

Diversity in the New York City union and nonunion construction sectors

Report • By Lawrence Mishel • March 2, 2017

Summary

Contention over the diversity of the New York City construction industry has been present since the 1960s as blacks and Hispanics have sought greater access to this major source of middle-class jobs. Because most major construction in the 1960s was done under collective bargaining agreements, the discussion about diversity focused on how workers become apprentices and join construction trade unions.

As Figueroa, Grabelsky, and Lamare (2013) note,

Dating back to the 1960s, the unionized construction industry was a focal point for the civil rights movement as communities of color witnessed a construction boom offering the false promise of good jobs for urban residents. Because of discriminatory hiring practices, the overwhelming majority of union construction jobs went to white workers. In New York City, for example, 92 percent of building trades union members [were] white. Some of the skilled trades had virtually no African American members.

Governments at all levels have sought to increase diversity in the building trades over the last 50 years (Fuchs, Warren, and Bayer 2014). Accusations of racial exclusion persist, leveled by civil rights organizations and anti-union advocates, and tend to focus on black workers in the union sector, with no attention paid to the nonunion sector.¹ This report develops new data to assess the racial and ethnic diversity of New York City construction employment in both the union and nonunion sectors for the 2006 to 2015 period, and gauges changes in the diversity of construction employment by comparing the composition of the younger and older segments of the workforce and shifts in the demographic composition of union apprenticeships. The analyses pay special attention to the employment and wages of black workers in construction since most of the controversies, to this day, tend to focus on the inclusion of black workers. The analyses also look at Hispanic construction workers and minorities overall compared with whites. The analyses do not examine the related issues of inclusion of workers by gender, sexual orientation, or religion.

Specifically, we use Bureau of Labor Statistics surveys of individual workers over the years from 2006 to 2015 to examine the race/ethnic diversity of construction employment in both the union and nonunion sectors and among all blue-collar workers (except construction). There has been much discussion of diversity in the union sector but very little attention to the hiring decisions of nonunion contractors. Diversity of all blue-collar employment, outside of construction, is presented to provide a benchmark for assessing the diversity within the union and nonunion construction sectors, and within subsectors of the construction sector. We also examine the increasing diversity of union apprenticeships over the last two decades, building on the work of Fuchs, Warren, and Bayer (2014) published by the Columbia University School of International and Public Affairs (SIPA). Last, we examine the total earnings gained by the black community due to the greater representation and wages earned by black workers in the union than the nonunion construction sector. Key findings in the report are summarized below.

New York City's union construction sector employs a greater share of black workers and pays them more than the nonunion construction sector, and unions are drawing many more blacks into construction through apprenticeships compared to 20 years ago

- Black workers are far more represented in the union construction workforce (where they account for 21.2 percent of employment) than in the nonunion construction workforce (where they account for 15.8 percent) and minorities overall now make up 55.1 percent of NYC blue-collar union construction workers.
- An examination of the younger workforce, ages 18–40, reflects the most recent hiring decisions and best predicts future employment patterns. It finds that among younger workers, black workers are even more underrepresented in the nonunion (14.8 percent) relative to the union (21.0 percent) construction sector. Among older workers (ages 41–64) black workers make up 21.3 percent of union construction workers but a lesser 17.2 percent share of nonunion construction workers.
- Minorities accounted for 61.8 percent of all New York City residents' union apprenticeships in 2014, far higher than the 36.3 percent share in 1994. Black apprentice participation roughly doubled, rising from 18.3 percent in 1994 to 35.1 percent 20 years later in 2014.
- Black union construction workers earn 36.1 percent more than black nonunion construction workers. Because black workers have better wages and a greater employment share in the union construction sector relative to the nonunion construction sector, the presence of unions and collective bargaining in New York City greatly boosts overall annual wages to the black community from construction—by 83 percent, or \$152 million each year. Claims that unions have hurt the black community are seriously misguided and contrary to readily available evidence and the absence of unions and collective bargaining would hurt, not help, black workers.

Hispanic workers make up a growing share of the nonunion construction sector, where their relative youth, lower levels of education, and more-recent-immigrant status means they are paid far less than in the union sector

- Hispanics in the union sector held 30.5 percent of the construction jobs, comparable to their 31.2 percent share among non-construction blue-collar occupations. Hispanics are heavily overrepresented in the nonunion construction sector, accounting for nearly half of all employment, 48.6 percent.
- A declining share of union construction jobs held by non-Hispanic whites (those ages 41–64 held 53.0 percent while those ages 18–40 held 38.1 percent) facilitated the growth of Hispanic employment in the union construction sector (up to 36.6 percent among young workers, from the 23.3 percent share among older workers). Hispanics now also make up more than half the younger nonunion workforce (55.7 percent), up from the 37.9 percent share of the older nonunion construction workforce.
- Nearly half (49.2 percent) of Hispanic nonunion construction workers have not completed high school (or a GED), far more than the 28.0 percent among Hispanics in the union construction sector. Only 12.8 percent of nonunion Hispanic construction workers are native born with 40.6 percent of the immigrants having arrived within the last 10 years. Relative to the nonunion sector, Hispanic construction workers in the union sector are far more likely to be native born (20.3 percent), and 71.7 percent of those who are immigrants have been present in the U.S. for at least 11 years. Given that Hispanics in the nonunion sector are much younger and are more likely to be an immigrant and a recent immigrant than in the union sector, and that nearly half lack a high school diploma, it is not surprising that they earn 34.5 percent less than Hispanics in the union sector.
- An analysis of the non-college degree workforces in construction affirms the findings that the nonunion construction sector greatly overrepresents Hispanics and severely underrepresents black workers relative to the union construction sector and to the non-construction blue-collar workforce.

Construction workers earn more than other blue-collar workers, especially among union workers, and unions help close racial and ethnic wage gaps

- Union construction workers earn 14.0 percent more than other union blue-collar workers while nonunion construction workers earn only 4.0 percent more than other nonunion blue-collar workers. The biggest advantages for working in construction are for black and Hispanic union workers who earn, respectively, 13.0 and 24.2 percent more than other union blue-collar workers of the same race/ethnicity. White workers in nonunion construction actually earn less than white workers in other nonunion blue-collar jobs and nonunion black and Hispanic construction workers enjoy a small premium over their blue-collar counterparts.
- The union wage advantage (the percent by which union wages exceed nonunion wages) is larger for construction workers (42.2 percent) than other blue-collar workers, and, among racial and ethnic groups, largest for black (36.1 percent) and Hispanic (52.7 percent) construction workers. The same racial/ethnic pattern prevails among blue-collar occupations: the largest union advantage is for blacks (25.2 percent) and for Hispanics (38.0 percent).
- There are racial/ethnic pay inequities in both construction and other blue-collar occupations as blacks and Hispanics earn less than whites in the same sector. This is true in both the union and nonunion sectors. However, there are smaller wage gaps affecting blacks and Hispanics in the union sector than the nonunion sector and the smallest racial/ethnic wage gaps are in the union construction sector. It stands out that union Hispanic workers earn slightly more than the average wage in the union construction sector (\$24.18 versus \$23.95) and only 6.5 percent less than what white union construction workers earn.

