1. INTRODUCTION

Permanent partial disability (PPD) from a workplace injury is perhaps the most vexing problem facing workers' compensation policy in California. Widely regarded as expensive and overly contentious by employers, the benefits are considered inadequate and inequitably distributed by most participants in the workers' compensation system. As part of its assistance to the ongoing oversight and evaluation of permanent partial disability in California by the California Commission on Health and Safety and Workers' Compensation (CHSWC), RAND published a study estimating the "wage losses" of workers with permanent disability claims (Peterson *et al*, 1997). Wage loss was defined as the difference between what an injured worker actually earned for several years following the injury and that worker's potential "uninjured earnings," that is, what that worker would have earned had the injury not occurred. The RAND study, using the only available data, estimated wage losses for PPD claimants from a sample of claimants injured at employers that purchased insurance for workers' compensation, representing approximately two-thirds of claims in California. It found that over a five-year period following injury, the wage losses of PPD claimants injured at insured employers in 1991 amounted to almost 40 percent of their potential earnings. The study also estimated replacement rates for these workers, defined as the fraction of losses replaced by workers' compensation benefits. The estimated replacement rates averaged less than 50 percent.

An obstacle to a policy response to the Peterson *et al* (1998) results was that many stakeholders were concerned that the results of the wage-loss study were not generalizable to all employers in California, and in particular were not relevant to self-insured employers.[1] These employers, which account for approximately one-third of claims, and 21 percent of claims at private employers, include most of the largest employers in the state. Anecdotally at least, they are regarded as the most innovative and aggressive employers in their approach to occupational safety and health and return to work. A committee of stakeholders formed by CHSWC, the Permanent Disability Advisory Committee, recommended that CHSWC request that RAND extend the wage-loss study to include the experience of workers injured at self-insured

[1] Another objection raised was that the results were driven by the recession in California in the early 1990s, which was just beginning when the workers in the study were injured. The results below indicate that earnings losses declined after 1991. This issue will be analyzed in more detail in Reville and Schoeni (2000).

employers. This report is in partial response to that request, focusing on private, self-insured employers. A report on public employers is forthcoming.[2]

Employers that self-insure for workers' compensation face different incentives than employers that purchase insurance, and these incentives may lead self-insured employers to respond to injuries in ways that reduce the losses to workers from injury. In addition, only firms with certain characteristics, particularly size, have the ability to self-insure, and these characteristics may lead self-insured employers to respond differently to injuries. In this report, we estimate the earnings losses and wage replacement of PPD claimants at self-insured firms, and compare them to the experiences of PPD claimants at insured firms. The report also explores empirically the explanations for differences observed between insured and self-insured firms; in particular, we focus on the effect of the number of employees at the firm in which the claimant is injured and the impact of the pre-injury earnings of the claimant.

Until this year, California did not require that self-insured employers report detailed information on individual claims to the state. As a result, RAND, with assistance from the California Self-Insured Plans, the California Self-Insurers Association, and CHSWC, conducted an unprecedented data collection effort, obtaining administrative claims data directly from self-insured employers. The data provided by the employers were then linked to earnings data for the claimants from a file maintained by the California Employment Development Department (EDD). The resulting unique linked private employer-state administrative database provides a model for research on the role of employer characteristics on outcomes for disabled workers.

The results of the study indicate that, as with claimants at insured employers, there are significant and sustained earnings losses for permanent disability claimants at private, self-insured employers. In addition, on average, workers' compensation benefits at self-insured employers provide wage replacement over the five years after the injury that is equal to or lower than replacement at insured employers. However, the results also provide confirmation that, measured several different ways, return to work experiences of employees injured at private self-insured employers is better than those of employees injured at insured employers. The seeming contradiction of better return to work simultaneous with lower replacement rates is explained by the higher average earnings of workers at self-insured employers. We find that workers with higher pre-injury earnings have losses that are larger in absolute terms though smaller as a proportion of their pre-injury earnings. Due to benefit caps, total indemnity does not increase in proportion with pre-injury earnings (or at all for most workers). This situation leads to low

[2] References to "self-insured employers" in this report are, unless otherwise stated, to private, self-insured employers.

replacement rates for workers with high pre-injury earnings at both the insured and self-insured, but there are more high pre-injury earners at the self-insured.

In the next chapter, we provide some institutional background and descriptive statistics on self-insurance in California, and discuss the implications for return to work and longer-term outcomes for PPD claimants. The third chapter describes the methods for measuring earnings loss and defines the various outcomes measures used for the evaluation of adequacy and equity. The fourth chapter describes the construction of the linked private employer-state administrative database used in the analysis. In the fifth chapter, we report the results of the analyses. A final chapter summarizes and discusses the implications of the results for the adequacy and equity of workers' compensation indemnity for PPD claimants in California.