

**Fraud in Workers' Compensation Payroll
Reporting:
How Much Employer Fraud Exists?
How are Honest Employers Affected?**



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Report to
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California Department of Insurance

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Fraud in Workers' Compensation Payroll Reporting: How Much Employer Fraud Exists and How are Honest Employers Affected?

Executive Summary

It has long been suspected that a fraction of employers fraudulently under-report and misreport payroll for calculation of workers' compensation premium or illegally forgo purchasing workers' compensation insurance altogether. Previously, the Commission on Health and Safety and Workers' Compensation (CHSWC) contracted with the University of California, Berkeley to develop a methodology and analyze the degree to which employers under-report or mis-report payroll for workers' compensation. (Neuhauser and Donovan, 2007). The Fraud Assessment Commission (FAC) asked us to extend the prior study data to include the period from 2002 through 2005. The FAC also requested that the University examine whether employers were increasing the use of non-standard employment contracts (e.g., independent contractors) to avoid the high workers compensation rates.

Premium rates had been relatively low prior to the first year of the study (1997) and remained low through 1999 and early 2000. Then premium rates rose at an unusually rapid rate. These high premium rates resulted in significant legislative reforms in 2003 and 2004 which had the effect of bringing rates down dramatically after 2003. An important extension in this study is that it allows us to analyze the impact of rapidly falling premium rates as well as rapidly increasing rates.

Findings

Extent of Under-reporting

- *Table S1* shows that during the study period, the level of under-reporting increased from between 1%-4% of private industry payroll when premium levels were low to 10%-12% when premium levels were high.
- Subsequent declines in premium rates as a result of the 2003-04 reforms resulted in a 3-4 percentage point improvement in payroll reporting. This is very strong evidence that premium rates affect employer reporting.
- Under reported payroll increased from between \$4-\$15 billion when rates were low to \$55-\$68 billion at the peak of premium rates. Subsequently, under reporting dropped to \$40-\$55 billion of private payroll and has likely improved substantially in the several years since the last available data as premium rates continued their dramatic decline.

Table S1

Percent of Under-reported Private Industry Payroll Under-reported Payroll (\$ billions) in Parentheses*			
Policy Year	Average Premium Rate (as of 1/1/YY) \$/ \$100 payroll	Assuming 0.89 as baseline	Assuming 0.92 as baseline
1997	\$2.47	1.4% (\$5.7)	3.8% (\$15.7)
1998	\$2.35	0.8% (\$3.7)	3.4% (\$14.9)
1999	\$2.30	5.3% (\$25.5)	7.8% (\$37.9)
2000	\$2.68	6.4% (\$35.1)	9.0% (\$49.3)
2001	\$3.49	3.9% (\$21.6)	6.5% (\$36.0)
2002	\$4.66	6.8% (\$37.6)	9.4% (\$51.9)
2003	\$5.74	9.6% (\$54.4)	12.0% (\$68.2)
2004	\$6.11	7.7% (\$46.4)	10.1% (\$61.0)
2005	\$5.23	6.3% (\$40.1)	8.7% (\$55.0)

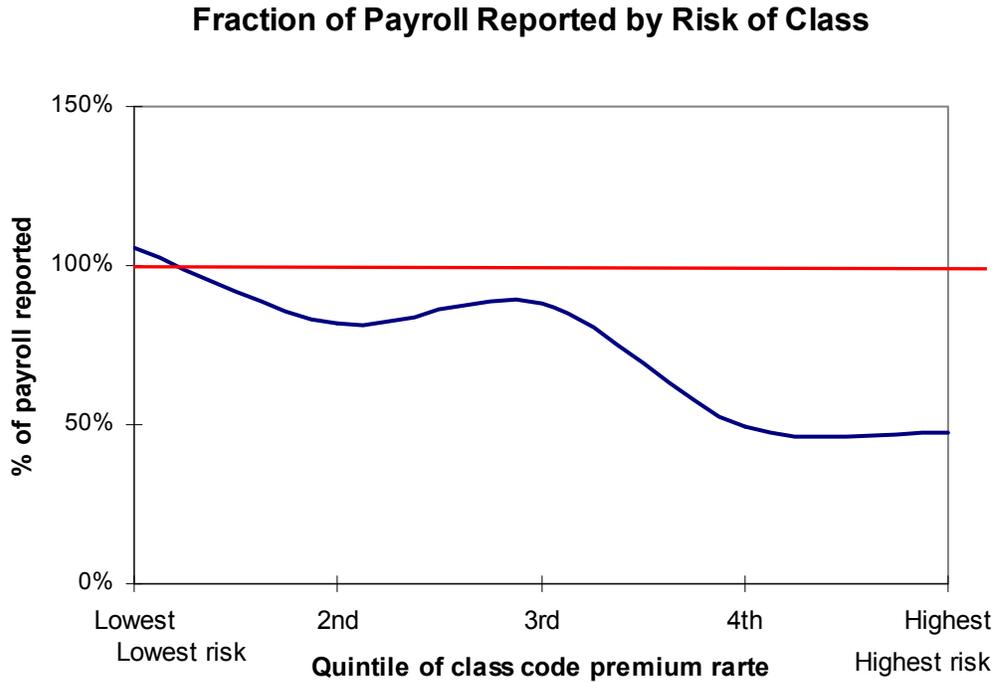
*Total wage estimates based on Current Population Survey

Under-reporting and misreporting by class code and premium level

Besides under-reporting payroll, employers can fraudulently misreport, reporting workers in high-risk/high-premium classes as earning wages in lower-risk occupations.

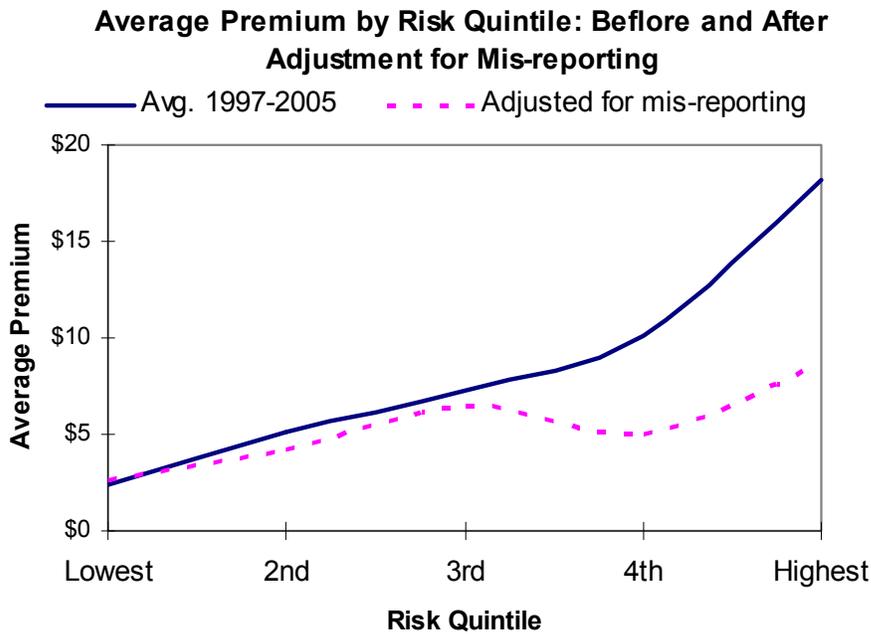
- Figure S1 shows that under-reporting and misreporting increases dramatically as the premium rate for a class of workers increases.
- For very low-risk classes of workers, for example clerical and professional employees, misreporting of payroll might even lead to over-reporting of payroll for some premium classes as employers fraudulent shift payroll from higher-premium rate classes.
- On the other hand, for very high-risk classes, as much as 40-60% of payroll is being under-reported or misreported.