Other findings

- The New York City construction industry sector broadly acknowledged to have the least collective bargaining is residential building construction and it has the lowest representation of black workers, with 11.1 percent, but the differences with other sectors are not large. Every construction industry sector has proportionately fewer blacks than in New York City construction employment as a whole, 20.0 percent.
- Hispanic apprenticeships rose from a 16.0 percent share in 1994 to 27.6 in 2012 and to 22.2 percent in 2014.

The historical context²

Before analyzing the progress in achieving diversity in the NYC union construction industry it is worth reviewing the historical context for the current debate. There is a long history of racial and gender discrimination in the building trades nationally and, in particular, in New York City's building trades. Informal hiring and recruitment practices going back, in some cases, to the 19th century, made it hard for outside groups, particularly African Americans, to enter the building trades. And those informal practices, often carried out in relation to small projects and construction companies, made government scrutiny and regulation difficult too.

In 1982 there were about one million building trades contractors nationally employing approximately five million workers (Waldinger and Bailey 1991).

Construction unions often replicated the protocols of the industry at large, relying on kin networks to refer workers to construction companies (Hill 1985). And while some joint labor-management training programs were formalized, others were not. Waldinger and Bailey note for example, that, at the time of their 1991 article, the International Union of Operating

Engineers did not have a formal apprenticeship program. Historically, in fact, most union construction workers did not pass through apprenticeship programs, but depended on family and friendship connections. Survey data reveal that fathers and sons were frequently members of the same building trades unions throughout the 20th century (Waldinger and Bailey 1991).

This informal hiring and training structure perpetuated exclusionary “whites-only” hiring and training practices. Competing for scarce jobs in the industry exacerbated whites-only racism (for decades throughout the 20th century, white ethnic groups also faced discrimination). Some building trades unions, such as the Sheet Metal Workers International Association, had “Caucasian only” clauses in their constitutions through the mid-20th century, until forced by federal, state, and city regulators to remove them. Other unions simply refused to admit African Americans. Other methods of exclusion included segregating members by race and limiting black access to union licensing programs. (It should be noted that the Carpenters Union, historically, while not free of discrimination, was somewhat more accommodating to black workers, as it had more slots available for unskilled workers who could not gain membership into apprenticeship programs or via on-the-job journeyman positions.) (Waldinger and Bailey 1991; Frymer 2008)

While the boom years of World War II opened up some opportunities for blacks within New York’s construction industry, discrimination in the postwar years returned almost to the level of the Depression years. For example, while the New York State Commission Against Discrimination (SCAD) ordered Sheet Metal Workers Local 28 to eliminate its constitutional restrictions against black members in 1948, by 1963, Local 28 still had no black members. Postwar union apprenticeship programs all but excluded black participation. In 1960, a SCAD report on discrimination in the building trades unions stated that, of the 15,000 registered union apprentices in New York State, only 2 percent were African Americans (New York State Commission Against Discrimination 1960).

Beginning in the late 1950s and early 1960s, the burgeoning African American civil rights movement began to pressure building trades unions and contractors in New York. This, in turn, generated political and legal battles between the newly empowered black community and the building trades unions, which, given the many government-subsidized construction projects, had deep ties to both Democratic and Republican politicians at the local, state, and national levels (Butler 2011).

James Haughton, the son of a black bricklayer, worked as an assistant to civil rights leader A. Philip Randolph and founded Harlem Fight Back in 1964, an organization that advocated on behalf of black and Latino workers by demonstrating, boycotting, and filing lawsuits against contractors and construction unions. Similar organizations, such as the Workers Defense League (itself with union ties through the AFL-CIO and Bayard Rustin, head of the AFL-CIO’s A. Philip Randolph Institute) and Positive Workforce proliferated during the 1960s and 1970s, putting greater pressure on the unions, the courts, and government regulators to address the protesters’ concerns (Freeman 2001; Butler 2011; Roberts 2016).

In 1963, for example, the Joint Committee on Equal Employment Opportunity, a coalition of civil rights organizations, picketed a construction site at Harlem Hospital demanding jobs for black construction workers. Demonstrations, sometimes violent, spread to other sites in the city and led to daily sit-ins at New York City mayor Robert F. Wagner Jr.’s office. More than 650 people were arrested over the course of the demonstrations. That same year, the New York City Commission on Human Rights issued a report, *Bias in the Building Industry: An Interim Report to the Mayor*, which concluded that there was a “pattern of exclusion” of black and Puerto Rican workers in the city’s construction unions and that the unions had offered “nothing of substance” to solve the problem of racial discrimination in apprenticeships, hiring halls, sponsorships for union membership by current members, and other formal and informal structures that governed the building trades unions (New York City Commission on Human Rights 1963; Waldinger and Bailey 1991).

As demonstrations against racial discrimination in the trades continued, some construction workers responded by demonstrating to maintain racial exclusion. In 1964, Astrove Plumbing, which had received a city contract to build a produce market in the Bronx, hired four nonwhite, nonunion plumbers (something its contract with Plumbers Local 2 permitted it to do). Plumbers Local 2, nevertheless, struck the site when the four nonwhites started work and the strike spread to other crafts. Despite National Labor Relations Board (NLRB) and court decisions against the union actions, the four nonwhite plumbers never joined Plumbers Local 2 (Waldinger and Bailey 1991).

These long festering tensions reached a head nationally and in New York City when President Nixon announced the “Philadelphia Plan” in 1969, a set of hiring goals for Philadelphia and five other cities whose major building trades had below 1.6 percent minority participation. The plan did not address union membership directly, but only minority participation in the construction industry overall. While not one of the original six cities, New York City and New York state, like many other localities, responded with its own voluntary plan, the New York Plan, in 1970, a joint agreement between Governor Nelson Rockefeller, Mayor John Lindsay, the city’s building trades council, and the U.S. Department of Labor. The plan promoted minority trainees on government-sponsored construction projects, but, within a year, the powerful electrical workers, sheet-metal workers, and plumbers unions refused to participate (Waldinger and Bailey 1991; Freeman 2001).

Demonstrations and counter-demonstrations by civil rights and community groups and construction unions plagued the New York Plan, but it managed to place 5,000 minority trainees over 17 years. However, only 800 of them ever joined a union. It soon lost the support of Mayor Lindsay, who in 1973 issued an executive order mandating a 1-to-4 minority worker ratio on all city and federally funded construction projects. This, in turn, was opposed in court by former building trades council president and Nixon administration secretary of labor Peter Brennan. The courts finally blocked Lindsay’s plan, on grounds of executive overreach, in 1976 (Waldinger and Bailey 1991; Freeman 2000).

