The Social and Economic Costs of Employee Misclassification in the Maine Construction Industry

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A report of the

Construction Policy Research Center

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April 25, 2005

This project was funded by the Center to Protect Workers' Rights in Silver Spring, MD.
through a cooperative agreement from the National Institute for Occupational Safety and Health.

I. Summary Findings

With this study, a cross disciplinary team of the Center for Construction Policy Research has taken a first and significant step in documenting employee misclassification in the Maine construction industry. This report documents the dimensions of misclassification and its implications for tax collection and worker compensation insurance.

Misclassification occurs when employers treat workers who would otherwise be waged or salaried employees as independent contractors (self employed). Or as one report commissioned by the U.S. Department of Labor put it, misclassification occurs "when workers (who should be) getting W-2 forms for income tax filing instead receive 1099-Miscellaneous Income forms."[1]

Forces promoting employee misclassification include the desire to avoid the costs of payroll taxes and of mandated benefits. Chief among these factors is the desire to avoid payment of worker compensation insurance premiums.

Employee misclassification creates severe challenges for workers, employers, and insurers as well as for policy enforcement. Misclassified workers lose access to Unemployment Compensation and to appropriate levels of worker compensation insurance. Also, they are liable for the full Social Security tax. They lose access to employer-based benefits as well. For employers, the practice of misclassification creates an uneven playing field. Employers who classify workers appropriately have higher costs and can get underbid by employers who engage in misclassification. The collection of Unemployment Compensation tax, and to some degree that of the income tax, are adversely affected by misclassification. Worker Compensation insurers experience a loss of premiums.

Using several years of de-identified data on Unemployment Compensation tax audits made available, tabulated, and prepared by the Maine Department of Labor (DoL) Bureau of Labor Standards, we have developed estimates of the dimensions of misclassification in the state and particularly in the construction industry.

Because this study relies on Unemployment Compensation tax audits to develop estimates of the dimensions and impacts of misclassification, it addresses primarily the forms of misclassification that can be documented. It does not fully capture the scope of underground economy activities in construction.

Employee Misclassification in Maine

- During the years 1999-2002, *at least one in seven, or 14% annually, of ME construction employers are estimated to have misclassified workers* as independent contactors. This estimate translates into a minimum of 748 construction employers statewide.[2] Across all industries[3], 11% of employers annually from 1999 to 2002 were found to under-report worker wages and Unemployment Compensation tax liability to the state and thus to have misclassified workers. This represents about 4,800 employers statewide.[4]

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[1] Lalith de Silva et al. 2000. *Independent contractors: prevalence and implications for Unemployment Insurance programs.* Planmatics, Inc., Prepared for US Department of Labor Employment and Training Administration. Planmatics, 2000. (Hereafter, Planmatics 2000.)

[2] The yearly number of Maine construction establishments averaged over the period 1999-2002 was 5,274 in construction and 42,856 across all industries.

[3] The "all industries" category includes Construction as well.

[4] Planmatics, 2000. This estimate is based on audits of employers that, while not selected by fully statistically random methods, are considered random, or non-targeted, audits in common auditing practices

- *When construction employers misclassify, they do so extensively.* A key measure of misclassification is the degree or severity of its impact *within* employers who misclassify. This measure indicates that *misclassification is a common occurrence rather than an isolated incident in construction companies where misclassification occurs*. According to our estimate, over 4 in 10 workers (45%) are misclassified annually in construction employers found to be misclassifying in the period 1999-2002.

- When we consider the workforce of all employers (those that misclassify and those that do not), *at least one in nine (11.0%) construction workers annually in ME is estimated to be misclassified as an independent contractor during the period 1999-2002.*

- We estimate that the actual number of construction workers affected by misclassification across the state to be at least 3,213 annually during the period 1999-2002.[5]

- Maine construction employers are about as likely as their counterparts in Massachusetts to misclassify workers as independent contractors. In both cases, about one in seven (14%) of employers in this industry do so.

- Construction workers in Maine, however, are misclassified at higher rates than those in Massachusetts. For those working for employers who misclassify, they are somewhat more likely than Massachusetts workers to be misclassified (45% versus 40% of Massachusetts workers employed by misclassifying employers). The misclassification rate for workers in all construction employers is also higher: one in nine (11%) for Maine, compared to one in twenty (5%) for Massachusetts workers.

- While misclassified individuals lose out on Unemployment Compensation, the UC system is adversely affected as well. We estimate that approximately $314,319 annually in Unemployment Compensation taxes are not levied on the payroll of misclassified construction workers statewide.[6]

- At income tax time, workers misclassified as independent contractors are known to under-report their personal income; therefore, the state experiences a loss of income tax revenue. Based on an estimate that 30% of the income of misclassified workers is not reported, we estimate roughly that $2.6 million annually are lost due to misclassification in construction. Based on an estimate that 50% of misclassified worker income goes unreported, roughly $4.3 million a year in income tax loss occurs due to misclassification in construction.

- The worker's compensation insurance industry loses on premium collection, a significant issue if, as is reported in previous studies[7], misclassified workers are surreptitiously added onto companies' worker compensation policies *after* they are injured. For these workers, benefits are paid out even though premiums were not collected. We estimate that up to $6.5 million of worker compensation premiums are not paid annually for misclassified construction workers.[8]

- On the federal level, misclassified workers' FICA taxes go uncollected. We estimate that the misclassification of construction workers results in a loss of nearly $10.3 million annually.

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[5] The yearly number of workers over the period 1999-2002 was 29,209 in construction and 573,322 across all industries.

