Are Some Things Best Kept Secret?

The Effect of the Uniform Trade Secrets Act on Financial Leverage*

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Abstract

I isolate the causal effect of an increase in trade secrets protection on financial leverage. My identification strategy exploits staggered implementation of state-level trade secrets laws, which exogenously increases the protection associated with non-patenting, innovative activity. I document that large firms located in states that have passed these laws increase their debt ratios relative to firms headquartered in states without such legislation. I also find that better protected firms experience a reduction in operating leverage, probability of default, and operating cash flow volatility. Overall, these results are consistent with stronger trade secrets protection leading to increases in financial leverage via decreasing bankruptcy costs.

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I. Introduction

Survey evidence suggests that trade secrets[1] are the *most* important mechanism to protect businesses' intellectual property (IP). The National Science Foundation's National Center for Science and Engineering conducts the annual Business Research and Development and Innovation Survey (BRDIS) which targets responses from for-profit companies with at least five or more paid employees, a minimum of one business establishment in operation during the survey year, and performs some form of R&D activity all within the United States. One of the survey questions asks the respondent to assess "how important to your company were the following types of intellectual property protection?" (Form BRDI-1, 2013, p.45) with answers ranging from "very important", "somewhat important", to "not important." Table 1 reports the most recently published results in which 57.2% of businesses in *all* industries said trade secrets were a *very* important form of intellectual property protection, followed by utility patents (51%), trademarks (43.4%), copyrights (27.2%), and design patents (24.3%).[2] The surveyed level of importance of trade secrets for firms in *all* industries with some R&D expenditure skyrockets to 93.7%[3] for *large* businesses defined as having 10,000 or more domestic employees.

[**Insert Table 1 Here**]

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[1] Examples of trade secrets include food and beverage recipes, marketing strategies, computer algorithms, business plans, customer contact lists or "leads", and other confidential information that may or may not be patentable and which give the holder of the secret an economic advantage.

[2] Table A1 in the appendix provides descriptions for the five listed mechanisms of IP protection.

[3] Measured by combing the "very important" and "somewhat important" percentages.

In addition to this survey evidence, there exists recent empirical work examining the effect of trade secrets protection on innovative activity. Png (2016a) finds a positive association between stronger trade secrets laws and R&D among large firms, and firms operating in high-technology industries. Further, Png (2016b) and Dass, Nanda, and Xiao (2015), in contemporaneous studies, document a negative relation between increased trade secrets protection and patenting activity. Png shows that firms in complex technology industries covered by strengthened trade secrets laws are associated with 18 percent fewer patents. Meanwhile, Dass et al. find that state-level statutes that augment trade secrets protection results in fewer patent applications for the average firm. What remains an open question in the literature, however, is how do firms finance these increases in non-patented innovative endeavors?

My study analyzes the impact of trade secrets protection on capital structure decision-making by comparing the debt ratios of firms located in states adopting stronger trade secrets laws with firms headquartered in states without such legislation. In particular, I investigate the effect of a stronger trade secrets environment on large firms' financial leverage, which, given the survey and empirical evidence, are most likely to be significantly affected by stronger protection. Moreover, secrecy is a form of *informal* IP designed to protect appropriation of rewards from invention and innovation (Hall, Helmers, Rogers, and Sena (2014)).[4] Thus, big firms generating larger sales revenue should be differentially impacted by laws that increase appropriability (Png (2016a)) and this could *cause* changes in its capital structure.

There are at least two ways in which trade secrets protection could potentially influence large firms' financial leverage. On one hand, prior work finds that firms in which R&D is an important form of investment, fund this activity almost entirely with cash holdings and/or equity capital (e.g., Nelson (1959), Arrow (1962), Bradley, Jarrell, and Kim (1984), Titman and Wessels (1988), Opler and Titman (1994), Alderson and Betker (1996), Chung and Wright (1998), Hall (2002), Brown, Fazzari, and

[4] Hall et al. (2014) define the main forms of formal IP as patents, trademarks, designs, and copyright, whereas informal IP can take the form of secrecy, confidentiality agreements, lead time, and complexity.

Petersen (2009), Hall and Lerner (2010), Brown, Martinsson, and Petersen (2013), and Chava, Oettl, Subramanian, and Subramanian (2013)). This is consistent with theories suggesting that innovative firms plagued by informational problems (Akerlof (1970), Leland and Pyle (1977), Stiglitz and Weiss (1981), Bhattacharya and Ritter (1983), and Anton and Yao (2002)), moral-hazard dilemmas (Jensen and Meckling (1976)), and limited collateralizable assets (Williamson (1988), Berger and Udell (1990)) are less likely to use debt financing. Thus, I might expect large firms experiencing strengthened trade secrets protection to reduce financial leverage.

On the other hand, large firms treated with greater trade secrets protection are *less* susceptible to a rival firm misappropriating their economically valuable confidential information. The use of secrecy as a mechanism to protect IP is inherently risky. Trade secrets can be legally acquired if a competitor firm independently discovers or reverse engineers the same coveted information (Png (2016a)). Consequently, the competitor firm, could patent the newly acquired secret, if patentable, thus revoking the initial firm's ability to continue to use the secret, as specified by patent law (Jaffe (1986), and Hall et al. (2014)). This would be legal. However, under strengthened trade secrets laws improper means of misappropriation are illegal, reducing the likelihood of diminished future cash flows generated by the secret. Hence, I might expect that large firms affected by increases in trade secrets protection have reduced financial distress costs (i.e., they are less likely to default since they are less likely to lose out on future cash flows) and therefore, trade-off these lowered costs with the benefits of increasing financial leverage (Miller (1977)).

I exploit the staggered state-level adoption of the Uniform Trade Secrets Acts (UTSA) between 1975 and 2003 to isolate the *causal* effect of trade secrets protection on capital structure decision-making. The UTSA increased the protection of firm's trade secrets by codifying the existing common law, precisely defining a "trade secret", enumerating what constitutes misappropriation, and clarifying the rights and remedies of victimized firms (Uniform Law Commission, 1985). Further, I proxy for trade secrets protection using a state-level trade secrets protection index constructed by Png (2016a) which accounts for pre-existing common law, and represents the change in legal protection resulting from the enacted UTSA.[5] I find that large firms, measured by the natural logarithm of sales, protected by stronger trade secrets laws *increase* their debt ratios. Specifically, using a difference-in-differences framework, I find that once large firms become covered by UTSA, their book and market leverage ratios are increased by 1.8 and 1.0 percentage points, respectively. This implies that, compared to their respective sample means, book and market leverage increases substantially by 7.7% (= 0.018/0.234) and 3.9% (= 0.010/0.259). The results are robust to alternative definitions of financial leverage, and to alternative proxies for firm size which includes total assets, the total number of employees, and splitting the size proxy into terciles based on total sales. Further, I show that the positive change in the debt ratios transpires *after* the passage of the UTSA law, assuaging concerns of lobbying and reverse causality.

In further tests, I investigate if the interaction between the UTSA and cross-sectional variation in size is the only determinant of financial leverage. In particular, I analyze firms affected by the UTSA that are characterized as having high R&D intensity, and existing patent portfolios. This added layer of analysis is beneficial in understanding the underlying relationship governing my main finding that large UTSA protected firms increase debt ratios. The only negative relation I document between leverage and increased trade secrets protection is for high R&D intensity firms. Thus, it appears, without differentiating on size, firms with greater levels of pre-existing R&D expenditure decrease debt after the passage of the UTSA, which is consistent with the extant literature on R&D and its financing (e.g., Bradley, Jarrell, and Kim (1984) among others). In contrast, UTSA protected firms with large pre-existing patent portfolios increase debt. This seems on par with recent work documenting a negative relation between the UTSA and patent applications (Png (2016b), and Dass et al. (2015). That is, large innovative firms potentially transition to secrecy as its mechanism of IP protection after the passage of these laws.

[5] Table A2 in the appendix, which is an exact reproduction of Table A2 from the appendix of Png (2016a), provides a full description of the construction of the measure. In addition, I provide a concise explanation of the protection index in Section IV.B.

In whole, my results suggest that increased trade secrets protection affects larger firms' debt ratios by decreasing its probability of default. Specifically, I analyze the relationship between the UTSA and the sensitivity of changes in earnings to changes in sales to capture the level of a firms' operating leverage, and find that it is lower following the enactment of the UTSA. Further, I find a significant negative association between large UTSA protected firms and modified Altman's Z-Score, and operating cash flow risk, respectively. I conclude that large firms are differentially affected by the UTSA relative to the average firm, and as such the inherently risky but rewarding IP protection mechanism of secrecy becomes *less* dangerous and companies optimally respond by financing increased innovative activity with leverage.

This paper makes new and important contributions to several strands of the literature. First, I provide new evidence on the impact of the UTSA for large firms and their capital structure decision-making. I am the first to document this *specific* relationship, but one of two contemporaneous studies to investigate the *general* effect of an increase in trade secrets protection on leverage. Klasa, Ortiz-Molina, Serfling, and Srinivasan (2016) exploit staggered recognition of the Inevitable Disclosure Doctrine (IDD) by U.S. state courts which decreases the mobility of workers with trade secrets knowledge from gaining similar employment with a rival firm. Thus, the risk of losing IP to competitors is reduced and as such a firm's default risk is lowered, resulting in increases in financial leverage. It is reassuring to find consistent results in sign and magnitude across these two complementary, yet experimentally and methodologically different studies.[6,7]

My results also add to the new and burgeoning strand of literature that analyzes the effect of the UTSA on various corporate characteristics and actions (e.g., Png (2016a, 2016b), Dass et al. (2015), and Guo, Nanda, and Pevzner (2016)). Further, I broadly contribute to the literature investigating capital structure and its determinants (e.g., Myers (1977), Bradley, Jarrell, and Kim (1984), Titman and Wessels (1988), Rajan and Zongales (1995), Alderson and Baker (1995), Frank and Goyal (2008), Kisgen (2009), and Lemmon, Roberts, and Zender (2008), and DeAngelo and Roll (2015) among others). Lastly, I add to the literature on financing and innovation (e.g., Stiglitz and Weiss (1981), Bradley, Jarrell, and Kim (1984), Stiglitz (1985), Titman and Wessels (1988), Cornell and Shapiro (1988), Williamson (1988), Blair and Litan (1990), Berger and Udell (1990), Hall (1993, 1994), Opler and Titman (1993, 1994), Blass and Yosha (2001), Alderson and Betker (1996), Chung and Wright (1998), Acharya and Subramanian (2009), Brown, Fazzari, and Petersen (2009), Chava, Oettl, Subramanian, and Subramanian (2013), Acharya, Baghai, and Subramanian (2014), and Sapra, Subramanian, and Subramanian (2014)).

The remainder of this paper is organized as follows. Section II discusses the hypothesis development for trade secrets protection and financial leverage. Section III provides background information on the UTSA, and includes evidence for its exogeneity as an instrument. Section IV describes the data and empirical methodology. Section V reports the main empirical results. Section VI concludes.

[6] The full model specification in Klasa et al. indicates that the average firm treated by the IDD increases book and market leverage by 1.4 and 1.1 percentage points respectively, where I find respective increases of 1.8 and 1.0 percentage points for large firms.

[7] Experimentally different in that I use legislative enactment of the UTSA, while Klasa et al. use judicial passage of the IDD, and methodologically dissimilar in that I employ an index which accounts for pre-existing common law, whereas Klasa et al. specify a "0/1" dummy.

II. Hypothesis Development for Trade Secrets Protection and Financial Leverage

It is unclear how an exogenous increase in trade secrets protection will affect financial leverage for large firms. On the one hand, stronger secrecy protection which yields increases in R&D expenditure (Png (2016a)) might bring about a decrease in debt ratios. Inventive firms choose cash holdings and/or equity capital to avoid debt overhang problems and high borrowing costs (Bradley, Jarrell, and Kim (1984), Titman and Wessels (1988), Opler and Titman (1994), Alderson and Betker (1996), Chung and Wright (1998), Hall (2002), Brown, Fazzari, and Petersen (2009), and Hall and Lerner (2010). These findings suggest that the financing decision for R&D dependent firms is predicted by the challenges it faces with information asymmetry (Leland and Pyle (1977), Stiglitz and Weiss (1981), Bhattacharya and Ritter (1983), and Anton and Yao (2002)), moral-hazard or hidden action (Jensen and Meckling (1976)), and reliance on intangible assets which cannot be used as collateral (Berger and Udell (1990)). This leads to the hypothesis that large firms protected by the UTSA will reduce its levels of outstanding debt.

