

**DO TAKEOVER LAWS MATTER?**  
**EVIDENCE FROM 45 YEARS OF HOSTILE TAKEOVERS**

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## **Abstract**

This study evaluates the relation between 16 U.S. takeover laws and hostile takeover activity from 1965 to 2011. Using a hand-collected dataset of largely exogenous legal changes covering 191,799 firm years, we find that certain takeover laws, such as poison pill laws, have had an effect on takeover activity running counter to their original intent, in some instances actually encouraging hostile activity. We also provide evidence that an index constructed from the full array of takeover laws provides a better measure of firms' governance environment than prior studies which have focused almost exclusively on business combination statutes. We conclude by examining the effect of these 16 U.S. takeover laws on firm value across time vintages.

## **I. Introduction**

The takeover battle for Erie railroad is legend. Back in 1868, Cornelius Vanderbilt, the railroad baron, began to build a position in Erie by secretly purchasing Erie stock. When the group controlling Erie discovered this, they quickly acted to their own advantage, issuing substantial additional shares of Erie stock for Vanderbilt to purchase. One of the managers, James Fisk, purportedly said at the time that “if this printing press don’t break down, I’ll be damned if I don’t give the old hog all he wants of Erie.” The parties then arranged for their own bought judges to issue dueling injunctions prohibiting the other from taking action at Erie. The battle climaxed when Erie’s management fled to New Jersey with over \$7 million in Erie’s funds. By the time the dust settled, they were still in control and Vanderbilt was out over \$1 million.<sup>1</sup>

The Erie story is apocryphal, but informative for any attempt to measure the effect of takeover laws. Takeover laws are enacted to regulate takeover activity, and they often take the form of *anti*-takeover laws intended to thwart hostile takeovers. However, these laws may in fact have the opposite effect of their intended purpose. Although they provide protection to targets, they also implicitly rule out certain defensive tactics and therefore provide protection and certainty for prospective hostile bidders (Kahan and Rock, 2002). The Erie case illustrates the potential for takeover laws to significantly benefit bidders and encourage hostile takeovers by confining the conduct of the target (Dann and DeAngelo, 1988).

The varying effect of takeover laws also implicates the theory that the takeover market is a potential disciplinary mechanism for corporate governance (Manne, 1965). A number of studies have examined variation in specific takeover defenses or anti-takeover laws as a proxy for changes in firm corporate governance (Bertrand and Mullainathan, 1999; 2003; Schwert, 2000; Karpoff and Malatesta, 1989). The use of takeover laws addresses an endogeneity problem in many tests of corporate governance, which arises when measuring takeover defenses at the firm

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<sup>1</sup> The story for the Erie railroad is detailed in Gordon (2004) and Markham (2002).

level (Core, Guay, and Rusticus, 2006). But while specific studies have focused on individual or selected anti-takeover statutes, none have examined the full array of takeover laws, and it remains unexplored how takeover laws actually impact hostile takeover activity, either encouraging or discouraging such activity over an extended period of time. Moreover, Coates (2000) criticizes many studies of antitakeover provisions for failing to have a longitudinal time frame sufficient to account for changes in legal regimes and markets.

This study uses a hand-collected dataset of 16 different takeover laws and court decisions from 1965 through 2011 to measure the variation in takeover laws and their long-term impact on hostile activity through time. We also utilize a novel hand-collected dataset of M&A hostility back to 1965. We find that the general susceptibility to a hostile takeover peaked in 1973 and has decreased significantly since 1987. As a proportion of total M&A equal-weighted volume, hostile activity peaked immediately prior to the passage of the Williams Act in 1967 at 40% and has since declined to about 7.3% in 2011.

Bertrand and Mullainathan (1999) use variation in the timing and adoption of business combination (BC) laws by states to proxy for corporate governance quality of firms incorporated in each state. A number of studies conducted since then rely on business combination laws as an exogenous proxy for governance quality (e.g., Atanassov (2013); Giroud and Mueller (2010)). Yet the correlation between these laws and actual levels of hostile takeover activity remains questionable, with Comment and Schwert (1995) concluding that the passage of business combination laws had no discernible deterrence effect on takeover rates. In contrast, examining a longer sample horizon we find that the passage of business combination laws was followed by a significant decline in the likelihood of firms being successfully taken over through hostile means. However, we also note that the value-weighted proportion of firms covered by these laws jumped from 0% pre-1985 to over 95% by 1990. Thus, it is unclear whether BC laws provide sufficient cross-sectional variation in coverage to comprise a valid measure of firms' corporate governance incentives.

We expand on this analysis by examining the extent to which a wide array of takeover legislation and case law has influenced hostile activity levels over the past 45 years. This analysis includes the Williams Act in 1968, the first generation takeover laws and their repeal, business combination laws, fair price provisions, control share acquisition statutes, control share cash-out statutes, poison pill cases and statutes, expanded constituency laws, disgorgement provisions, anti-greenmail laws, golden parachute restrictions, tin / silver parachute blessings, assumption of labor contract laws, and the Revlon, Unocal, and Blasius standards of review. By focusing on state-level variation in the takeover environment that is largely exogenous to firm-level decisions, such as adopting a classified or staggered board, we are able to more cleanly measure the true impact on hostile activity and ultimately firm value.

Our empirical results imply that while many of these cases and pieces of legislation have influenced takeover activity, many of them have done so in a way that may not have been anticipated by the original drafters. For example, a firm's probability of being successfully taken over through hostile means actually increased significantly following poison pill validation by case law and state statutes. While many practitioners consider poison pills to be one of the most powerful anti-takeover devices available to incumbent management, our results suggest that this takeover defense may still provide hostile bidders with a clear roadmap for the necessary hurdles to overcome in a successful takeover battle. This clarity appears to benefit bidders more than targets in terms of maintaining target independence in the face of a takeover battle.

We conclude the study by constructing a firm-level index of takeover susceptibility from the significant coefficients in the hostile takeover models. We find that in the 1965-1979 period, firm value is decreasing in takeover susceptibility. This era was characterized by coercive and abusive tender offers, which prompted much of the early anti-takeover legislation. In contrast, firm value is increasing in firm takeover susceptibility in the 1980s, 1990s, and 2000s. Shareholders thus appear to value the disciplinary market for corporate control, and the secular decline in hostile takeover rates in recent years may perpetuate problems of the managerial "quiet

life” (Bertrand and Mullenbath, 1999). To the extent that firms deploy similar defenses to thwart shareholder activism, this trend only underscores the importance of takeover defenses as a form of future corporate governance.

Our study is unique in that it covers all U.S.-incorporated firms and measures hostile takeover levels over a four and a half decade period. It documents the efficacy of common governance proxies – namely takeover defenses – but on a level that is largely exogenous from managerial influence. It thus advances prior studies of firm-level defenses or subsets of takeover legislation such as BC laws. We find that some anti-takeover laws appear to have the opposite of their intended effect on hostile activity. Nonetheless, taking these effects into account we also find that over time takeover laws and declining firm takeover susceptibility have had a negative impact on firm valuation. Our study provides new evidential support for the beneficial role that the disciplinary market for corporate control can play in corporate governance.

## **II. Existing Literature**

The literature on takeovers and corporate governance is voluminous, but our study primarily draws upon three areas of this field: A) takeover laws and corporate governance, B) the wealth effects of takeover laws, and C) the effect of takeover laws on hostile takeovers.

### *A. Takeover laws and corporate governance*

Studies which have examined attributes related to corporate governance have principally focused on a class of second generation laws, BC laws. These laws prohibit bidders from engaging in a business combination with a target for a pre-set period, typically three to five years, upon the bidder’s acquisition of 20% or more of the target’s equity unless the purchase is pre-approved by the target’s board. Table 1 defines these and other cases or laws under consideration throughout this study.

Previous studies have largely found an inverse relation between measures attributed to governance and the enactment of BC laws. Bertrand and Mullenbath (1999; 2003), for example, examine the enactment of state business combination laws between the period of 1976 and 1995 and whether they allow managers to live the “quiet life.” They find that workers’ wages rise and that new investment in plants falls in the wake of the passage of business combination laws. The authors conclude that “better governance does in fact improve economic performance and does not involve only a transfer of rents to shareholders.” Giroud and Mueller (2010) refine these results and find that business combination laws have greater effect in non-competitive than in competitive industries.

Other studies examining state anti-takeover laws and their effect on corporate governance have focused on specific corporate governance attributes. Garvey and Hanka (1999) examine second generation anti-takeover laws and firm leverage and find that firms protected by the second generation anti-takeover laws reduce their leverage relative to firms unprotected from the takeover market. Cheng, Nagar, and Rajan (2005) find that the enactment of second generation anti-takeover laws resulted in reduced managerial stock ownership. Francis, et al. (2010) also examine the effect of state business combination laws on bondholders, finding that bond prices increase and bond yields decrease in states with stricter business combination laws.