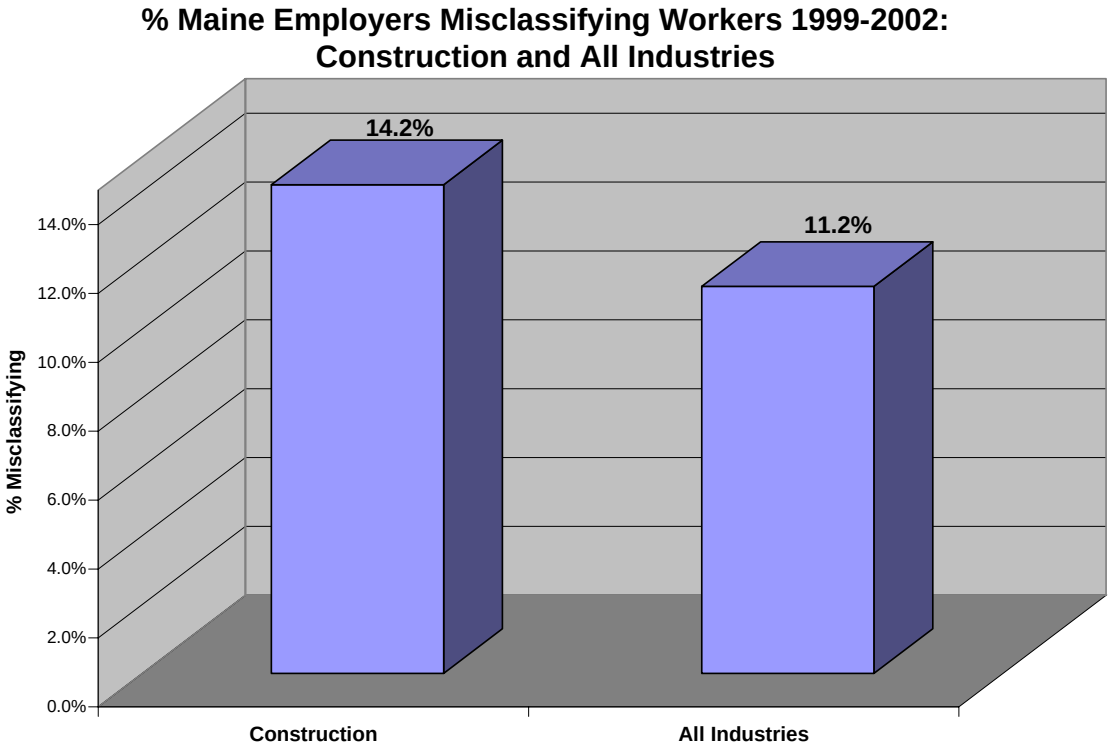
[6] This figure represents estimated *annual* losses to Unemployment Compensation tax revenues for construction. While it is based on audit data pooled from *multiple years* (1999-2002), it is a statewide estimate for *a single year* in the years 1999-2002, based on construction employment averaged over the four-year period. Note that all subsequent estimates in this report for tax losses (to Unemployment Compensation, state income tax, and worker compensation) are computed similarly, drawing on the entire period of audits to create average loss estimates for a single year.

[7] Planmatics, 2000.

[8] This assumes that worker compensation insurance premiums comprise an average of $20 per $100 of payroll. Using a more conservative estimate, at $12 per $100 of payroll, annual losses are close to $2.3 million.

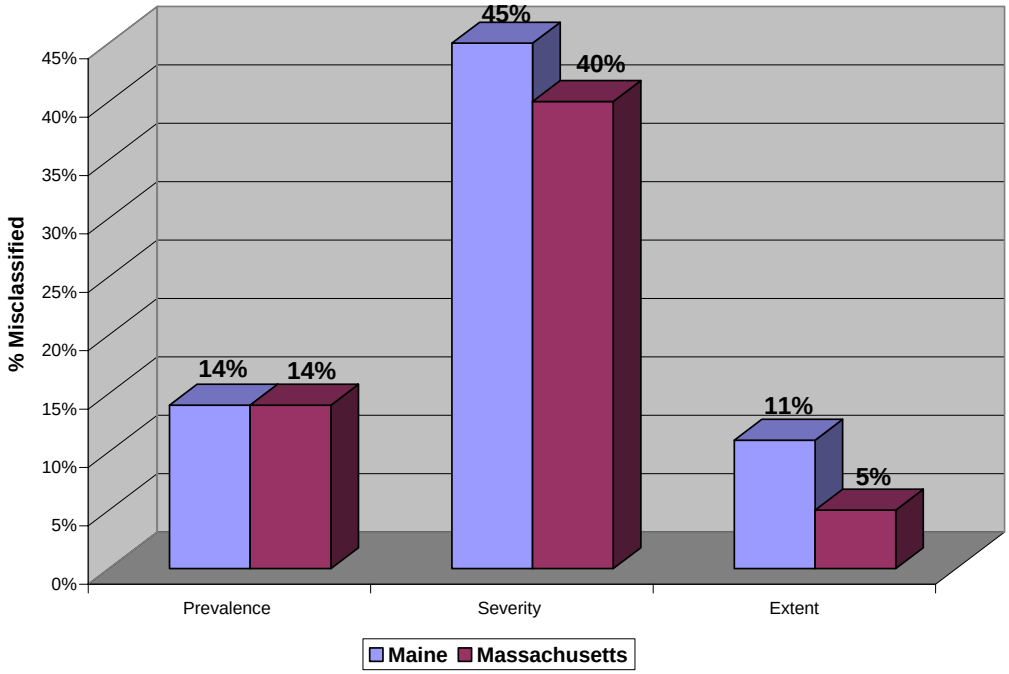
- We believe that worker misclassification is a compelling problem requiring attention. It has significant consequences for workers, employers, insurers, and for tax revenues. We strongly recommend that a study employing both business and individual income tax returns be conducted by the Maine Revenue Services. It would provide an even more accurate measure of the tax revenue implications of misclassification. Workers, businesses, revenue collection agencies, and policy analysts all stand to benefit from better documentation of the impacts of misclassification.

Facts at a Glance



Severity and Extent of Construction Worker Misclassification: Maine 1999-2002

Construction Misclassification in Maine vs Massachusetts: Prevalence, Severity, and Extent



Acknowledgements

This project received funding from the National Institute for Occupational Safety and Health through a cooperative agreement with the Center to Protect Workers' Rights in Silver Spring, MD.

