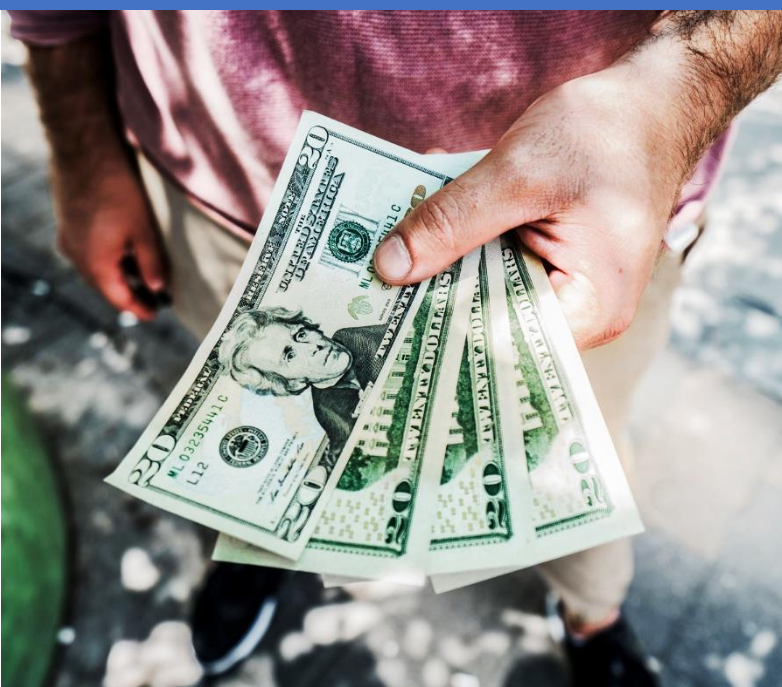

The Costs of Wage Theft and Payroll Fraud in the Construction Industries of Wisconsin, Minnesota, and Illinois

Impacts on Workers and Taxpayers

January 14, 2021

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Executive Summary

Payroll fraud is a pervasive problem in the construction industry, costing taxpayers hundreds of millions of dollars every year. Payroll fraud often occurs when employers either misclassify workers as independent contractors or pay workers "off-the-books" in cash. This is also known as *wage theft*. In recent years, elected officials in Wisconsin, Minnesota, and Illinois have acknowledged this problem and have taken steps to combat it.

Using a generally accepted method in the economics research that compares household survey data from the U.S. Census Bureau with payroll records submitted to state unemployment insurance programs, this Midwest Economic Policy Institute report investigates the extent of construction payroll fraud from misclassification and "off-the-books" employment in these three Upper Midwest states.

- Across the region, one-in-five construction workers (18 percent) experiences some form of wage theft.
- In Wisconsin, about 14,500 construction workers are misclassified or are paid off the books, accounting for 10 percent of the workforce.
- In Minnesota, about 30,100 construction workers are misclassified or are paid off the books, accounting for 23 percent of the workforce.
- In Illinois, about 52,800 construction workers are misclassified or are paid off the books, accounting for 20 percent of the workforce.

Misclassified workers lose access to basic labor protections, including minimum wage, overtime pay, unemployment insurance, and workers' compensation insurance.

- In Wisconsin, illegally employed construction workers earn 31 percent less ($23,500 annually) in combined wages and fringe benefits.
- In Minnesota, illegally employed construction workers earn 36 percent less ($29,700 annually) in combined wages and fringe benefits.
- In Illinois, illegally employed construction workers earn 29 percent less ($24,100 annually) in combined wages and fringe benefits.

Unscrupulous contractors who misclassify workers or illegally pay their employees in cash commit payroll fraud that costs taxpayers millions of dollars per year.

- Wisconsin annually loses $40 million in state tax revenues due to construction payroll fraud– including $8 million in income taxes, $6 million in unemployment insurance contributions, and $26 million in workers' compensation premiums.
- Minnesota annually loses $136 million in state tax revenues due to construction payroll fraud– including $65 million in income taxes, $13 million in unemployment insurance contributions, and $58 million in workers' compensation premiums.
- Illinois annually loses $186 million in state tax revenues due to construction payroll fraud– including $60 million in income taxes, $23 million in unemployment insurance contributions, and $103 million in workers' compensation premiums.

Wage theft is rampant in the construction industries of Wisconsin, Minnesota, and Illinois. To combat the problem, states can increase enforcement efforts or strengthen punitive actions against offenders, including making payroll fraud a crime. Payroll fraud from worker misclassification and illegal employment in the construction industry has severe negative consequences for workers, law-abiding contractors, and taxpayers.

Table of Contents

About the Authors

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The authors wish to thank Professor **Russell Ormiston, Ph.D.** of Allegheny College for providing constructive criticism and editorial suggestions on an early version of this manuscript.

Introduction

Payroll fraud, also known as wage theft, is a pervasive problem in the U.S. construction industry. Payroll fraud occurs when employers either misclassify workers as independent contractors or pay workers "off-the-books" in cash-only arrangements. Payroll fraud also occurs when employers pay less than the minimum wage, refuse to pay workers for all hours worked, and fail to pay overtime or premium compensation. In construction, employers– either knowingly or unknowingly– engage in this illicit activity in order to reduce labor costs by skirting overtime pay and evading taxes that fund social insurance programs (Ormiston et al., 2020). These employers also often avoiding the payment of voluntary benefits such as health, retirement, and apprenticeship training benefits. This gives unscrupulous contractors an unfair advantage against law-abiding competitors.

While there are some benefits to being a legitimate independent contractor, especially in terms of flexibility and entrepreneurial activity, workers who are improperly classified as independent contractors face serious consequences (Xu & Erlich, 2019). Misclassified workers lose protections to basic labor standards, such as minimum wage, overtime pay, paid leave, and the ability to join a union and collectively bargain. Workers who should legally be in employer-employee relationships with construction companies (often called "W-2 employees") but who are either considered independent contractors or paid in cash also forgo any legal right to unemployment insurance if they are laid off and workers' compensation insurance if they suffer on-the-job injuries.

Over recent years, elected officials in three Upper Midwest states have taken steps to combat this problem. In Wisconsin, Governor Tony Evers acknowledged that "worker misclassification denies vulnerable workers legal protections" and that "this fraudulent practice also results in millions of dollars of losses to state government and taxpayers" in an Executive Order creating a Task Force on Payroll Fraud and Worker Misclassification in April 2019 (Evers, 2019). In May 2019, Illinois Governor J.B. Pritzker signed a law creating a Worker Protection Unit Task Force to combat wage payment violations and unfair labor practices, including misclassification in the construction industry (Illinois AG, 2019). Most significantly, in July 2019, Minnesota Governor Tim Walz invested $3 million in the state's Department of Labor and Industry (DLI) to enforce wage and hour laws and penalize companies that misclassify workers (Forum News Service, 2019).