If anything, minority membership in unions declined during the 1970s and 1980s, but the civil rights community and the government did not give up. Litigation was brought under Title VII of the Civil Rights Act, pressuring the building trades unions nationally and in New York City to increase minority membership. An important breakthrough came in 1987. Sixteen years after

it was filed by the federal government in 1971, a key court case against the previously discussed all-white Sheet Metal Workers Local 28 finally ended in favor of the government. The ruling set a 29 percent membership goal for the local.

Government and media scrutiny of discrimination in the construction industry continued to mount. In 1993, the New York City Commission on Human Rights issued a major study, over 400 pages long, *Building Barriers: A Report on Discrimination against Women and People of Color*, with testimony from both state officials and workers. The report documented the patterns of racial discrimination, gender discrimination, and sexual harassment at union worksites. The report also noted that discrimination extended beyond African American, Latino, and female workers to include Asian American workers (Waldinger and Bailey 1991; New York City Commission on Human Rights 1993; Frymer 2008).

Over several decades, the combination of government monitoring and spotlighting these issues; activism by women and minorities, particularly African Americans; court and regulatory rulings; and the recognition of the building trades themselves that discrimination needed to end for moral and practical reasons resulted in dramatic changes in the 21st century. In 2001, the Edward J. Malloy Initiative for Construction Skills pre-apprenticeship program, a joint effort of labor, contractors, and New York City, was created to target and place minority young people into union apprenticeship programs. The program has been a success and, through 2013, placed 1,443 minority youth in union apprenticeship programs for high wage construction jobs (Fuchs, Warren, and Bayer 2014).

In 2009, an even more ambitious memorandum of understanding was entered into by the city's building trades council, the council's employer group, and the city to "promote diversity" in 24 union apprenticeship programs. As of 2012, two-thirds of New York City's 5,743 registered apprentices were people of color and almost 11 percent were women, enormous increases from 1994, when roughly 64 percent of registered apprentices in New York City were white (Building and Construction Trades Council of Greater New York 2012; Fuchs, Warren, and Bayer 2014).

The leader of the Building and Construction Trades Council of Greater New York, Gary LaBarbera, has recently acknowledged this past history of exclusion and proclaimed that the unions have taken proactive steps to rectify the situation:

We recognized years ago that New York's construction industry, like many others, had long suffered from a diversity problem. The union construction trades were the first to stand up and proactively develop a solution, and we have played a leadership role ever since. Through initiatives like the Edward J. Malloy Initiative for Construction Skills, we have welcomed thousands of skilled African-American and Latino workers into our ranks, and we are proud to say that today, 65% of local apprentices are minorities. (LaBarbera 2015)

LaBarbera also provided a contrast with the established nonunion construction sector, whose practices have rarely been written about:

Our apprenticeship program offers world-class training and good wages with benefits. Nonunion construction comes up short when it comes to training and wages. And while we are creating a pathway to the middle class for hard-working men and women across the five boroughs, the anti-union corporate interests Berman [Richard Berman of the anti-union Employment Policies Institute] represents have yet to lift a finger to advance diversity in construction—despite the fact that African-Americans are severely underrepresented in the non-union construction sector. (LaBarbera 2015)

The building trades resisted changes in their protocols and structures for many decades, and the fight to extend union representation to all workers, white and of color, men and women, has been bitter. But a significant transformation now seems to be happening.

The remainder of the paper will examine the data available to assess the current racial diversity in both the union and nonunion construction sectors and to examine the diversity of trends among union apprentices over the last two decades.

Data sources

This analysis is based on three sources of data. The first is the monthly Current Population Survey (CPS) household survey, regularly collected by the Bureau of Labor Statistics (BLS) to track unemployment and other labor force characteristics and outcomes, including wages. The second is the U.S. Census Bureau's Quarterly Workforce Indicators (QWI) survey, which draws on employer reports to the unemployment insurance system and matches data from other federal surveys to compile demographic and other characteristics of employment. The third source is data on union construction apprenticeships.

Individual worker data

The Current Population Survey collects information from roughly 60,000 households each month, which produces observations on approximately 170,000 wage earners each year. The CPS provides information on the age, gender, education, occupation, industry, and geographic location of each wage earner and their employment status (employed, unemployed, not in the labor force) and wages (see EPI 2017). The CPS also provides information on whether a wage earner is a union member or covered by a collective bargaining agreement (our analysis considers both of these types of workers to be in the union sector).

The CPS is the only data source that enables an analysis of demographic diversity in the union sector and a comparison of a particular industry or group of occupations' union sector with its nonunion sector. This study examines union and nonunion workers in construction occupations in the construction industry.

The CPS also allows us to compare a particular industry or group of occupations' with the broader labor market, such as all blue-collar workers or all workers with similar education levels, such as those with less than a bachelor's degree. A weakness in the CPS industry classification system is that it puts all workers in construction into one aggregate category and does not identify key subsectors. So, for instance, those working in residential as well as nonresidential construction are placed into the same overall "construction" category. This is a weakness because collective bargaining is stronger in some construction sectors than in others (e.g., than in residential construction). So, a comparison between the union and nonunion sectors necessarily compares workers in differing parts of the construction industry.

Another limitation is that the CPS sample includes households based on where they live not work, so the data cover construction workers who live in New York City, not *work* in New York City.

The analyses in this report also break down employment by education, and examine union and nonunion workforces by occupations: specifically we examine blue-collar construction occupations by aggregating all the construction occupations (excluding supervisors and those in "extraction").

The data analyzed are based on a sample of construction industry workers who live in New York City and are ages 18 to 64. The race/ethnicity categories are non-Hispanic whites, blacks (Hispanic or non-Hispanic), non-black Hispanics, and "other" non-Hispanics. The sample is used as a cross section and includes 10 years of data, the 2006–2015 period, to get a robust sample size. Last, in order to isolate the blue-collar workforce we examine subsamples defined by either education or occupation. For education the categories are by the highest level of education attained and are college degree (a bachelor's degree), an advanced degree beyond college, some college or associates degree; high school diploma or GED, and no high school diploma.

The conventional approach, which we will follow, is to examine all workers who have less than a college degree. This separates those who are likely in the collective bargaining unit from those who are more likely to be supervisors or white-collar workers. We will also examine by occupation. Specifically, we will examine workers in the construction industry who are in construction occupations but exclude supervisors and those in "extraction" occupations (although there probably are not many workers in extraction occupations such as mining or oil and gas extraction in New York City.) The included occupations are listed in **Appendix**. To compare with the broader market, when the analysis is of construction workers, the comparison is made to all non-construction blue-collar workers; when the analysis is of non-college graduates working in construction the comparison is made to all non-college graduate workers.