Figure S1



Impact on Honest Employers' Premium Rates

If employers misreport payroll to reduce premiums, but report injuries accurately when they occur, premiums for high-risk class codes will be inappropriately high. As shown in *Figure S2*, *Figure S2*



- Above the median premium level for all classes, honest employers are consistently facing premium levels that were inappropriately high as a result of fraudulent reporting by dishonest employers.
- Employers in the highest class codes were paying rates more than double the rate expected to be seen under full reporting.

Suggestions for improving payroll reporting

1. The Legislature, CDI, and DIR/DLSE could push for more aggressive enforcement against misreporting and under-reporting. This could include:
 - a. Focusing more Fraud Assessment Commission funding on premium fraud;
 - b. Raising the civil penalties for premium fraud; and/or
 - c. Raising the criminal penalties for premium fraud.
2. The FAC and, by association the District Attorneys, should respond to increasing premium rates by increasing enforcement focus on employer premium fraud. Symmetrically, resources might be focused elsewhere during periods of low rates.
3. The Test Audit Program which monitors insurer audits of policyholders is currently operated by the WCIRB, an insurance industry association. The CDI might consider the suggestion of some observers and have this process conducted by a separate, private contractor.
4. The results of the Test Audit Program are not public record. The Bureau's Governing Committee discusses the audit program results and takes actions against individual insurers. However, these discussions are not public, and the public members of the Governing Committee are not allowed to be present for these discussions. Insurer compliance might be improved if these discussions and results were open for public scrutiny.
5. Even if the Test Audit Program data are not made available by individual policies, the data should be available after removing insurer and policyholder identifiers. This would allow researchers and policymakers to examine whether the high level of errors identified during these audits are systematically resulting in mis-reporting and under-reporting of payroll from higher-risk to lower-risk classes. This would be important evidence of problems with the current process and the enforcement mechanisms. Mistakes are expected in reporting under such a complicated system, but mistakes that are systematically in one direction imply fraud rather than merely human error.
6. Employers report payroll data to the EDD for tax withholding and unemployment and disability insurance. These records could be matched to employers' reporting to insurers for premium purposes. Currently, this avenue is limited by restrictions on insurer access to EDD data. Legislation could simplify this basic audit procedure.
7. The Franchise Tax Board receives large amounts of information that could be used to identify fraudulent under-reporting. These data include income information from both employers and workers that could be used to identify fraudulent use of independent

contractor status. Again, access to these data is heavily restricted, and legislation might be needed to facilitate access for investigators.

8. Professional employer organizations (PEOs) have been cited as a frequently method for employers to avoid the consequences of high experience modifiers or to disguise the risky nature of workers' occupations. However, to date, there has been no systematic study of the size or scope of the PEO market or the claims experience of PEOs. At a minimum, the state should undertake a study to gauge the impact of PEOs in the workers' compensation market.
9. Recently, at least one very large national insurer (AIG) was fined for systematically under-reporting premium in several states (Bloomberg News, 5/26/07). It is unclear whether the under-reporting extended to payroll and occurred in California. If this extended to California, then the estimates of under-reporting could include fraudulent behavior by at least one insurer, not just employers. This should be a high priority for study by FAC and CDI.

Methods and Comments

Traditionally it has been difficult to establish the extent of under-reporting and misreporting because there have not been accurate estimates of total wages that are legally subject to workers' compensation premium calculations. In particular, the "grey economy" where employers pay cash and avoid all reporting has been outside the scope of previous studies.

This study and its earlier version, released in 2007, make use of multiple data sources including the Bureau of Census Current Population Survey (CPS), Workers' California Insurance Rating Bureau of California (WCIRB) data on exposure by class code, Department of Industrial Relations, Office of Self-Insured Plans (OSIP) data on self-insured payroll, and California Department of Insurance (CDI) published pure premium rates, to estimate employers' under-reporting and mis-reporting of payroll. The methods used are documented in the earlier report to the Commission on Health and Safety and Workers' Compensation and summarized in this report.

Fraud in Workers' Compensation Payroll Reporting: How Much Employer Fraud Exists and How are Honest Employers Impacted?

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1.0 Introduction

Employers in California, as in all states except Texas, are required secure coverage for workers' compensation.¹ Coverage can be secured from a workers' compensation insurer or through a certificate of self-insurance from the Department of Industrial Relations (DIR). A previous study by the University of California, Berkeley for the California Commission on Health and Safety and Workers' Compensation (CHSWC) examined the extent to which employers were failing to secure compensation and misreporting the classification of workers to avoid premiums. (Neuhauser and Donovan, 2007). That report covered fraud in coverage and reporting through 2002, before premium rates peaked. This study extends the estimates through 2005, during and just after the peaking of premium rates. We examine how those high premiums affect reporting and impacted the insurance rates faced by honest employers.

The study finds substantial under-reporting of payroll in jobs where the employer pays high workers' compensation premium rates. The under-reporting becomes increasingly more severe as the cost of workers' compensation increases. The level of under-reporting results in much higher premiums for firms employing workers in high-risk jobs. Honest employers consequently face inappropriately high premium costs that are not adequately mitigated by experience modification, especially for small employers.

The end result is pressure on honest employers to under-report in order to stay competitive. This in turn raises premium rates, increasing the incentive for dishonest employers to under-report or misreport payroll in high-risk classes. This process can lead to a vicious cycle, driving the very high premium rates and the under-reporting observed for high-risk classes of workers.

1.1 Under-reporting/misreporting defined

Absent effective auditing or accountability mechanisms, an employer, seeking to minimize insurance costs, has an incentive to under-report or misreport the payroll for different types of employees. For example, a construction firm owner might under-report the payroll for his roofers in order to avoid paying premiums. He might mis-report those payroll dollars as paid to other classes of workers with lower premium rates (e.g. secretaries). Alternatively, the employer might not report this portion payroll at all (e.g., defining the worker as an independent contractor) thereby avoiding insurance costs altogether.

If employers avoid premium payments, avoidance would be expected to increase as workers' compensation insurance rates increase.² On the other hand, insurers presumably seek to limit fraudulent behavior by monitoring employer compliance. Again, insurer monitoring should increase as premiums rates increase. These effects work in opposite directions and which

¹ California Labor Code Section 3700. Note: the Labor Code allows the State of California to be legally uninsured for workers' compensation.