On the other hand, an increase in trade secrets protection for large businesses could relate positively with book and market leverage. The use of secrecy as a mechanism to protect IP is optimal if the confidential information is non-patentable and/or the potential returns from the indefinite future cash flows generated by the secret is greater than the in-flow of legally protected finite rewards granted to successful patent applicants (Hall et al. (2014)). However, when comparing the potential infinite streams of future returns garnered by the use of secrecy with finite appropriations from patenting, the former should be probability-weighted (Almeida and Philippon (2007)) to account for the likelihood that the confidential information is discovered or misappropriated by a rival firm. If the UTSA decreases the likelihood that secrets will be discovered through improper means, this increases the odds that a firm will be able to capitalize indefinitely on their confidential information and correspondingly reduces the probability of default (Andrade and Kaplan (1998)), all else equal. Thus, based on this argument an alternative hypothesis is that large firms significantly affected by the UTSA will increase its financial leverage, taking advantage of the benefits of debt (Miller (1977)).

III. Institutional Background

A. The Uniform Trade Secrets Act

To assist in the improved protection and codification of trade secrets laws, the Uniform Law Commissioners designed and proposed the Uniform Trade Secrets Act (UTSA) in 1979 for state-level enactment. The UTSA was later amended in 1985 and provided the following three major improvements above the previously established common law procedures.[8] First, it more comprehensively defined a trade secret as meaning "information, including a formula, pattern, compilation, program device, method, technique, or process that derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and is the subject of efforts that are reasonable under the circumstances to maintain its secrecy" (Section 1.4, p. 5, 1985). The Commissioners further commented on the definition to specify certain refinements. These comments detailed that negative information about failed ideas was valuable and also covered under the act. In addition, works-in-progress, such as ongoing R&D activity, constituted a protected trade secret.

The second major improvement of the UTSA over the Restatement (First) of Torts, and the general common law of the time, was that it outlined what it meant for a secret to be misappropriated. Section 1.2 of the UTSA prescribes misappropriation of a secret to mean the "acquisition of a trade secret

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[8] Prior to the UTSA, the primary governing code for trade secrets protection was established in the Restatement (First) of Torts, which is a treaty specific to this subject matter providing guidance to judges and lawyers in a common law system. Under this code a trade secret was defined to "consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it" (Section 757, Comment b (1939)). However, although an important historical event in trade secret protection, this formalization was not legally binding and produced conflicting court decisions across states.

of another by a person who knows or has reason to know that the trade secret was acquired by improper means, or disclosure or use of a trade secret of another without express or implied consent by a person who used improper means to acquire knowledge of the trade secret" (pp. 4-5. 1985). The misappropriation of a trade secret through improper means can include bribery, theft, misrepresentation, breach of duty to maintain secrecy, or espionage. This would be considered a form of unfair competition. However, trade secrets can be legally acquired if the covered company involuntarily disclosed the secret, or a competitor firm independently discovered or reverse engineered the prized, clandestine information. Moreover, as specified by existing patent law, the competitor firm could attempt to patent its newly discovered information, disallowing the use of the secret by the originating firm.

Finally, the third major improvement was that the UTSA clarified rights and remedies for businesses' who had secrets wrongly appropriated and used. Remedies for infringement include injunctive relief, damages, reasonable royalties, and, in certain circumstances, attorney's fees.[9] The UTSA established a statute of limitations upon which any action under the act must be brought forth within three years after the discovery of the misappropriation. Moreover, the UTSA outlines that courts deciding cases should take reasonable precautions to preserve the secrecy of the contested information, and if the UTSA is enacted it supersedes existing state-specific common laws.

B. Evidence on the Exogeneity of the UTSA

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[9] Anecdotal evidence suggests that protected firms do prosecute suspected perpetrators and earn sizeable awards for their victimization. For instance, Best Buy, the world's largest consumer electronics retailer, was found liable of stealing corporate secrets from an electronics recycling start-up, TechForward, and forced to pay $27 million (see, Fortune (2012) for details). Further, a back-of the envelope calculation, in Hall, Helmers, Rogers, and Sena (2014), based on a 2011 federal court ruling in *Kolon Industries Inc. v. Dupont Co.*, suggests an average value of $6.3 million per trade secret.

I use the UTSA as an instrument to study the effect of an unobservable predictor, namely, trade secrets protection, on capital structure decision-making. Hence, it is imperative to rule out that states enacted the law for reasons specifically related to corporate debt policy. Png (2016a) provides supplemental analyses addressing this concern, but as it relates to R&D expenditure. First, he follows Romanosky, Telang, and Acquisti (2011) and constructs a scatterplot between the lag of UTSA adoption and R&D growth. He finds no apparent relation between the lag in enactment and the growth of R&D. Further, Png estimates a least squares regression of the legislative lag on R&D growth and finds an insignificant relation.

Next, Png estimates a Cox proportional hazard model to the effective year of the UTSA in the states between 1979 and 1997. His results indicate that the adoption of these trade secrets protection laws are not significantly related to gross state product, population, state industrial structure, R&D, policies to support R&D (i.e., R&D tax credits), or pro-business orientation (Republican-dominated legislatures). Hence, there is suggestive evidence that the UTSA was exogenous to firms located in states passing these laws, and specifically to R&D. Thus, I have no reason to believe that using the UTSA as an instrument to identify the effect of trade secrets protection on financial leverage is contaminated by endogeneity (i.e., that it correlates directly with debt ratios, or that lobbying or reverse causality is a concern).

IV. Data and Empirical Methodology

A. Sample Selection

The main sample is composed of 80,691 firm-year observations based on 9,553 publicly traded industrial firms, excluding utilities and financial firms (SIC codes 4900-4999 and 6000-6999, respectively), incorporated in the U.S., and without missing data for the main variables of interest over the period 1975 to 2003. I combine financial data from Compustat with the UTSA index constructed by Png (2016a) by state of location and year. The year of enactment, strength of pre-existing common laws, and change in trade secrets protection after passage of the UTSA are shown in Table 2.

[**Insert Table 2 Here**]

My sample period begins 5 years before the first state, Minnesota, passes the UTSA, and ends 5 years after Michigan adopts. Figure 1 depicts the number of states that had enacted the UTSA by year. There are three states that pass the UTSA after Michigan: Tennessee in 2000, Pennsylvania in 2004, and Wyoming in 2006. However, I choose to truncate the sample at 2003 and exclude treatment-years for firms headquartered in these states because there is little gained by their inclusion. Namely, the number of additional treatment observations by including these firms is less than 5% of the total treatment sample, and, further, extending the sample to 2010[10] potentially creates noise that interferes with isolating the effect of trade secrets protection on financial leverage.[11]

[**Insert Figure 1 Here**]

B. The Main Explanatory Variable: Trade Secrets Protection

Trade secrets protection, prior to the UTSA, was derived from common law. Therefore, it would be inaccurate to characterize the level of protection for businesses located in states with and without UTSA laws using a "0/1" indicator variable. This is the case for both treatment and control firms. Namely, there are firms headquartered in states without UTSA, but with pre-existing common law. Therefore, it would be incorrect to specify their level of protection with a "0".[12] Further, most companies covered by the UTSA, similarly, had pre-treatment protection under common law. In order to cleanly

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[10] Png (2016a, 2016b) constructs the trade secrets protection index from 1970 until 2010.

[11] In robustness checks, I find that my results hold over the sample periods: 1975 to 2005 excluding PA and WY treatment-years, 1975 to 2009 excluding WY treatment-years, and 1975 to 2010 including all treatment-years.

[12] Karpoff and Wittry (2016) investigate the misspecification of regression models analyzing the effect of business combination laws on various corporate outcome variables, and show that not accounting for legal and institutional context can lead to substantial biases that alter interpretations. Specifying trade secrets protection with Png's index mitigates this potential bias.

identify the effect of trade secrets protection on financial leverage it is necessary to account for this state and year variation in strength of secrecy.

I follow Png (2016a, 2016b) and use his state-level index of protection, which represents the *change* in strength of trade secrets protection stemming from enactment of the UTSA. Png constructs the index based on three main dimensions: (1) substantive law, (2) civil procedure, and (3) remedies. Further, within the substantive law and remedies dimensions there are three and two items, respectively, that characterize a state with stronger protection.[13] Png codes four of these items a "0" or "1" dependent on the strength and language of the laws and procedures. The other two are ratios of years allowed in civil procedures or years included in remedy calculations divided by three and six, respectively. Each of these values are summed and then divided by six, yielding a scaled protection index between 0 and 1, with a higher score representing stronger legal protection of trade secrets. The *change* stemming from the UTSA is the difference between the index pre- and post-enactment.[14] This represents half of my main variable of interest.

The other remaining half is size. As noted in the introduction, there is a positive monotonic relation in the BRDIS survey data between the importance of the trade secrets mechanism for IP protection and the number of domestic employees. In addition, Png (2016a) finds that UTSA by itself is not significant in determining R&D expenditure, but only once he differentiates on firm size does the relation become significantly positive. Following, his lead I interact the UTSA protection index with the natural logarithm of sales to create the main explanatory variable, $UTSA \times Ln(Sales)$. However, since I am interacting two continuous variables I center $Ln(Sales)$ by differencing firm-year sales with its

[13] Please refer to Table A2 in the Appendix, which is a reproduction of Table A2 in the appendix of Png (2016a), for a detailed account of the dimensions and items.

[14] In robustness tests, I append Png's specification to include the pre-enactment *level* of trade secrets protection, in addition to the *change* variable, *UTSA*, and find the results are nearly identical.

sample average. This is consistent with Png (2016a) and allows for more meaningfully interpretation of the coefficients of interest. For robustness, I also proxy for size using the natural logarithm of total assets (*Ln(Assets)*) and total employees (*Ln(1+Employees)*), both centered by their sample means, respectively.[15]

C. The Dependent Variables: Book and Market Leverage

In this paper, I measure financial leverage in the following two ways. First, I use *Book Leverage* which is defined as the ratio of total debt to the book value of assets for each firm-year. According to Graham and Harvey (2002), most managers pay particular attention to book leverage as opposed to market leverage when making decisions regarding their firm's capital structure. In addition, Welch (2004) documents that much of the variability in market leverage ratios is derived from changes in market values instead of actual debt policy alterations. However, to provide further robustness to my findings, I also measure *Market Leverage* using the ratio of the book value of total debt divided by the market value of assets for each firm-year.

D. Other Explanatory Variables

The other explanatory variables are those widely accepted and documented by the literature as theoretically and/or empirically showing to significantly associate with leverage (e.g., Harris and Raviv (1991), Rajan and Zingales (1995), Frank and Goyal (2008), Lemmon, Roberts, and Zender (2008), Kisgen (2009), Danis, Rettl, and Whited (2014), Matsa (2010), Agrawal and Matsa (2014), DeAngelo and Roll (2015), and Serfling (2016)). I include the log of sales (*Ln(Sales)*), assets (*Ln(Assets)*), or total number of employees (*Ln(1+Employees)*), depending on which variable is interacted with UTSA, to

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[15] In addition, I create *Size* dummy variables which take the value of "1" if a firm's natural logarithm of sales is greater than the overall sample median, or sample-year median, respectively, and "0" otherwise. The results are exact in sign and significance, and similar in magnitude.

control for firm size. I control for a firm's investment opportunities using its market-to-book ratio (M/B). *Profitability* is specified in the regression model to account for the availability of internal funds. I include *Fixed Assets* to control for firm tangibility. I also specify a dummy variable for whether a firm paid out earnings as a dividend to proxy for the level of financial constraint (*Div Payer*). Modified Altman's Z-score (*Mod Z-score*) is added as a regressor to control for the probability of default; as noted in Mackie-Mason (1990), Altman's Z-score includes the ratio of market equity to book debt, thus he proposes to exclude this term when studying capital structure, as the debt ratio directly enters the analysis as a dependent variable.

