



Wrongful Discharge Laws and Innovation

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While the inefficiencies and rigidities associated with stringent labor laws—laws that prevent employers from seamlessly negotiating and/or terminating labor contracts with employees—are much discussed in the academic literature and the media, this discussion is generally centered around the *ex post* effects of labor laws. In particular, it is clear that once the situation to renegotiate or terminate an employment contract has arisen, tying down an employer's hands from doing so can lead to *ex post* inefficient outcomes. Much less studied, however, is the *ex ante* incentive effect of such strong labor laws. Might stringent labor laws—even if as an unintended consequence—provide firms a commitment device to not punish short-run failures and to not hold up their employees in case of successful innovations, thereby spurring employees to undertake activities that are value-maximizing in the long-run?

A recent strand of the literature emphasizes the critical role that laws and contracts play in fostering innovation and economic growth. Manso (2011) shows in a theory piece that the optimal contract to motivate innovation not only exhibits tolerance for short-term failure but also rewards interim failure to create the incentives for successful innovation in the long term; Ederer and Manso (2012) find empirical evidence supporting this thesis. Acharya and Subramanian (2009) show that the *ex post* inefficient continuations engendered by debtor-friendly bankruptcy laws encourage *ex ante* risk-taking and thereby promote firm-level innovation and country-level economic growth. In this overarching theme, we ask the following

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question: Can legal protection against unjust dismissal from employment spur innovative effort by employees and encourage firms to choose ex ante risky yet value-enhancing innovative activities? We develop a theoretical model to highlight that this may indeed be the case; furthermore, we provide empirical evidence in support of the theory, in particular, that wrongful discharge laws can be instrumental in advancing innovation.

As highlighted by the theory on property rights, bilateral relationships—such as employment contracts—suffer from holdup problems when contracts are incomplete. In innovative companies, this can materialize as follows. Because the payoffs from a successful innovation are often large, innovative firms may arm-twist employees that contributed considerable effort to a successful innovation (for example, by threatening to fire them) to appropriate a larger share of the ex post surplus. A recent high-profile court case filed against the videogame company Activision by its former employees highlights this issue. The likelihood of a holdup, in turn, dampens the innovative effort by the employee.

When employment contracts are incomplete, wrongful discharge laws (hereafter WDL) can help to limit such ability of the employer to hold up the innovating employee by imposing the burden of proof on the employer in the case of an alleged wrongful discharge. The so-called “good-faith exception” to employment-at-will, which applies when a court determines that an employer discharged an employee in bad faith, can be effective in limiting an employer's capacity for holding up the innovating employee. WDL—in particular the good-faith exception—can thus enhance the employee's innovative effort by reducing the possibility of such holdup and may therefore, in turn, cause innovation to be quite valuable to firms. Furthermore, this effect is likely to be more pronounced in innovative industries when compared to the brick-and-mortar ones.

To provide empirical evidence supporting these hypotheses, we exploit the natural experiment created by the passage of WDL by several U.S. states since the 1970s. States adopted these laws in the form of common law exceptions to the employment-at-will doctrine. This setting is highly appealing from an empirical standpoint for two reasons. First, the motivation behind the passage of these laws centered around state courts' determination to assure legally binding policy principles, address the changing nature of labor relations, and assure the consistency with contract principles (see Walsh and Schwarz 1996). Fortuitously, as

these laws were not passed with the intention of promoting either innovation or entrepreneurship, potential effects on our outcomes of interest are likely to be an unintended consequence of the passage of these laws. Second, the staggered adoption of these laws across U.S. states enables us to identify their effect in a difference-in-differences setup.

To develop proxies for innovation, we use data on patents issued to U.S. firms by the United States Patent and Trademark Office and link these data to Compustat². Apart from a simple count of patents, we use citations to patents to capture the economic importance of innovations. To estimate the difference-in-differences, we compare changes in innovation in states that passed such laws to the changes in states that did not, after controlling for a variety of potentially confounding factors. We find that the passage of WDL leads to more innovation, with the good-faith exception having the strongest positive effect. Economically, the adoption of the good-faith exception results in a rise in the annual number of patents and citations by 12.2% and 18.8 %, respectively.

Our theoretical model predicts that the increase in innovation due to the passage of WDL stems from increased employee effort in innovative projects. To provide evidence of this channel, we repeat our tests with a modified set of dependent variables that measure employee effort: patents and citations scaled by the number of employees and by R&D expenditure. The findings for these dependent variables are in line with the previous results. We also show that the impact of the good-faith exception is positive and significant only in high innovation-intensive industries, whereas the effect is insignificant in industries that have a lower propensity to innovate.

Taken together, our tests enable us to conclude that innovation activity is indeed fostered by laws that limit firms' ability to ex post discharge their employees at will. Thus, we surmise that employment protection laws present a trade-off: although they may cause ex post inefficiencies in the labor market (Lazear 1990; Ljungqvist and Sargent 1998; Botero et al. 2004), they can have positive ex ante effects by fostering innovation. As a large influential literature on endogenous growth (see Aghion and Howitt 2006) argues that innovation and entrepreneurship contribute significantly to a country's economic growth and development, our study

² Compustat is a large database from Standard & Poor's which contains historical accounting and other financial information on corporations. It is frequently used in academic research.

points out the need to factor in these incentive effects in any analysis of the net welfare implications of employment protection laws.

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