Although elected officials recognize that worker misclassification and illegal employment afflict the construction industry, the magnitude of the problem is not well understood. This report– conducted by researchers at the Midwest Economic Policy Institute, a division of the Illinois Economic Policy Institute– identifies the extent of payroll fraud and wage theft in the construction industries of Wisconsin, Minnesota, and Illinois using statistical methods consistent with the general approach taken in other studies on worker misclassification. After a brief review of pertinent research, estimates on construction misclassification and illegal employment are presented. These estimates are based on multiple sources of data officially released by the federal government. Then, the costs of payroll fraud on worker earnings and state tax revenues are quantified before a concluding section recaps key findings and discusses potential policy options.

Previous Studies on Payroll Fraud and Wage Theft in Construction

To date, economic research on worker misclassification and illegal employment has produced a range of estimates that vary by study methodology (Figure 1). Quantifying worker misclassification is difficult because unscrupulous employers attempt to conceal their fraud, employees may not know they are being considered independent contractors, and state governments have limited resources to monitor, investigate, and take punitive action against offenders. Despite these limitations, academic researchers have found that payroll fraud and wage theft are rampant in construction markets across the United States.

In 2020, Professors Russell Ormiston, Dale Belman, and Mark Erlich published the most authoritative research on worker misclassification and payroll fraud in the construction industry (Ormiston et al., 2020). These Allegheny College, Michigan State University, and Harvard University researchers utilized previously-established techniques and also created their own to estimate that between 12 percent and 21 percent of the construction workforce was misclassified or illegally employed across the United States in 2017. During August, the peak construction employment month, the rate of misclassification and illegal employment was even higher, between 13 percent and 22 percent. Additionally, the authors illustrated three hypothetical annual earnings values for the typical construction worker to estimate the cost of worker misclassification to taxpayers.

The State of Wisconsin Department of Workforce Development (DWD) published another important study on payroll fraud and worker misclassification in 2020 (DWD, 2020). The report by the Task Force– which included members from state government, legislators from the State Senate and State Assembly, and representatives from business groups and building trades unions– audited unemployment insurance (UI) data. The report found that statewide underreported taxes due to misclassification of workers in all sectors more than tripled over two decades, from $17 million in 2000 to $57 million in 2019. In 2019 alone, the DWD's Equal Rights Division processed more than 4,000 complaints and recovered more than $1 million in wages owed to Wisconsin workers. Consequently, as much as $91 million in personal income tax revenue was lost in 2019 due to worker misclassification. In addition, 40 percent of UI audits of construction employers over the seven-year period from 2013 through 2019 were found to have misclassified employees. Assuming that 5 percent of business income is attributable to construction companies, the Wisconsin Department of Revenue (DOR) estimated that forgone business taxes from the construction industry amount to $51 million annually.

A 2007 report by the Minnesota Office of the Legislative Auditor (OLA) also found a high prevalence of misclassification across the border in Minnesota. The state's rate of worker misclassification in 2005 was an estimated 15 percent, with a reported confidence between 11 percent and 21 percent. Minnesota's construction industry comprised a disproportionate share of misclassified employees in 2005 UI audits, accounting for about 11 percent of all misclassified workers but just 6 percent of total audits (OLA, 2007).

Three additional reports published between 2006 and 2011 focused on the three nearby states of Illinois, Indiana, and Kentucky. The studies were all published by Professors Michael Kelsay, James Sturgeon, and Kelly Pinkham from the University of Missouri-Kansas City. In Illinois, the economists found that misclassification is both a cause and contributor to increasing deficits in the unemployment insurance trust fund. The 2006 study found that more than 6,200 construction contractors had misclassified employees in 2005, accounting for approximately 28 percent of workers at those companies. In total, more than 22,400 construction workers (9 percent) had been misclassified, costing the UI system nearly $3 million, state income tax revenues $17 million, and workers compensation premiums as much as $35 million (Kelsay et al., 2006). The Indiana and Kentucky reports incorporated the same auditing methods and found that 15 percent of construction employees were misclassified in Indiana and 8 percent were misclassified in Kentucky (Kelsay & Sturgeon, 2010; Kelsay & Sturgeon, 2011).

FIGURE 1: RESEARCH ON CONSTRUCTION WORKER MISCLASSIFICATION AND PAYROLL FRAUD, 2006-2020

Authors of Study (Year)	Geography	Summary of Misclassification Results
Ormiston, Belman and Erlich (2020)	United States	12%-21% estimated illegal employment rate nationally
Wisconsin Task Force (2020)	Wisconsin	40% of unemployment insurance audits in construction found misclassified workers
Xu and Erlich (2019)	Washington	19% estimated misclassification by employers in construction
Yen Liu, Flaming, and Burns (2014)	California	16% of construction workers were not reported or were misclassified
Kelsay and Sturgeon (2011)	Kentucky	8% of construction employees misclassified
Kelsay and Sturgeon (2010)	Indiana	15% of construction employees misclassified
Minnesota State Auditor (2007)	Minnesota	11%-21% estimated misclassification by employers in construction
Kelsay, Sturgeon, and Pinkham (2006)	Illinois	9% of construction employees misclassified

Source(s): Individual studies listed in the table.

Outside of the Midwest region, a recent 2019 report analyzed the economic consequences of misclassification and payroll fraud in the State of Washington. The study by Professors Lisa Xu and Mark Erlich, law professors from Harvard University, found that the prevalence of misclassification increased from 5 percent in 2008 to 14 percent in 2017. The industries with the highest rates of worker misclassification were construction, clerical services, and hotels and restaurants. In construction, an estimated 19 percent of workers were misclassified in Washington (Xu & Erlich, 2019).

Additionally, a 2014 study by the Economic Roundtable on California's construction industry found that 16 percent of California construction workers were not reported by their employers or were misclassified as independent contractors. Payroll fraud and wage theft in California's construction industry increased by 400 percent between 1972 and 2011. The authors also found that misclassified workers earn only 67 percent as much as their counterparts who work legally as W-2 employees (Yen Liu et al., 2014).

Previous economic research has demonstrated that worker misclassification and illegal employment can have negative consequences for both the construction industry and for taxpayers. Because fair and competitive markets are undermined by these practices, unscrupulous companies that engage in these forms of fraud and wage theft can underbid law-abiding contractors who play by the rules. This puts compliant firms at a distinct competitive disadvantage. Lawmakers and public officials can take steps to address worker misclassification and take punitive action against black-market contractors.

Construction Misclassification and Payroll Fraud in the Upper Midwest

This study draws inspiration from the comprehensive methodology discussed by Ormiston, Belman, and Erlich to estimate the incidence of misclassification in the construction industry for three upper Midwest states: Wisconsin, Minnesota, and Illinois (Ormiston et al., 2020). In general, payroll data and household surveys are used to compare total employment with "compliant" (i.e. legal) employment in construction, consistent with the general approach taken in the seven studies discussed in the previous section.[1]

These comparisons provide a straightforward difference between the "total" and "compliant" groups. The total group is composed of workers who report that they are either employed or self-employed in the construction industry, while the compliant group is determined by employer payroll records. Self-employment poses an issue because misclassified workers often believe they are employed by firms, but the firms report that they are self-employed. As a result, once the extent of illegal self-employment is identified, these workers become the target group of analysis. This target group is comprised of a mixture of misclassified and off-the-books workers, both of which are illegal.[2] For estimates on the total employment in construction, two U.S. government data sources are utilized– the

[1] The term "compliant" is appropriate because employers may correctly classify their workforce but nevertheless engage in other illicit activities, meaning that the term "legal" may not be accurate in all cases if used when referring to all contractors that do not misclassify workers.