The authors wish to thank the Maine Department of Labor. We are particularly grateful to William Peabody, Director, Bureau of Labor Standards, and John Rioux, Director of the Technical Services Division, Bureau of Labor Standards, who provided access to de-identified audit data, prepared data files, and answered our numerous queries about variable definitions. Kurtis Petersons, Intern at the Bureau of Labor Standards, compiled the audit data from the reports, supplemented it with manual records, and made extensive computations of the magnitude and impacts of misclassification for the state. In so doing, he made a crucial contribution to this project.[9]

In addition, we would like to thank the staff of the Tax Division, Bureau of Unemployment Compensation, who performed the audits, collected the data, and allowed access to it; particular thanks to Claire Hersom, who supplied and explained audit reports, and answered detailed questions that arose. Lloyd Black also assisted with clarification of audit terms and methods.

The authors also thank the members of this project for contributing to the implementation of the research and the interpretation of the results: Elaine Bernard, Ph.D. and Robert Herrick, Sc.D., Principal Investigators, as well as Mark Erlich of the United Brotherhood of Carpenters Local 40 and Prof. David Weil, Economics, Boston University and Harvard Kennedy School of Government. We also thank Lorette Baptiste and Dr. John Trumpbour at the Harvard Labor and Worklife Program.

II. The Problem

Misclassification occurs when employers treat workers who would otherwise be waged or salaried employees as independent contractors. Or, as one report commissioned by the U.S. Department of Labor put it, "when workers (who should be) getting W-2 forms for income tax filing instead receive 1099- Miscellaneous Income forms."[10] In practice, these workers must take out their own taxes for Social Security and Medicare, rather than having the employer withhold them. But determining who is an employee, and who is a contractor, is sometimes far from simple. The distinction is complicated by deliberate deceptions on the part of employers (and collusion by workers, at times), who seek to avoid paying taxes and meeting other legal obligations to employees and to government. But even when there is no intent to deceive, ambiguities in employment law and relationships can result in misclassification, or make it easier to occur.

How is misclassification accomplished? Misclassification usually begins at the point when workers are hired. Practices vary widely. In one common pattern, employers put prospective hires to work as self-employed contractors and, for tax purposes, issue them a "1099" Miscellaneous income form. (Workers are sometimes referred to on construction sites as "1099s" or "subs," as well as independent contractors.) The paperwork does not stop there. Sometimes, before workers can begin employment, employers require them to purchase their own workers' compensation and liability insurance coverage. They are expected to sign certificates of worker's compensation insurance and of liability insurance as well as various other waivers absolving the employer of obligations. (However, because this workers' compensation insurance only covers the holders' employees, it has no value for the worker and only protects the employer in case of tax and/or insurance audits.) Another pattern, at the other end of the spectrum of practices, entails entirely informal arrangements with cash payment and no 1099 tax reporting. This second pattern leaves

[9] Petersons, Kurtis. 2004. *Prevalence of Misclassification in the Construction Industry: Executive Summary*. Maine Department of Labor. Bureau of Labor Standards. Unpublished Report, August.
[10] Planmatics, 2000.

no documentation. The practice is part of what is termed the "underground economy" and is often paired with the hiring of unprotected, undocumented workers.

Forces promoting employee misclassification include the desire to avoid the costs of payroll taxes, and of mandated benefits. One factor stands out, however. A recent U.S. Department of Labor-sponsored report found that the "number one reason" for misclassifying workers lies in avoiding payment of workers' compensation insurance premiums and thus escaping workplace injury and disability-related disputes.[11] Driven by increased medical costs, worker compensation costs rose significantly over the past 20 years.[12] And in industries such as construction worker compensation costs are particularly high.

Misclassification creates severe challenges for workers, employers and insurers as well as for policy enforcement. For workers who are misclassified, it creates immediate and long term problems. These include the lack of access to unemployment compensation, and to appropriate levels of worker compensation insurance.[13] They entail liability for the full Social Security tax (rather than half for employees). They also include the loss of access to health insurance, and other employer-based social protection benefits. If injury strikes, it can be catastrophic for the worker.

Misclassification creates challenges for compliant employers because it creates an uneven "playing field." Employers who respect the law and classify employees appropriately have a higher wage bill and can get underbid by contractors that do not comply and have lower costs.

Misclassification presents a two-fold challenge for policy implementation. The *enforcement* of labor standards, such as those governing health and safety, or of wage and hours regulations is made more difficult in contexts where there are misclassified independent contractors. *Tax collection* is affected as well. This includes collection of Unemployment Compensation tax. It also includes state income tax because independent contractors are known to underreport their income.

The worker compensation insurance industry is also adversely affected by misclassification. Employers with misclassified workers have been known to surreptitiously add uncovered independent contractors, or those with insufficient coverage, back onto a company's worker compensation policy *after* they are injured. Therefore, benefits are paid out to workers for whom an insurance premium has not been paid according to a U.S. DOL commissioned study.[14]

Misclassification presents broader societal costs that are harder to document. For example, workers without health insurance might resort to publicly subsidized emergency medical care. The costs of "uncompensated care pools" make their way into the costs of health and worker compensation insurance. Also, workers who sustain injuries, and have inadequate worker compensation coverage, make use of public assistance when they are unable to work.

A problem of this importance for individual workers, businesses, and government requires thorough documentation. This study of the Center for Construction Policy Research represents a significant step in documenting employee misclassification in the Maine construction industry and in estimating the costs of misclassification in terms of tax loss and worker compensation insurance premium losses. It follows upon a similar study, completed in December 2004, of the Massachusetts construction industry. In subsequent work, the researchers plan to benchmark Maine and Massachusetts results with those of other New England states.

The Maine Department of Labor (DoL), Bureau of Unemployment Compensation, Tax Division conducts UC tax audits by drawing randomly from a sample of 38,000 active private-sector employers

[11] Planmatics, 2000.
[12] This rapid growth has tapered in recent years but the cost of Worker Compensation insurance remains high.
[13] Misclassified workers must establish that they are indeed employees in order to receive unemployment or worker compensation insurance.
[14] Planmatics, 2000, p. 76.

in the state. The list thus generated is sorted by regions in the state associated with field staff and inspectors, who then conduct audits based on the list. According to the Bureau, the resulting list is random for a particular region, though there may be regions that are over-represented in the audit sample relative to their share of employers and employment.