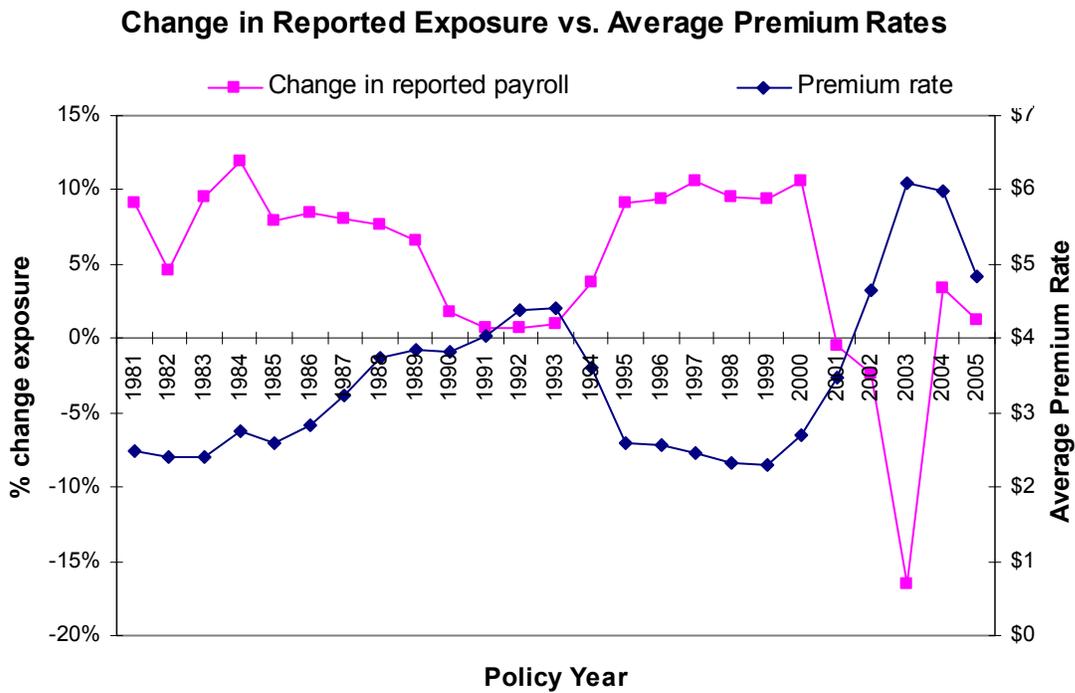
² Employers may also reduce their payrolls by cutting hours and/or employment. However, there is little evidence that premium rates have a significant effect on employment in the short-term.

dominates is a question that will be answered in this paper. First, we examine aggregate data to get a first indication of the relation between premium rates and under-reporting.

1.2 Misreporting seems to occur

“Exposure” is the term used in workers’ compensation for employers’ payroll subject to insurance premium. Exposure is reported to the WCIRB by all workers’ compensation insurance companies writing policies in California. In Figure 1, we plot changes in total reported exposure for the state of California against the average premium level. We observe an inverse relationship between premium and reported payroll, consistent with increasing employer incentive to avoid premium payments when premium rates are higher. As premium levels rise, growth in reported exposure falls, and as premium levels fall, growth in reported exposure rises.

Figure 1



Caution should be taken with interpreting the large drop in exposure between 2002 and 2003. These data are drawn from the Class Relativity Worksheets prepared by the WCIRB for setting pure premium rates within each class code. These data are consistent before and after 2002 and 2003, but the change between these years seems extraordinarily large. The Bureau did not offer a reason for the change other than employer reporting.

Some other issues intervene that may affect the strength of the relationship observed in *Figure 1*. First, it is likely that as premium levels increase, employers increasingly switch to self-insurance, and as premium rates fall, more employers migrate to insurance. Self-insuring is one way to avoid paying premiums set by insurers based on CDI recommended rates for state-mandated workers' compensation. Self-insuring requires independently paying employee medical and indemnity costs for injuries or illnesses incurred on the job. When rates are high, employers may increasingly believe this option to be a cheaper and worth the additional risk.

It is also possible that honest employers are more likely to choose self-insurance, indirectly selecting into the insured pool those employers who are more likely to cheat. As premiums increase, adverse selection in the insured sector could become increasingly problematic.

Premium increases may coincide or be causally related to changes in economic activity and employment. During the period observed in Chart 1, there were several business cycles affecting employment. Recessions will slow the increase in payrolls or cause a decrease. Conversely, economic upswings will increase the rate of change in payrolls and reported exposure.

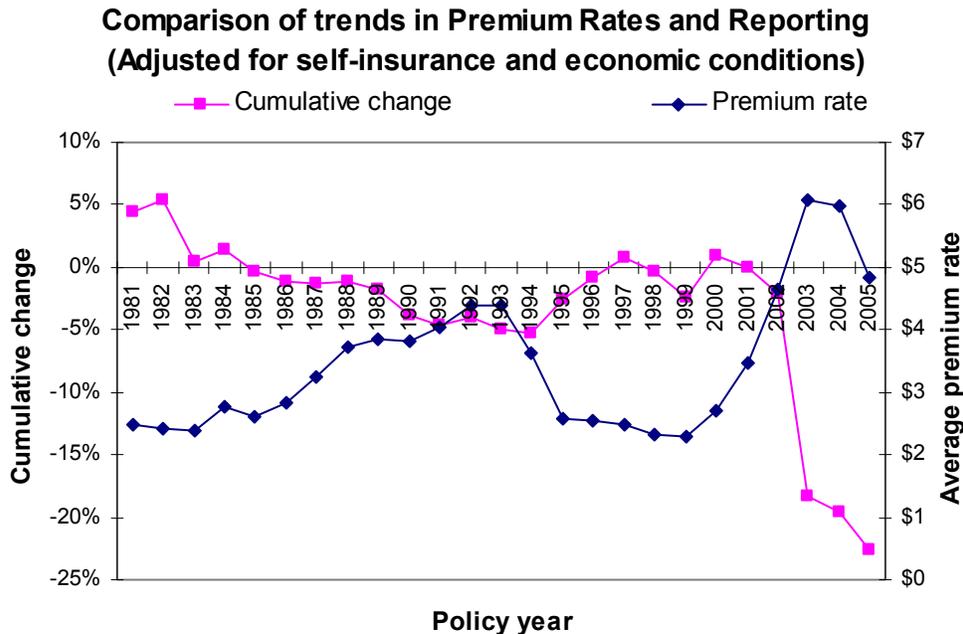
In *Figure 2*, self-insured payrolls are added to total state exposure. We also account for employment variation related to business cycles. The analysis adjusts for differences in calendar-year, policy-year report timing in the different data sources. Finally, the data presented are for the cumulative change in total reported payroll; exposure (insured employers) and payroll (self-insured employers) minus the change in total private industry payroll as reported by the California Department of Finance (DOF).³

The advantage to this approach over that used to present trends in *Figure 1* is that changes in wage and salary income drive most of the year-to-year change in insured payroll. Consequently, removing the change in total state payrolls makes year-to-year changes small and obscures the trend in reporting that result when these small changes compound over time.

³ The calculation for each year is

$$\sum_{t=1}^n \left[\frac{(InsExposure^{t+1} + SIpayroll^{t+1}) - (InsExposure^t + SIpayroll^t)}{(InsExposure^t + SIpayroll^t)} - \frac{DOFpayroll^{t+1} - DOFpayroll^t}{DOFpayroll^t} \right]$$

Figure 2



Despite controlling for the impact of self-insurance coverage and economic conditions a strong, inverse relationship persists between premium rates and changes in reported exposure. Such a relationship suggests a systematic increase in under-reporting of payroll when premium rates are relatively high.