[2] The difference between the "total" and "compliant" groups consists of legitimate self-employed workers, those who know themselves to be self-employed and operate illegally, and those who consider themselves to be employees but are no reported as such by their employers through W-2 forms. For this reason, Ormiston, Belman, and Erlich use income underreporting rates from the Internal Revenue Service (Ormiston et al., 2020).

American Community Survey (ACS) and the Current Population Survey (CPS). However, a 2002 report found that a significant number of workers surveyed in the Current Population Survey (CPS) were being paid in cash (Roemer, 2002).[3] The "compliant" employment in construction is measured using two additional federal government data sources– the Quarterly Census of Employment and Wages (QCEW) and the Bureau of Economic Analysis (BEA).

One consideration could be job flows into and out of an area, given that some construction workers may live in one state but travel to another state to work on projects. Data from the Longitudinal-Employer Household Dynamics Origin-Destination Employment Statistics by the U.S. Census Bureau shows that about 2 percent of workers employed in Wisconsin, Minnesota, and Illinois live outside the study area, and 3 percent of workers who live in Wisconsin, Minnesota, and Illinois are employed outside the study area (LODES, 2017). This is an important note given that the "total employment estimates" are based on the location of workers' employment but the "compliant employment" estimates are based on the location of workers' residences.

Estimates Using the Monthly Data Method: Prime Construction Season

One way to estimate worker misclassification and illegal employment in the construction industries of Wisconsin, Minnesota, and Illinois is to investigate monthly data. This method makes use of construction employment statistics from the Current Population Survey (CPS) and payroll data from the Quarterly Census of Employment and Wages (QCEW) (Census, 2018a; BLS, 2018a). The value in this method is that it captures important differences between months. Averaging over the year may not be a problem for industries where year-round employment is typical and steady. That is because seasonality impacts every worker in the construction industry. Annual estimates could fail to account for seasonal workers; for example, if a worker only works four months during the year, then there is a two-thirds chance that an annual survey would miss him or her. This study of Wisconsin, Minnesota, and Illinois spans the 12 months from January 2018 to December 2018, and estimates drawn from summer months with the highest employment may be more informative than the winter months when construction activity is limited. Accordingly, the particular focus of this section is on prime construction months from April to November.

The QCEW is an administrative payroll survey that captures over 95 percent of jobs across the United States. However, for some information regarding state and local construction employment, the Bureau of Labor Statistics (BLS) determined that there was not enough data to meet disclosure standards. The employment figures provided by the Bureau of Economic Analysis (BEA) offer more accurate employment estimates (BEA, 2018). The BEA's estimate is adjusted to account for employment and wages that are not covered by state unemployment insurance and unemployment compensation programs for federal employees, following the technique used by Professors Ormiston, Belman, and Erlich

[3] Even the most rigorous U.S. surveys can have inaccuracies due to misleading or unsure responses.

(Ormiston et al., 2020). The percent difference between the BEA and QCEW estimates is used to determine an adjustment factor for the prime construction months (Figure 2).

The CPS is monthly survey sent to 60,000 households nationally that is conducted by the Census Bureau and the BLS. Monthly data on employment by sector (e.g. public, private, or self-employed) are used for workers whose main job or second job is in construction in order to develop a complete picture of industry employment. However, all results using CPS data have sample size limitations.[4] It should also be noted that CPS surveys are reported by workers as what they see as their employment status, so it may be the case that some survey responses reflect workers who mistook their status. While there may be some misreporting, the CPS is nevertheless considered the "gold standard" survey among economists and a primary source of U.S. labor statistics, including monthly data on the unemployment rate.

FIGURE 2: STATE QCEW-BEA ADJUSTMENTS – METHODOLOGY BY ORMISTON, BELMAN, & ERLICH (2020)

Methodology: QCEW-BEA Adjustments	Total 2018 Industry Employment (BEA)	Total 2018 Industry Employment (QCEW)	Adjustment Factor Needed
Wisconsin	125,575	124,734	1.007
Minnesota	124,682	125,291	0.995
Illinois	231,642	226,705	1.022
Upper Midwest	**481,899**	**476,730**	**1.011**

Source(s): Authors' analysis of data from the Bureau Of Economic Analysis (BEA, 2018) and Quarterly Census of Employment and Wages (BLS, 2018a).

In all three Midwestern states, there are consistently more workers who report to being employees in construction than reported in the payroll data, indicating worker misclassification (Figure 3). In total, over the prime construction months of April to November, about 14 percent of construction workers are misclassified across the Upper Midwest. This includes a worker misclassification rate of 6 percent in Wisconsin, 10 percent in Minnesota, and 20 percent in Illinois.

FIGURE 3: SHARE OF MISCLASSIFIED WORKERS DURING PRIME CONSTRUCTION SEASON BY STATE

Prime Construction Season (2018 Estimates)	Total Industry Employment (CPS)	Compliant Industry Employment (QCEW-Adjusted)	Misclassified Workers (Difference)	Share of Workforce Misclassified
Wisconsin	139,057	130,913	8,144	6%
Minnesota	147,331	132,187	15,144	10%
Illinois	300,804	241,789	59,015	21%
Upper Midwest	**587,192**	**504,920**	**82,272**	**14%**

Source(s): Authors' analysis of data from the Current Population Survey (Census, 2018a) and Quarterly Census of Employment and Wages (BLS, 2018a), with an adjustment factor by Bureau Of Economic Analysis (BEA, 2018).

Misclassification is not the only form of payroll fraud in the construction industry (Figure 4). Some workers may report that they are self-employed independent contractors and accept payment from project owners or from prime contractors "under the table" in

[4] For this study, there were approximately 200 observations for each month. Over the year, Illinois had more than 1,000 observations while Wisconsin and Minnesota both had more than 500 observations. These were adjusted to match the actual population in each state using sampling weights.

cash. Focusing on self-employed workers who reported their own earnings to tax agencies during the prime construction season, it is possible to determine the level of illegal self-employment in the construction industry. Using data from the U.S. Census Bureau's Nonemployer Statistics series, only about 171,000 self-employed independent contractors reported earnings to tax agencies in these three Upper Midwest states (Census, 2020). However, more than 212,000 individuals in construction said they were self-employed in the industry in 2018, suggesting that approximately 41,000 construction workers were paid off-the-books. Illegal employment in the construction industry is highest in Minnesota, followed by Illinois and subsequently by Wisconsin (Figure 4).