Using several years of de-identified data on Unemployment Compensation tax audits made available by the Maine Department of Labor, we have developed estimates of the dimensions of misclassification in the state and particularly in the construction industry for the years 1999-2002.[15] Using methods established in previous studies, in particular one commissioned by the U.S. Department of Labor, we present projections of the costs of misclassification for Unemployment Compensation, state income tax, worker compensation insurance systems, and Social Security contribution taxes, or FICA.[16]

Unemployment Compensation (UC) tax audit records are a key source of information on employee misclassification. When an audit finds workers not covered by UC who should be (and documents under-reported wages), the cause is virtually always misclassification as independent contractor of someone who should be an employee included in the company payroll. Therefore, information from UC tax audits, indicating "new" or previously unreported workers, is a useful proxy for employee misclassification.[17]

Because this study relies exclusively on UC tax audits to develop estimates of the dimensions and impacts of misclassification, it addresses primarily the forms of misclassification that can be documented. It cannot fully capture underground economy activities in construction and other sectors. Thus all estimates are, of necessity, low or conservative in nature.

III. Dimensions of Misclassification in Maine

When employers engage in misclassification

During the years 1999-2002, at least one in seven, or 14%, of Maine construction employers are estimated to have misclassified workers as independent contactors. This estimate translates into a minimum of 748 construction employers statewide. Construction employers appear to engage in misclassification more frequently than the average of employers across all industries. Across all industries[18] as a whole, 11% of employers were found to under-report worker wages and UC tax liability to the state and thus to have misclassified workers. This represents about 4,792 employers statewide. This conservative estimate is based on audits of employers that, while not selected by fully statistically random methods, are considered non-targeted or random audits in common auditing practices.[19]

Prevalence of Misclassification: Percentage and Number of Maine Employers Found to Misclassify Workers as Independent Contractors - Maine 1999-2002

	% Misclassifying	Number Misclassifying
All Industries	**11%**	**4,792**
Construction	**14%**	**748**

[15] This study analyzes data on private sector employers exclusively.
[16] Planmatics, 2000.
[17] In audit data, "new workers" that is, previously uncovered workers who are to be added to the employer payroll for UC tax purposes, are proxies for misclassified workers.
[18] This "all industries" category includes Construction as well.
[19] Planmatics, 2000.

Workers affected by misclassification

To understand how workers are affected by misclassification, we use two measures. The first measure is the percent of workers misclassified *within employers found to have misclassified workers.* This first measure is the degree of impact, or *severity of impact,* of misclassification when it occurs. The second is the percent of workers misclassified *among all workers in construction or in the state as a whole* (including employers who misclassify and those who do not). This second measure is the *extent* of misclassification.

1) Severity of impact of misclassification:

The measure of severity of impact indicates that in construction companies where misclassification occurs, it is a common occurrence rather than an isolated incident. According to the estimate, more than 4 in 10 workers (45%) are misclassified in these employers.

2) Extent of misclassification

Over the 1999-2002 period, at least one in nine (11.0%) construction workers in ME is estimated to be misclassified as an independent contractor annually. Based on this proportion, we estimate that the actual number of construction workers affected across Maine is at least **3,213.**

Severity and Extent of ME Workers Misclassified as Independent Contractors

	Percent Misclassified
Severity: % of Workers Misclassified by Misclassifying Employers	**44.6%**
Extent: % of all Workers Misclassified	**11.0%**

IV. Implications of Employee Misclassification in Maine

We estimate the implications of employee misclassification for Unemployment Compensation tax revenues as well as state income tax revenues. We also estimate the amount of workers' compensation insurance premiums lost due to misclassification. These cost estimates rely upon our estimates of prevalence and extent of misclassification from random audits. They are therefore conservative estimates. In fact, our approach is more conservative than that used in the DOL commissioned study, which used a rate of prevalence derived from mixes of random and targeted audits.[20] (Further details on calculation methods are in the Appendix.)

Data used here from Maine employer audits are closer to a truly random sample than those available in many states. The Maine Department of Labor (DoL), Bureau of Unemployment Compensation, Tax Division conducts UC tax audits by drawing randomly from a sample of 38,000 active private-sector employers in the state. The list thus generated is sorted by regions in the state associated with field staff and inspectors, who then conduct audits based on the list. According to the Bureau, the resulting list is random for a particular region, though there may be regions that are over-represented in the audit sample relative to their share of employers and employment.

[20] Planmatics, 2000.

The implications of employee misclassification for Unemployment Compensation tax

Workers who should be misclassified as employees lose out when work ceases, and they are ineligible for Unemployment Compensation. In some cases, workers may be unaware that they are ineligible. Some employer audits are triggered when workers file for Unemployment Compensation and the claim is contested.

In addition to individuals, the Unemployment Compensation system is also affected by misclassification. The Unemployment Compensation tax is a payroll tax and, when workers are misclassified, the tax is not levied on their earnings, as it should. We estimate that $314,319 in UC tax was lost annually over the period 1999-2002 due to misclassification in construction statewide. We further estimate that the state lost an estimated $98 per construction worker misclassified per year over the period 1999-2002.[21]

To derive these estimates of the size of the UC tax loss, we replicated the method used in the 2000 US DOL-commissioned report to assess the impacts of misclassification on UC trust funds. Essentially, the method entails computing the average tax loss per worker due to misclassification for the audit sample and multiplying this amount by the estimated number of workers misclassified statewide in one year.

The implications of employee misclassification for state income tax revenues

At income tax time, workers misclassified as independent contractors are known to under-report their personal income (they are over-represented among taxpayers found to owe taxes relative to their share of taxpayers and the problem seems to have worsened).[22] Therefore, the state experiences a loss of income tax revenue.

Estimations of state income tax loss due to misclassification range from $2.6 million to $4.3 million, and are highly sensitive to the assumptions made in generating them. Such assumptions include the tax filing status of misclassified workers, their income levels, the deductions taken, and the proportion of their income that is under-reported.

For this analysis, we began with a conservative estimate that 30% of the income of misclassified workers is not reported. We estimate roughly that $2.6 million of income taxes are lost due to misclassification in construction annually. We assumed that any standard or itemized deductions were taken fully on the reported share of income and therefore do not apply to the unreported income.[23] All misclassified workers were assumed to be filing as single individuals or as married persons filing separate returns.

