THE EFFECT OF DELAWARE LAW ON FIRM VALUE: EVIDENCE FROM POISON PILL ADOPTIONS

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Abstract

As the leading location for firm incorporations and corporate law, Delaware occupies a unique place in corporate governance and control. In this paper, we provide fresh evidence on whether Delaware's dominance arises from its takeover laws being in the best interest of shareholders versus managers by investigating the role of the state in which a firm is incorporated on the firm's adoption of a poison pill. Our results indicate that announcements of adoptions of poison pills by Delaware firms are associated with returns not significantly different from those for non-Delaware firms. Moreover, Delaware firms that adopt poison pills are no more likely to receive a takeover bid, be successfully acquired, or receive better merger terms than non-Delaware firms. Overall, it appears that Delaware law, with regards to takeovers, promotes an environment consistent with a "race to the middle" philosophy, neutral to management and shareholders.

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1. Introduction

As the dominant location for firm incorporations and corporate law, Delaware occupies a distinctive place in corporate governance and control. Delaware's success in attracting corporations, however, has hardly been without controversy. Critics who view Delaware's dominance as insidious, assert the selection of the state for incorporation is made by the managers of a firm. To entice a corporation, a state would need to pander to the needs of a firm's managers. Charter competition therefore leads to a "race to the bottom" as states enact laws that are more enticing to managers than the shareholders of the firm. Delaware's prominence for incorporation arises, critics contend, from Delaware having more manager-friendly laws than any other state.

Defenders of Delaware's prominence suggest an alternative "race to the top" view of state charter competitions. Advocates of Delaware assert the market will discipline managers if they incorporate in a state whose laws benefit managers to the detriment of the firm's shareholders. For example, Skeel (2000) notes that "managers of such firms will suffer in the product markets (inefficient firms cannot produce their products as cheaply as efficient ones), the managerial labor markets (sloppy managers are less attractive to other firms), and the capital markets (investors will pay less for the stock or debt of an inefficient firm)." As a result of these management-borne costs, managers would choose to incorporate their firms in states with the most efficient laws. The ensuing competition among states for charters makes states engage in a race headed for the "top," not the "bottom."

In this paper, we provide fresh evidence on this debate by investigating the role of the state in which a firm is incorporated on the firm's adoption of a poison pill. Poison pills are takeover defense mechanisms that provide holders with special rights that are exercised only subsequent to a triggering event such as the accumulation of a large block of shares by a potentially hostile bidder. A study of poison pills provides a particularly unique opportunity for this discussion because poison pills have the capability to either benefit or hurt shareholders, yet do not typically need to be approved by the shareholders.[5] If the managers of Delaware-

[5] Coates (1999), among others, provides a more detailed discussion concerning the adoption of poison pills and when they need shareholder approval.

incorporated firms represent the interest of shareholders, they are unlikely to use poison pills to harm shareholders. Since the market can easily observe the state of incorporation, this effect should be captured by the common stock-price response to the announcement of the adoption of a poison pill. In contrast, if managers of Delaware-incorporated firms represent their own interests to the detriment of shareholders interests, these managers may use poison pills to harm shareholders and this effect should also be captured by the common stock-price response to the announcement of the adoption of a poison pill.

Prior research studies on the effects of state incorporation on shareholder wealth typically include all states other than Delaware into a single group. Recent research (Bebchuk and Cohen, 2003; Bebchuk and Hamdani, 2002), however, indicates that different factors may influence in-state and out-of-state incorporations. For example, Bebchuk and Cohen (2003) argue that a so-called "home-state bias" (firms headquartered and incorporated in the same state) may exist because a company located in its home state "may hope that its stature and clout in that state would lead judges or public officials to give it a favorable treatment with respect to some corporate law issues that mat arise." They further assert that "a company located in a state might expect that if it displays 'local citizenship' by incorporating in the state, it would increase the chances of getting favorable treatment from public officials on issues unrelated to corporate law that might arise in its dealings with the state." Accordingly, we restrict our base sample (henceforth refereed to as Delaware firms) to firms incorporated in Delaware but headquartered in a state other than Delaware. Furthermore, for comparison purposes, we construct a sample of firms (henceforth refereed to as non-Delaware firms) incorporated and headquartered in two different states, neither of which is Delaware.

Our research differs from previous work on state incorporations. As noted in the next section, much of the recent research on the relation between state incorporation and firm value is regarded as controversial because of potential endogeneity and other problems. In contrast, our investigation examines the change in firm value associated with the adoption of poison pills by Delaware and non-Delaware firms, which are exogenous events. Our motivation for using this procedure comes from extant empirical research on the use of two different approaches for examining the effects of various governance attributes (such as board independence, institutional and blockholder ownership) on firm value. The first approach is to examine the relation between a governance attribute and firm performance while the second approach is to investigate a discrete task performed by a firm's board of directors (such as replace the CEO) given the governance attribute. See, for example, Bhagat and Black (1999) for a summary of the evidence on the effects of board independence using both of these approaches. Whereas each approach has merits and demerits, the use of both approaches provides for a more complete analysis.