Gompers, Ishii, and Metrick (2003) create the G-Index, a measure of twenty-four corporate governance and takeover related provisions including six types of state takeover laws (business combination laws, golden parachute restrictions, control-share acquisition laws, control-share cash-out laws, expanded constituency laws, and fair price laws). The governance, or “G-Index” covers the S&P 500 and approximately 900-1,300 additional firms and is drawn from Investor Responsibility Research Center data which is published in six different volumes, September 1990, July 1993, July 1996, February 1998; November 1999 and February 2002. The authors find that “firms with stronger shareholder rights have higher firm value, higher profits, higher sales growth, lower capital expenditures, and made fewer corporate acquisitions.”

Bebchuk, Cohen and Ferrell (2009) attribute these findings largely to six provisions internal to the corporate governance of the firm, which they refer to as the entrenchment, or “E-Index.” Cremers and Ferrell (2013) expand the E and G indices over the 1978 to 2007 period for approximately 1,000 firms and find that the correlation between firm value and shareholder rights is largely driven by the Cremers, Nair, and John (2009) takeover factor which captures time-varying investment opportunities.

*B. The wealth effects of takeover laws*

Studies on the wealth effects of state anti-takeover laws have largely focused on the announcement and enactment of second generation anti-takeover laws. Studies of second generation anti-takeover laws generally find a reduction in shareholder and bondholder value in the wake of their enactment (Pugh and Jahera, 1990; Sidak and Woodward, 1990; Karpoff and Malatesta, 1989; Hackl and Testani, 1988; Schumann, 1988; Romano, 1987). Similar findings follow the adoptions of extreme second generation anti-takeover statutes (Ryngaert and Netter, 1988 [on Ohio law]; Szewczyk and Tsetsekos, 1992, Karpoff and Malatesta, 1990; 1995 [on Pennsylvania law]; Swartz, 1998 [on Massachusetts law]). These studies are primarily event studies around stock price reactions to news reports or the enactment of these statutes. They do not analyze the longer term wealth effects of these takeover laws, a gap highlighted by Coates (2001) who notes that the impact of these laws varies over time as capital markets shift.

*C. The effect of takeover laws on hostile activity*

Studies on the general effect of takeover laws on hostile activity have largely focused on individual laws. Comment and Schwert (1995) examine the general effect of business combination laws on hostile takeover activity. They find that poison pill and control share laws result in higher premiums but do not appear to significantly deter M&A transactions, on average. This is contrary to a prior study by Hackl and Testani (1988) which examines business



combination laws through 1988, finding that these laws reduced hostile takeover rates, with states passing these laws experiencing a 48% reduction in relative hostile takeover rates. Similarly, Jarrell and Bradley (1980) find that takeover premiums increased significantly following the enactment of the first generation antitakeover laws, and Smiley (1981) documents a significant deterrent effect on hostile bids from these regulations.

Our study builds on each of these three research areas by exploring the wealth effects of a full array of takeover laws over a four and a half decade period.

### **III. Sample Description**

To compile a list of takeover laws from 1965 through 2011 we draw upon various data sources. Aranow, et. al (1977) provide detailed tables on the provisions of the first generation antitakeover statutes adopted by most states. Jarrell and Bradley (1980) provide the effective dates of most of these statutes. The RiskMetrics publication, *Takeover Laws*, provides details and effective dates for the second generation antitakeover statutes as well as details of many relevant cases. Barzuza (2010) reports further detail on the strength of poison pill statutes and cases, strength of constituency statutes, and relevant cases for the application or rejection of standards of review for directors (Revlon, Unocal, and Blasius). We supplement these data with our own search of relevant case law through WestLaw, LexisNexis, and readings of state business codes.

Our data on M&A and hostile takeover activity comes from several sources. We rely on SDC coverage from 1981 through 2011. We use data provided by Schwert (2000) for the period 1975 through 1980. For the period 1965-1974 we hand-collect M&A hostility by first obtaining data on all CRSP delistings due to merger-related reasons. We then search for Wall Street Journal articles about the delistings and drop any observations for which we are unable to locate articles describing the merger/takeover. For those found, we code whether the article indicates hostility as part of the bidding process for the target. For this purpose, we measure hostility as an unsolicited deal accompanied by target resistance for a period of time. For all data sources, we

keep observations for successfully completed deals of U.S. publicly-traded targets by both domestic and foreign acquirers.

We then combine our merger data with CRSP/Compustat to obtain a sample of 191,779 firm-years with 4,267 merger-related delistings. We merge takeover law coverage for all firms based on their state of incorporation data, which we draw from Compustat and then SDC if this field is missing in Compustat. We supplement this with incorporation data from historical Moody's manuals, which provides much more comprehensive coverage for sample firms in the 1960s and 1970s.

The disciplining force of the hostile takeover market depends upon takeovers being a real threat. Figure 1 reports the equal-weighted hazard rate of being acquired by hostile takeover in any given year. The figure shows that the unconditional susceptibility to a hostile takeover peaked at .51% in 1973 and peaked again in 1987, in the midst of the fourth merger wave at .23%. Since 1995 the hazard rate has fluctuated from near zero to 0.11%.

Figure 2 sets forth the equal-weighted probability of hostility conditional on a firm being successfully acquired in a given year. The 1960s, 1970s and 1980s were decades characterized by high rates of hostile takeover activity. In 1967, just before the enactment of the Williams Act in 1968, 40% of takeovers were hostile, a number which fell quickly by 1969 to 8.3%. In the 1970s another wave of hostile activity peaked at 28.9% and then again fell. The next peak was in the 1980s, around the demise of first generation anti-takeover laws. Since that time and with the regime shift that occurred in the late 1980s, the chance of any acquisition being hostile has averaged below 5%. However, hostile activity recently surged to 7.3% in 2011, following the depressed market valuations in the recent recession.

Table 1 provides a concise summary of the state laws and cases in our study. We cover 12 different types of state takeover laws, one federal statute, and three state court standards of review over the 47 year period of our study. Coverage in our study begins with the federal Williams Act which became effective for all states on July 29, 1968. In addition to legislative

acts, we also code for the Revlon, Unocal, and Blasius takeover standards of review. These standards are named for the Delaware court cases which adopted them. Many other states have either accepted or explicitly rejected these standards through subsequent case law (Barzuza, 2010). In sum, our study evaluates the effects of these 16 laws and cases on hostile takeover activity from 1965 through 2011.

Table 2 reports the dates of adoption in each state for each of the takeover laws and cases. For first generation takeover statutes we code the date of their adoption and place an asterisk next to the dates if the statutes fail to provide target managers and/or directors with no power to seek an injunction to block a takeover. We omit these statutes in subsequent tables. We also mark in the column “1<sup>st</sup> Gen Days” the number of days the first generation takeover statute provided for state review of the tender offer, since the primary effect of these statutes was to delay the takeover. First generation state anti-takeover statutes were eventually struck down in a series of court cases culminating in the Supreme Court. In “1<sup>st</sup> Gen Case” we mark the date a federal court struck down that states’ first generation statute. All of these statutes were effectively overturned by the Supreme Court’s decision in *Edgar v. Mite* which was decided on June 22, 1982. We subsequently code as zero all 1<sup>st</sup> generation statutes after this date.

Poison Pill statutes (PP Statute), poison pill case decisions (PP Case), and expanded constituency statutes (Exp. Const.) are of average strength unless otherwise noted as strong (S) or weak (W). Poison Pill statutes are coded weak if they provide the board solely the ability to adopt a poison pill which is subject to judicial review. The statutes are coded strong if they provide that a board can adopt dead-hand or no-hand poison pills. Dead-hand and no-hand pills, prohibited in Delaware by court decision, allow for a board to provide that the pill will survive for a certain period after the directors are voted out of the board. In addition to including state cases we search for court cases validating the use of poison pills of varying strength. Constituency statutes are average strength if the board has the option to consider, and coded strong if the board is required to consider interests than those of its shareholders in a takeover decision. These expanded

constituency interests include employee welfare, impacts on the local economy, environmental concerns, etc.

For Revlon, Unocal, and Blasius standards we note when they are either adopted or rejected on a date, by noting “Yes” (Y) if adopted or “No” (N) if rejected. Listed in the bullet points below the table are dates of adoption by the few states adopting: control share cash-out statutes for Maine, Pennsylvania, and South Dakota, disgorgement statutes for Ohio and Pennsylvania, anti-greenmail statutes for Arizona, Minnesota, New York, Tennessee and Wisconsin, tin parachute blessing statutes for Pennsylvania and Rhode Island, and assumption of labor contract statutes for Delaware, Illinois, Massachusetts, Pennsylvania and Rhode Island. We note that several states passed multiple takeover statutes within the same bill. For example, on July 22, 1987, Arizona adopted its business combination law, control share acquisition statute, expanded constituency statute, anti-greenmail statute, and golden parachute restriction. Nonetheless, most states passed separate enactments of given laws, providing ample variation in firm-level coverage for empirical tests.