Lastly, to control for state, political, and industry conditions, I follow Serfling (2016), and include state-level GDP per capita (*Ln(State GDPPC)*), one-year state-level growth in GDP (*State GDPG*), and the proportion of state-level representatives in the U.S. House of Representatives whom belong to the Democratic party (*Democrat*), and, following Giroud and Mueller (2010), I include the average state-year leverage (*SY Leverage*), and industry-year leverage (*IY Leverage*), excluding firm i from both calculations, where industry is defined at the three-digit SIC level. Table A3 in the Appendix provides a more precise account of the variables used in the analyses. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers, and the dollar values have been deflated using 2001 dollars.

E. Empirical Methodology

Since the UTSA is adopted in a staggered fashion by different states over different times in the sample, I employ a difference-in-differences framework to study the relationship between the large firms protected by the UTSA and leverage at the firm-year level (Bertrand, Duflo, and Mullainathan (2004)). I estimate the following panel regression model:

(1) $$Leverage_{ist} = \gamma_i + \omega_t + \beta_1 UTSA_{st} + \beta_2 Size_{it} + \beta_3 (UTSA \times Size)_{ist} + \alpha X_{isjt} + \varepsilon_{isjt} ,$$

where i indexes firms, s indexes the state of location, j indexes industry, t indexes time, $Leverage_{ist}$ is the dependent variable, which is either $Book\ Leverage$ or $Market\ Leverage$. $UTSA_{st}$ is a continuous variable, scaled between 0 and 1, which accounts for pre-existing trade secrets protection by measuring the change in strength once the UTSA law is enacted in year t in state s.

The main variable of interest is $(UTSA \times Size)_{ist}$ which interacts the index of trade secrets protection with a proxy for the size of firm i, located in state s, in year t, where $Size_{ist}$ is the natural log of sales deflated using 2001 dollars and centered around its sample mean.[16] X_{isjt} is a vector of control variables detailed in the above Section IV.D. I include firm fixed effects γ_i to control for time invariant unobservable heterogeneity within different firms. Further, I control for time variant heterogeneity that could affect leverage for all firms as well as transitory unobservable factors that could impact the likelihood of state adoption of the UTSA using year fixed effects ω_t. I estimate robust standard errors clustered at the state of location level.

V. Empirical Results

A. Descriptive Statistics

Panel A of Table 3 reports the summary statistics for the variables used in the main analyses. From this Table it is observed that the book to assets ratio is 23.4% and the market leverage ratio is

[16] Without centering *Ln(Sales)*, β_1 would represent the effect of the UTSA for a firm with zero sales on leverage. By subtracting the sample mean from firm-year sales, β_1 becomes the effect of UTSA for a firm with average sales on leverage. There is no need to center *UTSA* since there are instances in which firms in both UTSA passing and non-passing states experience zero change in trade secrets protection. Thus, β_2 represents the relation between the *Size* of a firm without any change in protection and financial leverage. Finally, β_3 represents the effect of UTSA on corporate debt policy as firms get larger. For a more in-depth analysis on specifying regression models with continuous interaction terms please refer to Jaccard, Wan, and Turrisi (1990), Aiken and West (1991), and Jaccard and Turrisi (2003).

25.9%. Further, the proportion of treatment-years in my sample is 39.9% where the average *change* in the protection index after the enactment of the UTSA is 0.236. In contrast, the *level* of pre-existing state-level common law offers a substantially lower 0.116 degree of protection. The other control variables means and medians are similar to other studies (e.g., Kisgen (2009), Danis, Rettl, and Whited (2014), Frank and Goyal (2014), and Serfling (2016)).

[**Insert Table 3 Here**]

Panel B of Table 3 provides the temporal distribution of total firm-year and treatment-year observations, as well as the yearly percentage of firms affected by the UTSA in a given year. The pre-treatment period begins in 1975, with a total of 2,177 firm-year sample points. Then, in 1980, 55 firms (2.54% of the sample) headquartered in Minnesota enter the treatment sample. As more and more states implement the UTSA, the number of treatment-year to total firm-year observations grows reaching more than 51% of the sample in 1990. The final treatment state, Michigan, passes the takeover legislation in 1998. Overall, the sample includes 32,153 treatment-year observations.

B. UTSA and Financial Leverage

I present the results from the main analysis exploring the relation between large firms covered by the UTSA and book leverage in Panel A of Table 4. First, however I estimate model 1 without the interaction term to assess the effect of coverage by the trade secrets law for the average firm on book debt policy in column 1. Although, as seen from column 1, the UTSA coefficient is insignificant using this specification. The results in column 1 indicate that the UTSA, by itself, does not impact capital structure decision making. This finding is consistent with Png (2016a), whom finds that the UTSA is an insignificant determinant of R&D expenditure for the average firm, and the BRDIS survey evidence which indicates only half of the respondents, whom actually perform some form of R&D, found secrecy a "very important" form of IP protection.

Next, I explore the main competing hypotheses of the paper, analyzing the relation between large firms covered by the UTSA and book leverage in columns 2 – 6. Column 2 regresses book leverage on the interaction term, the UTSA index, and natural log of sales, and standard leverage controls (*Size*, *Profitability*, *M/B*, and *Fixed Assets*) along with firm, and year fixed effects. The estimated coefficient on the main variable of interest is 0.020 and significant at the 1% level. Next, I sequentially add further leverage determinants, as well as state, political, and industry controls in the remaining columns. Column 3 includes additional firm-characteristic controls (*Div Payer*, and *Mod Z-score*) whereas column 4 further appends on state and political variables (*Ln(State GDPPC)*, *State GDPG*, and *Democrat*). The results are identical after including the additional controls, as the coefficient on the UTSA and natural log of sales interaction dummy is 0.020, respectively, and significant at the 1% level.

The column 5 regression model drops the state and political controls from the column 4 specification and instead includes the average state-year and industry-year book leverage, where firm *i*'s observation is excluded from the calculations and industry is defined at the three-digit SIC level. Column 6 is the full model specification and includes all controls. The magnitude is reduced to 0.018 in these specifications, but remains significant at the 1% level. Moreover, the estimated coefficients on the control variables are similar to previous studies on financial leverage.[17] Hence, these findings imply that book leverage increases by approximately 1.8 to 2.0 percentage points following the enactment of the UTSA for large firms. These results suggest an economically significant effect, as an increase in *Ln(Sales)* by

[17] The coefficient on *Profitability* is significant and negative in column 2 of Panel A, consistent with the empirically documented "profits-leverage puzzle" (e.g., Fama and French (2002), and Frank and Goyal (2014)), but becomes positive and insignificant in the *Book Leverage* regressions once *Mod Z-score* is added as a control. This change in sign and significance occurs because the *Mod Z-score* is composed of a measure of profitability, namely the ratio of EBIT/assets (this is noted by Serfling (2016)).

one standard deviation is associated with an increase in *Book Leverage* of 0.018 × 2.137 = 0.0385, or 3.85 percentage points.

[**Insert Table 4 Here**]

Panel B of Table 4 provides the same analyses as Panel A except now I measure debt using the market leverage ratio. Column 1 indicates that using the UTSA index as a standalone exogenous regressor does not significantly relate with market leverage. Columns 2 – 6 provides evidence that with varying leverage controls, the interaction term between the UTSA and natural log of sales is positive, ranging from 0.013 to 0.010, and significant at the 1% level. The findings indicate that protection by the UTSA for large firms results in roughly a 1.0 percentage point increase in market leverage. This represents a 2.14 (=0.010 × 2.137) percentage point increase in *Market Leverage* for a one standard deviation increase in *Ln(Sales)*.

In Table 5, I use size indicator variables in place of the continuous and centered natural logarithm of sales measure. The dummy variables denote whether the size of the company as measured by sales lies in the bottom, medium, or top tercile of its empirical distribution. Following Giroud and Mueller (2010), I exclude the UTSA index, and one of the sales indicators to circumvent perfect multicollinearity in the regression specification. The findings are consistent with Table 4. In both Panel's A and B, where the dependent variable is book and market leverage, respectively, there is a monotonically increasing relationship between the size of the protected firm and financial leverage. The full model in column 5 of Panel A shows that the largest firms covered by UTSA increase its leverage by 3.4 percentage points, whereas the medium and small interaction terms are negative and significant. Column 5 of Panel B documents a 1% statistically significant 3.7 percentage point increase for the largest UTSA protected firms, whereas medium and small sized covered firms' debt ratios are unaffected or significantly decreased, respectively.

[**Insert Table 5 Here**]

C. Falsification Tests

I follow Bertrand and Mullainathan (2003), Atanassov (2013), Roberts and Whited (2013), Giroud and Mueller (2010), Fich, Harford, and Yore (2016), and Serfling (2016) and perform a placebo test in order to address concerns of reverse causality and provide evidence that the primary difference-in-differences identification assumption of parallel trends is satisfied. This analysis is conducted by evaluating the timing of changes in debt ratios relative to the timing of the UTSA, and the interaction of the UTSA with size. Thus, the placebo is administered by specifying the model to include an interaction term of the protection index and the natural logarithm of sales a year before the law is actually enacted.

The main variables of interest are $UTSA \times Size^{(-1)}$, $UTSA \times Size^{(0)}$, $UTSA \times Size^{(1)}$, and $UTSA \times Size^{(2+)}$. These continuous variables are created by interacting the change in trade secrets protection stemming from the UTSA with the centered size proxy if the firm is headquartered in a state that passes the law in the year before actual adoption, the year of actual adoption, the year after actual adoption, and two years and beyond actual adoption, respectively. Thus, the first interaction term falsely assigns treatment a year before it should be assigned, where the remaining measures accurately indicate that treatment is or has already been dispensed. Therefore, if the coefficient on $UTSA \times Size^{(-1)}$ is statistically significant there are serious concerns about differences in trends pre-treatment and reverse causality.

[**Insert Table 6 Here**]

The results of the falsification tests are presented in Table 6. The first two columns correspond to measuring the outcome variable using book leverage and columns 3 and 4 employ market leverage. Further, columns 1 and 3 are without state, political, and industry controls, while the even numbered columns include the full set of controls and a state-time trend. It is reassuring to find that the coefficient on the placebo interaction term is both economically and statistically insignificant. This is also the case for the UTSA index as standalone regressor, as it is not significantly related to capital structure decisions in the year prior to treatment. In columns 1 and 2, where book leverage is the dependent variable, the treatment effect is positive and significant for large firms in the year of and two years and beyond the enactment of the law. Columns 3 and 4 indicate that large firms with increased trade secrets protection differentially increase its market leverage two years or more after the passage of the UTSA. In summary, the evidence from Table 6 seems to suggest that lobbying and reverse causality is not a concern since the parallel trend assumption is likely satisfied; a requirement necessary for a causal interpretation of the experiment.

D. Alternative Leverage Definitions

In this section, I conduct the following robustness test. I test whether or not the relationship I have documented between large protected firms and UTSA coverage is specific to the book and market leverage measures of debt or if the relation persists using alternative definitions of financial leverage. This includes the natural logarithm of one plus total debt, net book leverage, and net market leverage. In columns 1, 3, and 5 of Table 7, I specify the full model regression with the continuous measure of size. The results show clear and consistent evidence that a positive and 1% statistically significant relationship holds with the alternative measures of leverage. Columns 2, 4, and 6 of Table 7 employ the full model regression, but with the tercile-split dummies for size. The same monotonic relation between protected large firms and debt ratio from earlier analyses persists. The largest firms located in states with enacted UTSA law differentially increase its financial leverage. My findings suggests that the relation between the intersection of the UTSA and the natural logarithm of sales is robust to alternative financial leverage measures.

[**Insert Table 7 Here**]

E. Cross-sectional Investigation of the Effect of the UTSA on Financial Leverage

Having established the positive relation between large firms with strengthened trade secrets protection and financial leverage, I now turn to examining additional sources of cross-sectional variation and UTSA, and its effect on firms' debt ratios. These tests are carried out to gain a greater understanding for the mechanisms underlying my main findings detailed in Section V.A. But first, I investigate the robustness of my results to different measures of firm size.