Employer-based data

Since EPI's original analysis in 2013 (Mishel 2013), a new data source has become available, the Census Bureau's Quarterly Workforce Indicators (U.S. Census Bureau 2012). These data, compiled from employer reports to the unemployment compensation system and from the U.S. Census Bureau matching these data to other sources, such as the decennial Census surveys, enable us to identify the education and demographic characteristics of employment in each sector. The advantages of these data are that they provide breakdowns for detailed three- and four-digit construction sectors. Our analysis aggregates the data into three construction sectors: building, heavy/civil engineering construction, and specialty trade contractors. However, the analysis breaks down the building sector into residential and nonresidential. This allows a comparison of the sectors where collective bargaining is strong to the one where we know it is weak: residential construction.

Another advantage is that the QWI data reflect those who *work* in New York City's five boroughs, so the whole issue of living in versus working in the city is resolved. We could also do a broader look at the New York metro area. The clear weakness is that these data do not allow a direct comparison of the union and nonunion workforces. Another weakness is that these data report on all the workers in a subsector, which would include both the blue-collar as well as the white-collar jobs.

Specifically, our analysis of the QWI data is for workers employed in New York City's five boroughs; for two three-digit industries (specialty contractors and heavy and civil engineering construction) and each four-digit industry for building construction (residential and nonresidential separately); for the same races/ethnicities in the groups as identified for CPS analysis; and for the years 2006–2015. We requested but were not able to obtain data from the U.S. Census Bureau by education and by occupational group.

Apprenticeship data

The apprenticeship data presented in the report are based on apprenticeship programs affiliated with those unions associated with the Building and Construction Trades Council of Greater New York. The data are aggregations of reports, filed by particular unions, that report the number of apprentices and their racial, ethnic, and gender breakdowns. This study examines the demographic composition of apprentices who are New York City residents. The data for 2012 and 2014 are based on annual reports of the NYC Committee on Construction Work Force and Contracting Opportunity, which draw on information from the New York State Department of Labor. The earliest data are based on the findings of Fuchs, Warren, and Bayer (2014) who provide data for 1994, 2004, and 2012 in Figure 5 of their report. We are not aware of any data on the demographic composition of apprentices in the nonunion sector.

Employment diversity in construction occupations, union versus nonunion sectors

We start our analysis with the CPS data on construction occupations in the construction industry sector among those living in New York City. **Table 1** provides a demographic breakdown of the union and nonunion sectors and displays the breakdown among other blue-collar occupations as a point of comparison. Non-Hispanic whites are a minority in both the union and nonunion workforces in the New York City blue-collar construction occupations. However, non-Hispanic whites constitute a larger share of employment in the union sector, 44.9 percent, than in the nonunion sector, 24.7 percent, or among other blue-collar workers, 23.5 percent.

TABLE 1

New York City construction occupation employment by race/ethnicity in union and nonunion sectors, 2006–2015

Race/ethnicity	Nonconstruction	Construction occupations*	
	Blue-collar**	Union	Nonunion
	Share of total	Share of total	Share of total
All	100.0%	100.0%	100.0%
Non-Hispanic white	23.5%	44.9%	24.7%
All minorities	76.5%	55.1%	75.3%
Black	28.8%	21.2%	15.8%
Hispanic***	31.2%	30.5%	48.6%
All others	16.6%	3.4%	11.0%

Economic Policy Institute

* Construction occupations in the construction sector, excluding extraction occupations

** All installation, maintenance, and repair; production; transportation and material moving; construction and extraction occupations, but excluding construction occupations in construction industry

*** Hispanics excluding blacks

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

Minorities held 55.1 percent of the construction occupation jobs in the union construction sector over the 2006–2015 period. This is below the minority share in the nonunion sector because Hispanics represented nearly half (48.6 percent) of all jobs in nonunion construction. Blacks make up 21.2 percent of the blue-collar construction workforce in the union construction sector. Blacks are severely underrepresented in the nonunion blue-collar construction workforce, comprising just 15.8 percent of the employment, just over half their 28.8 percent share of all non-construction blue-collar occupations.

Hispanics had 30.5 percent of the union construction jobs, comparable with a 31.2 percent share of non-construction blue-collar occupations. Hispanics are heavily overrepresented in the nonunion construction sector, where they make up nearly half—48.6 percent—of all employment.

The most underrepresented group in the union construction sector is “all other” ethnicities, which are primarily Asians. All others make up 3.4 percent of union construction vs. 16.6 percent of nonconstruction blue-collar occupations. This group is also underrepresented in the nonunion sector, but less so (11.0 percent vs. 16.6 percent).

As the Columbia University study (Fuchs, Warren, Bayer 2014) documented, there have been impressive improvements in the diversity of those being brought into the union construction sector via the apprenticeship programs. To gauge how much impact this has had on construction employment in the union sector we examined the same group as above but separated out those ages 18–40 from those ages 41–64 (**Table 2**). This will not capture all the progress since these data average over the years 2006 to 2015—had we enough data to examine the last few years, the apprenticeship data suggest the diversity of the younger workers is even greater.

TABLE 2

New York City construction occupation employment by race/ethnicity in union and nonunion sectors, by age, 2006–2015

Race/ethnicity	Construction occupations*	
	Union	Nonunion
	Share of total	Share of total
Ages 18–40		
All	100.0%	100.0%
Non-Hispanic white	38.1%	20.2%
All minorities	61.9%	79.8%
Black	21.0%	14.8%
Hispanic**	36.6%	55.7%
All others	4.3%	9.3%
Ages 41–64		
All	100.0%	100.0%
Non-Hispanic white	53.0%	31.3%
All minorities	47.0%	68.7%
Black	21.3%	17.2%
Hispanic**	23.3%	37.9%
All others	2.3%	13.6%

Economic Policy Institute

* Construction occupations in the construction sector, excluding extraction occupations

** Hispanics excluding blacks

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

The share of non-Hispanic whites in the union sector was 38.1 percent for the younger workers, ages 18–40, a substantial decline from the 53.0 percent share held by non-Hispanic whites among the older workers, ages 41–64, in the union sector. Correspondingly, minorities held 61.9 percent of all the union construction jobs held by young workers, much higher than the minority share among older workers, 47.0 percent. The share of blacks in the younger union workforce is comparable to that of the older union workforce, at 21.0 percent for younger workers and 21.3 percent among older union workers. Hispanics are much more represented in the younger (36.6 percent) than the older (23.3 percent) union workforce. This pattern suggests that the declining share of union construction jobs held by non-Hispanic whites facilitated the growth of Hispanic employment.