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[21] This estimate for losses to Unemployment Compensation tax are based on *UC-taxable wages underreported by misclassifying employers*; other estimates, such as losses to worker compensation insurance premiums or to FICA tax, are based on *total misclassified wages.* These figures differ because Maine applies the UC tax to the first $12,000 of employee income only.

[22] Historically, self-employed workers (whether misclassified or not) have tended to under-report their income, according to federal sources. For example, of $79.2 billion in taxes owed the IRS in FY93, 74 % was owed by taxpayers with primarily non-wage income. Also, the IRS Inspector General reported that the number of 1099 information returns with missing or incorrect Taxpayer Information Numbers (an indicator of possible misclassification) grew by 36% from 1995-98 (US Treasury Department 2001).

[23] For this computation, we estimated the annual (self employment) earnings of misclassified construction workers to be $31,500. This estimate is a rounded average based on annual earnings of Maine construction

Using the same assumptions, but estimating that 50% of misclassified worker income goes unreported, we roughly estimate that income tax loss from construction workers amounts to $4.3 million of revenue per year.

In response to these estimates, the Maine Revenue Service (MRS) provided an alternate and lower approximation of state income tax loss, using our estimate of numbers of workers misclassified and their average earning level, but based on different assumptions regarding taxpayer households. MRS, in comparison, assumed that there were equal proportions of misclassified workers from various tax filing categories, and applied a blended rate of taxation that averaged across these categories. In the case where misclassified workers under-report 50% of their income, the MRS calculates that $2.7 million in state income tax revenue may be lost due to misclassification.[24]

These cost estimates make conservative assumptions about the share of misclassified independent contractor income that goes unreported. A U.S. General Accounting Office report cites IRS reports that self-employed workers operating formally under-report 32% of their business income[25] but that "informal suppliers" (self employed reporting cash income) do not report 81 percent of their income (GAO 1997, p. 3). Therefore, an estimate of tax loss prompted by employee misclassification could be higher, if higher shares (more than 50%) of total income go unreported.

It is also worth noting that we did not compute the loss of federal tax revenue which is also likely to be high. The IRS estimates that unreported income contributes to most of the tax gap (difference between taxes owed and taxes collected).[26]

Estimated Annual Losses in ME State Income Tax due to Construction Worker Misclassification:
1999-2002

Loss Estimate by Source	**30% of income not reported**	**50% of income not reported**
CPRC	**$2,580,039**	**$4,266,864**
Maine Revenue Service	**NA**	**$2,714,369**

The implications of employee misclassification for worker compensation

The workers compensation insurance industry loses on premium collection, a significant issue if, as is reported in previous studies, misclassified workers are surreptitiously added onto companies' worker compensation policies *after* they are injured. For these workers, benefits are paid out even though premiums were not collected.

Data were not available to us to compute the extent to which benefits are paid to workers for whom premiums were not paid. However, we estimate the amount of insurance premiums that would have been collected were workers not misclassified.

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workers for the years 1999-2002, derived from the BLS-ES202 database for Maine. For workers hiding 50% of their income, we estimated unpaid taxes based on a 7% tax rate on income in excess of $8,250 plus $268. Those hiding 30% of their income fell into the highest tax bracket, at 8.5% of all income over $16,500 plus $846.

[24] The MRS indicates that these calculations do not take into consideration existing compliance efforts already in place within MRS that may address underreporting/non filing issues; thus they believe that their estimate is still relatively high.

[25] A 1974 IRS report indicated that all independent contractors (misclassified or not) did not report 26% of their income, so under-reporting may be worsening over time (US Treasury Department 2001, p. 7).

[26] Out of a $62.8 billion income tax gap from individuals in 1992, 32% or $20.3 billion was due to self-employed workers (GAO 1994).

We estimate that over the period 1999-2002, up to $6.5 million annually of worker compensation premiums were not paid for misclassified construction workers. This estimate is broad. It applies an average worker compensation premium of $20 per $100 of payroll to the estimated amount of wages for misclassified workers statewide in construction. Alternatively, with an average worker compensation premium of $12 per $100 of payroll, we estimate that $3.9 million annually in premiums were not paid for misclassified construction workers; at $15 per $100 payroll, a mid-range estimate, $4.9 million in premiums were not paid annually.

A more detailed estimate of losses would apply detailed worker compensation rates for construction trades (such as finished carpentry, or drywall) appropriately weighed by the share of employment accounted for by each trade.[27]

The implications of employee misclassification for FICA tax collection

When workers are misclassified, it also creates losses in federal revenue. One particular example is the FICA tax, or contributions to Social Security paid by both employer and employee. Using a combined tax rate of 15.3%, we estimate that misclassification of Maine construction workers results in a loss of almost $10.3 million per year over the years 1999-2002.

VII. Strengths and limitations of estimates of misclassification

Prior research on misclassification has generated estimates *for all industries* primarily, rather than for construction per se. Only one federal study provides a 1984 estimate that 20% of construction employers engage in misclassification (GAO 1996).

In this section, we examine in greater detail estimates from other studies for all industries and compare these with the estimates we derived from our analysis of the Maine UC tax audit data. This exercise has enabled us to put lower and upper bounds to our estimate. We also compare Maine to our own findings on misclassification in Massachusetts.

Comparing Maine 1999-2002 estimates to data from other states

The table below summarizes the results of the study commissioned by the U.S. Department of Labor for misclassification *across all industries* in nine states (Planmatics 2000), as well as a 1984 Treasury Department estimate (U.S. GAO 1996) for employers nationwide. In comparing Maine to other states, bear in mind that the state conducts virtually all of its audits, save a small number targeted on the basis of tips or past violations, by random methods. In other states such as those studied for the U.S. Department of Labor report, audit results are based on a larger share of “targeted” audits relative to random audits. Since targeted audits are more likely to uncover employer violations, such states tend to report higher levels of documented misclassification.

The US DOL-commissioned study arrayed 9 states according to their mix of “targeted” and “random” audits. In the tables that follow, the low estimate for the 9 states sample is derived only from states with a low proportion of targeted audits in their audit mix. Maine, with essentially 100% random audits, falls within this category. Conversely, the “high” estimate is derived only from results for states with higher share of targeted audits in their mix, and the “moderate” estimate from states with 30 to 50 % of random audits in their mix.

