Firm Value and Self-Insurance:
Evidence from Manufacturers in California

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ABSTRACT

This article explores whether the alternative risk-transfer technique in the form of self-insurance can add value to the manufacturers that have self-insured for workers' compensation (WC) losses. The authors focus on publicly-owned manufacturers with at least 1,000 employees in California over the period 1970–2015 to examine the value implications of self-insurance adoption. This study employs a treatment-effects model to simultaneously estimate the determinants of self-insurance and the effect of self-insurance on firm value. The authors find that the relationship between firm value and self-insurance is time dependent. Risk preference for self-insurance reflects in higher market valuation among manufacturers over the periods of 1970–1983 and 1986–1999. These results suggest that self-insurance has a positive impact on firm value in the 1970s through the 1990s except for the liability crisis years 1984–1985. However, the benefits of self-insurance fail to materialize for self-insured manufacturers in the 2000s.

KEYWORDS

1. INTRODUCTION

Workers' compensation (WC) insurance is one of key commercial lines in the property and casualty insurance industry. As a part of the social insurance system in the United States (U.S.), WC coverage is mandatory in all states but Texas (McLaren & Baldwin, 2017). Almost all employers bear responsibility for injuries and illnesses that their employees suffered on the job, and they have to fund the full cost of WC coverage. As a matter of risk-financing choice, they can select between the purchase of commercial insurance and the use of self-insurance for their WC liability. Typically, employers transfer to insurers the financial responsibility for WC loss payments by paying premiums upfront. Premiums are tax-deductible in the tax year they are paid. Alternatively, employers may retain their WC risk by implementing self-insurance programs. Self-insured employers can only take tax deductions in the year when losses are actually paid. That is, self-insurers choose risk retention over risk transfer in their risk-financing strategy even though their tax deductions may be delayed. The choice between two techniques reveals employers' risk attitude toward WC loss exposure. In addition, companies that self-insure may perform differently from those that don't when it comes to firm value.

Self-insurance offers several potential benefits over market insurance. Chang and Weiss (2011) assert that the primary driver for self-insurance is its capacity to lower costs and mitigate inefficiencies in the WC insurance market (e.g., the high transaction costs of dealing with the insurance industry

related to adverse selection, moral hazard, and other imperfections). The fundamental rationale behind self-insurance is the belief that it will be less expensive in the long run (Vaughan, 1997). Some employers may adopt this alternative approach in the quest for cost-effectiveness. The Self-insurance Institute of America, a trade association for self-insured WC programs, indicates that the self-insurance option helps control cost and maximize cash flow.[1] Self-insurance allows employers to assume the financial responsibility for WC losses that do occur—and thus gain better control over claims. To provide a better understanding of why firms use self-insurance to handle WC losses in the nation, this study analyzes whether this alternative technique increases firm value with evidence from manufacturers that have self-insured for WC risk in California (CA).

The objective of this study is to examine the relation between the use of self-insurance and the market value of large manufacturers that hire 1,000 or more workers in CA. Manufacturers have been selected as the subject because their workplaces are susceptible to higher levels of occupational injuries and illnesses (Kwon & Grace, 1996; Butler & Worrall, 1991). Furthermore, self-insurance is an important risk-financing tool in the manufacturing industry. According to Chang, Chiu and Jin (2018), 28 percent of employees in this industry in CA are covered by self-insurance programs. The authors focus on the manufacturing industry to control for differences that might arise because of regulatory and market divergence across industries. In addition, the authors select publicly traded manufacturers so that market-based measures can be collected to observe whether using this alternative risk transfer technique improves firm value.

In a classic world with perfect capital markets based on Modigliani & Miller's (M&M) model, risk management should be irrelevant. Without information asymmetries, taxes, and transaction costs, self-insuring for WC risk should not add value to the firm. Neither tax provisions nor risk preferences are able to explain observed variations in corporate policies (Smith & Watts, 1992). In practice, inefficiencies in the WC market related to adverse selection, moral hazard, and other imperfections may drive firms to self-insure because market insurance is unaffordable or unavailable. In 2015, self-insured employers paid almost a quarter of every $100 of WC benefits paid in the United States (McLaren & Baldwin, 2017).

This paper helps open the door to the value implications of the alternative risk transfer technique in the form of self-insurance. To the best of our knowledge, this is the first attempt to assess the self-insurance premium. Arguments of self-insurance based on market inefficiencies imply that self-insurance provides a potential benefit of better loss control, so this technique may increase the firm's market value. To test this hypothesis, the authors examine the self-insurance activities of 70 publicly traded manufacturers from 1970 to 2015 with a sample of 2,030 firm-year observations. The researchers employed maximum-likelihood treatment effects model to jointly estimate the determinants of self-insurance and the effect of self-insurance on firm value. The model controls for firm characteristics and the likely endogeneity issues of self-insurance decision. Tobin's Q was used as a proxy for firm value. The authors find a positive relationship between firm value and self-insurance implementation among the manufacturers during the pre-crisis period of 1970–1983 and the post-crisis period of 1986–1999. However, this result does not hold up in the crisis period of 1984–1985 and the new millennial period of 2000–2015.

The rest of this paper is organized in the following manner. Section 2 presents a brief review of risk management theories and the empirical evidence. Section 3 describes the data, sample, and methods used for analysis. Section 4 provides statistical results. Section 5 concludes and suggests avenues for future research.

2. RISK MANAGEMENT THEORY AND EMPIRICAL EVIDENCE

Corporate risk management can be achieved via insurance purchase or alternative risk transfer vehicles, such as using self-insurance. There are two strands of theories that explore the relation between

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