Blacks are more underrepresented in the young nonunion construction workforce (just 14.8 percent) than in the older nonunion workforce (17.2 percent). This suggests that black underrepresentation has been *growing* in the nonunion construction sector whereas it has been stable in the union sector (which has less underrepresentation).

One of the major patterns we have identified is that Hispanic workers have greatly increased their share of employment in both the union and nonunion construction sectors. Hispanics now account for more than half the younger nonunion workforce (55.7 percent), up from the 37.9 percent in the older nonunion construction workforce. So, the share of jobs held by Hispanics has grown in both the union and nonunion sectors and Hispanics are overrepresented in both sectors. However, the overrepresentation of Hispanics has grown far more strongly in the nonunion than the union sector.

Hispanics represent roughly the same share of the younger, ages 18–40 workforce in the union construction sector as do non-Hispanic whites, roughly 37–38 percent.

Table 3 provides more detailed demographic information on the Hispanic workforces of the union and nonunion construction sectors. The bottom line is that Hispanic nonunion construction workers are younger, less educated, more likely to be immigrants and, if an immigrant, more likely to be a recent immigrant than Hispanic union construction workers.

TABLE 3

Characteristics of Hispanic construction workers in New York City, union and nonunion, 2006–2015

	Construction occupations*	
	Union	Nonunion
	Share of total	Share of total
Education**	100.0%	100.0%
Less than high school	28.0%	49.2%
High school	44.8%	36.0%
Some college	17.7%	9.4%
College or more	9.5%	5.4%
Age	100.0%	100.0%
18–24	2.6%	14.7%
25–34	36.0%	34.0%
35–44	35.9%	30.5%
45–54	15.4%	15.5%
55–64	10.1%	5.4%
Immigrant status	100.0%	100.0%
Native	20.3%	12.8%
Immigrant	79.7%	87.2%
Years since immigration	100.0%	100.0%
0–5 years	13.3%	15.6%
6–10	14.9%	25.0%
11–15	24.6%	28.0%
16 or more	47.1%	31.4%

Economic Policy Institute

* Construction occupations in the construction sector, excluding extraction occupations

** Highest level attained

Note: Sample includes Hispanics excluding blacks.**Source:** Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

The data available do not allow any examination of work authorization status so it cannot be determined how many undocumented workers are employed in each sector. However, the profile of the nonunion Hispanic workforce fits the profile of many undocumented workers: young, less-educated, and having a recent immigrant status.³ Nearly half (49.2 percent) of Hispanic nonunion construction workers have not completed high school (or a GED), far more than the 28.0 percent among Hispanics in the union sector. Only 12.8 percent of Hispanic nonunion construction workers are native born with 40.6 percent of the immigrants having arrived within the last 10 years. Hispanic construction workers in the union sector are far more likely to be native born (20.3 percent). Of the unionized Hispanic construction workers who are immigrants, nearly three-fourths (71.7 percent) have been present in the United States for at least 11 years.

Given that Hispanics in the nonunion sector are much younger, are less educated (nearly half lack a high school degree), and are more likely to be an immigrant and a recent immigrant, it is not surprising that they earn substantially less than Hispanics in the union sector, as discussed in the next section.

Before moving on to our wage analysis we provide an alternative way to examine employment diversity in construction. **Table 4** presents an analysis of workers who do not have a four-year bachelor's degree, meaning they have an associates or junior college degree, have attended some college but not attained any degree, have a high school diploma but no more education, or have not completed high school. This is a different method for trying to identify those likely to be in a collective bargaining unit and not being in white-collar occupations. Table 4 affirms the analysis above that was based on looking at construction occupations. The union construction sector employs Hispanics roughly in proportion to their representation among all non-college degree workers and over-represents white workers. The union sector has fewer black workers relative to the overall market but the nonunion construction sector is where black workers are severely underrepresented: blacks make up just 16.1 percent of all nonunion construction workers without a college degree, less than half the 33.6 percent share of blacks among all non-college degree workers. Roughly half of non-college degree workers in the nonunion construction sector are Hispanics, substantially above the 30.9 percent Hispanic share of all non-college workers. As we saw above, the nonunion construction sector greatly overrepresents Hispanics and severely underrepresents black workers.

TABLE 4

New York City construction industry non-college employment by race/ethnicity in union and nonunion sectors, 2006–2015

Race/ethnicity	Total non-college employment*	Construction non-college employment*	
		Union	Nonunion
	Share of total	Share of total	Share of total
All	100.0%	100.0%	100.0%
Non-Hispanic white	22.3%	44.7%	22.7%
All minorities	77.7%	55.3%	77.3%
Black	33.6%	23.7%	16.1%
Hispanic**	30.9%	29.1%	50.3%
All others	13.2%	2.5%	10.9%

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* Includes workers who do not have a four-year bachelor's degree

** Hispanics excluding blacks

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

Wages in construction occupations by race/ethnicity, union versus nonunion sectors

The CPS data allow us to examine the differences in wages for each racial/ethnic group in the union and nonunion construction sectors. Again, the analysis is for workers living in New York City who work in construction occupations in the construction industry.

Table 5 provides wage comparisons between union and nonunion workers of each racial/ethnic group for construction occupations and for non-construction blue-collar workers (as a benchmark). That construction workers earn more than other blue-collar workers, especially among union workers, helps to explain why issues of inclusion in construction have been so important. For instance, union construction workers earn 14.0 percent more than other union blue-collar workers though nonunion construction workers earn only 4.0 percent more than other nonunion blue-collar workers.⁴ The biggest advantages for working in construction are for black and Hispanic union workers who earn, respectively, 13.0 and 24.2 percent more than other union blue-collar workers of the same race/ethnicity. White workers in nonunion construction actually earn less than white workers in other nonunion blue-collar jobs and nonunion black and Hispanic construction workers enjoy a small premium over their blue-collar comparables.

TABLE 5

New York City hourly wages in blue-collar and construction occupations by race/ethnicity, 2006–2015

	Blue-collar, except construction			Construction occupations		
	Hourly wage (2015 dollars)			Hourly wage (2015 dollars)		
	Union	Nonunion	Union advantage*	Union	Nonunion	Union advantage*
All	\$21.01	\$16.19	29.8%	\$23.95	\$16.84	42.2%
White	25.28	21.09	19.9%	25.85	19.82	30.4%
Black	18.90	15.09	25.2%	21.36	15.70	36.1%
Hispanic**	19.47	14.11	38.0%	24.18	15.84	52.7%
Other	19.70	15.78	24.9%	n.a.	16.24	n.a.
Black/white wage gap***	25.2%	28.4%		17.4%	20.8%	
Hispanic/white wage gap***	23.0%	33.1%		6.5%	20.1%	

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* Union advantage is the percent by which union wages exceed that of nonunion wages

** Hispanics excluding blacks

*** Wage gap is the percent by which black or Hispanic wages are below those of whites

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

The most important comparisons in Table 5 are those which compare wages of union and nonunion workers within the same sector; the percent by which union wages exceed nonunion wages is shown in the columns labeled “union advantage.” The union wage advantage is largest for construction workers (42.2 percent) and, among construction workers, largest for black (36.1 percent) and Hispanic (52.7 percent) construction workers. The same racial/ethnic pattern prevails among blue-collar occupations: the largest union advantage is for blacks (25.2 percent) and for Hispanics (38.0 percent).