Table 3 reports the frequency of firm-years covered by various laws over the 1965-2011 sample period on both an equal-weighted and asset value-weighted basis. The strength of certain laws are coded as follows: First generation laws are coded zero before a state’s enactment date, then one through four depending on the length of the waiting period granted by each statute – one for 40 days or less, two for 41-80 days, three for 81-120 days, and four for more than 120 days. Poison pill is coded zero prior to the Moran decision, one after the Moran decision for all states, back to zero if a state adopts a weak statute or case, one after a state approves the use of standard poison pills through either statute or case decision, and two after a state approves the use of strong (dead-hand or no-hand) poison pills through statute or case. Expanded constituency is coded one after a state adopts a standard statute or two after adopting a strong statute. Again, these indications are provided in the Table 2 dates.

The sample covers about 191,779 firm years, and the equal-weighted coverage frequencies are relative to the full sample period. First generation takeover laws in their varying strength cover the 33 states but because of their short duration only cover 7,262 firm years. Second generation takeover statutes in the form of business combination laws cover 33 states and because they remain in effect today, cover 116,458 firm years. Standard strength poison pill statutes and cases cover 46 states, 132,588 firm years and 69.16% of the equal-weighted firm years. In contrast, golden parachute restriction statutes were enacted in two states and cover 3,833 firm years or 2.00% of the equal-weighted firm years in our sample. Finally, assumption of labor contracts applies to only five states, but because one of these is Delaware it covers a large proportion of the sample at 80,656 firm years.

In terms of cases, the Revlon standard has been adopted by 12 states for 91,133 firm years while 10 states have explicitly rejected the Revlon standard for 18,057 firm years. The Unocal standard has been adopted by 14 states for 101,147 firm years and rejected by 10 states for 20,157 firm years. The Blasius standard has been adopted by 6 states for 78,537 firm years and rejected by nine states for 13,994 firm years. These results are in accord with Barzuzza (2010) who highlights that not all states adopt these standards, providing variation to takeover regimes not just in laws but also in cases. The following section provides empirical analysis of the various takeover laws and their impact on takeover activity across the U.S. and through time.

#### **IV. Empirical Results**

Bertrand and Mullenbath (1999, 2003) test the quiet life hypothesis of managerial entrenchment using business combination (BC) laws as a proxy for firms' corporate governance environment. However, Comment and Schwert (1995) conclude that BC laws have no discernible impact on aggregate M&A levels. It thus remains to be seen whether BC laws impact a) aggregate M&A levels, b) the unconditional probability of a firm being successfully taken over

through hostile means in any given year, and c) the likelihood of observing hostility conditional on successful M&A activity. In Table 4 we examine these three possibilities.

We construct logit models that predict a) in Columns (1) and (2), b) in Columns (3) and (4), and c) in Columns (5) and (6). We include the following control variables: log of firm age and its square, log of firm total assets, a time trend counter of years, and capital liquidity. Capital liquidity is defined as the rolling four-quarter average of the spread between the rate on Commercial & Industrial (C&I) loans minus the Federal Funds rate. Harford (2005) documents that this spread is a significant predictor of aggregate M&A activity and waves. The independent variable of interest – Bus. Combination – equals one if a firm is covered by a BC law in its state of incorporation in a given year and zero otherwise. We also examine the other second generation laws passed around the same time period – Fair Price, Control Share Acquisition, and Control Share Cash-Out statutes. Standard errors are clustered by state of incorporation.

All models show a significantly negative coefficient on capital liquidity, indicating that as spreads widen and capital becomes more expensive, aggregate M&A levels and hostile activity decline, consistent with Harford (2005). In Columns (1) and (2), M&A levels have been increasing over time and show a concave relation with firm age and positive relation with firm size. The key independent variable – BC law coverage – is not significantly related to overall M&A levels, consistent with Comment and Schwert (1995). Overall M&A activity appears to have declined following the passage of Control Share Acquisitions laws.

Hostile takeovers are essentially discrete time hazard data, similar to the data on bankruptcy examined by Shumway (2001). As demonstrated by Shumway, single period static models can be biased and lead to incorrect inferences whereas hazard models are more precise and less biased. He suggests that a multiperiod logit model can be interpreted as a hazard model when it is estimated on each firm in each year of its existence as independent observations. The binary dependent variable only takes a value of one if the firm is acquired by hostile means in the following year. In Columns (3) and (4), we estimate a multiperiod logit model and find that firms

covered by BC laws are significantly less likely to be successfully acquired through hostile means in any given year. This supports the use of this proxy as a potential measure of managerial entrenchment. The smaller conditional sample in Column (6) shows a negative coefficient on BC laws but not statistically significant at conventional levels. The coefficients on Fair Price, Control Share Acquisition, and Control Share Cash-Out laws are not statistically significant in the hostile regressions.

While the results provide support for the studies which rely on BC laws as a common governance proxy, Figure 3 provides an interesting picture of the variability in this metric over time. Figure 3 reports the asset value-weighted percentage of firms covered by BC laws over the full sample period. It jumps from 0% through 1984 to over 95% by 1990. Thus, even though states and hence firms exhibited some cross-sectional variability in coverage during this short five year window, over longer horizons the BC proxy appears to be driven predominantly by a time shift around the late 1980s. This is likely due to the Supreme Court's case in *CTS Corp. v. Dynamics Corp. of America*, decided in 1987, which validated a business combination law and other types of anti-takeover laws. The sharp rise in coverage of these firms highlights that prior studies of business combination laws have minimal cross-sectional variability across firms. It thus appears important to examine the effects of other laws in order to obtain sufficient cross-sectional variability in governance / entrenchment proxies.

Our next set of tests in tables 5, 6, and 7 continue to investigate the legal determinants of takeover activity, but we now expand the sample to include the full set of takeover laws and cases. In Table 5 we examine aggregate M&A activity, in Table 6 we examine unconditional rates of hostile takeovers, and in Table 7 we examine the rate of hostility conditional on M&A activity.<sup>2</sup> In each table we start with all variables in the first logit model, examine the Akaike Information Criterion (AIC), then drop the variable with the least statistical significance, re-

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<sup>2</sup> The initial logit models for Table 7 do not achieve convergence when including all independent variables. We thus approach the estimation by iteratively dropping the least significant variables based on Table 6 results until a model converges, which is reported in Column (1) of Table 7.

estimate the model, and examine the resulting AIC. If it improves to a lower value, we drop another variable and continue to iterate through this process until the AIC is minimized. The model with the minimum AIC is estimated in the final column in each table, and represents the model of best fit. The goal of this process is to determine which laws matter for takeover activity, and in what direction they matter. Initial models include a time trend variable to capture fixed trends in takeover activity throughout the sample period, and as in Table 4, standard errors are clustered by state of incorporation.

We begin with the full spectrum of M&A activity, both friendly and hostile, to extend results from prior studies such as Comment and Schwert (1995) that examine the effect of specific laws on aggregate M&A activity. Specifically, Comment and Schwert test the effect of poison pills, control share laws, and business combination laws on takeover activity over the period 1975 to 1991. Our data allow us to expand the analysis to all 16 statutes and to examine the post-BC law period from 1991 to 2011.

As Comment and Schwert note, there is little theoretical support for the notion that anti-takeover laws should be associated with declines in the overall market for corporate control. It could be the case that bidders who formerly would have taken a hostile tact will still pursue the takeover, but are now compelled to complete the deal through friendly means, potentially benefitting target shareholders. The countervailing argument is that anti-takeover laws entrench managers who are now able to stop all potential bidders at the door, leading to a decrease in overall M&A activity.

In Table 5 we estimate the effects of takeover laws on aggregate M&A activity. As in Table 4, business combination laws are negatively signed, but by adding the full spectrum of anti-takeover legislation we find that business combination laws are significantly related to lower levels of M&A activity in aggregate, not just hostile activity. Further, we find that a variety of laws designed solely for hostile activity are significantly related to changes in the overall level of activity in the market for corporate control. Specifically, Control Share Acquisition and Control



Share Cash-out laws are also related to lower levels of aggregate activity. Curiously, very early legislation such as the Williams Act and first generation laws appear to have increased M&A activity. This may be due to the path-defining effect of these laws, but also may be related to the reduced premiums which Jarrell and Bradley (1980) document in the wake of the passage of the Williams Act which spurred greater aggregate takeover activity. Additionally, we find increased M&A activity following Poison Pills, Anti-Greenmail and Tin Parachute Blessings as well. Taken together, these findings on aggregate activity motivate the further exploration of the effects of these statutes on hostile activity specifically.

Table 6 comprises the most direct test of the effects of the various laws on hostile takeover rates and ultimately the disciplinary market for corporate control. In Table 6, we find that larger firms are more likely to become the target of hostile takeovers, consistent with Schwert (2000). Hostile takeover rates remain lower after the passage of BC laws as in Table 4, and also decline following fair price laws, tin parachute blessings, and assumption of labor contracts, as would be predicted. Certain less common laws, such as tin parachute blessings statutes, also have significant effect on hostile takeover rates among the few states enacting them. These laws can have differing impacts depending upon their substance, differentiating the effect of incorporation among states. However, hostile rates actually increased following the introduction of poison pills in the 1980s, contrary to the intended purpose of the pill. Similarly contrary results hold for disgorgement provisions, golden parachute restrictions, and the Revlon standard of review.