FIGURE 4: SHARE OF ILLEGALLY EMPLOYED WORKERS DURING PRIME CONSTRUCTION SEASON BY STATE

Prime Construction Season (2018 Estimates)	1st or 2nd Job Self-Employed in Construction (CPS)	Self-Employed Nonemployers in Construction (Census)	Illegally Self-Employed: Off-the-Books (Difference)
Wisconsin	42,531	39,474	3,057
Minnesota	63,621	39,494	23,672
Illinois	106,576	91,482	15,094
Upper Midwest	**212,349**	**170,905**	**41,444**

Source(s): Authors' analysis of data from the Current Population Survey (Census, 2018a) and the Nonemployer Statistics (Census, 2020).

Combining the estimates on workers who believe they are employees and self-employed individuals who are paid off-the-books reveals the extent of construction payroll fraud (from these activities) in each state (Figure 5). During the prime construction season, an estimated 8 percent of construction workers are misclassified or illegally employed in Wisconsin, 26 percent are in Minnesota, and 25 percent suffer from payroll fraud in Illinois. As a region, 21 percent of construction workers are misclassified or illegally employed.

FIGURE 5: WORKERS SUFFERING FROM PAYROLL FRAUD DURING PRIME CONSTRUCTION SEASON BY STATE

Prime Construction Season (2018 Estimates)	Total Industry Employment (CPS)	Total Misclassified and Illegally Employed Workers in Industry (Differences)	Share of Workforce Suffering from Payroll Fraud
Wisconsin	139,057	11,202	8%
Minnesota	147,331	38,816	26%
Illinois	300,804	74,108	25%
Upper Midwest	**587,192**	**123,716**	**21%**

Source(s): Authors' analysis of data from the Current Population Survey (Census, 2018a), Quarterly Census of Employment and Wages (BLS, 2018a) with an adjustment factor by Bureau Of Economic Analysis (BEA, 2018), and Nonemployer Statistics (Census, 2020).

Estimates Using the Annual Data Method: Full Year

Another way to estimate worker misclassification and illegal employment in the construction industries of Wisconsin, Minnesota, and Illinois is to investigate annual data. The advantage to this approach is that it is based on more data and may be more accurate. On the other hand, the disadvantage of an annual analysis is that the American Community Survey (ACS) fails to capture the seasonality of construction, so the less time a worker is employed during the year, the less likely they will be captured in the employment data.

Like the first method, the "compliant" group comes from employer payroll records from the Bureau of Economic Analysis (BEA), which reports data by industry (BEA, 2018). The total employment estimate is derived from the 2018 American Community Survey (ACS) one-year estimates for Wisconsin, Minnesota, and Illinois (Census, 2018b). However, the ACS does not ask individuals about any second jobs they may have. As a result, the ACS observations are be augmented with CPS data collected previously.

Once again, there are consistently more workers who report to being employees in construction than reported in the payroll data, indicating worker misclassification (Figure 6). In total, about 10 percent of construction workers were misclassified across the Upper Midwest over 2018. This includes a worker misclassification rate of 9 percent in Wisconsin, 5 percent in Minnesota, and 13 percent in Illinois.

FIGURE 6: SHARE OF MISCLASSIFIED WORKERS DURING THE FULL YEAR BY STATE

Full Year (2018 Estimates)	Total Industry Employment (ACS)	Compliant Industry Employment (BEA)	Misclassified Workers (Difference)	Share of Workforce Misclassified
Wisconsin	138,718	125,575	13,143	9%
Minnesota	131,914	124,682	7,232	5%
Illinois	267,051	231,642	35,409	13%
Upper Midwest	**537,683**	**481,899**	**55,784**	**10%**

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b) and Bureau Of Economic Analysis (BEA, 2018).

Figure 7 includes annual estimates of worker misclassification from Figure 6 and annual estimates of off-the-books self-employment from Figure 4 to determine the extent of payroll fraud in the three Upper Midwest states.[5] It is estimated that 10 percent of construction workers are misclassified or illegally employed in Wisconsin, 23 percent are in Minnesota, and 20 percent suffer from payroll fraud in Illinois. As a region, 18 percent of construction workers were misclassified or illegally employed in the Upper Midwest in 2018. Although different, these findings are very close to the prime construction season estimates that use different datasets– increasing confidence in the accuracy of the estimates.

FIGURE 7: WORKERS SUFFERING FROM PAYROLL FRAUD DURING THE FULL YEAR BY STATE

Full Year (2018 Estimates)	Total Industry Employment (ACS)	Total Misclassified and Illegally Employed Workers in Industry (Differences)	Share of Workforce Suffering from Payroll Fraud
Wisconsin	138,718	14,519	10%
Minnesota	131,914	30,080	23%
Illinois	267,051	52,761	20%
Upper Midwest	**537,683**	**97,320**	**18%**

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b), Bureau Of Economic Analysis (BEA, 2018), and Nonemployer Statistics (Census, 2020).

[5] The off-the-books self-employment found in the previous monthly data method was already annualized. CPS data are utilized because the ACS does not ask individuals about any second jobs they may have.

Earnings and Tax Consequences of Payroll Fraud in the Upper Midwest

There are both labor market and fiscal consequences when workers are misclassified or paid off-the-books. Misclassified workers are often denied access to minimum labor protections, such as minimum wage, overtime compensation, and unemployment insurance (DOL, 2020). Misclassified workers are also often denied access to voluntary benefits, such as health insurance and retirement plans. As a result, misclassified workers have been found to earn lower incomes than workers paid as employees (NELP, 2015). Unscrupulous contractors also contribute significantly less towards social insurance programs and other taxes.

Impacts on Worker Wages

This section estimates lost wages in the construction industry for Wisconsin, Minnesota, and Illinois in 2018 using annual data from the American Community Survey (ACS). Typically, misclassification occurs when employees are illegitimately considered independent contractors. Given this fact, Figure 8 compares the annual average wage and salary income of all W-2 employees and all individuals who report that they are "unincorporated self-employed," which is the most common type of classification for contractors and freelancers (Coate & Kersey, 2019).

Unincorporated self-employed individuals in construction earn between 13 percent and 22 percent less than construction industry employees (Figure 8). In 2018, Wisconsin's construction industry employees averaged about $52,500 in annual income from wages. In comparison, independent contractors only made an average of $43,200, which is about $8,300 less (16 percent less) per year. The discrepancy is even larger in Minnesota: construction industry employees earned about $56,000 over the year while independent contractors made just $43,600 annually, a difference of more than $12,400 (22 percent less). On the other hand, Illinois' construction industry employees earned more than $57,200 annually while independent contractors in the state took home about $49,700 over the year (13 percent less). As a region, independent contractors earn 18 percent less per year than traditional employees in the construction industry (Figure 8).