For our sample of firms, we document that Delaware firms experience significantly positive returns surrounding the announcement of a poison pill adoption while non-Delaware firms experience insignificantly negative returns. However, in multivariate analysis when we control for board size and independence as well as other firm specific variables, the Delaware advantage disappears. This result is constant through time and robust to firm size which suggests that, on average, the adoption of a poison pill does not inherently benefit or harm shareholders. Moreover, Delaware firms adopting poison pills are no more likely to receive a takeover bid or attract better merger terms than non-Delaware firms in the three years following the poison pill adoption. Thus, it appears firm value is impacted the same for both Delaware and non-Delaware firms around poison pill adoptions.

It is possible, however, that there are additional forces impacting the wealth effects if poison pill adoptions. Recent work has focused on the impact that the interaction and number of anti-takeover provisions has on firm value. For example, Bebchuk and Cohen (2004) argue the combination of a poison pill and a charter provision staggered board insulate management from the market for corporate control and find these firms are worth less than counterparts without this combination. Moreover, Gompers, Ishii and Metrick (2003) find a negative relation between firm value and the absolute number of anti-takeover provisions. We fail to find a relation between announcement returns associated with a poison pill adoption and either the existence of a staggered board or other measures of anti-takeover provisions. Rather than favoring managers or shareholders, it appears the Delaware takeover laws and court system have managed to maintain a neutral approach which we term a "race to the middle."

The remainder of this paper is organized as follows. In the next section we examine the effect of out-of-state incorporations and poison pills on firm value and takeover outcomes. We also discuss testable hypotheses for poison pill adoptions on Delaware as well as non-Delaware firms. The following section describes the sample employed as well as our empirical results. A conclusion appears in the final section of the paper.

2. The effect of out-of-state incorporations and poison pills

Prior empirical research

A number of prior studies have examined the effect of Delaware law on firm value using different valuation methodologies. For example, Peterson (1988) and Netter and Poulsen (1989) among others, examine the effect on shareholder wealth associated with a firm's decision to reincorporate in Delaware. These studies, in general, find evidence of positive returns associated with the reincorporation decision. Heron and Lewellen (1998), however, indicate it is hard to make definitive conclusions due to the small sample sizes implemented and because reincorporation decisions are usually associated with other major changes in company strategy.

An alternative approach used in recent research has been to examine the performance of a large sample of Delaware-incorporated firms. Perhaps the most important and controversial research on the impact of Delaware law using this approach is provided by Daines (2001). Overall, Daines (2001) finds that firms incorporated in Delaware have significantly higher firm value than comparable firms incorporated in other states. This particular finding remains after controlling for a number of important firm and management-specific variables. As a partial explanation for this phenomenon, Daines (2001) finds that Delaware firms are more likely to receive a takeover offer as well as be acquired. The author posits Delaware law improves firm value by making the takeover of public firms easier. This paper has been widely cited in the business press as the catalyst for wide ranging initiatives such as arguing the merits of Delaware law, using the study as proof that a federal corporate law system is unnecessary, and attempting to solicit firms to reincorporate in Delaware.

Daines' (2001) analysis has also generated a stream of research that attempts to better control for possible issues that could weaken this relation (see Subramanian (2004) for a comprehensive critique). For example, Bebchuk and Ferrell (2001) find the Delaware advantage becomes weaker when controlling for possible endogeneity issues. Moreover, some research has shown Delaware law may actually be associated with lower firm value (Gompers, Ishii and Metrick, 2001) or only be positively associated with firm value for extremely small firms or specific time periods (Subramanian, 2004). Furthermore, given this result is time dependent, some studies suggest the higher firm value cannot logically be associated with better Delaware corporate law (Bebchuk, Cohen, and Ferrell, 2002). We extend this literature by approaching this controversy from another perspective. Specifically, our investigation examines the change in firm value associated with the adoption of poison pills by Delaware and non-Delaware firms.

Previous research concerning poison pills implies the adoption of poison pills can communicate two distinct pieces of information to the market.[6] The first piece of information conveyed is the firm's management believes that the firm is going to receive a takeover offer, which could be beneficial to shareholders. The second piece of information conveyed is the firm's managers will resist any unsolicited takeover offer received, which may be detrimental to shareholders. As a result, it is unclear whether this takeover-resistance aspect of poison pills is good or bad news for the firm's shareholders.