[27] Maine compensation insurance base rates range from $10.40 per $100 payroll for interior tile work, to $22.01 for 1-2 family carpentry, and $31.40 for plastering.

Past State and National Estimates of the Prevalence of Employer Misclassification

	Low Estimate	Moderate Estimate	High Estimate
All industries (9 states) 1/	5-10%	13-23%	29-42%
All industries (US) 2/		15%	
All Industries ME	**11%**		
Construction ME	**14%**		
Construction MA	**14%**	24%	
Construction (US) 2/		20%	

1) All industries based on DOL/Planmatics state estimate ranges, ~1999
2) Based on 1984 Treasury Department estimate, cited by U.S. GAO. (1996)

For all industries, our estimates for ME generally fall close to or within the ranges found in other states and for the US as a whole. Our estimate for all Maine employers is only slightly higher (11%) than the rate found for states from the U.S. DOL study with a high share of random audits (5-10%).

The next table compares ME to the U.S. DOL study's state findings in greater detail. It also presents the degree to which each state did target audit candidates versus relying on more "random" selection methods. For the 9 states in the U.S. DOL study, we observe that, as expected, the more a state targets employers (by size/industry/location, by past record, by presence of worker claim), the higher is the observed rate of misclassification. Maine conforms closely to this pattern. For the period 1999-2002, the Maine DoL relied almost exclusively on "random" (less targeted) methods. It is thus closest to the "high random" states listed below.

Prevalence of Misclassification in All Industries: ME vs. DOL State Estimates

State	% employers misclassifying workers	% of audit group randomly sampled	Dominant Audit method
ME	**11%**	**99-100%**	**High randomness**
MD	5%	100%	High randomness
WA	10%	98%	High randomness
CO	5%	90%	High randomness
MN	13%	30-50%	Moderate randomness
NE	10%	30-50%	Moderate randomness
NJ	9%	30-50%	Moderate randomness
WI	23%	18%	Low randomness
CN	42%	5%	Low randomness
CA	29%	1%	Low randomness

A further source of comparison comes from another New England state, Massachusetts. Maine construction employers are about as likely as their counterparts in the Bay State to misclassify workers as independent contractors. In both cases, about one in seven (14%) of employers in this industry do so. Workers in Maine, however, are misclassified at higher rates. For those working for employers who misclassify, they are somewhat more likely than Massachusetts workers to be

misclassified (45% versus 40% of Massachusetts workers employed by misclassifying employers). The misclassification rate for workers in all construction employers is also higher: one in nine (11%) for Maine, compared to one in twenty (5%) for Massachusetts workers.

Construction Misclassification in Maine vs. Massachusetts: Prevalence, Severity, and Extent, 1999-2002

	Prevalence	Severity	Extent
Maine	14%	45%	11%
Massachusetts	14%	40%	5%

On a number of dimensions — construction wages as a share of state's average wage, distribution of construction establishments by subsectors, and distribution of employment by subsectors— the Maine construction industry does not differ significantly from that in Massachusetts. However, the two state construction industries have different unionization rates; about 10% in Maine as compared to 28% in Massachusetts (estimates). Also, the share of value of construction work is highest for the building, developing and general contracting category in Massachusetts (43% of the value of construction work). In contrast, it is highest for the specialty trade contractors in Maine (44% of the value of construction work).[28] Maine construction employers employ fewer workers, on average, than their Massachusetts counterparts, with 5.53 workers/establishment, compared with 7.38. Finally, worker compensation insurance as a share of total payroll is higher in Maine than in its southern neighbor for a number of construction trades.

VIII. Next Steps

This study has made significant headway toward documenting the dimensions and impacts of misclassification in construction in the state. Next steps include, first, exploring in greater detail policy proposals for addressing misclassification and look at approaches that have been successful in other states. The second step will be examining more closely the misclassification of workers in distinct construction subsectors (for example, carpentry or dry walling) because accounts from the field indicate that there is wide variation across subsectors in prevalence. Third, we should compare the findings from Maine with those from other New England states. While keeping in mind variations in characteristics of the construction industry across states (e.g. firm size, distribution of activity across types of contractors), we plan to use estimates of incidence, severity, and extent derived from UC tax audit results elsewhere in New England as a further means to gauge the dimensions of misclassification in Maine. Fourth, we should study the misclassification of workers across all industries in Maine, as well as violation within specific industries other than construction. A final report for this project will provide an analysis of policy issues and present the results of Maine in the context of those for other New England states.

More importantly, this study's findings have established that worker misclassification is indeed a compelling problem requiring attention and one with significant consequences for workers, employers, insurers, and for tax revenues. A problem of this importance requires further and more precise documentation, one that would enable analysts to project revenue losses with greater confidence than is possible when relying on UC tax audit data which require making several assumptions.

[28] Sources used included: U.S. Department of Labor, Bureau of Labor Statistics, ES-202 Series (wages, distribution of employment and of establishments by subsector); U.S. Census Bureau, Current Population Survey (unionization); and U.S. Bureau of the Census, 1997 Economic Census, Construction—Geographic Area Series. (Maine, Maine). General Statistics for Establishments With Payroll By State. Table 2, page 9 (value of construction work by subsector).

A tested and more accurate method for measuring misclassification has been established in a national study by the U.S. General Accounting Office (U.S. GAO 1989) and rests on the combined use of business and individual tax information. Such a study could be replicated with state level tax information. This approach entails matching "1099 information returns" filed by businesses on behalf of their independent contractors with individual income tax returns for the workers concerned. This match enables analysts to apply criteria such as deriving all or most of one's income from a single business payer (a strong indicator of misclassification) and thus to estimate the percent of workers misclassified. The federal study (U.S. GAO 1989) that first established this method found that very stringent criteria (e.g. at least $10,000 of income all from a single business payer) point to misclassification that, in turn, is confirmed in virtually all cases (through an IRS audit). Using these criteria, or slight variations of these criteria,[29] would generate measures of the number of workers misclassified in a given tax year and the number of businesses engaged in misclassification, as well as a very reliable accounting of misclassified earnings and tax losses.