1.3 Premium fraud and competitive advantage

Summarizing the discussion above, employers, seeking to minimize total costs, have incentives to avoid paying insurance premiums, especially if the workers' compensation system provides a relatively easy and risk-free mechanism for doing so. Indeed, by misreporting payroll costs, employers are able to avoid the higher premiums they would incur with full reporting of payroll. Employer savings come from under-reporting or misreporting payroll, and potential savings are greatest for the highest-risk (i.e., highest-cost) employees.

The WCIRB recommends premium rates by evaluating historic experience within a risk class of workers (referred to as a Class Code). Experience is composed of reported payroll for a previous period and the estimated ultimate medical and indemnity costs for claims occurring during the period. If employers under-report payroll in a class but accurately report the class code of injured workers, the premium rate estimated by the WCIRB for that class code will be artificially high.

Employers who report truthfully for these classes are faced with artificially high premiums and incur higher costs than their cheating competitors. This effect is amplified if the higher premiums in turn encourage more employers to under-report or dishonest employers to under-report to a greater extent.

1.4 Insurer incentive to audit reporting

Insurers are required to audit policy holders if the premium exceeds a threshold, currently \$10,000. However, the aggressiveness of the auditing process is subject to question.

Even if premium avoidance becomes endemic, workers' compensation insurers may have limited incentive to seek out and punish cheaters as long as premium rates are artificially high enough to create sufficient total premium to cover costs and profit. For example, imagine that a large fraction of employers cheat at least a little. If one insurer decides to unilaterally enforce auditing in an aggressive manner, dishonest employers would "wisely" choose not to insure with that company. On the other hand, honest employers have no additional incentive to insure with the aggressive insurer because premium rates are set for the entire insurance industry. An aggressive insurer risks losing a significant fraction of business that, while subject to a relatively high rate of fraudulent behavior, is still profitable because of artificially high premium rates. In addition, insurers incur higher costs if they audit more aggressively.

Most workers' compensation policies are sold through brokers to employers, rather than directly from insurers. Brokers may have interests that are not perfectly aligned with insurers. Larger brokers may have enough experience with insurers and auditing to guide their clients to insurers that have less aggressive auditors or ones that are not subject to test audits by the Rating Bureau during a particular policy period.

The WCIRB does have an aggressive program of evaluating insurer audits, trying to ensure both employer and insurer compliance. Called the Test Audit Program (WCIRB, 2003), it involves re-auditing approximately 3,000 of the 600,000 policies issued by insurers in California each year. The WCIRB results are compared to those reported by insurers and discrepancies can result in fines, increased audits and other penalties. Insurers meeting high standards are given a pass on audits for eight quarters.

The WCIRB program is probably the most aggressive effort in the country aimed at ensuring effective auditing by insurers. In the previous version of this study, we raised concerns about certain gaps in the Test Audit Program, including exclusion of most very large employers (employers domiciled out of state). The WCIRB has started auditing these large risks.⁴ However, the continued high estimates of premium avoidance in this study may challenge observers' perceptions of both the insurer methods and the WCIRB's efforts to measure the effectiveness of insurer audits.

Among other issues are problems with auditing "non-standard" policies, particularly large deductible policies and policies written for non-standard class codes. Also considerable concern has been raised by observers about the impact of professional employer organizations (PEOs) which assume the payroll requirements, including payroll taxes and insurance, and contract employees to employers. This arms-length relationship complicates the process of auditing the risk of the underlying employment. This is frequently raised as a growing concern; however, we are unaware of any analysis quantifying the extent or change over time in PEO penetration among high-risk occupations.

⁴ Interestingly, the results of the initial audits of very large risks showed very serious deficiencies in reporting, on a magnitude similar to the smaller employer risks. Most observers expected these large policies to have much better reporting.

A contention of this paper and its predecessor is: If responsibility for monitoring is primarily located in an agent (insurer) that has less-than-perfect incentive to monitor, monitoring will be less than perfect, and, will be increasingly imperfect as the incentive to monitor decreases. Limited incentives might also explain why there has been little research into the extent of fraudulent activity.

Further, systematic efforts to improve monitoring will be limited if the most powerful voices in the employer community are silent on the issue. Influence on policies surrounding employer issues is often concentrated among large employers who can self-insure or purchase very large deductible policies that allow them to avoid the impact of fraudulent reporting on premium rates.⁵ Smaller employers may have less “voice” in the debates over tightening controls on reporting payroll for insurance premiums.

2.0 Estimation of misreporting/under-reporting

2.1 Risk Variable

In order to determine whether or not fraudulent behavior is driving the observed relationships between exposure and premium rates in the proceeding figures, the premium rates and payroll reporting behavior are compared. A measure of the accuracy of reporting for each class code, the ratio of total employer reported payroll to an estimate of “true” payroll, is defined. The estimate of “true” payroll is derived from the CPS as described below and in more detail in the 2007 report to CHSWC.

The CPS is a household survey conducted by the Census Bureau for the Bureau of Labor Statistics. Survey samples are constructed to give representative national statistics and for to a lesser degree representative statistics for each individual state. The survey is the primary source for labor force information in the United States and is used extensively by researchers, legislators, and policymakers alike. It includes a wide range of demographic and employment information. Each month, the Census Bureau interviews 50,000 households across the United States and interviews each household for a total of eight months over a span of 16 months. In a given month earnings data is only available on the 25% of members of surveyed households that comprise the “outgoing rotations,” households in months 4 and 8 of sampling. In our sample, we have approximately 1,000 California working households for each month of years 1997 to 2005.

We estimate “true” payroll using reported wages from the CPS from years 1997 to 2005. Using 3-digit industry and occupation code pairs from the CPS, each worker is assigned to a specific class code.⁶ We then group people based on the class code that we assigned and multiply their monthly earnings by the CPS earnings weight variable. (This variable equals the number of people in the state that the person represents, based on CPS estimates.) Aggregating weighted earnings for each class gives a monthly exposure measure for the given class. Summing 12 months of calculated exposure for each class in a given year gives a yearly value of “true” payroll, which can be compared to the actual employer-reported payroll.

⁵ According to the Workers’ Compensation Insurance Rating Bureau of California (WCIRB 2006) approximately 30% of written premium is on large deductible policies that essentially mirror self-insurance. Full reporting is done on estimated premium, payroll and claims, but the employer retains the majority of liability.

⁶ See Appendix for a more detailed account of matching methodology.

There are two possible sources of error in our estimate of “true” payroll. The first is random sampling error that occurs with all survey sampling. In particular, the study’s measurement of “REPORTING” for an individual class code is:

$$[WCIRB \text{ “exposure”} + OSIP \text{ payroll}] / [Earnings \text{ reported by respondents to CPS}]$$

There is no sampling error in the reporting of WCIRB or the Office of Self Insured Plans (OSIP) exposure because they are a census of reporting entities. However, the samples for any individual class code may be small, meaning that the error in our estimates for any individual class in any single year may be substantial. However, our analytic approach is appropriate for this type of error. And, it is not believed these errors will systematically bias the study estimates.