In columns 1 and 2 of Panel A, Table 8, I proxy for the size of the firm with the natural logarithm of total assets, and the natural logarithm of one plus total employees, both centered by its respective sample means. I find positive coefficients of 0.021 and 0.034, respectively, significant at the 1% level. This suggests that the relation I document between protected large firms and leverage is robust to different proxies for size. Columns 3 – 5 explore the relation between a firms' R&D intensity, and patent portfolio. Following Denis and McKeon (2016), I create an indicator variable set to one if a firm has R&D expenditure greater than 0.2. Column 3 indicates that businesses located in UTSA enacting states that have high levels of R&D intensity reduced book leverage by 2.7 percentage points. Thus, it appears, without differentiating on size, firms highly-dependent on R&D do not finance this activity with debt (e.g., Bradley, Jarrell, and Kim (1984) among others), even after trades secrets laws become stronger.

[**Insert Table 8 Here**]

Columns 4 – 6 consider the interaction of covered firms and patents, citation-weighted patents, and stock market-weighted patents. Specifically, I use the natural logarithm of one plus patents, the natural logarithm of one plus citation-weighted patents, and the natural logarithm of one plus stock-market weighted patents (e.g., Hall, Jaffe, and Trajtenberg (2005), Atanassov (2013), and Kogan, Papanikolaou, Seru, and Stoffman (2016)).[18] I find that firms with increased protection from UTSA and with higher level of patents, citation-weighted patents, and stock market-weighted patents increase book leverage by 0.062, 0.017, and 0.022 percentage points, respectively. This seems consistent with the

[18] I thank Noah Stoffman for making this data available on his website: https://iu.app.box.com/v/patents.

findings from Png (2016b) and Dass et al. (2015) in that increases in trade secrets protection decreased patent applications. Thus, previously successful patent applicants fund their innovative activity with debt after state-level strengthening of the secrecy mechanism.

In Panel B of Table 8, I find similar results in magnitude and statistical significance using market leverage as the dependent variable. All of the models specified in these tests included the full set of controls, and firm and year fixed effects.

F. The UTSA, Operating Leverage, Probability of Default, and Cash Flow Risk

My findings appear to indicate that firms which are larger in size, and have pre-existing patent portfolios increase their use of debt financing after becoming better protected by trade secrets laws. This is suggestive that firms whose innovative risk is reduced by the UTSA are less likely to default and therefore take advantage of the benefits of debt (Miller (1977)). I attempt to more explicitly test this hypothesis by considering the effect of UTSA on operating leverage as well as the effect the law had on larger firms' probability of default, and operating cash flow volatility using commonly employed proxies.

First, testing the effect of the UTSA on operating leverage, as defined by the composition of a firm's fixed to variable costs, provides insight into how sensitive a company is to general business conditions. If a company has greater amounts of variable relative to fixed costs, than its expenses rise and fall with its level of productivity. In contrast, high fixed costs firms are characterized as having higher operating leverage and are more susceptible to negative cash flow shocks. Thus, if a firm experiences a negative change in sales, and as consequence, suffers an even larger reduction in earnings, than this company has greater operating leverage.

Following Eisfeldt and Papanikolaou (2013) and Serfling (2016), I investigate the relation between operating leverage and increases in trade secrets protection using the following regression specification:

(2) $$\Delta\, Ln(EBIT_{it}) = \gamma_i + \omega_t + \beta_1 UTSA_{st} + \beta_2 \Delta\, Ln(Sales_{it}) + \beta_3 \big(UTSA \times \Delta\, Ln(Sales)\big)_{ist} + \alpha X_{isjt} + \varepsilon_{isjt}\ ,$$

where $EBIT_{it}$ is earnings before interest and taxes, γ_i and ω_t are, respectively, firm and year fixed effects, $UTSA_{st}$ is a continuous variable, scaled between 0 and 1, which accounts for pre-existing trade secrets protection by measuring the change in strength once the UTSA law is enacted in year t in state s, $Sales_{it}$ is firm sales centered by its sample mean, and X_{isjt} is the full set of controls from the main leverage regressions. The standard errors are robust and clustered by the state of location.

The main variable of interest is the interaction between the $UTSA_{st}$ protection index and the percentage change in firm sales. Column 1 of Table 9 indicate that earnings sensitivity to changes in sales is significantly less for firms protected by the UTSA. In particular, interpreting the estimated coefficients implies that, prior to state-level enactment of the UTSA, a 1% decrease in sales is associated with a 1.28% decrease in earnings for a firm with an average change in sales. However, UTSA protected firms experiencing a change in sales are associated with a 0.21% reduction in operating leverage. Column 2 suggests that *large* firms covered by the UTSA do not experience a differential reduction in operating leverage. Thus, the evidence suggest that the UTSA reduced operating leverage for *all* protected firms, but only the largest companies are able to capitalize (e.g., R&D expenditure (Png (2016), and debt ratios).

[**Insert Table 9 Here**]

Next, I investigate the association between the probability of default and trade secrets protection. If a firm, in which trade secrets are a very important form of IP protection, experiences an increase in the strength of secrecy laws, this should reduce the misappropriability of future cash flows, and, all else equal, reduce the likelihood of bankruptcy. I use the following regression model to test this prediction:

(3) $$Z_{it+1} = \gamma_i + \omega_t + \beta_1 UTSA_{st} + \beta_2 Size_{it} + \beta_2 (UTSA \times Size)_{ist} + \alpha X_{isjt} + \varepsilon_{isjt}\ ,$$

where Z_{it+1} is the next period probability of default proxied by modified Altman's Z-score (Mackie-Mason (1990)), and the remaining variables are identical to those specified in the full leverage model.

First, however, in column 3 of Table 9, I examine if the UTSA lowers the likelihood of bankruptcy for the average firm in my sample, excluding the interaction term effect, β_3. The coefficient on the protection index is negative but not significantly different from zero. Further, the interaction $UTSA_{st} \times Z_{it}$ is negative but insignificant. Next, I estimate model 3 in column 4, and show that large firms protected by the UTSA are associated with a 5.1 percentage point decrease in next year's probability of default. These findings suggest that large firms located in UTSA passing states increase financial leverage as a response to the reduction in its financial distress costs.

The final analysis I conduct examines if a reduction in future cash flow volatility is a channel through which trade secrets protection reduces bankruptcy costs employs the following model:

(4) $$Vol_{it+1} = \gamma_i + \omega_t + \beta_1 UTSA_{st} + \beta_1 Size_{it} + \beta_2 (UTSA \times Size)_{ist} + \alpha X_{isjt} + \varepsilon_{isjt} ,$$

where Vol_{it+1} is the rolling standard deviation of firm $i's$ operating cash flows over the past ten years leaded one-year into the future, and the other regressors are identical to the main debt ratio regressions.[19] Columns 5 and 6 in Table 9 indicates that large firms protected by the UTSA associate with a reduction of 0.4 percentage points in the volatility of cash flows. I interpret this finding as firms with stronger trade secrets protection are less at risk for rival firms misappropriating secrets and thus more likely to sustain the indefinite stream of future cash flows generated by the economically valuable confidential information. Overall, the findings in Table 9 are consistent with increased trade secrets protection for larger firms decreasing operating leverage, the probability of default, and the volatility of cash flows.

VI. Conclusion

I examine the effect of increased trade secrets protection on financial leverage. In order to deal with endogeneity and isolate causal relationships, my identification strategy exploits the staggered adoption of state-level trade secrets laws. The UTSA increased the protection of trade secrets for firms by precisely defining a trade secret, outlining what constitutes misappropriation, and clarifying the rights and

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[19] In addition, my results are robust to estimating the cash flow volatility measure over the past five years instead.

remedies of firms victimized by competitors, hence decreasing the resources required to prevent theft and recover losses. In particular, based on survey evidence from the BRDIS and recent empirical work by Png (2016a, 2016b) and Dass et al. (2015), I consider the impact of the UTSA on large firm's capital structure decision-making. I employ a difference-in-differences framework in order to contrast the book and market leverage ratios of firms with high levels of sales located in states covered by legislation with firms headquartered in states without such coverage.

I find an economically and statistically significant increase in both measures of debt for large UTSA firms. I conduct falsification tests, and use alternative definitions of leverage and size to interpret the findings causally. In addition, I explore the effect of R&D intensity, and pre-existing patent portfolios on leverage for firms covered by the UTSA. My results suggest that firms with high levels of R&D expenditure and increased protection decrease leverage, consistent with the literature on financing innovation. Further, I show a positive relation with financial leverage and UTSA covered firms with greater amounts of patents, citation-weighted, and stock market-weighted patents, consistent with Png (2016b), and Dass et al. (2015). Lastly, I examine the impact of UTSA on operating leverage, probability of default, and cash flow volatility. Overall, the results from these tests suggest that the UTSA decreases operating leverage, and large firms protected by the law have lower likelihoods of bankruptcy and reduced risk in future streams of operating cash flow.

The main finding of the paper is that large firms experiencing increases in unobservable and/or difficult to calculate trade secrets protection finance its non-patenting innovative endeavors with leverage. This result is consistent with the trade-off theory of capital structure which predicts firms optimally increase debt when the costs associated with financial distress are reduced. Hence, some things might be best kept secret.

References

Acharya, V.; R. Baghai; and K. V. Subramanian. "Wrongful Discharge Laws and Innovation." *Review of Financial Studies*, 27 (2014), 301–346.

Acharya, V., and K. V. Subramanian. "Bankruptcy Codes and Innovation." *Review of Financial Studies*, 12 (2009), 4949–4988.

Agrawal, A. K., and D. A. Matsa. "Labor Unemployment Risk and Corporate Financing Decisions." *Journal of Financial Economics, 108* (2013), 449-470.

Aiken, L. S., and S. G. West, and R. R. Reno. *Multiple regression: Testing and interpreting interactions*. Sage (1991).

Akerlof, G. "The Market for "Lemons": Quality, Uncertainty, and the Market Mechanism." *Quarterly Journal of Economics*, *84* (1970), 488-500.

Alderson, M. J., and B. L. Betker. "Liquidation Costs and Capital Structure." *Journal of Financial Economics*, *39* (1995), 45-69.

Alderson, M. J., and B. L. Betker. "Liquidation Costs and Accounting Data." *Financial Management*, *25* (1996), 25-37.

Almeida, H., and T. Philippon. "The Risk-adjusted Cost of Financial Distress." *Journal of Finance, 62* (2007), 2557-2586.

Andrade, G., and S. N. Kaplan. "How Costly is Financial (Not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed. *Journal of Finance*, *53* (1998), 1443-1493.

Anton, J. J., and D. A. Yao. "The Sale of Ideas: Strategic Disclosure, Property Rights, and Contracting." *Review of Economic Studies, 69* (2002), 513-531.

Arrow, K. “Economic Welfare and the Allocation of Resources for Invention.” In *The Rate and Direction of Inventive Activity: Economic and Social Factors*, Princeton University Press (1962).

Atanassov, J. “Do Hostile Takeovers Stifle Innovation? Evidence from Antitakeover Legislation and Corporate Patenting.” *Journal of Finance*, *68* (2013), 1097-1131.

Bhattacharya, S., and J. R. Ritter. “Innovation and Communication: Signaling with Partial Disclosure.” *Review of Economic Studies*, *50* (1983), 331-346.

Berger, A. N., and G. F. Udell. “Collateral, Loan Quality and Bank Risk.” *Journal of Monetary Economics*, *25* (1990), 21-42.

Bertrand, M., and S. Mullainathan. “Enjoying the Quiet Life? Corporate Governance and Managerial Preferences.” *Journal of Political Economy*, *111* (2003), 1043-1075.

Bertrand, M., E. Duflo, and S. Mullainathan. “How Much Should We Trust Differences-in-Differences Estimates?.” *Quarterly Journal of Economics*, *119* (2004), 249-275.

Blair, M. M., and R. E. Litan. “Corporate Leverage and Leveraged Buyouts in the Eighties.” Brookings Institution, Washington DC (1990).