There are racial/ethnic pay inequities in both construction and blue-collar occupations as blacks and Hispanics earn less than whites in the same sector. This is true in both the union and nonunion sectors, but the wage gaps affecting blacks and Hispanics in the union sector are much smaller than in the nonunion sector, and the smallest racial/ethnic wage gaps are in the union construction sector.

Thus, union construction jobs offer both the highest wages for black and Hispanic blue-collar workers and subject them to the least wage discrimination. It stands out that union Hispanic construction workers earn slightly more on average than union construction workers overall (\$24.18 versus \$23.95) and only 6.5 percent less than what white union construction workers earn.

This analysis does not offer any explanation of the wage gaps between racial/ethnic groups in particular sectors, which can derive from differences in occupational distribution (i.e., minorities being in lower-paid occupations within construction) or skill levels or pay differences among workers with similar skills in comparable occupations. It is noteworthy that in the union sector workers doing the same job are paid the same.

Employment diversity in construction industries

Another source of data on diversity in construction employment is the Census Bureau’s QWI data. These are compiled from unemployment insurance records, with the bureau matching these data to other sources to estimate the race and ethnicity of the workforce. The advantage of these data is that they report on employment in New York City (not just those living in the city) and do so for detailed construction industries. A weakness is that they do not allow a separate tabulation of nonunion and union sectors. The only way to draw conclusions about union–nonunion differences is to compare sectors that are more heavily covered by collective bargaining to those with lower bargaining density—primarily residential construction. Another weakness is that the employment data are for all employees in the detailed industry, including the white-collar and management employees not in any union.

Table 6 provides the racial/ethnic breakdown of employment for all sectors and for each major subsector of the construction industry: building, heavy/civil engineering, and specialty trade contractors. The table also presents both subsectors of the building sector, residential and nonresidential. Unfortunately, there are no readily available estimates of collective bargaining coverage by construction sector in New York City. The pervasiveness of collective bargaining in New York City prevents any strong conclusions being reached with these data. Even residential construction, because it includes many high-rise buildings, involves a significant amount of construction done under collective bargaining agreements.

TABLE 6

New York City employment in construction industries, by race/ethnicity, 2006–2015*

NAICS industry	Industry description	Employment by race/ethnicity				
		Total	White	Black	Hispanic	Other
Employment by race/ethnicity						
	All sectors	3,754,858	1,776,742	751,302	748,728	478,086
	1. Building construction					
2361	a. Residential	17,272	8,691	1,911	3,716	2,954
2362	b. Nonresidential	14,653	9,222	1,796	2,362	1,273
237	2. Heavy/civil engineering	8,252	5,539	984	1,392	338
238	3. Specialty trade contractors	78,046	46,437	10,384	15,993	5,233
	Total construction	118,224	69,889	15,075	23,462	9,798
Share of employment by race/ethnicity						
	All sectors	100.0%	47.3%	20.0%	19.9%	12.7%
	1. Building construction					
2361	a. Residential	100.0%	50.3%	11.1%	21.5%	17.1%
2362	b. Nonresidential	100.0%	62.9%	12.3%	16.1%	8.7%
237	2. Heavy/civil engineering	100.0%	67.1%	11.9%	16.9%	4.1%
238	3. Specialty trade contractors	100.0%	59.5%	13.3%	20.5%	6.7%
	Total construction	100.0%	59.1%	12.8%	19.8%	8.3%

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* Employment averaged over 2006Q1 to 2015Q2

Source: Author's analysis of U.S. Census Bureau Quarterly Workforce Indicators (QWI), 2006–July 2015

The sector broadly acknowledged to have the least collective bargaining, however, is residential building construction and it has the lowest representation of black workers, who make up just 11.1 percent of all workers, but the differences with other sectors are not large. Every construction sector has proportionately fewer blacks than the 20.0 percent of blacks in New York City construction employment as a whole.

Hispanics are well represented in the residential building sector (21.5 percent) but also in the largest construction sector, specialty trades contractors (20.5 percent), which is heavily unionized. The comparison is to citywide construction employment, which is 19.9 percent Hispanic.

Workers in the “other” category are also underrepresented in construction, except for the residential sector.

Diversity in apprenticeships

One important metric for assessing the seriousness of efforts of building trade unions to increase diversity is to examine the racial and ethnic composition of apprenticeships, essentially the flow into membership and construction employment in the union construction sector.

The importance of apprenticeship programs was aptly described by the recent report from Columbia University's School of Public and International Affairs:

Union apprenticeship programs have been important for meeting the construction industry's need for recruiting, training and educating skilled labor. The apprenticeship training programs are funded by construction contractors through the Joint Apprenticeship and Training Committee (JATC), a labor/management partnership supported and sustained by the collective bargaining system. This cost-sharing partnership is essential to both labor and management for ensuring a highly skilled workforce without placing an undue burden on either the industry or labor. Union apprenticeship programs offer a rare, and in most cases free-of-charge, opportunity to “earn and learn,” providing wages and benefits to workers while they learn job-related skills. Upon completing an apprenticeship program, which may last anywhere from two to five years, graduates earn a certificate and can achieve journey worker status and increased earning opportunities. Robert Medlock, Deputy Executive Director of the Consortium for Worker Education, described the apprenticeship certificate as “tantamount to a \$40,000–50,000 technical education program. Workers complete the apprenticeship program with a lifelong credential that they can carry to any other unionized construction industry in the United States and obtain a middle class job with benefits. (Fuchs, Warren, and Bayer 2014, 10)

The Fuchs, Warren, and Bayer (2014) review of union apprenticeship data shows remarkable progress in inclusion. The data from this report, updated to include comparable 2014 data, are presented in **Table 7** and **Figure A**. The white share of union apprenticeships of New York City residents in 1994 was 63.7 percent; by 2012 and 2014 it had fallen to 33.6 and 38.2 percent, respectively. Correspondingly, the share of apprenticeships going to minorities rose from 36.3 percent in 1994 to 61.8 percent in 2014, down from the 66.4 percent share achieved in 2012. Union apprenticeships among black residents have roughly doubled from 18.3 percent in 1994 to 35.1 percent in 2014. Similarly, Hispanic apprenticeships have risen from a 16.0 percent share in 1994 to 27.6 and 22.2 percent, respectively, in 2012 and 2014. If these programs remain in place the entire union construction workforce will become increasingly diverse.

