economics*, Volume 3A (Amsterdam: North Holland, 2000).
4. Alan Krueger and Lawrence Summers, "Reflections on the Inter-Industry Wage Structure." In K. Lang and J. Leonard, eds., *The Structure of Labor Markets* (New York: Basil Blackwell, 1997).
5. Harry J. Holzer, *What Employers Want: Job Prospects for Less-Educated Workers*. (New York: Russell Sage Foundation, 1996).
6. Manpower Demonstration Research Corporation, *The National Evaluation of Welfare-to-Work Strategies: Final Report*. New York (2002).
7. Robert Giloth, ed. *Workforce Intermediaries for the 21st Century* (New York: The American Assembly, Columbia University, 2003).
8. John Abowd, Francis Kramarz, and David Margolis, "High Wage Workers and High Wage Firms." *Econometrica* 67 (1999): 251–333.
9. The firm premium, otherwise known as the firm "fixed effect," is the coefficient on a dummy variable for each firm in a regression of the natural log of quarterly earnings that also includes dummies for each person, state, and year, and uses the same methodology described in: John Abowd, Robert Creecy, and Francis Kramarz, "Computing Person and Firm Fixed Effects Using Linked Employer-Employee Data." LEHD Technical Paper No. TP-2002-06 (2002). The sample on which the regression is based pools all quarterly observations on workers and their firms in all years and states.
10. Fredrik Andersson, Harry Holzer, and Julia Lane, "The Interactions of Workers and Firms in the Low-Wage Labor Market." Report to the Assistant Secretary for Policy Evaluation, U.S. Department of Health and Human Services (2002).
11. The estimates here are based only on quarterly earnings, and therefore do not allow us to distinguish workers with low wages from those working few hours. We also have no direct controls for the person's education level or their family income. However, the person effects for which we control in our regression equations effectively capture skill or earnings capacities.
12. The sample has been limited to those aged 25 to 54, to avoid students or the elderly choosing to work part-time; and to those workers spending at least two quarters in the labor force each year.
13. Charles Brown, James Hamilton, and James Medoff, *Employers Large and Small* (Cambridge, MA: Harvard University Press, 1990).
14. We define job changing on the basis of whether their "primary employer" in each three-year period has changed. That employer is the one with whom the individual has earned the most within that period.
15. Andersson, Holzer, and Lane, "The Interactions of Workers and Firms in the Low-Wage Labor Market."
16. See Harry J. Holzer, Julia Lane, and Lars Vilhuber, "Escaping Poverty for Low-Wage Workers: The Role of Employer Characteristics and Changes." LEHD Program, U.S. Census Bureau 2002. Positive earnings changes associated with changing jobs most likely reflect voluntary moves, while negative earnings changes seem to reflect involuntary job changes and/or those which end in nonemployment rather than another job.
17. Much smaller samples of our data are matched to the Current Population Surveys that provide data on wage levels, educational attainment and family income. The results presented here have generally been replicated for samples that are limited to workers with low wages, less education, and/or low family income.
18. Andersson, Holzer, and Lane, "The Interactions of Workers and Firms in the Low-Wage Labor Market."
19. These notions are consistent with the "spatial mismatch hypothesis," which particularly attributes some portion of the lower employment and earnings of urban minorities to their limited access to suburban jobs. Harry J. Holzer, "The Spatial Mismatch Hypothesis: What has the Evidence Shown?" *Urban Studies* 29(1) (1991): 105–122.
20. See Endnote 8 for how we calculate individual earnings capacities, or "person fixed effects."
21. Andersson, Holzer, and Lane, "The Interactions of Workers and Firms in the Low-Wage Labor Market."
22. Timothy J. Bartik, *Jobs for the Poor: Can Labor Demand Policies Help?* New York: Russell Sage Foundation.
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