We recommend the replication of this federal study with Maine tax information. Such a replication would require the involvement of the Maine Revenue Services because it entails using individual tax record information as well as the sharing of federal business income tax return information by the Internal Revenue Service with the Maine Revenue Services. The capacity exists: as of June 2004, MRS began matching 1099-Misc forms with tax returns to enhance compliance and revenue collection.[30] This matching process could be used to count the cases of likely misclassification as was done by the U.S. GAO at the federal level.

The information generated with the present study presents a compelling case for making this investment in better documenting misclassification in the state through a systematic study of tax records. More precise measures of misclassification would inform a more specific policy debate about means to address it. Our study also makes clear that multiple parties stand to benefit from better documentation of the dimensions and implications of worker misclassification —individual workers stand to gain better social protection, tax authorities stand to recover tax revenue losses, and compliant employers would benefit from an even playing field.

Further research will also need to devise means to document underground activities and their implications. These do not leave traces in UC or tax records that we can readily examine.

[29] For example, the criterion might be amended to receiving most or 70% of one's self-employment earnings from a single business payer.

[30] The department sends independent contractors a reminder to report their income and file taxes.

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Appendix A - Estimation Methods

Overview of estimation method
In each of the estimations that were made of the impacts of misclassification on employers, employees, and state revenues, we drew from a pool of employer audits performed in the years 1999-2002. Using data from multiple years improved the quality of our estimates by increasing the sample size. To generate estimates, we took the following steps:

1) Computed ratios of impact or loss from the pooled data (for instance, the percentage of audited employers misclassifying workers,1999-2002, or the percentage of total earnings that were misclassified, 1999-2002)
2) Computed *annual* averages for the state as a whole over the period 1999-2002 (for instance, the average number of construction workers, or employers, in Maine)
3) Applied ratios derived from the pooled audit data (1999-2002) to these annual averages to derive estimates of workers affected or taxes lost.

The resulting figures, explained in more detail below, are estimates of the annual tax loss or level of impact for the state in any individual year, over the period 1999-2002. *They do not represent cumulative totals for the four years, or estimates that can be reliably applied to any other year in another time period.*

Calculating the Prevalence of Employer Misclassification (% of employers with misclassified workers)
Employers are assumed to be misclassifying workers if their audit record reveals one or more 'new worker.' New workers are those who were not covered previously by Unemployment Compensation. We calculate the percentage of all (randomly) audited employers who are misclassifying, and apply the result to the total number of UC-covered employers in the state. We thus assume that the sample of employers selected for auditing is representative of (can stand for) all UC-contributing employers statewide.

Calculating the Severity of Impact of Misclassification (% of workers misclassified within employers misclassifying workers as independent contractors.)
To estimate the severity or degree of misclassification among those employers who under-report workers (who would otherwise be covered by UC), we assume that audited employers found to be misclassifying can represent all misclassifying employers in the state. We compute the percentage of workers among these audited employers who are misclassified (or "new workers,") and use it as proxy for the statewide severity (% misclassified) among all Maine employers that misclassify workers.

Calculating the Extent of Workers Misclassified (% of all workers misclassified as independent contractors)
We assume that total workers employed by audited employers can represent all UC-covered workers statewide. To estimate the extent of worker misclassification, we compute the percentage of workers at all audited employers who are "new workers," or previously unreported for purposes of Unemployment Compensation taxes. This percentage is applied to the total number of UC-covered workers in the state, averaged over the period 1999-2002.

Calculating Losses in Unemployment Compensation Taxes
Annual revenue losses from underpayment of UC taxes (owed on workers misclassified as independent contractors) were estimated using the method employed in the DOL-requested study.[31] We computed an average tax loss per worker due to misclassification of workers in the audit sample. It was derived by dividing total UC tax loss by the number of misclassified construction workers at audited firms during the period 1999-2002. Total UC tax loss was based on "underreported UC-

[31] Planmatics, 2000.

taxable wages" of workers in misclassifying firms; the totals thus refer only to the first $12,000 of worker earnings, based on Maine UC tax policy. This figure was then multiplied by the estimated number of misclassified workers statewide *per year* during this period. We assumed, as before, that the workers in audited firms could stand for all construction workers statewide misclassified as independent contractors (and that the distribution of wages was similar).

Calculating Losses in the State Income Tax
To estimate losses in state income tax revenue, we computed two estimates, one assuming that misclassified workers did not report 30% of their income, and the other assuming 50% of income was unreported. To derive tax liability on these amounts, we assumed an average yearly earnings level for construction workers of $31,500. This was based on averaging the annual earnings reported by the US BLS for each of the years 1999-2002 and rounding off. For workers concealing 30% of their income, we used a marginal tax rate of 8.5% for income in excess of $16,500 plus $846, while for those not reporting 50% of income, the highest marginal rate (7.0% for income over $8,250, plus $268) was used. We then computed the differences between taxes on fully reported income and taxes on 30% and 50% hidden income, and multiplied it by the estimated number of misclassified workers statewide (3,213) for each case.

For Single Persons and Married Persons Filing Separate Returns, 2000-2001	
If taxable income is :	Tax owed is:
$8,250 but less than $16,500	$268 + 7.0% of amount over $8,250
$16,500 or more	$846 + 8.5% of amount over 16,500

These estimates were predicated on several assumptions:

1) the average annual wage for construction workers during the period 1999-2002 was $31,500
2) we can derive a usable estimate of tax losses by multiplying the average tax loss per misclassified worker by the estimated number of misclassified workers statewide
3) the average misclassified construction worker can be treated, for tax purposes, as a single head of household or married person filing separate tax returns
4) any standard or itemized deductions were taken fully on the reported share of income and therefore do not apply to the unreported income.