FIGURE 8: ANNUAL WAGE INCOME BY CLASSIFICATION, EMPLOYEES VS. UNINCORPORATED SELF-EMPLOYED

2018 Annual Income from Wages (ACS)	Wage and Salary (W-2) Employees	Independent Contractors	Pay Difference	Percent Difference
Wisconsin	$51,490	$43,199	$8,290	16%
Minnesota	$56,045	$43,584	$12,460	22%
Illinois	$57,245	$49,696	$7,549	13%
Upper Midwest	**$55,463**	**$45,292**	**$10,171**	**18%**

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b). Independent contractors are represented by those who report that they are self-employed, not incorporated to the Census Bureau.

Impacts on Worker Fringe Benefits

In December 2018, the BLS reported on "Employer Costs for Employee Compensation" in September 2018 (BLS, 2018b). This news release included information on hourly wages and total benefits, such as paid leave, retirement and savings, and legally-required Social Security and Medicare. Estimates are included for all employees in "natural resources, construction, and maintenance" jobs and for all employees in the Midwest states. After averaging the two groups to create a compensation breakdown that is more reflective of the construction industry in the Midwest, it is estimated that base wages account for 68 percent of total compensation for legally-employed construction workers in the region. Fringe benefits account for the remaining 32 percent. These include voluntary fringe benefits such as paid leave (6 percent), overtime and supplemental pay (3 percent), insurance (9 percent), and retirement savings (5 percent). Also included are legally-required benefits such as contributions to Social Security and Medicare (6 percent), state and federal unemployment insurance programs (1 percent), and workers' compensation programs (2 percent) (Figure 9).

Using these regional estimates, construction industry employees in Wisconsin earned about $24,100 in average fringe benefits on top of their $51,500 average income from wages in 2018, for a total annual compensation of about $75,600 on average (Figure 10). Properly classified employees earn $6,900 in paid leave benefits and overtime and supplemental pay, $10,600 in retirement, health insurance, and related benefits, and $6,600 in legally-required benefits.

FIGURE 9: ESTIMATED EMPLOYER COSTS FOR EMPLOYEE COMPENSATION, SEPTEMBER 2018

Employer Costs for Employee Compensation (September 2018)	Natural Resources, Construction, and Maintenance		Midwest States Average		Merged Estimate for Construction in the Upper Midwest	
	Value	Share	Value	Share	Value	Share
Total Compensation	**$36.20**	**100%**	**$31.17**	**100%**	**$33.69**	**100%**
Wages and Salaries	**$24.21**	**67%**	**$21.68**	**70%**	**$22.95**	**68%**
Total Benefits	**$11.99**	**33%**	**$9.49**	**30%**	**$10.74**	**32%**
Paid Leave	$1.93	5%	$2.10	7%	$2.02	6%
Supplemental Pay	$1.12	3%	$1.01	3%	$1.07	3%
Insurance (Voluntary)	$3.33	9%	$2.70	9%	$3.02	9%
Retirement and Savings (Voluntary)	$2.22	6%	$1.22	4%	$1.72	5%
Social Security and Medicare	$2.04	6%	$1.86	6%	$1.95	6%
Federal Unemployment Insurance	$0.03	0%	$0.03	0%	$0.03	0%
State Unemployment Insurance	$0.20	1%	$0.15	1%	$0.18	1%
Workers' Compensation	$1.14	3%	$0.43	1%	$0.79	2%

Source(s): Authors' analysis of data from the Employer Costs for Employee Compensation (BLS, 2018b).

In contrast, unscrupulous contractors misclassify workers as independent contractors or pay them in cash in order to avoid paying voluntary fringe benefits and legally-required benefits. Misclassified workers "typically do not get overtime pay" and "are not often compensated for their lost access to workers' compensation and UI programs" (Ormiston et al., 2020). As a result, misclassified construction workers in Wisconsin receive only $52,1000 in total compensation– $43,200 in wages and $8,900 in benefits. The state government loses about $400 in annual unemployment insurance per misclassified construction worker and $1,800 in annual workers' compensation premiums per misclassified construction worker. In total, the cost to a misclassified construction worker is a 16 percent cut in base pay and a 63 percent cut in fringe benefits in Wisconsin. On the other hand, unscrupulous contractors in Wisconsin can reduce their total labor costs by 31 percent by engaging in payroll fraud and wage theft, giving them a false edge over their law-abiding competitors (Figure 10).

FIGURE 10: TOTAL COMPENSATION, EMPLOYEES VS. INDEPENDENT CONTRACTORS IN WISCONSIN, 2018

Difference in Construction Worker Earnings in Wisconsin	Legally Employed Construction Worker	Illegally Employed Construction Worker	Difference Due to Payroll Fraud
Total Compensation	**$75,591**	**$52,114**	**-31%**
Wages and Salaries	**$51,490**	**$43,199**	**-16%**
Total Benefits	**$24,101**	**$8,915**	**-63%**
Paid Leave	$4,522	$0	-100%
Supplemental Pay	$2,390	$0	-100%
Insurance (Voluntary)	$6,766	$5,676	-16%
Retirement and Savings (Voluntary)	$3,860	$3,238	-16%
Social Security and Medicare	$4,376	$0	-100%
Federal Unemployment Insurance	$67	$0	-100%
State Unemployment Insurance	$393	$0	-100%
Workers' Compensation	$1,762	$0	-100%

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b) and the Employer Costs for Employee Compensation (BLS, 2018b).

Results are similar in Minnesota (Figure 11). Construction industry employees in Minnesota earned a total compensation of about $82,300 on average, including $56,000 in base wages and $26,200 in fringe benefits. Conversely, misclassified workers only received $52,600 in total compensation (36 percent less) from $43,600 in base wages (22 percent less) and $9,000 in fringe benefits (66 percent less). Misclassification annually costs the state about $400 in unemployment insurance contributions and $1,800 in workers' compensation contributions for every victimized construction worker. Unscrupulous contractors in Minnesota can reduce their labor costs by 36 percent by engaging in payroll fraud and wage theft, an unfair advantage over law-abiding local businesses.

Finally, in Illinois, unscrupulous contractors can reduce their labor costs by 29 percent by engaging in payroll fraud and wage theft (Figure 12). Construction workers who are misclassified earn a compensation package of just under $60,000 per year, which is 29 percent less than the $84,000 in total wages and benefits for legal employees. Misclassified construction workers earn 13 percent lower base wages and 62 percent less in fringe benefits. The State of Illinois annually loses approximately $400 in unemployment insurance contributions and $2,000 in workers compensation premiums for every misclassified construction worker.

FIGURE 11: TOTAL COMPENSATION, EMPLOYEES VS. INDEPENDENT CONTRACTORS IN MINNESOTA, 2018

Difference in Construction Worker Earnings in Minnesota	Legally Employed Construction Worker	Illegally Employed Construction Worker	Difference Due to Payroll Fraud
Total Compensation	**$82,278**	**$52,579**	**-36%**
Wages and Salaries	**$56,045**	**$43,584**	**-22%**
Total Benefits	**$26,233**	**$8,994**	**-66%**
Paid Leave	$4,922	$0	-100%
Supplemental Pay	$2,601	$0	-100%
Insurance (Voluntary)	$7,364	$5,727	-22%
Retirement and Savings (Voluntary)	$4,201	$3,267	-22%
Social Security and Medicare	$4,763	$0	-100%
Federal Unemployment Insurance	$73	$0	-100%
State Unemployment Insurance	$427	$0	-100%
Workers' Compensation	$1,917	$0	-100%

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b) and the Employer Costs for Employee Compensation (BLS, 2018b).