Thus, it appears that some laws, such as poison pills designed to thwart takeovers, have had the opposite effect. It is possible that because these laws provide a designated roadmap for takeover success, they provide greater clarity for would-be bidders, which in some cases encourages them to embark on takeover battles (Kahan and Rock, 2002). This conclusion is buttressed by our finding on the Revlon standard of review which imposed a board obligation to sell to the bidder offering the highest bid reasonably available in a takeover contest. We find that

Revlon's adoption incentivized hostile takeover activity, an event likely attributable to the heightened obligation Revlon placed on a board to consider such bids.

Although we believe our multi-period logit tests in Table 6 provide the clearest picture of the effect of takeover laws on hostile activity for the reasons cited by Shumway (2001), we also estimate a single period logit for robustness. Table 7 reports the results from these tests. The main difference is that the sample in Table 7 is constructed solely from firm-year observations with successful takeover attempts, rather than the full sample used in Table 6. The results are largely unchanged, although Business Combination laws, while still negatively signed, lose significance in this specification. Overall, the tests illustrate that single period logit models, as utilized by numerous prior studies of hostile activity, are likely to provide similar, but less powerful tests relative to multi-period models such as the ones estimated in this study.<sup>3</sup>

The external threat of takeover is an important corporate governance mechanism, and it is frequently the case that researchers require a reliable measure of this threat. Indices based on firm-level variables, such as the G-index or E-index have been criticized for endogeneity concerns.<sup>4</sup> As a result, largely exogenous measures, such as the adoption of BC laws, have been increasingly utilized in recent years.<sup>5</sup> As demonstrated in Tables 4 through 7, state-level legislation that determines the threat of takeover is demonstrably richer than BC laws alone, and some of the legislation moves hostile activity in a counterintuitive direction. We take all coefficients from the best fit model, column (10) of Table 6, and construct a firm-level takeover index. The equal-weighted average of this index, multiplied by 100, is produced in Figure 4, which is essentially the fitted prediction of the Figure 1 hostile takeover hazard. We believe this index serves as a more robust measure of exogenous changes in the threat of takeover and has substantial variation both cross-sectionally across states as well as in the time-series over nearly

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<sup>3</sup> Examples of single period logit models in studies of hostile activity can be found in Palepu (1986), Morck, et al. (1988), Shivdasani (1993), and Schwert (2000).

<sup>4</sup> See Core, et al. (2006), Bhagat, et al. (2008), and Brickley and Zimmerman (2010).

<sup>5</sup> See, for example, Bertrand and Mullainathan (2003), Qiu and Yu (2009), Giroud and Mueller (2010), and Atanassov (2013).

five decades. To our knowledge, there is no tool like this readily available to corporate governance researchers.<sup>6</sup>

Table 8 reports descriptive statistics on this index by decade. It also reports descriptive statistics for control variables used in Table 9, most of which come from Schwert (2000): return on equity (ROE), year-over-year sales growth, liquidity (current assets minus current liabilities, divided by total assets), long-term debt divided by book equity (D/E), and Loss Dummy, which equals one if the firm reports a net loss in the given fiscal year.

In Table 9 we examine the correlation of firms' takeover susceptibility and firm value. Specifically, Table 9 reports results from regressing firms' market-to-book (M/B) ratio, a proxy for firm value, on control variables and the Takeover Index as a proxy for firms' susceptibility to hostile takeover. All models include firm fixed effects. Since the index represents largely exogenous changes to the takeover environment, it provides a cleaner test of the relation between this governance proxy and firm value than most other managerially-controlled takeover defenses. In Column (1) for the full sample, firm value is decreasing in firms' takeover susceptibility. This is consistent with Smith (2013) who finds positive announcement returns of about 3% around the passage of anti-takeover provisions.

Columns (2) through (5) of Table 9 run the regressions on subsamples from 1965-1979, the 1980s, 1990s, and 2000-2011, respectively. Column (2) reports a strong and economically significant negative correlation between takeover susceptibility and firm value. This could represent the detrimental impact of coercive takeovers in the 1960s and 1970s when firms had little bargaining power from takeover defenses. The remaining columns for the 1980s, 1990s, and 2000s all report positive coefficients on the Takeover Index, indicating that firm value is increasing in its susceptibility to hostile takeover. Our finding that firm value is related to hostile takeover susceptibility supports the theory of Manne (1965) and the managerial entrenchment /

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<sup>6</sup> The index is available for download at <http://data.stephenbmckeeon.com>.

quiet life hypothesis put forth by Bertrand and Mullenbath (1999). It also highlights the effect of takeover laws on the disciplinary market for corporate control and ultimately, firm valuation.

## **V. Conclusion**

This study uses a hand-collected dataset of 16 different takeover laws and court decisions from 1965 through 2011 to measure the variation in takeover laws and their long-term impact on hostile activity through time. We also utilize a novel hand-collected dataset of M&A hostility back to 1965. We find that the general susceptibility to a hostile takeover peaked in 1973 and has decreased significantly since 1987. As a proportion of total M&A equal-weighted volume, hostile activity peaked in 1967 at 40% and has since declined to about 7.3% in 2011.

Many studies utilize business combination (BC) laws to proxy for firms' exogenous governance environment, yet no studies have yet documented a robust relation between BC laws and actual hostile takeover rates. We find that the passage of business combination laws was followed by a significant decline in the likelihood of firms being successfully taken over through hostile means. However, we also note that the value-weighted proportion of firms covered by these laws jumped from 0% pre-1985 to over 95% by 1990. Thus, the variation in firms' coverage by this proxy appears to be limited primarily to a short five-year window of time.

Our empirical analysis of the full set of 16 takeover laws and cases implies that while many of these cases and pieces of legislation have influenced takeover activity, some of them have done so in a way that may not have been anticipated by the original drafters. For example, a firm's probability of being successfully taken over through hostile means actually increased significantly following poison pill validation by case law and state statutes. We conclude by documenting the correlation between firms' takeover susceptibility and firm value, and find that firm value was decreasing in takeover susceptibility in the 1960s and 1970s, an era characterized by coercive takeovers. In contrast, firm value is increasing in takeover susceptibility in the 1980s, 1990s, and 2000s, consistent with the incentive benefits of the disciplinary market for

corporate control. Our capital markets have changed vastly since the time of the battle for the Erie railroad, but the presence or absence of takeover laws continues to affect and drive takeover activity.

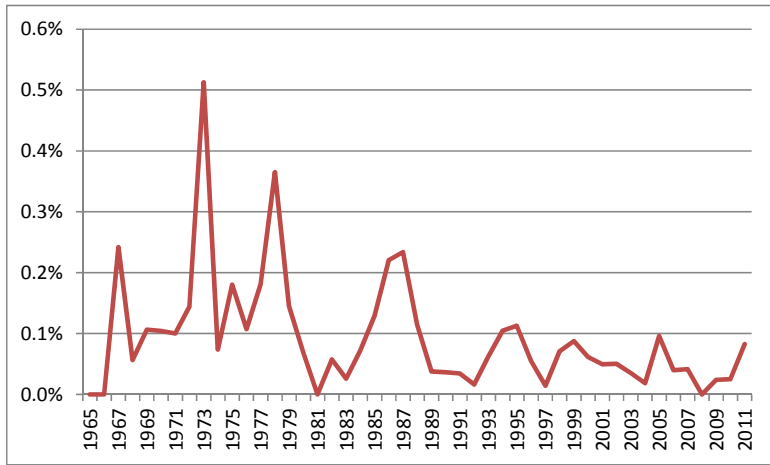
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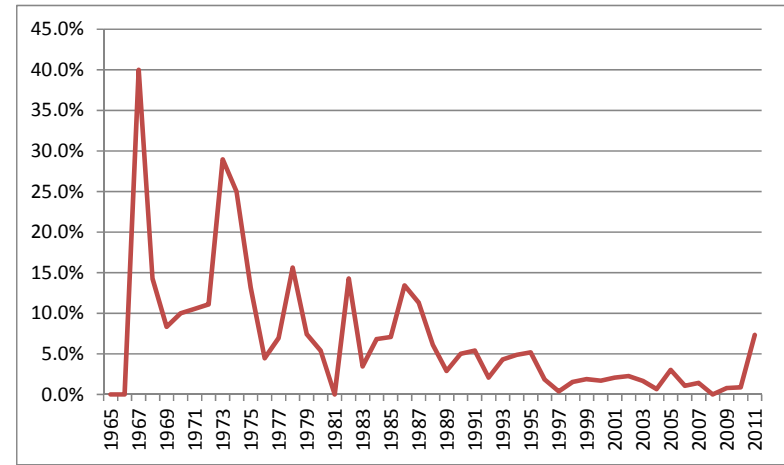
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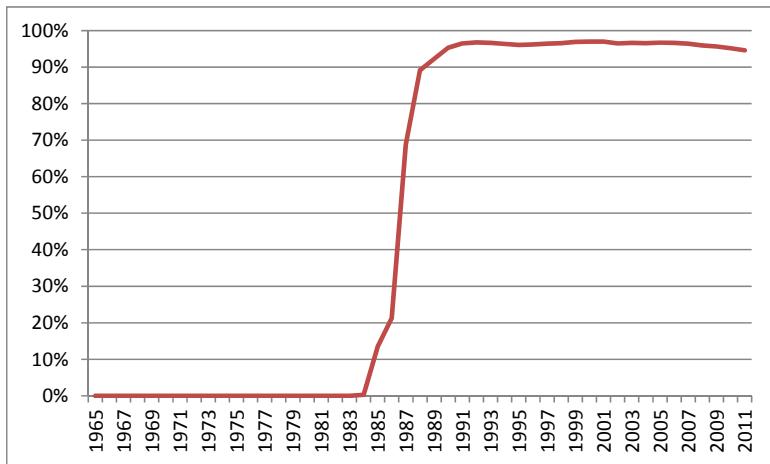