A second potential source of error could arise from the assignment individuals to class codes. The assignment method is discussed in more detail in the Previous report to CHSWC. It is not believed that our classification is biased in one direction or another, as detailed descriptions of class codes, industries, and occupations are used to ensure the most accurate matching between two coding schemes that have no direct crosswalk.⁷

To address concerns that the study’s classification scheme is systematically biased and driving the direction and significance of the study results, a second classification scheme is defined whereby we allow for matches of an industry-occupation pair to more than one class code that could be a second or third best match to our original specification. The results are robust to this classification and some of these results are presented below. A class fixed-effects model that examines the impact of changes in premium rates within individual class codes is also specified. This avoids any problems with systematic bias across classes. As seen below, the results within class are consistent with the findings across classes.

2.2 Adjustments

2.2.1 Self-Insured/Self-Employed

Many employers do not buy workers’ compensation insurance coverage but rather self-insure. These employers do not report payroll or injury experience to the WCIRB. However, when workers at these firms are respondents to the CPS, their earnings are included in our estimates. To correct for this discrepancy between our estimated class code payroll and employer-reported payroll, self-insured data for each industry (3-digit SIC code) for each year was obtained through a special request to the California Office of Self-Insured Plans (OSIP), a division of the California Department of Industrial Relations (DIR). The self-insured payroll was distributed across class codes using the distribution of exposure by industry as observed for all workers in the CPS.

Also excluded from the study’s payroll estimates were earnings of self-employed persons, as these individuals are not mandated to purchase workers’ compensation coverage. This poses some concerns that will be discussed later. Notably, self-employment status is self-reported. As such, it will reflect the workers’ perception of their employment status. This perception is not necessarily perfectly coincidental with legal definitions of self-employment that would release an

⁷ This study differs from the earlier version in an important way. Between 2002 and 2003, Census changed the coding of industry and occupation to a new series of codes. The methods used in this study remained the same, but we had to code an additional 10,000 pairs of codes between census codes and WCIRB class codes. Both cross-walks are available from the authors on request.

“employer” from the requirement to report earnings for premium calculation. It also is not necessarily coincidental with the status an employer claims for the worker when reporting payroll for premium and payroll tax purposes. The Murphy study (2007) highlighted the extent to which employers misclassify employees as self-employed, independent contractors in Maine’s construction industry.

For this study, the Fraud Assessment Commission (FAC) asked that we specifically address the issue of self-employment. Specifically, are employers systematically shifting higher risk workers to independent contractor status to avoid high workers’ compensation premiums and other payroll costs? We address this issue below.

2.2.2 WCIRB Exposure vs. Payroll

Exposure is the term used by the WCIRB to describe payroll against which workers’ compensation premiums are calculated. Exposure closely tracks payroll but is always equal to or less than actual payroll. An important difference is that exposure does not include any wage premiums beyond the base hourly wage. For example, if a worker is paid time-and-a-half for overtime, only the regular hourly wage is included in exposure for premium calculations. Similarly, if the night shift pays a premium over the day shift, only the day shift wage is used in the calculation of premium. There are other exclusions like certain bonus payments and a portion of wages of highly company officers.

The total impact of the exclusions from payroll is unknown. It is also not known how the level of exclusion might vary across class codes. We have some indication of the extent of excluded payroll. The National Compensation Survey (NCS) conducted by the Census Bureau for the Bureau of Labor Statistics estimates the contribution to payroll cost of various components of compensation. Using a very strict definition of payroll exclusions, the NCS gives an estimate that 4.3% of payroll is excluded from premium calculation. A broader definition of excluded payroll would suggest that 8% of payroll is appropriately excluded from premium calculation. The WCIRB has suggested a 11% or higher as appropriate average exclusion. In *Table 3* in the discussion section, the impact of both these exclusions levels on under-reporting is examined.

We are unaware of any other estimates of the percentage of payroll excluded from premium calculations, nor variation in this percentage across class codes. The WCIRB has investigated this issue; however, the calculations are against total compensation costs reported by employers, including health insurance, pension benefits, etc (WCIRB, 2003 Wage Level Study). The WCIRB did find variation across class codes, suggesting that exclusions were generally higher for lower risk industries.

The NCS, based on highly aggregated industry-level data, shows that variation in the portion of payroll excluded is negatively correlated with occupational risk. Like the WCIRB study, the NCS data indicate that value for REPORTING, when there is complete reporting, should be lower in the lower-risk class codes, that is, more payroll would be excluded from reporting for lower-risk occupations.

2.3 Comparison of actual to reported exposure

We compare our estimate of “true” or actual exposure -- aggregated yearly earnings as reported in the CPS for each class of workers -- to the employer reported exposure, as reported by insurers

to WCIRB and supplied by WCIRB for this project. The following ratio is a measure of the completeness of reporting for a given class:

$$\text{REPORTING} = \frac{\text{employer_reported_payroll}}{\text{actual_payroll}} = \frac{(\text{WCIRB} + \text{Self_Insured})}{\text{CPS_reported_earnings}}$$

A higher value of “REPORTING” indicates that employers in a class code are reporting a larger fraction of what we estimate to be the correct payroll. As the value of REPORTING falls, employers are reporting a smaller percentage of payroll. If the value of REPORTING is negatively correlated with premiums, this indicates systematic and problematic behavior consistent with patterns of fraud.

We expect that exposure (payroll reported to insurers for premium calculations) is systematically lower than payroll for the reason of exposure omissions discussed above. Considering this, we do not believe that a value of REPORTING equal to one is a measure of perfectly honest reporting. Rather, a value somewhat less than one is what would be expected to be observed for truly honest employers.

We may observe a value indicating greater than full reporting for some classes of employment (or greater than the uncertain benchmark representing full reporting after legal omissions) if employers are actually over-reporting payroll in certain classes. An employer might choose to do this for a low-risk class to somewhat compensate for under-reporting in a high risk class; as this would decrease insurance costs while more truthfully reporting the dollar amount of payroll. Some employers might find this to be a more acceptable form of insurance fraud than simply under-reporting.⁸ This is especially true if the employer is unwilling to avoid payroll taxes and related requirements by not reporting payroll at all.

The next section explores how the percentage of payroll reported by employers varies with the premium rates for the class of workers. In our analysis, we use the natural logarithm of REPORTING as our dependent variable. Using the natural logarithm ensures a normally distributed random variable, as required by the regression analysis.

2.3.1 Suggestive Results and Graphs

A smaller value of REPORTING indicates that employers are cheating more (i.e., reporting a smaller percentage of payroll in the appropriate risk category). As discussed above, employers have greater incentives to cheat at higher premium rates. Evidence that employers are responding to these incentives is shown in Figure 4. Figure 4 plots the average value of REPORTING for five quantiles of premium rates. Indeed, we observe that values of REPORTING decline as premium rates increase, i.e., these employers appear to be cheating more when workers’ compensation costs are higher.