FIGURE 12: TOTAL COMPENSATION, EMPLOYEES VS. INDEPENDENT CONTRACTORS IN ILLINOIS, 2018

Difference in Construction Worker Earnings in Illinois	Legally Employed Construction Worker	Illegally Employed Construction Worker	Difference Due to Payroll Fraud
Total Compensation	**$84,040**	**$59,951**	**-29%**
Wages and Salaries	**$57,245**	**$49,696**	**-13%**
Total Benefits	**$26,795**	**$10,255**	**-62%**
Paid Leave	$5,027	$0	-100%
Supplemental Pay	$2,657	$0	-100%
Insurance (Voluntary)	$7,522	$6,530	-13%
Retirement and Savings (Voluntary)	$4,291	$3,725	-13%
Social Security and Medicare	$4,865	$0	-100%
Federal Unemployment Insurance	$75	$0	-100%
State Unemployment Insurance	$437	$0	-100%
Workers' Compensation	$1,958	$0	-100%

Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b) and the Employer Costs for Employee Compensation (BLS, 2018b).

Impacts on Taxpayers

The fiscal impacts of worker misclassification and illegal employment are relatively straightforward. First, misclassified workers would have earned higher wages, on average, if they had not been incorrectly considered independent contractors. That *additional* income would have been subject to state income taxes. Second, if they were not paid in cash, off-the-books construction workers would have earned closer to the average annual wages of their legally-employed counterparts. This assumption can be made because the workers would move from the unregulated underground economy to the legal labor market governed by a level tax and regulatory playing field, collective bargaining agreements, and the laws of supply and demand. Accordingly, while the *entire* income of these off-the-books workers is currently untaxed, it would all be subject to state income taxes if the black market was eliminated. Third, both misclassified workers and off-the-books workers would have employer contributions made on their behalf into state unemployment insurance programs and state workers' compensation programs if they were deemed legal employees.

FIGURE 13: FISCAL IMPACT OF CONSTRUCTION WORKER PAYROLL FRAUD IN WISCONSIN, 2018

Impact of Construction Payroll Fraud on State Tax Revenues in Wisconsin	Workers Misclassified As Independent Contractors	Workers Paid Off the Books in Cash	Total Workers Suffering from Payroll Fraud
Estimated Workers Suffering from Payroll Fraud	13,143	1,376	14,519
Lost Income Subject to Income Tax (Average)	$8,290*	$51,490	$12,384
Net Total Taxable Wages	$108,959,939	$70,849,635	$179,809,573
Lost Income Tax Per Worker (4.62% effective rate)	$383	$2,379	$572
Lost Unemployment Insurance Per Worker	$393	$393	$393
Lost Workers' Compensation Per Worker	$1,762	$1,762	$1,762
Lost Income Tax Contributions	**$5,033,949**	**$3,273,253**	**$8,307,202**
Lost Unemployment Insurance Contributions	**$5,161,354**	**$540,365**	**$5,701,720**
Lost Workers' Compensation Contributions	**$23,152,361**	**$2,423,925**	**$25,576,286**

*Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b), Bureau Of Economic Analysis (BEA, 2018), Nonemployer Statistics (Census, 2020), and Employer Costs for Employee Compensation (BLS, 2018b). Effective state income tax rates for the average annual income from wages for legally employed construction worker reported by SmartAsset (SmartAsset, 2020). *This is the difference between the average wage and salary income of W-2 employees and individuals who report that they are "unincorporated self-employed" in Wisconsin (see Figure 8).*

In Wisconsin, this translates into tens of millions of dollars in lost state tax revenues every year (Figure 13). With a total misclassification and illegal employment rate of 10 percent in its construction industry, an estimated $180 million in wages went untaxed in the State of Wisconsin, resulting in an $8 million loss in personal income tax revenues in 2018. The State of Wisconsin also loses an estimated $6 million in unemployment insurance contributions in one year due to payroll fraud in the construction industry. Finally, the State of Wisconsin loses $26 million annually in workers' compensation premiums as a result of worker misclassification and illegal employment in construction. In total, Wisconsin taxpayers lose $40 million annually from these three sources of revenue due to construction industry payroll fraud and wage theft. Because the state government has a balanced budget requirement, this lost revenue produces either de facto tax increases on other taxpayers or cuts to essential public services such as education, health care, and infrastructure.

These findings are larger than those calculated in the *Task Force on Payroll Fraud and Worker Misclassification Report* released by the Wisconsin Department of Workforce Development (DWD) in 2020. Over seven years from January 2013 through November 2019, the DWD identified $58 million in taxable wages and $3 million in unemployment insurance tax from UI audits, respectively about $8 million and $430,000 per year. The DWD's conservative numbers are likely the result of scare state resources to conduct UI audits. However, the difference suggests that DWD audits may only be uncovering about 5 percent of misclassified earnings and off-the-books wages that should be subject to the state's income tax and 8 percent of lost unemployment insurance contributions in a typical year.

FIGURE 14: FISCAL IMPACT OF CONSTRUCTION WORKER PAYROLL FRAUD IN MINNESOTA, 2018

Impact of Construction Payroll Fraud on State Tax Revenues in Minnesota	Workers Misclassified As Independent Contractors	Workers Paid Off the Books in Cash	Total Workers Suffering from Payroll Fraud
Estimated Workers Suffering from Payroll Fraud	7,232	22,848	30,080
Lost Income Subject to Income Tax (Average)	$12,460*	$56,045	$45,566
Net Total Taxable Wages	$90,113,251	$1,280,509,077	$1,370,622,328
Lost Income Tax Per Worker (4.63% effective rate)	$577	$2,662	$2,164
Lost Unemployment Insurance Per Worker	$427	$427	$427
Lost Workers' Compensation Per Worker	$1,917	$1,917	$1,917
Lost Income Tax Contributions	**$4,172,244**	**$60,824,181**	**$64,996,425**
Lost Unemployment Insurance Contributions	**$3,091,312**	**$9,766,358**	**$12,857,670**
Lost Workers' Compensation Contributions	**$13,866,744**	**$43,809,092**	**$57,675,836**

*Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b), Bureau Of Economic Analysis (BEA, 2018), Nonemployer Statistics (Census, 2020), and Employer Costs for Employee Compensation (BLS, 2018b). Effective state income tax rates for the average annual income from wages for legally employed construction worker reported by SmartAsset (SmartAsset, 2020). *This is the difference between the average wage and salary income of W-2 employees and individuals who report that they are "unincorporated self-employed" in Minnesota (see Figure 8).*

Construction worker misclassification and illegal construction employment have greater consequences across the border in Minnesota (Figure 14). In Minnesota, an estimated 23 percent of construction workers were either misclassified or paid in cash in 2018. This underground construction economy accounts for more than $1 billion in untaxed wages that would have been taxed if the workers were instead in the legal construction market.