Blass, A. A., and O. Yosha. “Financing R&D in Mature Companies: An Empirical Analysis.” *Bank of Israel, Tel Aviv University,* and *CEPR,* working paper (2001).

Bradley, M., G. A. Jarrell, and E. Kim. “On the Existence of an Optimal Capital Structure: Theory and Evidence.” *Journal of Finance*, *39* (1984), 857-878.

Brown, J. R., S. M. Fazzari, and B. C. Petersen. “Financing Innovation and Growth: Cash Flow, External Equity, and the 1990s R&D Boom.” *Journal of Finance, 64* (2009), 151-185.

Brown, J. R., G. Martinsson, and B. C. Petersen. “Law, Stock Markets, and Innovation.” *Journal of Finance*, *68* (2013), 1517-1549.

Chava, S., A. Oettl, A. Subramanian, and K. V. Subramanian. "Banking Deregulation and Innovation." *Journal of Financial Economics, 109* (2013), 759-774.

Chung, K. H., and P. Wright. "Corporate Policy and Market Value: A Q-theory Approach." *Review of Quantitative Finance and Accounting, 11* (1998), 293-310.

Cornell, B., and A. C. Shapiro. "Financing Corporate Growth." *Journal of Applied Corporate Finance, 1* (1988), 6-22.

Danis, A., D. A. Rettl, and T. M. Whited. "Refinancing, Profitability, and Capital Structure." *Journal of Financial Economics, 114* (2014), 424-443.

Dass, N., V. K. Nanda, and S. C. Xiao. "Intellectual Property Protection and Financial Markets: Patenting vs. Secrecy." Working paper, (2015).

DeAngelo, H., and R. Roll. "How Stable Are Corporate Capital Structures?." *Journal of Finance, 70* (2015), 373-418.

Denis, D. J., and S. B. McKeon. "Operating Losses and Cash Holdings." Working paper, (2016).

Eisfeldt, A. L., and D. Papanikolaou. "Organization Capital and the Cross-section of Expected Returns." *Journal of Finance, 68* (2013), 1365-1406.

Fama, E. F., and K. R. French. "Testing Trade-off and Pecking Order Predictions about Dividends and Debt." *Review of Financial Studies, 15* (2002), 1-33.

Fich, E. M., J. Harford, and A. S. Yore. "The Effect of Takeover Protection on the Value of Cash: Evidence from a Natural Experiment." Working paper, (2016).

Fortune Editors. "The Defunct Startup that Beat Best Buy in Court." *Fortune*, (2012).

Frank, M. Z., and V. K. Goyal. "Trade-off and Pecking Order Theories of Debt." In *Handbook of Corporate Finance: Empirical Corporate Finance*, (2008).

Frank, M. Z., and V. K. Goyal. "The Profits–Leverage Puzzle Revisited." *Review of Finance, 19* (2015), 1415-1453.

Giroud, X., and H. M. Mueller. "Does Corporate Governance Matter in Competitive Industries?." *Journal of Financial Economics*, *95* (2010), 312-331.

Graham, J. R., and C. Harvey. "How do CFOs Make Capital Budgeting and Capital Structure Decisions?" *Journal of Applied Corporate Finance, 15* (2002), 8-23.

Guo, F., V. K. Nanda, and M. Pevzner. "The Effects of Trade Secret Protections on Financial Reporting Opacity: Evidence from a Natural Experiment." Working paper, (2016).

Hall, B. H. "R&D Tax Policy During the Eighties: Success or Failure?." *Tax Policy and the Economy*, *7* (1993), 1-36.

Hall, B. H. "Corporate Capital Structure and Investment Horizons in the United States, 1976 – 1987." *Business History Review*, *68* (1994), 110-143.

Hall, B. H. "The Financing of Research and Development." *Oxford Review of Economic Policy*, *18* (2002), 35-51.

Hall, B. H., A. Jaffe, and M. Trajtenberg. "Market Value and Patent Citations." *RAND Journal of Economics*, (2005), 16-38.

Hall, B. H., and J. Lerner. "The Financing of R&D and Innovation." *Handbook of the Economics of Innovation*, *1* (2010), 609-639.

Hall, B., C. Helmers, M. Rogers, and V. Sena. "The Choice between Formal and Informal Intellectual Property: A Review." *Journal of Economic Literature*, *52* (2014), 375-423.

Harris, M., and A. Raviv. "The Theory of Capital Structure." *Journal of Finance*, *46* (1991), 297-355.

Jaccard, J., and R. Turrisi. *Interaction Effects in Multiple Regression*. Sage (2003).

Jaccard, J., C. K. Wan, and R. Turrisi. “The Detection and Interpretation of Interaction Effects between Continuous Variables in Multiple Regression.” *Multivariate Behavioral Research*, *25* (1990), 467-478.

Jaffe, A. B. “Technological Opportunity and Spillovers of R&D: Evidence from Firms' Patents, Profits, and Market Value.” *American Economic Review, 76* (1986), 984-1001.

Jensen, M. C., and W. H. Meckling. “Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure.” *Journal of Financial Economics*, *3* (1976), 305-360.

Karpoff, J. M., and M. D. Wittry. “Institutional and Legal Context in Natural Experiments: The Case of State Antitakeover Laws.” Working paper, 2016.

Kisgen, D. J. “Do Firms Target Credit Ratings or Leverage Levels?.” *Journal of Financial and Quantitative Analysis, 44* (2009), 1323-1344.

Klasa, S., H. Ortiz-Molina, M. Serfling, and S. Srinivasan. “Protection of Trade Secrets and Capital Structure Decisions.” Working paper, (2016).

Kogan, L., D. Papanikolaou, A. Seru, and N. Stoffman. “Technological Innovation, Resource Allocation, and Growth.” *Quarterly Journal of Economics*, Forthcoming (2012).

Leland, H. E., and D. H. Pyle. “Informational Asymmetries, Financial Structure, and Financial Intermediation.” *Journal of Finance*, *32* (1977), 371-387.

Lemmon, M. L., M. R. Roberts, and J. F. Zender. “Back to the Beginning: Persistence and the Cross-section of Corporate Capital Structure.” *Journal of Finance*, *63* (2008), 1575-1608.

Mackie-Mason, J. K. “Do Taxes Affect Corporate Financing Decisions?.” *Journal of Finance, 45* (1990), 1471-1493.

Matsa, D. A. “Capital Structure as a Strategic Variable: Evidence from Collective Bargaining.” *Journal of Finance*, *65* (2010), 1197-1232.

Miller, M. H. "Debt and Taxes." *Journal of Finance, 32* (1977), 261-275.

Myers, S. C. "Determinants of Corporate Borrowing." *Journal of Financial Economics, 5* (1977), 147-175.

Nelson, R. R. "The Simple Economics of Basic Scientific Research." *Journal of Political Economy*, (1959), 297-306.

Opler, T. C., and S. Titman. "Financial Distress and Corporate Performance." *Journal of Finance, 49* (1994), 1015-1040.

Png, I. P. "Law and Innovation: Evidence from State Trade Secrets Laws." *Review of Economics and Statistics*, Forthcoming (2016a).

Png, I. P. "Secrecy and Patents: Evidence from the Uniform Trade Secrets Act." Working paper, (2016b).

Rajan, R. G., and L. Zingales. "What do We Know about Capital Structure? Some Evidence from International Data." *Journal of Finance, 50* (1995), 1421-1460.

Roberts, M. R., and T. M. Whited. "Endogeneity in Empirical Corporate Finance." *Handbook of the Economics of Finance*, *2* (2013), 493-572.

Romanosky, S., R. Telang, and A. Acquisti. "Do Data Breach Disclosure Laws Reduce Identity Theft?." *Journal of Policy Analysis and Management, 30* (2011), 256-286.

Sapra, H., A. Subramanian, and K. V. Subramanian. "Corporate Governance and Innovation: Theory and Evidence." *Journal of Financial and Quantitative Analysis, 49* (2014), 957-1003.

Serfling, M. "Firing Costs and Capital Structure Decisions." *Journal of Finance*, Forthcoming (2016).

Stiglitz, J. E., and A. Weiss. "Credit Rationing in Markets with Imperfect Information." *American Economic Review*, *71* (1981), 393-410.

Stiglitz, J. E. "Credit Markets and the Control of Capital." *Journal of Money, Credit, and Banking, 17* (1985), 133-152.

Titman, S., and R. Wessels. "The Determinants of Capital Structure Choice." *Journal of Finance*, *43* (1988), 1-19.

Uniform Law Commission. "Uniform Trade Secrets Act." (1979, am. 1985).

Welch, I. "Capital Structure and Stock Returns." *Journal of Political Economy*, *112* (2004), 106-132.

Williamson, O. E. "Corporate Finance and Corporate Governance." *Journal of Finance*, *43* (1988), 567-591.

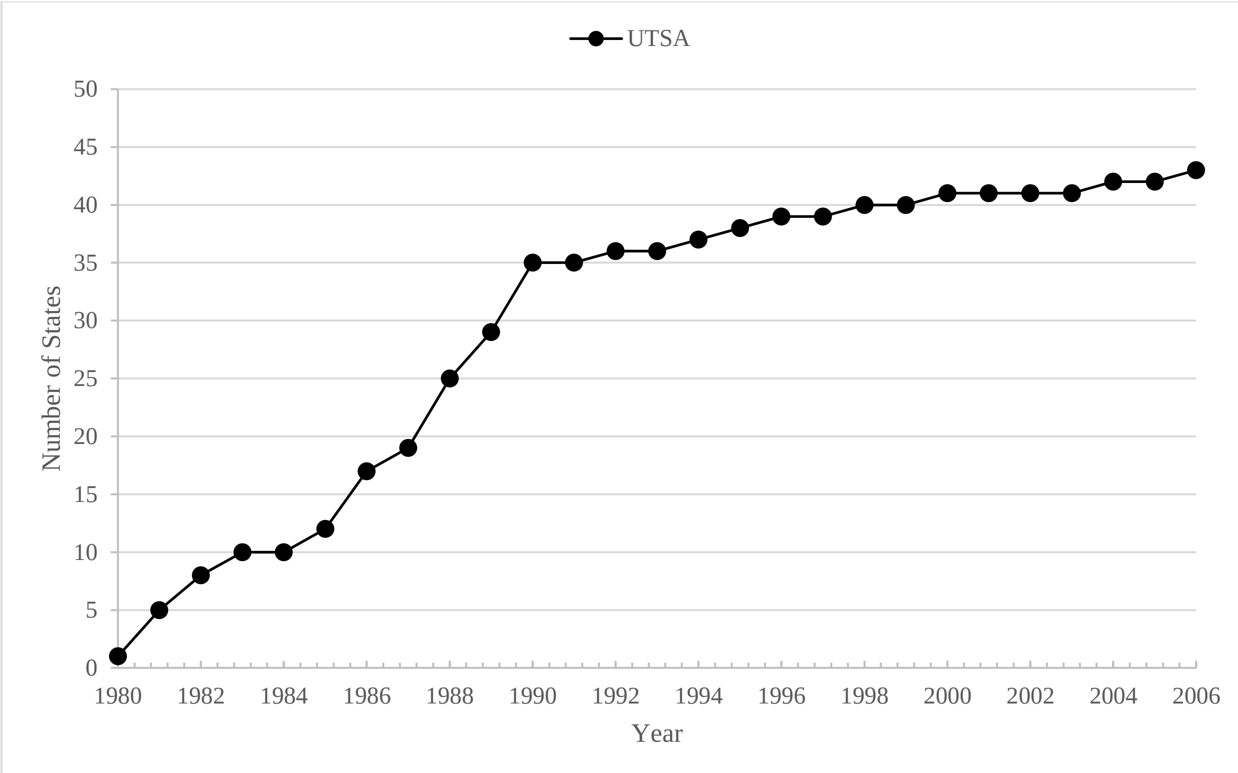

Figure 1. Number of states adopting trade secrets protection laws. This figure displays the number of states that have passed the Uniform Trade Secrets Act (UTSA) in each year between 1980 and 2006.