TABLE 7

Racial composition of New York City registered union apprentices, 1994–2014

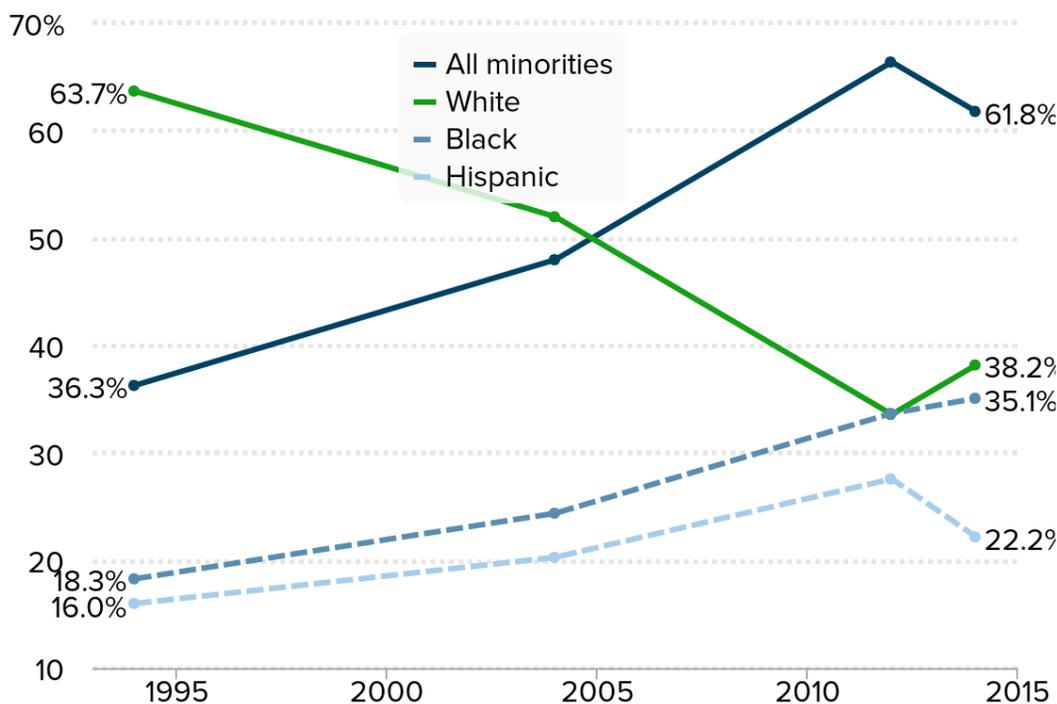
Race/ethnicity	1994	2004	2012	2014
White	63.7%	52.0%	33.6%	38.2%
All minorities	36.3%	48.0%	66.4%	61.8%
Black	18.3%	24.4%	33.7%	35.1%
Hispanic	16.0%	20.3%	27.6%	22.2%
All others	2.0%	3.3%	5.2%	4.5%
Total	100.0%	100.0%	100.0%	100.0%

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Source: Figure 5 in Fuchs, Warren, and Bayer (2014) based on Figueroa, Grabelsky, and Lamare (2013) and Building and Construction Trades Council of New York (2012, 2014)

FIGURE A

Racial composition of New York City registered union apprentices, 1994–2014



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Note: "All minorities" includes black, Hispanic, and other races, not including white.

Source: Figure 5 in Fuchs, Warren, and Bayer (2014) based on Figueroa, Grabelsky, and Lamare (2013) and Building and Construction Trades Council of New York (2012, 2014)

Fuchs, Warren, and Bayer (2014, 14) explain this trend:

Labor and contracting officials attribute the increased diversity in the construction industry workforce to several factors, including pre-apprenticeship programs such as Construction Skills, the changing demographics of New York City's population, civil rights lawsuits and a shift in attitude among union members and their leadership.

Assessing union-basher Berman's claim that construction unions squelch black opportunity

Richard Berman runs a public relations firm that is paid by employer groups to attack trade unions and does so through various front groups.⁵ Berman recently attacked construction unions based on the fact that black union construction workers earned less than their white counterparts, doing so in a recent blog post (Berman 2015) on his public relations firm's website and on a Times Square billboard. In particular, Berman claimed that black unionized construction workers make \$5.74 less per hour on average than white unionized construction workers, or roughly 20 percent less.⁶ On this basis Berman contends that "All told, the evidence suggests the BCTC of Greater New York may not be the beacon of opportunity to New York City's non-white community that it claims to be."

Berman's claim that unions have hurt the black community is false and the presumption that the absence of unions and collective bargaining would help black workers is seriously misguided and contrary to readily available evidence. Unfortunately, Berman's comparison could be done for any occupation or any industry in our nation, in either union or nonunion sectors, since black wages remain seriously below those of whites and have been lower throughout our history (Rodgers and Wilson 2016). Berman's analysis curiously omits any reference to wages and employment in the nonunion construction sector, which provide the critical benchmark for comparison because they represent how wages and employment would fare in the absence of collective bargaining. In fact, Table 6 provides the basic data (from Tables 1 and 5) to examine how collective bargaining has shaped earnings opportunities for black workers in construction relative to what would prevail if there were no collective bargaining. The basic results are determined by the facts established earlier; that blacks are more represented in the union than nonunion construction sector and blacks in union jobs earn *far more* than blacks in nonunion jobs. It follows that the current earnings generated in the black community by the construction industry are far higher than what would prevail were collective bargaining abolished. There are clearly ways that the black community could benefit better from construction jobs but eliminating collective bargaining is not one of them.

Berman would do better to attack discrimination against blacks in nonunion construction. To start with, black workers in the union construction sector earn \$21.36, 36.1 percent more than the \$15.70 earned by black workers in nonunion construction. Yes, black workers earn less than white workers in the union sector, as they also do in the nonunion construction sector, in the economy as a whole, and in other blue-collar jobs outside of construction. Racial disparities remain a problem we need to address throughout our economy. However, the black/white wage gap is notably *larger* in the nonunion construction sector, 20.8 percent, than the 17.4 percent gap in the union construction sector. Collective bargaining actually helps to close the racial gap because unions have raised wages more for black construction workers (36.1 percent) than for white construction workers (30.4 percent).

We also know that black workers are underrepresented in employment in the nonunion construction sector relative to the union sector. If black workers had the same low share of the workforce in the union construction sector as in the nonunion construction sector (just 15.8 percent), then there would be about 25 percent fewer black workers in union construction ($15.8/21.2$ equals roughly 75 percent).