⁸ The WCIRB Test Audit Program has found extensive misclassification of workers. However, these data are not publicly available and we cannot examine whether the misclassification is systematically from higher to lower premium class codes. This kind of information and analysis could be an important future direction for the FAC’s effort to understand the extent of employer premium fraud.

Figure 4

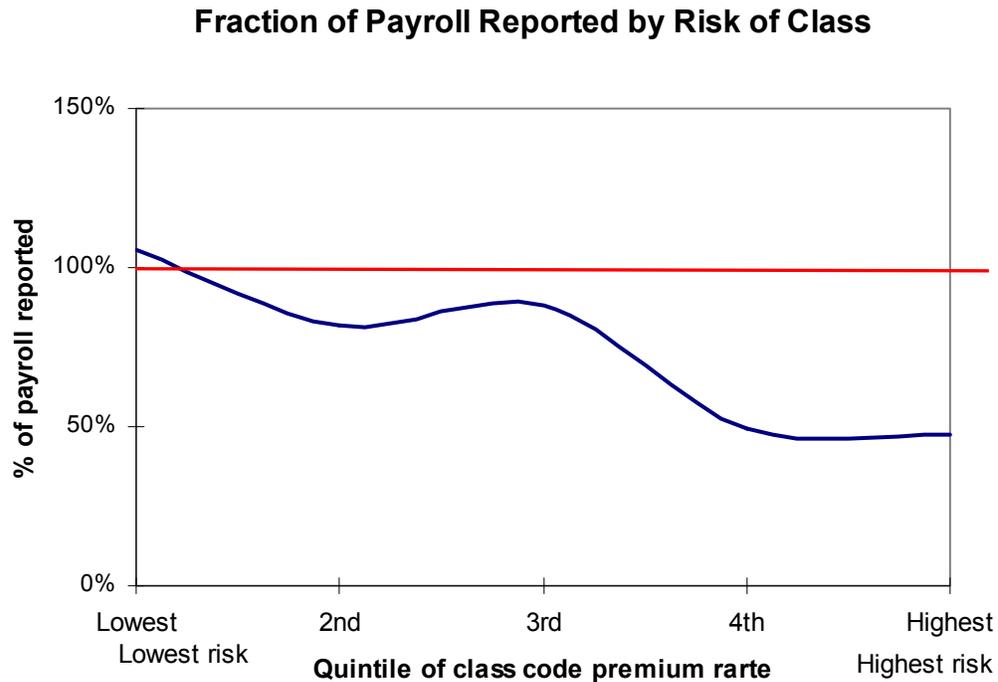


Figure 4 suggests extensive problems with payroll reporting, particularly in the highest premium rate class codes. For the lowest premium rate classes, payroll reporting exceeds actual payroll. Payroll is apparently being substantially over-reported in the lowest-risk classes, likely shifted from higher-rate classes.

Examples of the highest-risk and lowest-risk classes are given in Table. Also note that while premium rate levels changed substantially, the highest-rated and lowest-rated classes and their ordering changed very little over the period.

Table 1--Low and High Premium Class Codes

1997		
Class Code	Description	Premium Rate
8859	Computer Programming or Software Development	\$0.33
8803	Auditors or Accountants	0.37
8741	Real Estate Agencies	0.42
8743	Mortgage Brokers	0.46
4512	Biomedical Research Laboratories	0.54
8810	Clerical Office Employees	0.62
...
5632	Steel Framing—light gauge—commercial— less than \$23.00	23.50
5059	Iron or Steel Erection—structural—buildings under 3 stories	24.99
106	Tree Pruning, Repairing or Trimming	26.60

7601	Telephone, Telegraph or Fire Alarm Line Construction	29.81
5552	Roofing—less than \$20.00	35.08
9185	Carnivals or Circuses	49.97
<hr/> 2005 <hr/>		
8859	Computer Programming or Software Development	\$0.33
8741	Real Estate Agencies	0.34
8803	Auditors or Accountants	0.38
8743	Mortgage Brokers	0.42
4297	Electronic Pre-press	0.86
4512	Biomedical Research Laboratories	0.92
...
5645	Carpentry—less than \$23.00	23.80
2702	Logging or Lumbering	25.38
0106	Tree Pruning, Repairing or Trimming	26.52
8293	Furniture Moving	27.27
9185	Carnivals or Circuses	33.45
5552	Roofing—less than \$20.00	37.21

Payroll reporting rapidly declines from more than 105% reporting to around 40% of total payroll in the classes included in the highest fifth of class codes by premium rate. The level of reporting and the clear trend are strong evidence of under-reporting, and the increasing incentive to under-report as premium rates increase.

How employers choose to mis-report has important implications for how honest employers are affected. At one extreme, employers could avoid premiums by excluding both employees and their injuries from reporting. This would have implications for the workers who might be deprived of full benefits; however, it would have limited impact on the premiums honest employers paid and limited impact on insurers. At the other extreme, employers could under-report payroll but accurately report claims. This would have significant impact on honest employers' premium rates. Or employers could report payroll accurately but fraudulently report high-risk payroll in a low-risk class.

Class assignment for claims and their related costs are based, to an important extent, on reporting by the initial treating physicians. Consequently, claim reporting by class code is expected to be fairly accurate.⁹ Assignment of class code for reported claims is also subject to a separate audit process under the WCRIB Test Audit Program.

In the next section, the evidence of the impact of payroll misreporting on premiums faced by honest employers (and avoided by dishonest employers) will be examined.

2.4 Welfare analysis

⁹ An initial treating physician is required by law to file a Doctor's First Report of Injury which includes a description of the injured workers job at injury. This report is filed with the employer, insurer, and the California Division of Workers' Compensation.

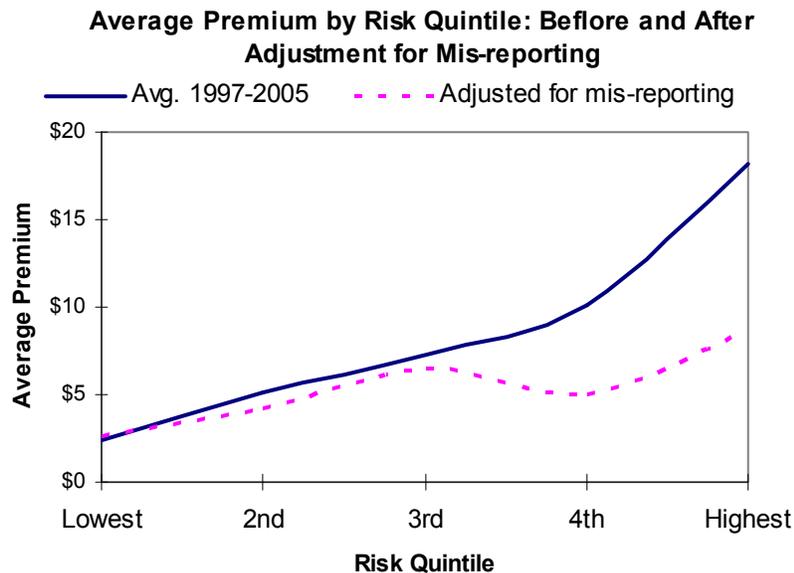
In order to analyze the distortions caused by these premiums, we estimate a “true” premium rate, the premium rate that would arise if all employers reported payroll truthfully, equal to the current premium times the level of reporting that we observe.¹⁰

This is an illustrative measure and assumes that reported injury costs are allocated to the correct class.