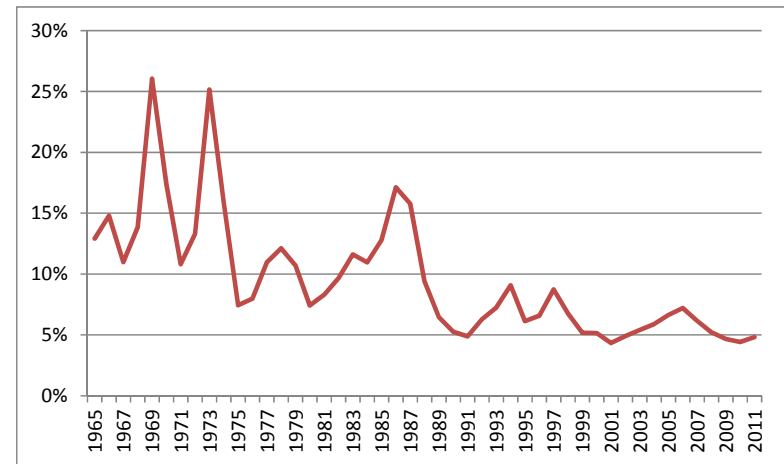
**Figure 1.** Hazard rate of being acquired by hostile takeover in any given year (equal-weighted). Firm-years are coded 0 for no takeover or for friendly takeover and 1 for hostile takeover.



**Figure 2.** Conditional on being acquired in a given year, probability of hostility (equal-weighted). Firm-years are coded 0 for friendly takeover and 1 for hostile takeover. Firm-years with no takeovers are excluded.



**Figure 3.** Value-weighted percentage of firms covered by a Business Combination law annually. Weighted by firms' total assets.



**Figure 4.** Equal-weighted Takeover Index values in basis points by year.

**Table 1. Takeover Laws Defined**

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Williams Act	1968 amendment to SEC Act of 1934 to regulate tender offers: requires SEC filings, disclosure, and waiting periods. Applies equally to all firms in all states.
1 <sup>st</sup> Generation Statutes	Requires state filing and review requirements. Allows target firm executives, directors, and/or state commissioners to seek a hearing to delay or block a proposed takeover. The U.S. Supreme Court struck down the Illinois statute (and all other states' statutes by implication) in its <i>Edgar v. Mite</i> decision in 1982; several states struck down their statutes before or after this (1 <sup>st</sup> Gen Case in Table 2).
Business Combination (BC)	Also known as "freeze-out" statutes, prohibits bidders from engaging in a business combination with a target for a pre-set period upon the bidder's acquisition of 20% or more of the target's equity unless the purchase is pre-approved by the target's board or a specified percentage of disinterested target stockholders.
Fair Price	Requires disinterested board approval, a supermajority vote of shareholders (usually 80%) or the payment of a minimum price in any second step merger.
Control Share Acquisition	Any target shares acquired by bidder in excess of a threshold cannot be voted by the bidder unless approved by a majority or supermajority of disinterested target shareholders.
Control Share Cash-Out	Dissident target shareholders gain the right to "cash-out" or sell their shares to the bidder at the highest acquiring price paid during the acquisition period.
Poison Pill (PP)	If executed, dilutes a hostile bidder's toehold stake significantly. Validated by Delaware in <i>Moran v. Household International</i> in 1985 and by numerous states through statutes or cases after this.
Expanded Constituency	Allow boards to consider welfare interests other than shareholders in their deliberations, including workers, creditors, localities and social considerations.
Disgorgement	Allows a target to recover any potential profits obtained by a person or group who held more than 20% of the issuer in an eighteen month period prior to the takeover.
Anti-Greenmail	Prohibits targets from repurchasing toehold shares from a hostile bidder at a premium to the current stock price.
Golden Parachute Restriction	Limits the ability of a target to issue large severance payments to executives in the event of a successful takeover.
Tin Parachute Blessing	Also known as "silver parachutes", allows the target to issue large severance payments to a significant number of employees in the event of a successful takeover.

*Table 1, continued*

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Assumption of Labor Contracts	Requires a successful hostile bidder to assume all preexisting labor contracts of the target firm after a change in control.
Revlon	Delaware case <i>Revlon, Inc. v. MacAndrews &amp; Forbes Holdings</i> requiring target directors to obtain the best price reasonably available; may prevent a target from accepted an inferior offer from a friendly “White Knight” bidder. This duty or standard has been explicitly adopted or rejected by several other states in subsequent cases.
Unocal	Delaware case <i>Unocal v. Mesa Petroleum</i> requiring that a board’s defensive response to a takeover threat be reasonable in relation to the threat posed; allows the “just say no” strategy. This duty or standard has been explicitly adopted or rejected by several other states in subsequent cases.
Blasius	Delaware case <i>Blasius Industries v. Atlas Corp.</i> preventing boards from taking actions that interfere with shareholder voting, such as delaying shareholder meetings or imposing new supermajority approval requirements on major decisions. This duty or standard has been explicitly adopted or rejected by several other states in subsequent cases.

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**Table 2. Takeover Law Dates of Enactment**

Dates of enactment by state of various takeover laws and cases. Laws and cases are defined in Table 1. See additional dates of enactment for statutes in bullet points below the table.

	1 <sup>st</sup> Gen	1st Gen Days	1 <sup>st</sup> Gen Case	BC	Fair Price	Control Shr. Acq.	PP Statute	PP Case	Exp. Const.	Revlon	Unocal	Blasius
AL												
AK	6/8/1975	51										
AZ				7/22/1987		7/22/1987			7/22/1987			
AR	3/24/1977	50									7/12/1993 (Y)	
CA										6/1/1982 (Y) 9/5/1984 (N)	4/12/1989 (Y)	
CO	7/1/1975*	25					3/31/1989					
CT	6/2/1976	40	12/3/1980	6/7/1988	10/1/1985		10/1/2003		1/1/1997			7/27/2000 (Y)
DE	5/1/1976*	40	11/17/1978	12/23/1987				11/19/1985		3/13/1986 (Y)	6/10/1985 (Y)	7/25/1988 (Y)
FL	10/1/1977*	30			7/2/1987	7/2/1987	6/22/1989		6/22/1989		6/7/1989 (Y)	
GA	3/23/1977	40		3/3/1988	7/1/1985		2/7/1989	7/3/1997 (S)	7/1/1989			7/3/1997 (N)
HI	5/24/1974	81				4/23/1985	6/17/1988		6/7/1989			
ID	7/1/1975	40	8/10/1978	3/22/1988		3/22/1988	3/22/1988		3/22/1988			
IL	9/8/1978	74	10/17/1980	8/2/1989	8/23/1985		8/2/1989		8/23/1985	12/1/1988 (Y)	12/1/1988 (Y)	
IN	5/1/1975	110		1/23/1986		3/4/1986	4/1/1986		1/31/1989 (S)	4/21/1987 (Y) 4/10/2001 (N)	4/21/1987 (Y) 4/10/2001 (N)	6/18/1993 (N)
IA	1/1/1979	46		7/1/1997			12/31/1989		12/31/1989			
KS	7/1/1974	40		7/1/1989		4/21/1988				9/26/2003 (Y)	9/26/2003 (Y)	
KY	7/1/1976	70		3/28/1986			7/13/1984		1/1/1989			
LA	6/28/1976	110	4/30/1979		7/13/1984	6/11/1987			7/10/1988			
ME	3/17/1978	70		4/6/1988			7/1/2003		7/16/1986			
MD	7/1/1976*	30	9/3/1982	1/11/1989		4/11/1989	6/1/1999 (S)		6/1/1999 (S)	11/4/2004 (N) 11/12/2009 (Y)	11/9/1988 (Y) 4/1/2004 (N)	6/1/1999 (N) 3/15/2005 (Y)
MA	5/22/1976	150		7/18/1989		7/21/1987	7/18/1989		7/18/1989		6/30/2003 (N)	4/11/1990 (Y)
MI	7/1/1976	100	1/21/1981	5/29/1984		4/1/1988	7/23/2001			9/26/1986 (Y)	9/26/1986 (Y)	5/8/2003 (Y)
MN	8/1/1973	50		6/1/1987	8/1/1991	6/1/1987			6/1/1987	2/4/1987 (Y)	2/4/1987 (Y)	
MS	7/1/1977	120			7/1/1985	1/1/1991	1/1/1988		7/1/1990			
MO	6/7/1978	61	9/3/1981	6/23/1986		9/28/1987			5/6/1986	6/17/1999 (Y)	6/17/1999 (Y)	
MT												
NE	4/27/1977	60		4/9/1988		4/9/1988			3/7/2007			
NV	3/4/1969*	31	4/8/1981	10/1/1991		7/1/1987	10/1/1989		10/1/1991 (S)	6/19/1997 (Y) 7/1/1999 (N)	3/20/1985 (N)	6/19/1997 (Y) 7/1/1999 (N)
NH	3/25/1977	130								11/20/2001 (Y)		
NJ	4/27/1977	110	12/17/1980	1/23/1986			6/29/1989		6/29/1989		2/11/1998 (N)	2/11/1998 (N)
NM									4/9/1987			