Table 1

Importance of Different IP Mechanisms to U.S. Firms in 2013 (%)

This table reports the most recently published responses to the National Science Foundation's National Center for Science and Engineering's annual Business Research and Development and Innovation Survey (BRDIS) question: "how important to your company were the following types of intellectual property protection?" (Form BRDI-1, 2013, p.45). The target responders, which are composed of for-profit companies with at least five or more paid employees, a minimum of one business establishment in operation during the survey year, and performs some form of R&D activity all within the United States in 2013, are provided the following answer choices: "very important," "somewhat important," and "not important." Size is measured by the number of domestic employees. I average the reported BRDIS percentages for businesses with 5 – 499 and 500 – 999, 1,000 – 4,999 and 5,000 – 9,999, and 10,000 -24,999 and 25,000 or more domestic employees to construct the three size categories shown below. The rows may not sum to one hundred due to rounding.

Source: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2013.

IP mechanism	Importance by size	Very important	Somewhat important	Not important
Trade secrets	All companies	57.2	19.9	22.8
	5 – 999	56.0	23.3	20.8
	1,000 – 9,999	68.3	20.5	11.4
	10,000 or more	80.5	13.2	6.4
Utility patents	All companies	51.0	15.8	33.2
	5 – 999	49.1	18.2	32.8

	1,000 – 9,999	64.7	17.4	18.0
	10,000 or more	73.5	15.0	11.6
Trademarks	All companies	43.4	31.3	25.3
	5 – 999	47.3	29.7	23.1
	1,000 – 9,999	69.7	19.6	10.7
	10,000 or more	81.7	12.9	5.4
Copyrights	All companies	27.2	33.8	39.0
	5 – 999	27.3	34.5	38.3
	1,000 – 9,999	34.6	42.3	23.2
	10,000 or more	43.9	44.2	12.0
Design patents	All companies	24.3	27.4	48.3
	5 – 999	24.3	27.9	47.9
	1,000 – 9,999	26.4	30.6	43.0
	10,000 or more	28.3	41.1	30.7

Table 2

State-Level Trade Secrets Protection

This table reports the year when the Uniform Trade Secrets Act (UTSA) became effective in each state that passed the legislation. The data on the *level* of common law trade secrets protection is provided by Png (2016a) and can be found on the *Review of Economics and Statistics* webpage: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/BFP2IC. Further, the *change* in protection granted by the effective UTSA statute are reproductions of Table 1 from Png (2016b). I also provide the number of unique firms located in a given state at any time in the sample, as well as the overall total. For a description of how common law and UTSA protection are measured please see Section IV.B or Table A2 in the appendix, which gives a reproduction from Png (2016a).

State	Effective Year of UTSA	Common Law	Effective Statute (Δ in Protection)	# Firms Located in the State
Alabama	1987	0.25	0	48
Alaska	1988	0	0.47	6
Arizona	1990	0.25	0.22	145
Arkansas	1981	0.5	-0.1	32
California	1985	0.22	0.25	1573
Colorado	1986	0	0.77	307
Connecticut	1983	0	0.47	246
Delaware	1982	0	0.47	28
Florida	1988	0.1	0.37	462
Georgia	1990	0	0.7	251
Hawaii	1989	0	0.47	10
Idaho	1981	0	0.47	20
Illinois	1988	0	0.7	385
Indiana	1982	0	0.47	91
Iowa	1990	0	0.47	40
Kansas	1981	0	0.47	68
Kentucky	1990	0	0.47	47
Louisiana	1981	0	0.4	46

Maine	1987	0	0.5	8
Maryland	1989	0.22	0.25	157
Massachusetts		0.27	0	510
Michigan	1998	0.25	0.15	215
Minnesota	1980	0	0.47	278
Mississippi	1990	0	0.57	25
Missouri	1995	0	0.63	141
Montana	1985	0	0.57	7
Nebraska	1988	0	0.43	28
Nevada	1987	0	0.47	90
New Hampshire	1990	0.025	0.44	47
New Jersey		0.25	0	505
New Mexico	1989	0	0.47	18
New York		0.1	0	881
North Carolina		0	0	179
North Dakota	1983	0	0.47	5
Ohio	1994	0.25	0.28	334
Oklahoma	1986	0.025	0.44	100
Oregon	1988	0	0.47	88
Pennsylvania	2004	0.24	-0.11	379
Rhode Island	1986	0	0.47	29
South Carolina	1992	0	0.47	55
South Dakota	1988	0	0.47	8
Tennessee	2000	0	0.63	120
Texas		0.23	0	921
Utah	1989	0	0.47	92
Vermont	1996	0	0.57	10
Virginia	1986	0.025	0.44	226
Washington	1982	0	0.47	158
West Virginia	1986	0	0.47	11
Wisconsin		0	0	118
Wyoming	2006	0.5	0	5
Total Number of Unique Firms				9,553

Table 3

Summary Statistics

This table reports summary statistics for the main dependent and explanatory variables used in the main leverage regressions. Panel A presents full sample summary statistics. Panel B reports the temporal distribution of total firms, firms located in UTSA passing states, and the percent of firms affected by the trade secrets legislation by year. The sample is composed of Compustat industrial firms (excluding financials and utilities) overt the period 1975 to 2003. All continuous variables, with the exception of the *UTSA*, *Common Law*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Table A3 in the appendix provides variable definitions.

Panel A: Full Sample Descriptive Statistics

	N	Mean	Std. Dev.	P25	Median	P75
Dependent Variables						
Book Leverage	80,691	0.234	0.195	0.066	0.210	0.351
Market Leverage	80,691	0.259	0.238	0.045	0.201	0.418
Main Explanatory Variables						
UTSA Index	80,691	0.236	0.198	0.050	0.247	0.333
Common Law	80,691	0.116	0.117	0.000	0.100	0.225
Other Explanatory Variables						
Sales	80,691	1189.1	3199.5	41.13	172.9	695.7
Profitability	80,691	0.039	0.195	0.030	0.083	0.126

M/B	80,691	1.757	1.514	0.977	1.268	1.879
Fixed Assets	80,691	0.308	0.212	0.144	0.262	0.426
Div Payer	80,691	0.412	0.492	0.000	0.000	1.000
Mod Z-score	80,691	1.660	2.544	1.094	2.129	2.958
State GDPPC	80,691	38.33	6.637	33.62	37.71	42.81
State GDPG	80,691	0.070	0.035	0.046	0.067	0.090
Democrat	80,691	0.580	0.180	0.500	0.581	0.667
IY Book Leverage	80,691	0.244	0.093	0.182	0.234	0.291
SY Book Leverage	80,691	0.246	0.048	0.223	0.251	0.275
IY Market Leverage	80,691	0.260	0.127	0.159	0.250	0.338
SY Market Leverage	80,691	0.259	0.075	0.211	0.258	0.311

Table 3 – *(Continued)*

Panel B: Temporal Distribution

Year	N	UTSA	% of Firms Affected by UTSA in Year
1975	2,177	0	0.00%
1976	2,180	0	0.00%
1977	2,175	0	0.00%
1978	2,108	0	0.00%
1979	2,087	0	0.00%
1980	2,163	55	2.54%
1981	2,265	111	4.90%
1982	2,341	191	8.16%
1983	2,474	298	12.05%
1984	2,472	297	12.01%
1985	2,613	629	24.07%
1986	2,697	842	31.22%
1987	2,672	893	33.42%
1988	2,778	1,193	42.94%
1989	2,919	1,346	46.11%
1990	2,920	1,505	51.54%
1991	2,875	1,480	51.48%
1992	2,940	1,528	51.97%
1993	3,051	1,588	52.05%
1994	3,205	1,822	56.85%
1995	3,438	2,046	59.51%
1996	3,544	2,121	59.85%
1997	3,454	2,080	60.22%
1998	3,486	2,176	62.42%
1999	3,375	2,099	62.19%
2000	3,125	1,987	63.58%
2001	3,113	1,995	64.09%
2002	3,078	1,969	63.97%
2003	2,966	1,902	64.13%
Total	80,691	32,153	39.85%

Table 4

The Uniform Trade Secrets Act, Firm Size, and Financial Leverage

This table reports the results for the panel regressions of financial leverage on the interaction of the uniform trade secrets act and the natural logarithm of sales for Compustat industrial firms from 1975 to 2003. Panel A provides the OLS estimates with *Book Leverage* as the dependent variable. Panel B reports the results with *Market Leverage* specified as the regressand. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. *Ln(Sales)* is a proxy for firm size measured by sales revenue (specified in logarithm as the difference from its sample mean in order to center the variable). The interaction between the size proxy and *UTSA* yields the main coefficient of interest. I center the size proxy for ease of interpretation, since I am interacting two continuous variables. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

Panel A: Dependent Variable is Book Leverage

	(1)	(2)	(3)	(4)	(5)	(6)
UTSA×Ln(Sales)		0.020***	0.020***	0.020***	0.018***	0.018***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
UTSA	-0.011	-0.020	-0.019	-0.020	-0.020	-0.021*
	(0.014)	(0.015)	(0.015)	(0.014)	(0.012)	(0.012)
Ln(Sales)	0.038***	0.018***	0.035***	0.034***	0.035***	0.035***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Profitability	0.007	-0.207***	0.009	0.009	0.008	0.008
	(0.009)	(0.019)	(0.008)	(0.008)	(0.008)	(0.008)

M/B	-0.007***	-0.005***	-0.008***	-0.008***	-0.007***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fixed Assets	0.178***	0.227***	0.181***	0.182***	0.179***	0.179***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Div Payer	-0.048***		-0.047***	-0.047***	-0.047***	-0.047***
	(0.004)		(0.004)	(0.004)	(0.004)	(0.004)
Mod Z-score	-0.034***		-0.034***	-0.034***	-0.034***	-0.034***
	(0.003)		(0.003)	(0.003)	(0.003)	(0.003)
Ln(State GDPPC)	0.072***			0.075***		0.066***
	(0.023)			(0.025)		(0.022)
State GDPG	-0.044*			-0.050*		-0.039
	(0.026)			(0.029)		(0.024)
Democrat	0.002			-0.002		0.000
	(0.009)			(0.009)		(0.008)
IY Leverage	0.114***				0.110***	0.109***
	(0.015)				(0.016)	(0.016)
SY Leverage	0.152***				0.142***	0.133***
	(0.041)				(0.039)	(0.037)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691	80,691	80,691
Adjusted R^2	0.687	0.663	0.687	0.687	0.688	0.688

Table 4 – *(Continued)*

Panel B: Dependent Variable is Market Leverage						
	(1)	(2)	(3)	(4)	(5)	(6)
UTSA×Ln(Sales)		0.013***	0.012***	0.012***	0.011***	0.010***
		(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
UTSA	-0.000	0.000	0.001	0.000	-0.006	-0.005
	(0.015)	(0.016)	(0.015)	(0.015)	(0.012)	(0.013)
Ln(Sales)	0.045***	0.024***	0.041***	0.041***	0.042***	0.042***
	(0.004)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)
Profitability	-0.036***	-0.237***	-0.037***	-0.036***	-0.036***	-0.036***
	(0.012)	(0.034)	(0.013)	(0.012)	(0.012)	(0.012)
M/B	-0.034***	-0.033***	-0.035***	-0.035***	-0.034***	-0.034***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Fixed Assets	0.186***	0.234***	0.193***	0.193***	0.186***	0.186***
	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)
Div Payer	-0.071***		-0.071***	-0.071***	-0.071***	-0.071***
	(0.005)		(0.005)	(0.005)	(0.005)	(0.005)
Mod Z-score	-0.031***		-0.031***	-0.031***	-0.031***	-0.031***
	(0.004)		(0.004)	(0.004)	(0.004)	(0.004)
Ln(State GDPPC)	0.052**			0.050**		0.049**
	(0.020)			(0.023)		(0.020)
State GDPG	-0.174***			-0.285***		-0.173***
	(0.041)			(0.030)		(0.040)
Democrat	-0.005			-0.015		-0.006
	(0.009)			(0.010)		(0.009)
IY Leverage	0.170***				0.172***	0.170***
	(0.021)				(0.022)	(0.021)
SY Leverage	0.236***				0.262***	0.231***
	(0.039)				(0.043)	(0.038)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691	80,691	80,691
Adjusted R^2	0.720	0.700	0.716	0.717	0.720	0.720