We calculate this true premium rate for each class code of worker. *Figure 5* on the following page compares the average current premium rate for five quantiles of premium rates and the average adjusted or “true” premium rate for the same quantiles.

The “true” premium, calculated in this manner, rises with the risk of the classes included in each quantile. However, the “true” premium rate rises more slowly than the actual premium rate. For high-risk classes, the “true” premium rate is substantially below the actual premium rates. The gap between “true” and actual premium is quite substantial for higher-risk classes. For the highest-risk quantile, actual premium rates average 10 times the rate for the lowest quantile. Estimated “true” premium rates for the highest quantile are only about 3-4 times as high as those for the lowest-risk quantile.

Figure 5



¹⁰ $true = \frac{injury_cost}{CPS_estimated_exposure}$; $current = \frac{injury_cost}{Employer_reported_exposure}$. Combining terms using the common injury cost gives:

$$true = \frac{Employer_reported_exposure}{CPS_estimated_exposure} \times Current = FRAUD \times Current$$

It can be argued that this is a lower bound on the true premium rate, given that it assumes all claims are correctly reported even when substantial payroll is under-reported or misreported. On the other hand, it is clear that the current premium rates represent an unrealistic upper bound given the substantial observed under-reporting.

4.0 Discussion and Conclusions

These analyses find that despite auditing by insurers and the WCIRB and penalties for fraudulent reporting imposed by statute and regulation, dishonest employers are significantly and substantially under-reporting or misreporting payroll to insurers. In so doing, dishonest employers are gaining unfair advantage relative to honest employers in two ways. First, dishonest employers shift part premium payment onto honest employers. Second, by avoiding premiums, dishonest employers can price their products or services unfairly relative to honest employers.

Table 3 gives estimates for the extent to which payroll is under-reported for employers in California.

Table 3

Percent of Under-reported Private Industry Payroll Under-reported Payroll (\$ billions) in Parentheses*			
Policy Year	Average Premium Rate (as of 1/1/YY) \$/ \$100 payroll	Assuming 0.89 as baseline	Assuming 0.92 as baseline
1997	\$2.47	1.4% (\$5.7)	3.8% (\$15.7)
1998	\$2.35	0.8% (\$3.7)	3.4% (\$14.9)
1999	\$2.30	5.3% (\$25.5)	7.8% (\$37.9)
2000	\$2.68	6.4% (\$35.1)	9.0% (\$49.3)
2001	\$3.49	3.9% (\$21.6)	6.5% (\$36.0)
2002	\$4.66	6.8% (\$37.6)	9.4% (\$51.9)
2003	\$5.74	9.6% (\$54.4)	12.0% (\$68.2)
2004	\$6.11	7.7% (\$46.4)	10.1% (\$61.0)
2005	\$5.23	6.3% (\$40.1)	8.7% (\$55.0)

*Total wage estimates based on Current Population Survey

We offer two estimates of “full reporting.” In the third column, we use the WCIRB suggestion of 11% as an appropriate exclusion of wage and salary income from reported exposure for premium calculation. In the fourth column we use the more aggressive estimate from the National Compensation Survey (8%). The more 11% exclusion translates into under reporting of between 1% and 10% over the 9 year period, or \$4 billion to \$46 billion in under-reported payroll. The 8% estimate implies under reporting of 3%-12%, or \$15 billion to \$68 billion over the same period.

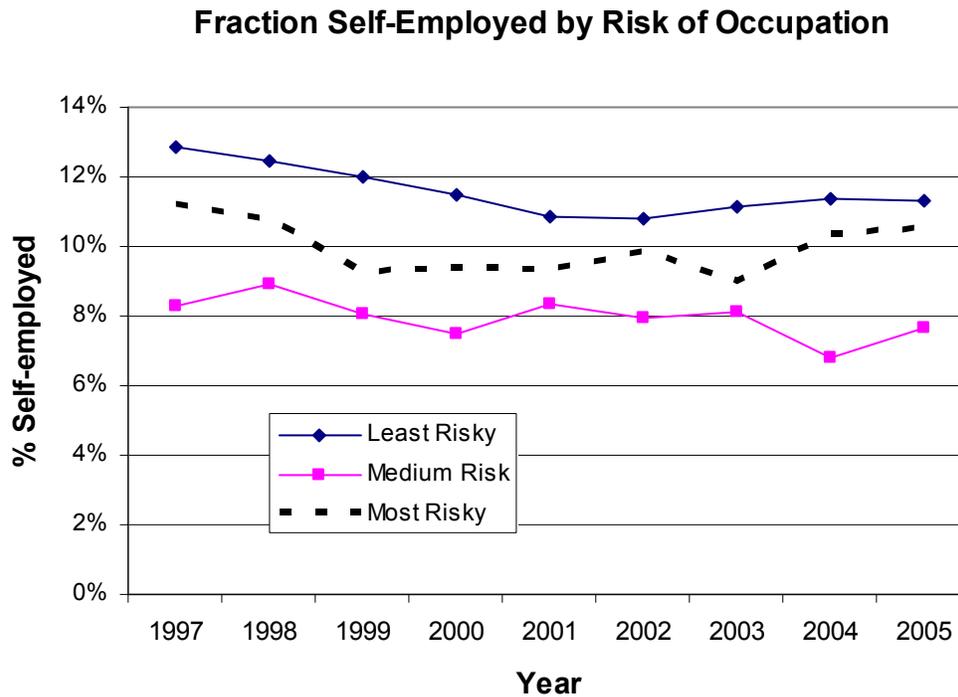
It is important to note two other points. First, there seems to be a definite association between higher premium rates and under-reporting. This association was suggested by the earlier report for CHSWC, but we did not have the opportunity to observe a period of declining premium rates to strengthen the argument for premium rates driving reporting. But there seems to be evidence that the reforms that resulted in declines in premium rates also resulted in improved reporting by employers.

Second, for 1997 and 1998, we observe reporting very close to the payroll after exclusion of 11% of payroll. The WCIRB sometimes argues for a higher rate of exclusion, up to 16% of payroll. A rate higher than 11% seem hard to justify, since the implication would be that employers are over reporting payroll after periods of low premium rates.

It should be noted that these estimates are based on calculating payroll from the CPS. The CPS is thought to do a good job of accurately including the “grey economy” in employment and earnings estimates (Roemer, 2002). That is, jobs, where the work is paid cash “under the table” that is unreported for tax withholding, unemployment insurance, and other payroll-related programs, are included in the total payroll calculations. These earnings are, by definition, excluded from standard wage and salary estimates, such as those based on payroll reporting to the California Employment Development Department Base Wage File.

We also note that whether a worker is employed or self-employed is based on the survey respondents’ answers to a series of questions. The self-reported employment status may include error for a number of reasons (Roemer, 2002). Most important, being paid as an independent contractor, which would not require an employer to supply workers’ compensation insurance, is based on a legal definition, not always clear to parties, particularly workers. However, since California’s statute defines legal independent contracting in a very narrow way, it is not likely that workers are systematically over-reporting status as “employed” rather than “self-employed.” On the other hand, there is evidence that employers in risky industries, for example construction, erroneously or fraudulently assign independent contractor status to a significant fraction of workers.