Consequently, the State of Minnesota annually loses an estimated $65 million in income tax revenues, $13 million in unemployment insurance contributions, and $58 million in workers' compensation premiums due to payroll fraud in the construction industry. In total, Minnesota taxpayers lose about $136 million in revenue from these three sources. Because the state must balance its budget, this lost revenue results in either tax increases on other taxpayers or cuts to essential services such as education, health care, and infrastructure.

Payroll fraud in the construction industry has the most damaging fiscal impact on Illinois, the largest of the three states (Figure 15). Due to an estimated 20 percent of construction workers who are either misclassified or paid in cash, approximately $60 million in income tax revenues go uncollected each year from more than $1 billion in wages in the underground economy. In addition, the State of Illinois annually loses an estimated $23 million in unemployment insurance contributions and $103 million in workers' compensation premiums due to payroll fraud and wage theft in the construction industry. In total, Illinois taxpayers lose about $186 million in revenue from these three sources alone.

FIGURE 15: FISCAL IMPACT OF CONSTRUCTION WORKER PAYROLL FRAUD IN ILLINOIS, 2018

Impact of Construction Payroll Fraud on State Tax Revenues in Illinois	Workers Misclassified As Independent Contractors	Workers Paid Off the Books in Cash	Total Workers Suffering from Payroll Fraud
Estimated Workers Suffering from Payroll Fraud	35,409	17,352	52,761
Lost Income Subject to Income Tax (Average)	$7,549*	$57,245	$23,893
Net Total Taxable Wages	$267,303,603	$993,312,464	$1,260,616,067
Lost Income Tax Per Worker (4.30% effective rate)	$359	$2,719	$1,135
Lost Unemployment Insurance Per Worker	$437	$437	$437
Lost Workers' Compensation Per Worker	$1,958	$1,958	$1,958
Lost Income Tax Contributions	**$12,696,921**	**$47,182,342**	**$59,879,263**
Lost Unemployment Insurance Contributions	**$15,459,662**	**$7,575,929**	**$23,035,591**
Lost Workers' Compensation Contributions	**$69,347,627**	**$33,983,451**	**$103,331,078**

*Source(s): Authors' analysis of data from the American Community Survey (Census, 2018b), Bureau Of Economic Analysis (BEA, 2018), Nonemployer Statistics (Census, 2020), and Employer Costs for Employee Compensation (BLS, 2018b). Effective state income tax rates for the average annual income from wages for legally employed construction worker reported by SmartAsset (SmartAsset, 2020). *This is the difference between the average wage and salary income of W-2 employees and individuals who report that they are "unincorporated self-employed" in Illinois (see Figure 8).*

These findings are considerably higher than previous estimates on the economic costs of employee misclassification in Illinois (Kelsay et al., 2006). In 2006, three University of Missouri-Kansas City economists estimated that about 22,400 construction workers had been misclassified in Illinois, resulting in a $17 million loss in income taxes, a $3 million loss in unemployment insurance taxes, and a $35 million loss in workers' compensation premiums– a combined $55 million loss. With an estimated 52,800 construction workers misclassified or paid off-the-books in cash in 2018, the extent of payroll fraud and wage theft in the construction industry is more than two times larger than previously thought. Moreover, the total impact of payroll fraud and wage theft in the construction industry on income tax revenues, workers' compensation premiums, and unemployment insurance taxes is more than three times larger than previous estimates.

Conclusions and Potential Policy Options

Payroll fraud and wage theft are rampant in the construction industries of Wisconsin, Minnesota, and Illinois. A significant amount of payroll fraud and wage theft occurs when unscrupulous construction employers either misclassify workers as independent contractors or pay them off-the-books in cash in order to evade the payment of taxes that fund critical social safety net programs and state government budgets. Results from this study reveal that about one-in-five construction workers in the Upper Midwest are either misclassified or illegally employed, annually costing taxpayers $40 million in Wisconsin, $136 million in Minnesota, and $186 million in Illinois from lost income taxes, unemployment insurance contributions, and workers' compensation premiums.

There are two reasons why the combined rate of misclassification and illegal employment may be lower in Wisconsin than in neighboring Illinois and Minnesota. The first is that Illinois and Minnesota have greater shares of foreign-born workers. Fully 18 percent of all civilian workers in Illinois are immigrants and 10 percent of Minnesota's workers are immigrants, compared with just 6 percent in Wisconsin (MPI, 2018). Immigrants are the most susceptible to worker misclassification, and sectors with higher shares of immigrant labor also tend to have higher rates of worker misclassification (Kazemi & Hasani, 2018; Ordonez & Locke, 2014; NELP, 2010). The second is that construction worker wages are higher, on average, in Illinois and Minnesota. This is, in part, due to the state's prevailing wage laws, which promote middle-class construction careers by establishing minimum wages for skilled construction workers on public construction projects (Manzo & Duncan, 2018; Dickson Quesada et al., 2013). Unscrupulous contractors in the underground economy have an even greater competitive advantage over law-abiding contractors in states where wages are higher, because they avoid paying higher social insurance taxes. Nevertheless, despite lower rates of misclassification and illegal employment, payroll fraud and wage theft remain major problems in Wisconsin.

There are three primary ways that policymakers can combat payroll fraud and wage theft. First, states can increase enforcement efforts by hiring more unemployment insurance (UI) auditors, especially those who speak multiple languages, and more prevailing wage compliance monitors. Second, states can strengthen punitive actions by enacting larger fines, creating escalating penalties for repeat offenders, and debarring contractors from winning bids on publicly-funded construction projects. Furthermore, in the summer of 2019, the State of Minnesota officially made wage theft a crime when an employer, with intent to defraud, fails to pay employees all wages required by law or attempts to make it appear that wages paid to employees were greater than actually paid. Sanctions for committing payroll fraud include imprisonment for up to 20 years and fines of up to $100,000 for the gravest violations (DLI, 2019). This new law is likely to reduce the incidence of worker misclassification and illegal employment in Minnesota. Similar laws could be considered in Wisconsin and Illinois, especially in light of new proposed federal rules by the U.S. Department of Labor that would make it easier to misclassify workers as independent contractors (NELP, 2020). Finally, local procurement bodies can improve wage enforcement by certifying compliance with wage and hour laws, enacting responsible bidder ordinances or prequalification surveys, and excluding known violators from being awarded public projects. For example, a 2020 anti-wage theft ordinance in Columbus, Ohio terminates city contracts with construction companies that engage in payroll fraud or misclassify workers. It also imposes stop-work orders, prohibits tax breaks and construction permits for known violators, and prevents them from being awarded any other city-funded projects for four years (Jaworski, 2020). Another 2016 ordinance from Berkeley, California prohibits contractors from getting occupancy permits for buildings unless they detail how they pay their employees (Magdaleno, 2016).