Table 5

The Uniform Trade Secrets Act, Firm Size Terciles, and Financial Leverage

This table reports the results for the panel regressions of financial leverage on the interaction of the uniform trade secrets act and low, medium, and high tercile indicator variables based on the distribution of the natural logarithm of sales for Compustat industrial firms from 1975 to 2003. Panel A provides the OLS estimates with *Book Leverage* as the dependent variable. Panel B reports the results with *Market Leverage* specified as the regressand. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. *Ln(Sales[Low])* is a "0/1" indicator for firms with sales in the 33rd percentile, *Ln(Sales[Medium])* is a "0/1" indicator for firms with sales in between the 33rd and 66th percentile, and *Ln(Sales[High])* is a "0/1" indicator for firms with sales above the 66th percentile. I interact each of these three size dummies with *UTSA*, which yields the main coefficients of interest. *UTSA* and *Ln(Sales[Low])* are excluded from the OLS regressions to avoid perfect multicollinearity. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

Panel A: Dependent Variable is Book Leverage

	(1)	(2)	(3)	(4)	(5)
UTSA×Ln(Sales[Low])	-0.081***	-0.087***	-0.087***	-0.083***	-0.082***
	(0.022)	(0.021)	(0.020)	(0.019)	(0.018)
UTSA×Ln(Sales[Medium])	-0.040*	-0.036*	-0.037*	-0.037**	-0.038**
	(0.021)	(0.021)	(0.021)	(0.018)	(0.018)
UTSA×Ln(Sales[High])	0.038***	0.040***	0.037***	0.035***	0.034***

	(0.013)	(0.012)	(0.012)	(0.009)	(0.009)
Ln(Sales[Medium])	0.018***	0.035***	0.034***	0.036***	0.036***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Ln(Sales[High])	0.014**	0.041***	0.041***	0.043***	0.042***
	(0.007)	(0.008)	(0.008)	(0.008)	(0.007)
Profitability	-0.191***	0.008	0.007	0.007	0.006
	(0.017)	(0.010)	(0.010)	(0.010)	(0.010)
M/B	-0.006***	-0.009***	-0.009***	-0.008***	-0.008***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fixed Assets	0.236***	0.201***	0.202***	0.199***	0.199***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Div Payer		-0.040***	-0.040***	-0.040***	-0.040***
		(0.004)	(0.004)	(0.004)	(0.004)
Mod Z-score		-0.030***	-0.030***	-0.030***	-0.029***
		(0.003)	(0.003)	(0.003)	(0.003)
Ln(State GDPPC)			0.082***		0.073***
			(0.024)		(0.021)
State GDPG			-0.047		-0.037
			(0.031)		(0.026)
Democrat			-0.001		0.001
			(0.009)		(0.009)
IY Leverage				0.107***	0.106***
				(0.015)	(0.015)
SY Leverage				0.145***	0.135***
				(0.037)	(0.036)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691	80,691
Adjusted R^2	0.661	0.680	0.680	0.681	0.681

Table 5 – *(Continued)*

Panel B: Dependent Variable is Market Leverage					
	(1)	(2)	(3)	(4)	(5)
UTSA×Ln(Sales[Low])	-0.044**	-0.047**	-0.047**	-0.051**	-0.050**
	(0.020)	(0.021)	(0.022)	(0.019)	(0.019)
UTSA×Ln(Sales[Medium])	-0.023	-0.020	-0.022	-0.028	-0.029
	(0.023)	(0.022)	(0.022)	(0.019)	(0.019)
UTSA×Ln(Sales[High])	0.047***	0.049***	0.047***	0.038***	0.037***
	(0.014)	(0.014)	(0.015)	(0.012)	(0.012)
Ln(Sales[Medium])	0.028***	0.044***	0.044***	0.046***	0.046***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Ln(Sales[High])	0.025**	0.052***	0.053***	0.055***	0.056***
	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)
Profitability	-0.216***	-0.039***	-0.038***	-0.037***	-0.037***
	(0.031)	(0.014)	(0.014)	(0.013)	(0.013)
M/B	-0.034***	-0.036***	-0.036***	-0.035***	-0.035***
	(0.004)	(0.005)	(0.005)	(0.005)	(0.004)
Fixed Assets	0.245***	0.216***	0.216***	0.210***	0.210***
	(0.016)	(0.015)	(0.015)	(0.015)	(0.015)
Div Payer		-0.063***	-0.063***	-0.062***	-0.062***
		(0.005)	(0.005)	(0.005)	(0.005)
Mod Z-score		-0.026***	-0.026***	-0.026***	-0.026***
		(0.003)	(0.003)	(0.003)	(0.003)
Ln(State GDPPC)			0.058**		0.057**
			(0.026)		(0.023)
State GDPG			-0.281***		-0.171***
			(0.069)		(0.041)
Democrat			-0.015		-0.006
			(0.011)		(0.010)
IY Leverage				0.165***	0.162***
				(0.021)	(0.020)
SY Leverage				0.258***	0.229***
				(0.042)	(0.038)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691	80,691
Adjusted R^2	0.698	0.710	0.711	0.713	0.714

Table 6

The Uniform Trade Secrets Act, Firm Size, and the Timing of Financial Leverage Adjustments

This table reports the results for the panel regressions of financial leverage on the interaction of the uniform trade secrets act (UTSA) and the natural logarithm of sales for Compustat industrial firms from 1975 to 2003. *Book Leverage* is the dependent variable in columns 1 and 2, and the dependent variable is columns 3 and 4 is *Market Leverage*. $UTSA^{(-1)}$ is the change in trade secrets protection stemming from the UTSA if a firm is located in a state that will pass the law in one year and equal to zero otherwise (i.e., one-year leaded *UTSA*). $UTSA^{(0)}$ is the change in trade secrets protection stemming from the UTSA if a firm is located in a state that passes the UTSA in the current year and equal to zero otherwise (i.e., contemporaneous *UTSA*). $UTSA^{(1)}$ is the change in trade secrets protection stemming from the UTSA if a firm is located in a state that passed the UTSA one year ago and equal to zero otherwise (i.e., one-year lagged *UTSA*). $UTSA^{(2+)}$ is the change in trade secrets protection stemming from the UTSA if a firm is located in a state that passed the UTSA two or more years ago and zero otherwise (i.e., coalesced two-year or more lagged *UTSA*). Each of these index variables are interacted with the natural logarithm of sales centered by its sample mean, to proxy for the effect of UTSA on large firms. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. Columns 1 and 3 controls for *Profitability*, *M/B*, *Fixed Assets*, *Div Payer*, and *Mod Z-score*. Columns 2 and 4 includes all financial controls, but in addition, specifies *Ln(State GDPPC)*, *State GDPG*, *Democrat*, *SY Leverage*, and *IY Leverage*. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

	Book Leverage		Market Leverage	
	(1)	(2)	(3)	(4)
$[UTSA\times Ln(Sale)]^{(-1)}$	0.005	0.004	-0.000	0.002
	(0.007)	(0.007)	(0.006)	(0.006)
$[UTSA\times Ln(Sale)]^{(0)}$	0.011*	0.011*	0.007	0.006
	(0.006)	(0.006)	(0.005)	(0.005)
$[UTSA\times Ln(Sale)]^{(1)}$	0.001	0.001	-0.003	-0.003
	(0.004)	(0.004)	(0.006)	(0.005)
$[UTSA\times Ln(Sale)]^{(2+)}$	0.009**	0.009*	0.010**	0.008*
	(0.005)	(0.005)	(0.005)	(0.004)
$UTSA^{(-1)}$	-0.010	-0.013	0.002	-0.008
	(0.009)	(0.008)	(0.013)	(0.009)
$UTSA^{(0)}$	-0.010	-0.009	-0.010	-0.007
	(0.008)	(0.008)	(0.013)	(0.012)
$UTSA^{(1)}$	0.007	0.008	0.007	0.011
	(0.010)	(0.010)	(0.013)	(0.013)
$UTSA^{(2+)}$	-0.010	-0.010	0.003	-0.002
	(0.014)	(0.012)	(0.020)	(0.016)
Financial Control Variables	Yes	Yes	Yes	Yes
State Control Variables	No	Yes	No	Yes
Industry Control Variable	No	Yes	No	Yes
State-Time Trends	No	Yes	No	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691
Adjusted R^2	0.687	0.688	0.716	0.720

Table 7

The Uniform Trade Secrets Act, Firm Size, and Alternative Definitions of Leverage

This table reports the results for the panel regressions of alternative definitions of financial leverage on the interaction of the uniform trade secrets act and a proxy for firm size for Compustat industrial firms from 1975 to 2003. The dependent variable in columns 1 and 2 is *Ln(1+Total Debt)* which is the natural logarithm of one plus the book value of long-term debt plus debt in current liabilities. The dependent variable in columns 3 and 4 is *Net Book Leverage* measured as the ratio of book value of long-term debt plus debt in current liabilities minus the book value of cash and short-term investments over the book value of assets. The dependent variable in columns 5 and 6 is *Net Market Leverage* which is constructed as book value of long-term debt plus debt in current liabilities minus the book value of cash and short-term investments divided by the market value of debt and equity. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. I proxy for firm size in one of the following two ways: (1) using the continuous measure *Ln(Sales)*; or (2) using dummy variables to denote whether the size of the company as measured by sales lies in the bottom, medium, or top tercile of its empirical distribution. I exclude *UTSA* and *UTSA*×*Ln(Sales[Low])* in the size dummy specification to avoid perfect multicollinearity. The other explanatory variables include *Profitability, MB, Fixed Assets, Div Payer, Mod Z-score, Log(State GDPPC), State GDPG, Democrat, SY Leverage*, and *IY Leverage*. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1^{st} and 99^{th} percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

	Ln(1+Total Debt)		Net Book Leverage		Net Market Leverage	
	(1)	(2)	(3)	(4)	(5)	(6)
UTSA	-0.141**		-0.018		-0.002	
	(0.056)		(0.012)		(0.016)	
UTSA × Ln(Sales)	0.128***		0.022***		0.014***	
	(0.022)		(0.004)		(0.005)	
UTSA × Ln(Sales[Low])		-0.712***		-0.097***		-0.081***
		(0.133)		(0.020)		(0.024)
UTSA × Ln(Sales[Medium])		-0.377***		-0.039		-0.024
		(0.137)		(0.024)		(0.024)
UTSA × Ln(Sales[High])		0.408***		0.052***		0.061***
		(0.085)		(0.010)		(0.013)
Ln(Sales)	0.762***		0.073***		0.078***	
	(0.032)		(0.005)		(0.006)	
Ln(Sales[Medium])		0.669***		0.067***		0.078***
		(0.039)		(0.007)		(0.010)
Ln(Sales[High])		1.381***		0.097***		0.111***
		(0.082)		(0.010)		(0.013)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,691	80,691	80,691	80,691	80,691	80,691
Adjusted R^2	0.885	0.866	0.768	0.756	0.693	0.681

Table 8

The Uniform Trade Secrets Act, Cross-Sectional Variation, and Financial Leverage

This table reports the results for the panel regressions of financial leverage on the interaction of the uniform trade secrets act and relevant firm characteristics for Compustat industrial firms from 1975 to 2003. Panel A provides the OLS estimates with *Book Leverage* as the dependent variable. Panel B reports the results with *Market Leverage* specified as the regressand. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. Alternative definitions for firms size are explored in columns 1 and 2 using the natural logarithm on total assets, and the natural logarithm of one plus the total number of employees, respectively. Columns 3 – 6 interact *UTSA* with measures of innovative activity, and they are as follows: (1) an indicator for *R&D Intensity* set equal to one if the firm has R&D expenditure greater than 0.2 and zero otherwise; (2) *Ln(1+Patents)* is the natural logarithm of one plus a count variable for firm patents in year *t*; (3) *Ln(1+CW Patents)* is the natural logarithm of one plus citation-weighted patents; and (4) *Ln(1+SM Patents)* is the natural logarithm of one plus stock market-weighted patents; all three centered by its sample mean. The other explanatory variables include *Profitability*, *M/B*, *Fixed Assets*, *Div Payer*, *Mod Z-score*, *Log(State GDPPC)*, *State GDPG*, *Democrat*, *SY Leverage*, and *IY Leverage*. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