So, if the union sector mirrored the pattern of the nonunion construction sector, black workers would earn substantially less, the racial wage gap would be somewhat higher, and far fewer blacks would be employed. **Table 8** provides estimates of the implications for the total wages earned each year by black construction workers, assuming each worker works full time and full year. Currently the black union construction workforce earns \$335.1 million annually. If the nonunion wage levels prevailed, the black workforce would have earned only \$246.3 million, 26.5 percent less. If we just take into account the lesser representation of blacks in construction that would prevail in an entirely nonunion construction sector, then total black earnings would be just \$249.5 million, 25.6 percent less. If we take into account the lower wages and the reduced employment opportunities that would prevail in an entirely nonunion construction sector then total black earnings from construction would have been just \$183.4 million. That's a roughly 45 percent reduction in total wages from construction for the black community because there would be fewer jobs in construction and those employed in construction would earn far less. This shows that collective bargaining has created substantial earnings opportunities for the black community relative to what the nonunion sector would provide.

TABLE 8

Wages and employment in union and nonunion construction for blacks and whites, 2006–2015

Race/ethnicity	Union	Nonunion	Union wage advantage**
Hourly wage (2015 dollars)*			
Non-Hispanic white	\$25.85	\$19.82	30.4%
Black	\$21.36	\$15.70	36.1%
Black/white wage gap***	-17.4%	-20.8%	
Share of total employment*			
Black	21.2%	15.8%	
Total annual wages earned by blacks in union sector			
	Millions of dollars	Share of actual	
Actual	\$335.1	100.0%	
At lesser nonunion wages	\$246.3	73.5%	
At lesser nonunion employment shares	\$249.5	74.4%	
At lesser nonunion employment and wages	\$183.4	54.7%	
Nonunion impact	\$(151.8)	-45.3%	

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* Construction occupations in the construction sector, excluding extraction occupations

** Union advantage is the percent by which union wages exceed that of nonunion wages

*** Black/white wage gap is the percent by which black wages are below those of whites

Source: Author's analysis of Current Population Survey Outgoing Rotation Group microdata, 2006–2015

Conclusion

Controversies over racial exclusion in union construction jobs are understandable given the history, as reviewed above. However, what happened in the past does not mean the same practices still prevail. So, it is useful to examine recent data as this study does, examining employment patterns in the most recent 10 years (2006–2015). It is also important to have a point of comparison. Union critics fail to offer evidence that nonunion work sites or nonunion apprenticeships provide greater diversity. In fact, the analysis in this paper shows that the union sector is more welcoming of black workers and provides greater jobs opportunities and far greater wages than the nonunion construction sector. And the analysis of the younger workforce indicates that the union sector has become more welcoming relative to the nonunion sector over time. This is also reflected in the near doubling of the share of union apprenticeships going to black New York City residents, which rose from 18.3 percent of all apprenticeships in 1994 to 35.1 percent in 2014. Comparable data for nonunion apprenticeships are not available.

About the author

Lawrence Mishel, a nationally recognized economist, has been president of the Economic Policy Institute since 2002. Prior to that he was EPI's first research director (starting in 1987) and later became vice president. He is the co-author of all editions of *The State of Working America*. He holds a Ph.D. in economics from the University of Wisconsin at Madison, and his articles have appeared in a variety of academic and non-academic journals. His areas of research are labor economics, wage and income distribution, industrial relations, productivity growth, and the economics of education.

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Endnotes

1. See Berman (2015) and op-eds by Marc H. Morial (2010), president and CEO of the National Urban League, and Harry C. Alford (2010), president and CEO of the National Black Chamber of Commerce.
2. Historian Richard Yeselson prepared this section.
3. Many immigrants arrive when they are age 16 to 24 years old and have not earned a high school diploma.
4. These data reflect comparisons of the construction wage relative to the nonconstruction wage within each sector. For instance, the \$23.95 union construction wage is 14.0 percent higher than the \$21.01 union non-construction wage.

5. Richard Berman, founder and CEO of Berman & Co., is executive director of several front groups run out of the firm's D.C. offices, including the Employment Policies Institute and the Center for Union Facts. Berman's blog, *LaborPains*, describes itself as "a joint blog of the **Center for Union Facts** and the Enterprise Freedom Action Committee. We expose the truth about labor unions and the pain they impose upon free enterprise." The funding of this website or of **UnionFacts.org** is not disclosed. A front-page expose in the *New York Times* confirmed Berman's ties to industry lobbyists and raised major questions about the credibility of the Employment Policies Institute as a research institution: "Something fundamental goes unsaid in the institute's reports: The nonprofit group is run by a public relations firm that also represents the restaurant industry, as part of a tightly coordinated effort to defeat the minimum wage increase..." (Lipton 2014)

Bloomberg News quoted a former IRS official saying that Berman's groups operate for the private benefit of Berman and his clients and represent "a clear violation of the requirements for tax-exempt status."

More information on Berman and the constellation of nonprofits that allow his public relations firm to make profits is in a report by the Center for Public Integrity (Dunbar and Quinn 2014).

6. Berman cites analysis of the January 2003 to July 2015 Current Population Survey's Outgoing Rotation Group data. These are the same data, though different years, employed in tabulating Table 5 of this report.

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Appendix: Construction occupations: 2010 Census occupational classification and codes

Boilermakers: 6210 47-2011
Brickmasons, blockmasons, and stonemasons: 6220 47-2020
Carpenters: 6230 47-2031
Carpet, floor, and tile installers and finishers: 6240 47-2040
Cement masons, concrete finishers, and terrazzo workers: 6250 47-2050
Construction laborers: 6260 47-2061
Paving, surfacing, and tamping equipment operators: 6300 47-2071
Pile-driver operators: 6310 47-2072
Operating engineers and other construction equipment operators: 6320 47-2073
Drywall installers, ceiling tile installers, and tapers: 6330 47-2080
Electricians: 6355 47-2111
Glaziers: 6360 47-2121
Insulation workers: 6400 47-2130
Painters, construction, and maintenance: 6420 47-2141
Paperhangers: 6430 47-2142
Pipelayers, plumbers, pipefitters, and steamfitters: 6440 47-2150
Plasterers and stucco masons: 6460 47-2161
Reinforcing iron and rebar workers: 6500 47-2171
Roofers: 6515 47-2181
Sheet metal workers: 6520 47-2211
Structural iron and steel workers: 6530 47-2221
Solar photovoltaic installers: 6540 47-2231
Helpers, construction trades: 6600 47-3010
Construction and building inspectors: 6660 47-4011
Elevator installers and repairers: 6700 47-4021
Fence erectors: 6710 47-4031
Hazardous materials removal workers: 6720 47-4041
Highway maintenance workers: 6730 47-4051
Rail-track laying and maintenance equipment operators: 6740 47-4061
Septic tank servicers and sewer pipe cleaners: 6750 47-4071
Miscellaneous construction and related workers: 6765 47-4090