Figure 6



Inclusion of the grey economy wages and possibly a substantial portion of illegally defined independent contractor payments in the total wage calculation will increase the percent of wages that this study calculates as unreported for workers' compensation. However, those inclusions are appropriate and hence give more accurate estimates of payroll that is unreported for premium calculations.

As part of this study, the Fraud Assessment Commission asked UC Berkeley to examine whether employers were shifting employees to non-employee status (e.g., independent contractor) during periods of high insurance costs in order to reduce premiums. This action is not necessarily fraud if the employment arrangements meet state statutes defining employment and self-employment. California laws and regulations on what constitutes a legitimate independent contractor are considered quite strict. If we observed changes in the fraction of workers reporting themselves as self-employed that tracked changes in the premium rates we would be concerned that employers were pressuring employees to accept non-standard employment relationships that may not meet California statutes.

However, as *Figure 6* demonstrates, there is not evidence that high rates caused an abuse of independent contractor status. First, the trends in self-employment (as reported by respondents to the CPS) have actually trended down over the period 1997-2005. Also, the trends appear similar for the riskiest occupations and the least risky.

These data require one caveat. As mentioned above, the self-employment status is reported by the worker on the CPS survey. It is possible that employers are shifting workers from employees to independent contractors, avoiding not only workers' compensation but all other payroll taxes (unemployment, Social Security, etc.), but the workers still interpret their status as standard

employment because they work substantially for a single employer. It would be interesting to compare California franchise tax board records (where wages and self-employment income are precisely segregated) with data from the CPS, WCIRB and OSIP to see whether trends in self-employment are different between worker self-reported status and the wage payments reported by employers.

4.2 Insurer premium rates and employer costs

An important aspect of these findings is that under-reporting and misreporting of payroll results in premium rates in highest-risk class codes that are several times the rate the employers would experience under full reporting. In these classes, honest employers are paying substantially more, more than double, for workers' compensation than actual experience would imply is accurate. This is a substantial transfer of income and profits from honest employer to dishonest employers. This transfer compounds the competitive disadvantage faced by honest employers. It is important for the state to improve reporting in order to level the playing field for employers that try to play by the rules.

It should be noted that nothing in this analysis suggests that insurers are facing losses because employers are under-reporting or mis-reporting payroll. These actions do not affect insurer profits, at least in the aggregate across insurers, as long as the premium rates that are charged by insurers reflect the impact of fraudulent reporting. For example, we observe a surprisingly large degree of under-reporting in the high-risk class codes. However, we also observe premium rates that appear to be high enough to compensate insurers for the observed under-reporting. Consequently, on net, insurers are unaffected.

Similarly, the small percentage of firms that are able to self-insure, purchase large-deductible policies, or are large enough to be completely experience-rated are unaffected by the fraudulent under-reporting. These employers essentially face costs that are independent of the pure premium rate recommendation of the WCIRB and CDI. In addition, they are also outside the actual premium rate setting of the insurance companies. However, they are not immune from the competitive disadvantage they face when competing with employers who fraudulently report.

Because the problems with reporting are so large, create significant costs and disadvantages for honest employers, and have only limited impact on insurers and large employers, there is an important role to be played by the FAC and the CDI in ensuring that employers report accurately.

Recommendations

Suggested recommendations include:

10. The Legislature, CDI, and DIR/DLSE could push for more aggressive enforcement against misreporting and under-reporting. This could include:
 - a. Focusing more Fraud Assessment Commission funding on premium fraud;
 - b. Raising the civil penalties for premium fraud; and/or
 - c. Raising the criminal penalties for premium fraud.
11. The Test Audit Program which monitors insurer audits of policyholders is currently operated by the WCIRB, an insurance industry association. The CDI might consider the

12. The results of the Test Audit Program are not public record. The Bureau's Governing Committee discusses the audit program results and takes actions against individual insurers. However, these discussions are not public, and the public members of the Governing Committee are not allowed to be present for these discussions. Insurer compliance might be improved if these discussions and results were open for public scrutiny.
13. Even if the Test Audit Program data are not made available by individual policies, the data should be available after removing insurer and policyholder identifiers. This would allow researchers and policymakers to examine whether the high level of errors identified during these audits are systematically resulting in mis-reporting and under-reporting of payroll from higher risk to lower risk classes. This would be important evidence of problems with the current process and the enforcement mechanisms. Mistakes are expected in reporting under such a complicated system, but mistakes that are systematically in one direction imply fraud rather than random error.
14. Employers report payroll data to the EDD for tax withholding and unemployment and disability insurance. These records could be matched to employers' reporting to insurers for premium purposes. Currently, this avenue is limited by restrictions on insurer access to EDD data. Legislation could simplify this basic audit procedure.
15. The Franchise Tax Board receives large amounts of information that could be used to identify fraudulent under-reporting. These data include income information from both employers and workers that could be used to identify fraudulent use of independent contractor status. Again, access to these data is heavily restricted, and legislation might be needed to facilitate access for investigators.
16. Professional employer organizations (PEOs) have been cited as a frequently method for employers to avoid the consequences of high experience modifiers or to disguise the risky nature of workers' occupations. However, to date, there has been no systematic study of the size or scope of the PEO market or the claims experience of PEOs. At a minimum, the state should undertake a study to gauge the impact of PEOs in the workers' compensation market.
17. Recently, at least one very large national insurer (AIG) was fined for systematically under-reporting premium in several states (Bloomberg News, 5/26/07). It is unclear whether the under-reporting extended to payroll and occurred in California. If this extended to California, then the estimates of under-reporting could include fraudulent behavior by at least one insurer, not just employers. This should be a high priority for study by FAC and CDI.

5.0 Caveats and Concerns

There are several caveats that should be considered when evaluating the report's conclusions. First, some observers may challenge whether our results are driven by premium rates or some other, unobserved or omitted variable that is also correlated with REPORTING. For example, legitimate payroll exclusions, such as overtime, shift pay or very high salary income, may be

positively correlated with premium rate. However, we do not have any a priori reason to think there is a positive correlation. In addition, the correlation would have to be unrealistically strong. The results imply exclusion of a significant fraction, even a majority of wage income in high-premium classes.

Even if we do have omitted variables, study has clearly shown a strong relationship between fraudulent reporting and higher premiums. We believe that high premiums give incentives to misreport and that misreporting leads to higher premiums. Regardless of whether it is actually the premiums that employers are avoiding or if it is simply risk-taking behavior, we know that higher premium classes induce more cheating and honest employers are hurt.

As noted above, employers are only one source of fraudulent under-reporting. Recently, one very large, national insurer was fined in excess of \$300 million for systematically under-reporting premium for states' assessments. At present, it is unclear if this systematic under-reporting extended to California and whether it affected reported exposure, or just the premium calculation. If one or more insurers systematically under-reported payroll and premium to avoid paying state assessments, an unknown portion of fraudulent under-reporting would not arise from employer actions but rather from the parties (insurers and brokers) with whom they interact when purchasing insurance.

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