*Table 2, continued*

	<u>1<sup>st</sup> Gen</u>	<u>1st Gen Days</u>	<u>1<sup>st</sup> Gen Case</u>	<u>BC</u>	<u>Fair Price</u>	<u>Control Shr. Acq.</u>	<u>PP Statute</u>	<u>PP Case</u>	<u>Exp. Const.</u>	<u>Revlon</u>	<u>Unocal</u>	<u>Blasius</u>
NY	11/1/1976	80		12/16/1985			12/21/1988 (W)		7/23/1987	1/6/1986 (Y) 6/17/1997 (N)	1/6/1986 (N)	
NC	6/28/1977	51			4/23/1987	5/13/1987	7/1/1990 (W)		10/1/1993 (S)	8/10/2001 (N)	8/10/2001 (N)	10/10/1984 (N)
ND									8/1/1993			
OH	10/9/1969	70		4/11/1990		11/18/1982	11/22/1986		10/10/1984 (S)	5/9/1990 (N)	11/22/1986 (N)	11/22/1986 (N)
OK	6/12/1980	35	7/17/1981	9/1/1991		6/24/1987						
OR				4/4/1991		7/18/1987	3/5/1989		3/5/1989		12/15/1993 (Y)	
PA	3/3/1976	70	2/12/1981	3/23/1988		4/27/1990	3/23/1988	10/8/1998 (S)	4/27/1990 (S)	6/30/1987 (N)	4/7/1986 (N)	4/27/1990 (N)
RI				7/30/1990			7/30/1990		7/30/1990			
SC	6/12/1978	60	12/4/1980	4/22/1988		4/22/1988	6/9/1998					
SD	7/1/1975	40		7/1/1990			7/1/1990		7/1/1990			
TN	3/17/1976	40		3/11/1988		3/11/1988	5/29/1989		3/11/1988			
TX	5/6/1977	42		9/1/1997			9/1/2003		1/1/2006		2/24/1989 (Y)	
UT	2/5/1976	50				5/29/1987	4/24/1989					
VT									4/16/1998			
VA	3/5/1968	81	1/6/1983	3/31/1988		2/22/1989	4/2/1990	9/6/2000 (S)		6/11/1999 (N)	9/22/1995 (N)	1/1/1986 (N)
WA				8/11/1987			6/11/1988					
WV												
WI	7/1/1972	40		9/10/1987		4/22/1986	9/13/1987		6/13/1987	2/4/1999 (N)	3/18/1989 (Y)	
WY				3/11/1989		7/1/1990			1/1/1990			

Additional Information: 1<sup>st</sup> Gen dates with an asterisk (\*) indicate that the given statute provides target managers and/or directors with no direct power to seek an injunction to block a takeover. We omit these statutes (i.e., code as nonexistent, or zeros) in subsequent tables. Poison Pill statutes and cases and Expanded Constituency statutes are of average strength unless otherwise noted as strong (S) or weak (W). Revlon, Unocal, and Blasius standards are either adopted by given states on a date, i.e., “Yes” (Y) or rejected, i.e., “No” (N).

- Control Share Cash-Out statutes were adopted by ME on 7/16/1986, PA on 12/23/1983, and SD on 7/1/1990.
- Disgorgement statutes were adopted by OH on 4/11/1990 and PA on 4/27/1990.
- Anti-Greenmail statutes were adopted by AZ on 7/22/1987, MN on 3/1/1988, NY on 2/14/1986, TN on 3/11/1988, and WI on 9/18/1987.
- Golden Parachute Restrictions were adopted by AZ on 7/22/1987 and MN on 6/26/1987.
- Tin Parachute Blessings were adopted by MA on 7/18/1989, PA on 4/27/1990, and RI on 7/30/1990.
- Assumption of Labor Contracts provisions were adopted by DE on 4/8/1988, IL on 1/1/1988, MA on 7/18/1989, PA on 4/27/1990, and RI on 7/30/1990.
- The Williams Act became effective for all states on 7/29/1968.
- The 1<sup>st</sup> Generation statutes were overturned by the “1<sup>st</sup> Gen Case” if given; all statutes were eliminated (by implication) after the *Edgar v. Mite* case on 6/22/1982.

**Table 3. Sample Coverage by Takeover Laws**

Percentage of equal-weighted and asset value-weighted firm years associated with each takeover law or case. Laws and cases are defined in Table 1. Firm-years are coded zero prior to the adoption of state laws and one after. Strong-form laws or cases as reported in Table 2 are coded equal to two. Acceptance or rejection (i.e., “Yes” / “No”) of Revlon, Unocal, and Blasius standards are not mutually exclusive for a given state if the state has multiple cases to accept *and* reject a standard over time. If a state has not issued a case ruling on Revlon, Unocal, or Blasius prior to a given firm-year, that firm-year is coded as zero.

	States	Firm-Years	Equal-Weighted Firm-Years %	Value-Weighted Firm-Years %
1 <sup>st</sup> Generation = 1	8	831	0.43%	0.17%
1 <sup>st</sup> Generation = 2	16	4,461	2.33%	2.62%
1 <sup>st</sup> Generation = 3	7	1,518	0.79%	0.74%
1 <sup>st</sup> Generation = 4	2	452	0.24%	0.04%
Business Combination	33	116,458	60.75%	71.38%
Fair Price	8	10,274	5.36%	3.44%
Control Share Acquisition	26	32,919	17.17%	12.05%
Control Share Cash-Out	3	3,034	1.58%	1.86%
Poison Pill Strength = 1	46	132,588	69.16%	64.95%
Poison Pill Strength = 2	4	3,051	1.59%	3.13%
Expanded Constituency = 1	28	23,404	12.21%	15.83%
Expanded Constituency = 2	6	12,630	6.59%	6.20%
Disgorgement	2	4,170	2.18%	3.26%
Anti-Greenmail	5	10,964	5.72%	10.04%
Golden Parachute Restriction	2	3,833	2.00%	0.64%
Tin Parachute Blessing	3	4,438	2.32%	1.94%
Assumption of Labor Contracts	5	80,656	42.07%	47.53%
Revlon (Yes)	12	91,133	47.54%	52.79%
Revlon (No)	10	18,057	9.42%	12.90%
Unocal (Yes)	14	101,147	52.76%	53.22%
Unocal (No)	10	20,157	10.51%	17.61%
Blasius (Yes)	6	78,537	40.97%	45.99%
Blasius (No)	9	13,994	7.30%	9.55%

**Table 4. Do Business Combination Laws Affect M&A Levels and Hostility?**

Logit models with dependent variable in Columns (1) and (2) equal to one if a firm is successfully acquired in a given year and zero otherwise; in Columns (3) and (4) equal to one if a firm is successfully acquired as part of a hostile takeover in a given year and zero otherwise; in Columns (5) and (6) equal to one if a successful acquisition involves hostility and equal to zero if a successful acquisition does not involve hostility. Age is firm age in years publicly traded, Assets is firm total assets, Time Trend is a yearly counter, Capital Liquidity is the spread between the Commercial and Industrial (C&I) loan rate and the Federal Funds rate, and Bus. Combination, Fair Price, Control Share Acquisition, and Control Share Cash-Out equal one if a firm is covered by that law in a given year and zero otherwise. Standard errors are clustered by state of incorporation and p-values are reported in parentheses with \*\*\*, \*\*, and \* indicating statistical significance at the 1%, 5%, and 10% levels, respectively.