Method for Estimating State Tax with 30% of Income unreported

Average income (if fully reported)	$31,500
Tax rate	8.5%
Tax due: 8.5% * ($31,500 - $16,500)	$2,121
% Income reported	70%
Taxable reported income (70% * $31,500)	$22,050
Tax rate	$846 + 8.5% of amount over 16,500
Tax due: 8.5% * ($22,050 – 16500) + $846	$1,318
Tax due (fully reported) - Tax due (under-reported) = tax loss	$803
Number of construction workers misclassified statewide	3,213
Tax loss (individual loss * # of workers misclassified)	**$2,580,039**

Method for Estimating State Tax with 50% of Income unreported

Average income (if fully reported)	$31,500
Tax rate	8.5%
Tax due: 8.5% * ($31,500 - $16,500)	$2,121
% Income reported	50%
Taxable reported income (50% * $31,500)	$15,750
Tax rate	$268 + 7.0% of amount over $8,250
Tax due: 7% * ($15,750 - $8,250) + $268	$793
Tax due (fully reported) - Tax due (under-reported) = tax loss	$1,328
Number of construction workers misclassified statewide	3213
Tax loss (individual loss * # of workers misclassified)	**$4,266,864**

Calculating Revenue Losses on Worker Compensation Insurance Premiums
We assumed that all average WC premiums for workers, including construction workers, can be estimated by assuming $20 per $100 of payroll for workers compensation. We computed unreported wages from misclassifying employers as a percentage of total payroll from randomly audited firms, and assumed that this could represent the percentage of wages unreported from total construction wages paid by misclassifying employers statewide. Applying this to the actual total wages of UC-contributing employers statewide yielded an estimate of unreported wages for construction employers. Taking 20% of these figures produced estimates of WC revenue losses. We also computed lower estimates of premium losses by setting the WC rate at $12 and $15 per $100 per payroll.

Calculating Losses in the FICA Tax
To compute losses in federal payroll taxes for Social Security (FICA), we first calculated the percentage of taxable wages paid by audited employers that went to misclassified workers. This was done by dividing total taxable misclassified wages by total post-audit taxable wages (on all employers). The resulting ratio (7.25%) was then applied to the total wages paid to construction workers statewide, averaged over 1999-2002. This yielded an estimate of total misclassified wages statewide paid annually for the four year period. We then multiplied that estimate by 0.153 (the total contribution by both employers and workers to Social Security, or 15.3%) to determine losses to FICA.

Appendix B - The Role of Audit Methods

The report commissioned by the US Department of Labor used Unemployment Compensation (UC) tax audit results from 9 states to obtain an estimate of misclassification (Planmatics 2000). Unemployment Compensation Tax audits seek to establish whether all workers supposed to be covered by Unemployment Compensation are in fact covered. Most often, when workers are not covered, it is because they were classified as independent contractors. When an audit finds workers not covered by UC who should be, they are reclassified as a "new worker" on the payroll subject to taxation. Therefore UC tax audits are a useful source of information about misclassification, one that has been relied upon by previous studies such as the DOL commissioned report.

UC tax audits are the best source of information on misclassification behavior available to researchers to date, and have been used by the US Department of Labor to gauge the prevalence and extent of misclassification. Using them to estimate misclassification, however, is not a straightforward matter. UC tax audit practices aim at redressing tax loss. The sampling of employers for audit purposes is not meant to be statistically random; it is meant to assist in UC tax collection. Some of the audit methods used are targeted; they aim to audit employers with a high likelihood of misclassification based on past UC tax record. Therefore these methods result in a relatively high observed rate of misclassification. Conversely, other audit methods are not targeted; they are conventionally called random audits. All state UC tax revenue departments practice a mix of methods. Therefore, audits are not a statistically perfect source of information; they allow for estimation rather than for an actual measure of the dimensions of misclassification.[32]

The Maine Department of Labor (DoL), Bureau of Unemployment Compensation, Tax Division conducts UC tax audits by drawing randomly from a sample of 38,000 active private-sector employers in the state. The list thus generated is sorted by regions in the state associated with field staff and inspectors, who then conduct audits based on the list. According to the Bureau, the resulting list is random for a particular region, though there may be regions that are over-represented in the audit sample relative to their share of employers and employment.

The DoL performed 296 random audits of construction employers over the period studied (1999-2002).[33] These were drawn from a larger pool of 2,118 audits conducted across all industries in that time period. They are referred to here as "random", or "not targeted." The remainder of DoL construction audits were nine targeted or "conversion" audits based on contested unemployment claims, a determination that a worker is in fact an employee, or other reasons to suspect hidden and/or misclassified wages. Their purpose of conversion audits is to locate cases of likely misclassification and other instances of noncompliant reporting for purposes of UC tax liability.

For our estimates of impacts, we have used results from random or non-targeted audits only. This approach is more conservative than that taken in the US DOL commissioned study.[34] That study relied on results from both random and targeted audits (to the exclusion of highly targeted audits) to generate the estimates used to project tax revenue losses.

[32] An actual measure would require a large scale random survey of workers and employers throughout the state.
[33] The majority of audits were completed during the years 2000-2002; a small fraction (16, or about 5%) were completed in 1999. These figures exclude a small number of audits deemed unusable by DoL staff.
[34] Planmatics, 2000.

This project was funded by the Center to Protect Workers' Rights in Silver Spring, MD., through a cooperative agreement with the National Institute for Occupational Safety and Health.

Center to Protect Worker Rights
CPWR's main focus is to develop practical ways to protect the safety and health of construction workers and their families. It is the research, development, and training arm of the AFL-CIO's Building and Construction Trades Department. CPWR works with more than 30 organizations nationwide, including the National Resource Center for OSHA Training.

Construction Policy Research Center
The Construction Policy Research Center is a joint activity of the Harvard School of Public Health and the Labor and Worklife Program at Harvard Law School. The Center serves as the focus for quantitative and qualitative research in the full range of issues affecting the construction workforce. It is a link that fosters collaborative arrangements that cross organizational boundaries. The Center promotes the purposes of academic programs, interdisciplinary research projects, and outreach. The Labor and Worklife Program (LWP) is Harvard University's forum for research and teaching on the world of work and its implications for society. Located at the Harvard Law School, the LWP brings together scholars and policy experts from a variety of disciplines to analyze critical labor issues in the law, economy, and society.

Center for Social Policy
The Center for Social Policy engages in high-quality applied research, technical assistance, program evaluation, and outreach activities aimed at addressing social and economic inequalities in Massachusetts, New England and across the country. It is part of the John W. McCormack Graduate School of Policy Studies, University of Massachusetts Boston. CSP accomplishes its mission through active engagement with policymakers, service providers, and those communities most directly affected by local, state, and federal social welfare policies.