This study provides the most accurate measure of payroll fraud and wage theft from worker misclassification and "off-the-books" employment in the construction industries of Wisconsin, Minnesota, and Illinois, based on recently developed statistical techniques. The data reveal that employee misclassification and illegal employment are not only issues in the Upper Midwest, but their costs are likely to be even larger than previously thought. Ultimately, worker misclassification and illegal employment in the construction industry have severe negative consequences for workers, law-abiding contractors, and taxpayers.

Statistical Note

In general, a study is only as good as its data. For this reason, two methods of estimating worker misclassification and illegal employment are provided. The first, monthly data method is given to capture the seasonality of the construction industry. The monthly employment estimation was done as follows: CPS data was retrieved for each state on construction employment by first and second job occupation types (public employment, private employment, and self-employed) and QCEW employment data for each quarter, which was adjusted with respect to BEA estimates, was retrieved. The difference between CPS "total" employed and QCEW-BEA-adjusted "compliant" employed gives an estimate of misclassified workers. To complete the picture with off-the-books workers paid in cash, self-employment data was taken from the Nonemployer Statistics (NES) series, with the difference between CPS "total" self-employed and NES legally self-employed providing a measure of illegally self-employed individuals in construction. The second, annual data method follows the same steps as the monthly method, but uses annual BEA employment estimates as the measure of "compliant" employment and ACS employment data as the measure of "total" employment. However, the ACS only surveys workers on their primary job. As a result, ACS data must be augmented with CPS second-job data to provide a complete picture. All results are weighted to match the overall population (FRBKC, 2020).

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Sources

Bureau of Economic Analysis (BEA). (2018). 2018 Regional Data: GDP & Personal Income. U.S. Department of Commerce.

Bureau of Labor Statistics (BLS). (2018). (a). 2018 Quarterly Census of Employment and Wages (QCEW). U.S. Department of Labor.

Bureau of Labor Statistics (BLS). (2018). (b). Employer Costs for Employee Compensation – September 2018. U.S. Department of Labor.

Census. (2018). (a). 2018 Current Population Survey (CPS). U.S. Census Bureau.

Census. (2018). (b). 2018 American Community Survey (ACS). One-Year Estimates. U.S. Census Bureau.

Census. (2020). 2018 Nonemployer Statistics. U.S. Census Bureau.

Coate, Patrick and Laura Kersey. (2019). "Nontraditional Work Arrangements and the Gig Economy." NCCI.

Department of Labor (DOL). (2020). Misclassification of Employees as Independent Contractors. U.S. Department of Labor.

Department of Labor and Industry (DLI). (2019). *Summary of Minnesota's New Wage Theft Law*. State of Minnesota.

Department of Workforce Development. (2020). *Task Force on Payroll Fraud and Worker Misclassification Report*. State of Wisconsin.

Dickson Quesada, Alison; Frank Manzo IV; Dale Belman; and Robert Bruno. (2013). *A Weakened State: The Economic and Social Impacts of Repeal of the Prevailing Wage Law in Illinois*. University of Illinois at Urbana-Champaign.

Manzo IV, Frank and Kevin Duncan. (2018). *An Examination of Minnesota's Prevailing Wage Law: Effects on Costs, Training, and Economic Development*. Midwest Economic Policy Institute; Colorado State University-Pueblo.

Erlich, Mark and Terry Gerstein. (2019). *Confronting Misclassification and Payroll Fraud: A Survey of State Labor Standards Enforcement Agencies*. Harvard University.

Evers, Tony. (2019). *Executive Order #20: Relating to the Creation of the Joint Enforcement Task Force on Payroll Fraud and Worker Misclassification*. State of Wisconsin.

Federal Reserve Bank of Kansas City (FRBKC). (2020). "Current Population Survey: Weights in the CPS."

Forum News Service. (2019). "Minnesota to Open Wage Theft Investigation Unit." *Duluth News Tribune*.

Illinois Attorney General (AG). (2019). "Attorney General Raoul Applauds Passage of Bill to Protect Illinois Workers from Wage Theft and Other Unlawful Employment Practices. State of Illinois.

Jaworski, Matt. (2020). "Unions Get Columbus, Ohio, City Council to Penalize Wage Theft." *People's World*.

Kazemi, Negin and Mahsa Hasani. (2018). "Worker Misclassification in the U.S. Construction Industry." *IJSRSET*, 4(1): 530-536.

Kelsay, Michael and James Sturgeon. (2011). The Economic Costs of Employee Misclassification in the Construction Sector in the Commonwealth of Kentucky. University of Missouri-Kansas City.

Kelsay, Michael and James Sturgeon. (2010). *The Economic Costs of Employee Misclassification in the State of Indiana*. University of Missouri-Kansas City.

Kelsay, Michael; James Sturgeon; and Kelly Pinkham. (2006). *The Economic Costs of Employee Misclassification in the State of Illinois*. University of Missouri-Kansas City.

LEHD Origin-Destination Employment Statistics. (LODES). (2017). 2017 data. U.S. Census Bureau.

Magdaleno, Johnny. (2016). "Berkeley Makes History With Wage Theft Ordinance." *Next City*.

Migration Policy Institute (MPI). (2018). State Immigration Data Profiles: Illinois, Minnesota, and Wisconsin.

National Employment Law Project (NELP). (2015). *Independent Contractor Misclassification Imposes Huge Costs on Workers and Federal and State Treasuries*.

National Employment Law Project (NELP). (2020). "NELP Denounces DOL's Independent Contractor Proposed Rule that Would Expose More Workers to Wage Theft, Misclassification." Press release from September 22, 2020.

National Employment Law Project (NELP). (2010). *1099'd: Misclassification of Employees as "Independent Contractors"*.

Office of the Legislative Auditor (OLA). (2007). *Misclassification of Employees as Independent Contractors*. State of Minnesota.

Ordonez, Franco and Mandy Locke. (2014). "Immigrants Are Most Susceptible to Worker Misclassification." *The Charlotte Observer*.

Ormiston, Russell; Dale Belman; and Mark Erlich. (2020). *An Empirical Methodology to Estimate the Incidence and Costs of Payroll Fraud in the Construction Industry*. Allegheny College; Michigan State University; Harvard University.

Roemer, Marc. (2002). *Using Administrative Earnings Records to Assess Wage Data Quality in the March Current Population Survey and the Survey of Income and Program Participation*. U.S. Bureau of the Census.

SmartAsset. (2020). "Federal Income Tax Calculator."

Xu, Lisa and Mark Erlich. (2019). *The Economic Consequences of Misclassification in the State of Washington*. Harvard University.

Yen Liu, Yvonne; Daniel Flaming; and Patrick Burns. (2014). *Sinking Underground: The Growing Informal Economy in California Construction*. Economic Roundtable.