	Acquired		Hostile Hazard		Hostile Single-Period	
	(1)	(2)	(3)	(4)	(5)	(6)
Ln Age	3.543 *** (0.000)	3.532 *** (0.000)	1.865 *** (0.003)	1.868 *** (0.003)	0.038 (0.978)	0.048 (0.972)
(Ln Age) <sup>2</sup>	-0.711 *** (0.000)	-0.708 *** (0.000)	-0.207 * (0.099)	-0.207 * (0.096)	0.119 (0.634)	0.116 (0.642)
Ln Assets	0.100 *** (0.000)	0.097 *** (0.000)	0.200 *** (0.000)	0.198 *** (0.000)	0.341 *** (0.000)	0.341 *** (0.000)
Time Trend	0.050 *** (0.000)	0.051 *** (0.000)	-0.006 (0.641)	-0.001 (0.953)	-0.066 *** (0.000)	-0.065 *** (0.000)
Capital Liquidity	-0.384 *** (0.000)	-0.389 *** (0.000)	-0.386 *** (0.000)	-0.404 *** (0.000)	-0.256 *** (0.003)	-0.257 *** (0.004)
Bus. Combination	-0.060 (0.578)	-0.061 (0.551)	-0.566 ** (0.019)	-0.644 ** (0.011)	-0.271 (0.376)	-0.297 (0.360)
Fair Price		0.097 (0.286)		-0.464 (0.195)		-0.198 (0.628)
Control Share Acquisition		-0.176 ** (0.046)		-0.160 (0.477)		0.073 (0.769)
Control Share Cash-Out		0.143 (0.131)		0.295 (0.777)		0.159 (0.872)
N	191,779	191,779	189,948	189,948	4,267	4,267
Pseudo R <sup>2</sup>	5.58%	5.62%	6.63%	6.72%	15.26%	15.28%

**Table 5. Which Takeover Laws Predict Aggregate M&A Activity?**

Logit models with dependent variable equal to one if the firm is successfully acquired in a given year and zero otherwise. All variables are defined in preceding tables. Standard errors are clustered by state of incorporation. P-values are in parentheses with \*\*\*, \*\*, and \* representing statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln Age	3.557 *** (0.000)	3.556 *** (0.000)	3.556 *** (0.000)	3.558 *** (0.000)	3.557 *** (0.000)	3.557 *** (0.000)	3.559 *** (0.000)	3.560 *** (0.000)
(Ln Age) <sup>2</sup>	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)	-0.712 *** (0.000)
Ln Assets	0.100 *** (0.000)	0.100 *** (0.000)	0.100 *** (0.000)	0.100 *** (0.000)	0.100 *** (0.000)	0.101 *** (0.000)	0.100 *** (0.000)	0.100 *** (0.000)
Time Trend	0.042 *** (0.000)	0.042 *** (0.000)	0.042 *** (0.000)	0.041 *** (0.000)	0.042 *** (0.000)	0.042 *** (0.000)	0.042 *** (0.000)	0.041 *** (0.000)
Capital Liquidity	-0.359 *** (0.000)	-0.359 *** (0.000)	-0.358 *** (0.000)	-0.357 *** (0.000)	-0.357 *** (0.000)	-0.357 *** (0.000)	-0.358 *** (0.000)	-0.357 *** (0.000)
Williams Act	1.396 *** (0.000)	1.397 *** (0.000)	1.404 *** (0.000)	1.405 *** (0.000)	1.405 *** (0.000)	1.404 *** (0.000)	1.405 *** (0.000)	1.408 *** (0.000)
1 <sup>st</sup> Gen	0.185 *** (0.004)	0.184 *** (0.003)	0.184 *** (0.003)	0.184 *** (0.003)	0.184 *** (0.003)	0.185 *** (0.003)	0.184 *** (0.003)	0.184 *** (0.003)
Bus. Combination	-0.120 (0.221)	-0.121 (0.214)	-0.106 (0.288)	-0.118 (0.241)	-0.118 (0.238)	-0.124 (0.209)	-0.127 (0.199)	-0.173 *** (0.009)
Fair Price	0.051 (0.437)	0.042 (0.490)	0.055 (0.420)	0.041 (0.489)	0.037 (0.531)			
Control Share Acquisition	-0.252 *** (0.000)	-0.256 *** (0.000)	-0.254 *** (0.000)	-0.272 *** (0.000)	-0.268 *** (0.000)	-0.261 *** (0.000)	-0.267 *** (0.000)	-0.242 *** (0.000)
Control Share Cash-Out	-0.222 (0.216)	-0.224 (0.211)	-0.223 (0.208)	-0.216 (0.213)	-0.183 (0.251)	-0.189 (0.230)	-0.231 (0.125)	-0.249 * (0.087)
Poison Pill	0.389 *** (0.000)	0.389 *** (0.000)	0.389 *** (0.000)	0.392 *** (0.000)	0.391 *** (0.000)	0.395 *** (0.000)	0.387 *** (0.000)	0.402 *** (0.000)
Expanded Const.	-0.036 (0.547)	-0.034 (0.572)	-0.037 (0.544)					
Disgorgement	0.106 (0.453)	0.101 (0.470)	0.090 (0.521)	0.070 (0.605)				
Anti-Greenmail	0.147 (0.185)	0.129 (0.149)	0.135 (0.122)	0.131 (0.138)	0.131 (0.139)	0.142 * (0.089)	0.150 * (0.070)	0.184 ** (0.020)
Golden Parachute Restriction	-0.054 (0.718)							
Tin Parachute Blessing	0.482 *** (0.000)	0.479 *** (0.000)	0.456 *** (0.000)	0.448 *** (0.000)	0.449 *** (0.000)	0.446 *** (0.000)	0.448 *** (0.001)	0.386 *** (0.002)
Assumption of Labor Contracts	-0.145 (0.150)	-0.142 (0.154)	-0.127 (0.227)	-0.128 (0.224)	-0.115 (0.249)	-0.112 (0.261)	-0.072 (0.349)	
Revlon	-0.035 (0.563)	-0.033 (0.578)						
Unocal	-0.038 (0.466)	-0.035 (0.453)	-0.040 (0.392)	-0.049 (0.293)	-0.048 (0.302)	-0.052 (0.271)	-0.061 (0.193)	-0.039 (0.232)
Blasius	-0.036 (0.561)	-0.037 (0.543)	-0.047 (0.421)	-0.057 (0.332)	-0.045 (0.386)	-0.040 (0.445)		
N	191,779	191,779	191,779	191,779	191,779	191,779	191,779	191,779
AIC	50,916.6	50,914.8	50,913.4	50,912.0	50,910.3	50,908.6	50,907.2	50,906.6



**Table 6. Which Takeover Laws Predict Hostile Takeover Hazard?**

Logit models with dependent variable equal to one if the firm is acquired through hostile takeover in a given year and zero otherwise. All variables are defined in preceding tables. Standard errors are clustered by state of incorporation. P-values are in parentheses with \*\*\*, \*\*, and \* representing statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Ln Age	2.003 *** (0.002)	2.008 *** (0.002)	2.007 *** (0.002)	2.003 *** (0.003)	2.012 *** (0.002)	2.007 *** (0.002)	2.010 *** (0.002)	2.038 *** (0.001)	2.016 *** (0.002)	2.023 *** (0.001)
(Ln Age) <sup>2</sup>	-0.244 * (0.063)	-0.245 * (0.063)	-0.245 * (0.064)	-0.244 * (0.066)	-0.246 * (0.062)	-0.243 * (0.068)	-0.242 * (0.065)	-0.249 ** (0.041)	-0.244 * (0.051)	-0.245 ** (0.046)
Ln Assets	0.212 *** (0.000)	0.212 *** (0.000)	0.212 *** (0.000)	0.211 *** (0.000)	0.211 *** (0.000)	0.210 *** (0.000)	0.209 *** (0.000)	0.212 *** (0.000)	0.209 *** (0.000)	0.209 *** (0.000)
Time Trend	-0.012 (0.263)	-0.013 (0.252)	-0.012 (0.250)	-0.013 (0.243)	-0.013 (0.260)	-0.013 (0.241)	-0.008 (0.535)			
Capital Liquidity	-0.351 *** (0.000)	-0.350 *** (0.000)	-0.353 *** (0.000)	-0.350 *** (0.000)	-0.352 *** (0.000)	-0.351 *** (0.000)	-0.366 *** (0.000)	-0.395 *** (0.000)	-0.395 *** (0.000)	-0.395 *** (0.000)
Williams Act	0.540 (0.399)	0.545 (0.396)	0.535 (0.409)	0.538 (0.405)	0.534 (0.409)	0.548 (0.395)				
1 <sup>st</sup> Gen	-0.031 (0.768)	-0.031 (0.769)								
Bus. Combination	-0.696 * (0.074)	-0.710 * (0.085)	-0.711 * (0.085)	-0.677 * (0.078)	-0.698 * (0.077)	-0.698 * (0.090)	-0.730 * (0.071)	-0.777 * (0.060)	-0.650 ** (0.020)	-0.621 ** (0.019)
Fair Price	-0.409 (0.357)	-0.433 (0.317)	-0.434 (0.316)	-0.438 (0.313)	-0.470 (0.288)	-0.490 (0.272)	-0.509 (0.250)	-0.539 (0.215)	-0.533 (0.220)	
Control Share Acquisition	-0.298 (0.400)	-0.333 (0.303)	-0.333 (0.303)	-0.326 (0.306)	-0.339 (0.296)	-0.386 (0.259)	-0.400 (0.249)	-0.421 (0.219)	-0.440 (0.196)	-0.516 (0.106)
Control Share Cash-Out	0.756 (0.543)	0.764 (0.532)	0.767 (0.530)	0.835 (0.482)	0.846 (0.481)					
Poison Pill	0.571 *** (0.005)	0.572 *** (0.005)	0.577 *** (0.005)	0.537 *** (0.001)	0.522 *** (0.001)	0.569 *** (0.000)	0.543 *** (0.001)	0.455 *** (0.003)	0.407 *** (0.005)	0.358 ** (0.018)
Expanded Const.	-0.069 (0.806)									
Disgorgement	1.447 ** (0.012)	1.396 *** (0.002)	1.398 *** (0.002)	1.447 *** (0.003)	1.296 *** (0.001)	1.282 *** (0.001)	1.296 *** (0.001)	1.317 *** (0.001)	1.256 *** (0.001)	1.371 *** (0.001)
Anti-Greenmail	0.327 (0.430)	0.310 (0.419)	0.314 (0.413)	0.391 (0.269)	0.406 (0.266)	0.411 (0.270)	0.394 (0.305)	0.338 (0.366)		
Golden Parachute Restriction	-0.849 ** (0.035)	-0.832 ** (0.031)	-0.836 ** (0.030)	-0.964 ** (0.014)	-0.932 ** (0.019)	-0.883 ** (0.037)	-0.869 ** (0.040)	-0.821 * (0.050)	-0.592 (0.124)	-0.935 *** (0.004)
Tin Parachute Blessing	-1.582 (0.152)	-1.594 (0.143)	-1.599 (0.142)	-1.608 (0.139)	-1.794 (0.102)	-1.108 ** (0.037)	-1.061 * (0.053)	-0.966 * (0.063)	-0.851 * (0.059)	-0.808 * (0.060)
Assumption of Labor Contracts	-0.888 (0.111)	-0.885 (0.113)	-0.886 (0.113)	-0.903 (0.108)	-0.690 (0.105)	-0.696 (0.108)	-0.733 (0.105)	-0.794 * (0.058)	-0.906 *** (0.002)	-0.905 *** (0.002)
Revlon	-0.481 (0.106)	-0.477 (0.102)	-0.478 (0.100)	-0.450 * (0.070)	-0.468 * (0.061)	-0.431 * (0.085)	-0.452 * (0.079)	-0.479 * (0.053)	-0.495 ** (0.043)	-0.513 ** (0.044)
Unocal	0.116 (0.626)	0.102 (0.638)	0.102 (0.639)							
Blasius	-0.227 (0.522)	-0.241 (0.495)	-0.241 (0.496)	-0.206 (0.558)						
N	189,948	189,948	189,948	189,948	189,948	189,948	189,948	189,948	189,948	189,948
AIC	2,436.7	2,434.8	2,432.8	2,431.0	2,429.3	2,428.9	2,428.1	2,426.4	2,424.9	2,424.2