Panel A: Dependent Variable is Book Leverage						
	(1)	(2)	(3)	(4)	(5)	(6)

UTSA	-0.017	-0.020	-0.001	-0.016	-0.016	-0.018
	(0.012)	(0.013)	(0.015)	(0.014)	(0.013)	(0.013)
UTSA×Ln(Assets)	0.021***					
	(0.004)					
UTSA×Ln(1+Employees)		0.034***				
		(0.008)				
UTSA×R&D Intensity			-0.027**			
			(0.011)			
UTSA×Ln(1+Patents)				0.062***		
				(0.019)		
UTSA×Ln(1+CW Patents)					0.017***	
					(0.004)	
UTSA×Ln(1+SM Patents)						0.022***
						(0.005)
Financial Variables	Yes	Yes	Yes	Yes	Yes	Yes
State Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,691	79,427	80,691	58,704	58,704	58,704
Adjusted R^2	0.691	0.682	0.688	0.675	0.675	0.675

Table 8 – *(Continued)*

Panel B: Dependent Variable is Market Leverage						
	(1)	(2)	(3)	(4)	(5)	(6)
UTSA	-0.004	-0.007	0.006	-0.006	-0.005	-0.009
	(0.013)	(0.014)	(0.016)	(0.013)	(0.013)	(0.013)
UTSA×Ln(Assets)	0.010***					
	(0.003)					
UTSA×Ln(1+Employees)		0.018***				
		(0.006)				
UTSA×R&D Intensity			-0.024*			
			(0.015)			
UTSA×Ln(1+Patents)				0.034**		
				(0.013)		
UTSA×Ln(1+CW Patents)					0.008**	
					(0.003)	
UTSA×Ln(1+SM Patents)						0.018***
						(0.003)
Financial Variables	Yes	Yes	Yes	Yes	Yes	Yes
State Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,691	79,427	80,691	58,704	58,704	58,704
Adjusted R^2	0.722	0.715	0.720	0.717	0.716	0.717

Table 9

The Uniform Trade Secrets Act, Firm Size, and Bankruptcy Costs

This table reports the results for the panel regressions of alternative definitions of financial leverage on the interaction of the uniform trade secrets act and a proxy for firm size for Compustat industrial firms from 1975 to 2003. The dependent variable in columns 1 and 2 is the change in $Ln(EBIT)_t$ which measured as the one-year change in the natural logarithm of earnings before interest and taxes over period *t* to *t-1*. The dependent variable in columns 3 and 4 is $Mod\ Z\text{-}score_{t+1}$ measured as the one-year ahead value of 1.2 × working capital over assets plus 1.4 × retained earnings over assets plus 3.3 × EBIT over assets plus sales over assets. The dependent variable in columns 5 and 6 is $CF\ Risk_{t+1}$ which is constructed as the rolling standard deviation of operating cash flows over a 10-year window, where operating cash flows equal income before extraordinary expenses plus depreciation and amortization. *UTSA* is a trade secrets protection index first constructed in Png (2016a). It accounts for pre-existing common law by measuring the change in protection granted via passage of the UTSA in state *s* and year *t*; I provide an explanation for how the variable is measured in Section IV.B. The other explanatory variables include *Profitability, M/B, Fixed Assets, Div Payer, Mod Z-score, Log(State GDPPC), State GDPG, Democrat, SY Leverage*, and *IY Leverage*. Table A3 in the appendix provides variable definitions. All continuous variables, with the exception of the *UTSA*, state-level economic and political variables, are winsorized at the 1st and 99th percentiles to remove the influence of extreme outliers. The dollar values are expressed in 2001 dollars. Robust standard errors are clustered at the state of location level and reported in parentheses.

	Δ Ln(EBIT)$_t$		Mod Z-score$_{t+1}$		CF Risk$_{t+1}$	
	(1)	(2)	(3)	(4)	(5)	(6)
UTSA	-0.016	-0.024	0.058	0.053	-0.001	0.020
	(0.031)	(0.030)	(0.152)	(0.014)	(0.003)	(0.013)
Ln(Sales)	-0.074***	-0.075***	0.069***	0.082***	-0.003***	-0.003*

	(0.008)	(0.009)	(0.024)	(0.023)	(0.001)	(0.001)
UTSA × Ln(Sales)		0.007		-0.051***		-0.004*
		(0.015)		(0.019)		(0.002)
ΔLn(Sales)	1.278***	1.278***				
	(0.040)	(0.040)				
UTSA × ΔLn(Sales)	-0.214**	-0.215**				
	(0.095)	(0.095)				
Modified Altman's Z-Score			0.589***	0.585***		
			(0.024)	(0.024)		
UTSA × Modified Altman's Z-Score			-0.019	-0.002		
			(0.056)	(0.051)		
Book Leverage	0.255***	0.254***	-0.111*	-0.106*	-0.001	-0.001
	(0.050)	(0.049)	(0.056)	(0.057)	(0.004)	(0.004)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	51,171	51,171	73,526	73,526	70,604	70,604
Adjusted R^2	0.253	0.253	0.842	0.842	0.851	0.851

Appendix

Table A1

Intellectual Property (IP) Protection Mechanisms

This table provides descriptions of the five listed IP protection mechanisms from the BRDIS survey.

IP Protection Mechanism	Description
Trade Secrets	A form of informal intellectual property protection granted to a process, pattern, formula, design, practice, instrument, or amalgamation of information which is not generally known or easily ascertainable by others and provides economic benefit to its holder.
Utility Patents	A form of formal intellectual property protection granted to inventions or creations that provide a new or marked improvement in a process, product or machine, and which yield useful and identifiable benefits.
Trademarks	A form of formal intellectual property protection granted to a recognizable design, insignia, phrase, expression, or other symbol, which distinguishes a particular product or service as coming from a specific source.
Copyrights	A form of formal intellectual property protection granted to original works of artistry or ideas, which includes novel musical, graphic, literary, sculptural, pictorial, dramatic, audiovisual, pantomimic, cartographic, architectural, and choreographic creations.
Design Patents	A form of formal intellectual property protection granted to functional items characterized as having a distinct visual quality, which includes manufactured products with either a unique ornamental design, a unique configuration or both.

Table A2

Index of Legal Protection of Trade Secrets

This table is an exact reproduction from Table A2 in the appendix of Png (2016a). It provides the criteria used in the construction of the state-level trade secrets protection index. The values specific to each state are summed across the six unique items over time. The first iteration of this summation process yields the level of trade secrets protection provided by common law. Next, if a state passes the UTSA, the items are re-evaluated and a post-enactment index value is calculated. The change in the value of the index captures state-level exogenous variation in trade secrets protection.

Dimension	Item	Coding	Sources
Substantive law	Whether information must be in actual or intended business use to be protected as trade secret.	= 0 if information must be in actual or intended use, = 1 otherwise.	ULA (Uniform Laws Annotated); Pedowitz et al. 1997; Malsberger et al. 2006
Substantive law	Whether reasonable efforts are required to maintain secrecy.	= 0 if reasonable efforts required, = 1 otherwise.	ULA; Pedowitz et al. 1997; Malsberger et al. 2006
Substantive law	Whether information must be used or disclosed for it to be deemed to have been misappropriated.	= 0 if information must be used or disclosed, = 1 if includes mere improper acquisition or no requirement.	ULA; Pedowitz et al. 1997; Malsberger et al. 2006
Civil procedure	Limitation on the time for the owner to take legal action for misappropriation.	Number of years divided by six.	ULA; Pedowitz et al. 1997; Malsberger et al. 2006

Remedies	Whether an injunction is limited to eliminating the advantage from misappropriation.	= 0 if yes, = 1 otherwise.	Pedowitz et al. 1997; Malsberger et al. 2006
Remedies	Multiple of actual damages available in punitive damages.	Number of years divided by three.	Pedowitz et al. 1997; Malsberger et al. 2006

Table A3

Variable Definitions

This table provides definitions for all variables used in the study.

Variable	Description (variable definitions in parentheses refer to Compustat designations where appropriate)
Assets	The value of total book assets (*at*) in millions.
Book Leverage	The book value of long-term debt (*dltt*) plus debt in current liabilities (*dlc*) divided by book value of assets (*at*).
Common Law	State-specific common law trade secrets protection. Measured by Png (2016a) and described in Section IV.B and Table A2 in the appendix.
CW Patents	Citation-weighted patents, as constructed in Kogan, Papanikolaou, Seru, and Stoffman (2016).
Democrat	The proportion of state-level representatives in the U.S. House of Representatives whom belong to the Democratic party, in a given year.
Div Payer	An indicator variable set to one if a firm pays a common dividend (*dvc*) during a fiscal year, and zero otherwise.
EBIT	Earnings before interest and taxes (*ebit*) in millions.

Employees	The number of firm-level employees (*emp*).
Fixed Assets	The ratio of property, plant, and equipment (*ppent*) to book value of assets (*at*).
IY Book Leverage	Control for industry shocks, measured as the mean of *Book Leverage* in the firm's three-digit SIC industry in a given year, excluding the firm itself.
IY Market Leverage	Control for industry shocks, measured as the mean of *Market Leverage* in the firm's three-digit SIC industry in a given year, excluding the firm itself.
Ln(Sales[High])	An indicator variable set to one if a firm's natural logarithm of sales (*sale*) lies in the top tercile of its empirical distribution, and zero otherwise.
Ln(Sales[Low])	An indicator variable set to one if a firm's natural logarithm of sales (*sale*) lies in the bottom tercile of its empirical distribution, and zero otherwise.
Ln(Sales[Medium])	An indicator variable set to one if a firm's natural logarithm of sales (*sale*) lies in the medium tercile of its empirical distribution, and zero otherwise.
M/B	The market value of assets (book value of assets (*at*) plus market value of equity (*prcc_f*csho*) minus book value of equity (*ceq*) divided by book value of assets (*at*).

Market Leverage	The book value of long-term debt (*dltt*) plus debt in current liabilities (*dlc*) divided by market value of debt and equity (long-term debt (*dltt*) plus debt in current liabilities (*dlc*) plus market value of equity (*prcc_f*csho*)).
Mod Z-score	The modified Altman's z-score (1.2*(*wcap/at*)+1.4*(*re/at*)+3.3*(*ebit/at*)+(*sale/at*)).
CF Risk	The operating cash flow volatility for a firm, where cash flow volatility is the standard deviation of the ratio of income before extraordinary items plus depreciation and amortization to book assets ((*ib*+*dp*)/*at*) over the preceding 10 years.
Patents	Count variable for patents, as constructed in Kogan, Papanikolaou, Seru, and Stoffman (2016).
Profitability	Income before extraordinary items (*ib*) plus depreciation and amortization (*dp*) divided by book value of assets (*at*).
R&D Intensity	An indicator variable set to one if a firm has R&D expenditure greater than 0.2, and zero otherwise, as in Denis and McKeon (2016).
Sales	The value of sales (*sale*) in millions.

Size	The natural logarithm of the value of total sales (*sale*) in millions, centered by subtracting out its sample mean. I also consider the natural logarithm of the value of total assets (*at*) in millions, centered by subtracting out its sample mean, and the natural logarithm of one plus the total number of employees (*emp*), centered by subtracting out its sample mean.
SM Patents	Stock market-weighted patents, as constructed in Kogan, Papanikolaou, Seru, and Stoffman (2016).
State GDP Growth	The state-level GDP growth rate over the fiscal year.
State Per Capita GDP	A state's GDP (in thousands) divided by its total population.
SY Book Leverage	Control for local shocks, measured as the mean of *Book Leverage* in the firm's state of location in a given year, excluding the firm itself.
SY Market Leverage	Control for local shocks, measured as the mean of *Market Leverage* in the firm's state of location in a given year, excluding the firm itself.
UTSA Index	The change in state-specific trade secrets protection after the enactment of the Uniform Trade Secrets Act (UTSA). Measured by Png (2016a) and described in Section IV.B and Table A2 in the appendix.