**Table 7. Which Takeover Laws Predict Hostility Conditional on Acquisition?**

Logit models with dependent variable equal to one if a given acquisition involves hostility and zero if friendly. All variables are defined in preceding tables. Standard errors are clustered by state of incorporation. P-values are in parentheses with \*\*\*, \*\*, and \* representing statistical significance at the 1%, 5%, and 10% levels, respectively.

	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
Ln Age	0.296 (0.817)	0.298 (0.816)				
(Ln Age) <sup>2</sup>	0.061 (0.791)	0.061 (0.792)	0.115 *** (0.000)	0.115 *** (0.000)	0.119 *** (0.000)	0.117 *** (0.000)
Ln Assets	0.362 *** (0.000)	0.362 *** (0.000)	0.357 *** (0.000)	0.358 *** (0.000)	0.356 *** (0.000)	0.361 *** (0.000)
Time Trend	-0.077 *** (0.000)	-0.077 *** (0.000)	-0.077 *** (0.000)	-0.078 *** (0.000)	-0.083 *** (0.000)	-0.085 *** (0.000)
Capital Liquidity	-0.210 ** (0.020)	-0.209 ** (0.018)	-0.208 ** (0.015)	-0.202 ** (0.018)	-0.190 ** (0.019)	-0.187 ** (0.024)
Bus. Combination	-0.514 (0.196)	-0.523 (0.169)	-0.530 (0.159)	-0.511 (0.170)	-0.656 * (0.061)	-0.429 (0.160)
Fair Price	-0.218 (0.653)	-0.233 (0.615)	-0.235 (0.611)			
Control Share Acquisition	-0.057 (0.871)					
Poison Pill	0.571 *** (0.001)	0.565 *** (0.001)	0.560 *** (0.001)	0.550 *** (0.002)	0.620 *** (0.000)	0.631 *** (0.001)
Disgorgement	1.504 *** (0.001)	1.474 *** (0.002)	1.459 *** (0.001)	1.485 *** (0.001)	1.540 *** (0.002)	1.102 *** (0.000)
Anti-Greenmail	0.689 * (0.056)	0.695 ** (0.047)	0.687 * (0.056)	0.699 * (0.054)	0.940 *** (0.000)	0.831 *** (0.000)
Golden Parachute Restriction	-1.118 *** (0.007)	-1.147 *** (0.002)	-1.131 *** (0.001)	-1.286 *** (0.000)	-1.231 *** (0.000)	-1.087 *** (0.000)
Tin Parachute Blessing	-1.708 *** (0.003)	-1.738 *** (0.001)	-1.721 *** (0.002)	-1.732 *** (0.002)	-2.071 *** (0.000)	-2.129 *** (0.000)
Assumption of Labor Contracts	-0.397 (0.370)	-0.374 (0.354)	-0.376 (0.357)	-0.354 (0.392)		
Revlon	-0.358 (0.218)	-0.358 (0.220)	-0.361 (0.227)	-0.363 (0.237)	-0.253 (0.306)	
N	4,267	4,267	4,267	4,267	4,267	4,267
AIC	1,173.7	1,171.7	1,169.8	1,168.0	1,166.9	1,166.5

**Table 8. Descriptive Statistics on Takeover Index and Performance Variables**

M/B is market value of equity divided by book value of equity. Takeover Index is the predicted value using coefficients from Column (10) of Table 6. ROE is return on equity: net income divided by book value of equity. Sales Growth is  $\ln(\text{sales}_t/\text{sales}_{t-1})$ . Liquidity is current assets minus current liabilities, divided by total assets. D/E is book value of long-term debt divided by book value of equity. Loss Dummy is an indicator that equals one if the firm has a net loss in the given fiscal year and zero otherwise.

	<u>Mean</u>	<u>Std. Dev.</u>	<u>25%</u>	<u>Median</u>	<u>75%</u>
<b><u>All Years</u></b>					
M/B	2.29	1.86	0.99	1.70	2.96
Takeover Index	8.4%	10.9%	1.9%	4.6%	10.4%
ROE	-1.4%	105.7%	-6.9%	9.0%	18.0%
Sales Growth	13.2%	56.5%	-1.8%	9.9%	24.3%
Liquidity	20.0%	63.0%	8.0%	26.7%	45.0%
D/E	40.7%	124.5%	0.0%	15.3%	58.2%
Loss Dummy	0.36	0.48	0.00	0.00	1.00
<b><u>Subsets</u></b>					
Takeover Index, 1965-1979	13.6%	14.2%	3.7%	9.3%	19.0%
Takeover Index, 1980-1989	11.3%	14.3%	2.3%	6.4%	14.7%
Takeover Index, 1990-1999	6.7%	8.6%	1.6%	3.8%	8.3%
Takeover Index, 2000-2011	5.4%	5.9%	1.8%	3.6%	6.9%

**Table 9. Takeover Susceptibility and Firm Value**

OLS regressions with market-to-book value of equity (M/B) as the dependent variable. All variables are defined in the header for Table 8. Firm fixed effects are included in all models. P-values are reported with \*\*\*, \*\*, and \* representing statistical significance at the 1%, 5%, and 10% levels, respectively.

	<u>All Years</u>	<u>1965-1979</u>	<u>1980-1989</u>	<u>1990-1999</u>	<u>2000-2011</u>
	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>
Constant	2.278 *** (0.000)	1.573 *** (0.000)	1.998 *** (0.000)	2.540 *** (0.000)	2.258 *** (0.000)
Takeover Index	-0.823 *** (0.000)	-1.569 *** (0.000)	0.384 *** (0.000)	0.384 ** (0.040)	2.345 *** (0.000)
ROE	0.010 (0.329)	0.993 *** (0.000)	0.095 *** (0.000)	-0.124 *** (0.000)	-0.037 ** (0.019)
Sales Growth	0.454 *** (0.000)	1.018 *** (0.000)	0.409 *** (0.000)	0.325 *** (0.000)	0.304 *** (0.000)
Liquidity	-0.050 * (0.081)	0.089 (0.397)	-0.416 *** (0.000)	-0.188 *** (0.001)	0.228 *** (0.000)
D/E	0.267 *** (0.000)	0.104 *** (0.000)	0.263 *** (0.000)	0.235 *** (0.000)	0.304 *** (0.000)
Loss Dummy	-0.402 *** (0.000)	0.161 *** (0.000)	-0.303 *** (0.000)	-0.442 *** (0.000)	-0.471 *** (0.000)
N	134,139	23,560	29,261	40,990	40,328
R <sup>2</sup>	48.09%	52.50%	63.01%	63.04%	58.59%