One possible explanation for adopting poison pills is that managers adopt them to protect shareholders from inadequate bids or undesirable bidders. If so, the adoption of a poison pill is good news for shareholders because target managers are able to create a delay in the takeover process which in turn gives managers time to attract other potential bidders and may induce competitive bidding. On the other hand, poison pills may be adopted by some firms predominantly to thwart any future takeover attempts. As such, the adoption of a poison pill would signal bad news for shareholders as it would signal management entrenchment and the potential loss of a wealth maximizing opportunity for shareholders. Given these two information effects, we examine two mutually exclusive hypotheses concerning the role of a firm's decision to incorporate in Delaware. In a similar fashion, Brickley, Coles, and Terry (1994) test these competing hypotheses by examining the role of board independence on stock-price responses and takeover outcomes associated with poison pill adoptions.

The stockholder-interest hypothesis

The stockholder-interest hypothesis is premised on the "race to the top" view of state charter competitions. That is, managers choose Delaware as a state of incorporation to represent the interests of the firm's shareholders. Under this hypothesis, the announcement of the adoption of a poison pill by a Delaware firm is good news for shareholders, and the associated stock-price response to the poison pill adoption should always be positive.

The rationale for this positive stock price reaction is the adoption of a poison pill conveys to the market the firm is likely to receive a takeover offer. Furthermore, the announcement is not perceived as bad news because the market believes that the Delaware firm will attempt to use the poison pill to create a delay in the takeover process which in turn will give managers time to induce competitive bidding and obtain a higher premium from the potential bidder.

[6] See for example, Comment and Schwert (1995), Malatesta and Walkling (1988), and Ryngaert (1988) for a more detailed description of the information communicated by the adoption of poison pills. Also, see Turk, Goh, and Ybarra (2007) on the effect of poison pills on long-term and short-term analysts earnings forecasts.

The management-interest hypothesis

Alternatively, the management-interest hypothesis is premised on the "race to the bottom" view of state charter competitions. Managers choose Delaware as a state of incorporation to represent their own interests to the detriment of the interests of the firm's shareholders. The good news concerning a poison pill adoption is that it conveys to the market the firm believes it will receive a takeover offer. The bad news, however, is a poison pill may be adopted by a firm predominantly to thwart takeovers and thus entrench managers. If so, the bad news that the poison pill is being adopted to impede takeovers and entrench managers may offset the good news from the firm receiving a takeover offer.

Predictions of post-adoption takeover outcomes

If Delaware takeover laws favor management at the expense of shareholders, management becomes entrenched through the adoption of a poison pill. Alternatively, if Delaware takeover laws promote shareholder's interests, firms incorporated in Delaware utilize the adoption of a poison pill to attract better terms through competitive bidding. Therefore, these competing hypotheses provide different predictions regarding post-adoption takeover outcomes.

If management is engaging in self-interested behavior when adopting a poison pill, then these firms should be less likely to receive a takeover bid as prospective suitors realize management will use the poison pill to crush a takeover attempt. In addition, as these firms are less likely to be acquired, the receipt of any takeover attempt is more likely to be hostile in nature since management is entrenched.

Alternatively, the stockholder-interest hypothesis predicts that the probability of receiving a bid is higher if Delaware takeover law benefits shareholders. Moreover, these firms are more likely to attract multiple bidders to receive a higher takeover premium. Finally, the likelihood of being acquired is higher under the stockholder-interest hypothesis.

3. Description of the sample

We obtain a list of poison pills adoptions announced from 1983 to 1998 from *Thomson Financial Securities* (formerly *Security Data Corporation*) Poison Pill Database. Our sample contains all poison pill adoption announcements that satisfy the following criteria:

(1) Accounting data and common stock returns of the announcing firm are available on CompuStat and the Center for Research in Security Prices (CRSP) Daily Returns File for firms listed on the NYSE, Amex, or Nasdaq.
(2) At least 50 days return data for the issuing firms must be available on the CRSP tapes (to meet the requirements of the empirical testing procedure).
(3) The poison pill is the first pill adopted by the announcing firm.
(4) Board size and the number of inside and outside directors are available from the *Standard & Poor's Register of Corporations, Directors, and Executives*.
(5) The firm is incorporated and headquartered in two different states.

Our final sample consists of 702 poison pill adoption announcements over the 1983 to 1998 time period. Six hundred and three announcements (86% of the total sample) are made by Delaware firms. Ninety-nine announcements (14% of the total sample) are made by non-Delaware firms. A possible reason for the large number of firms in the Delaware sample is that a much higher percentage of firms opting for out-of-state incorporations choose Delaware more than any other state as their state of incorporation. If so, these findings add further support to the finding by Bebchuck and Cohen (2002) that Delaware's dominance as a state of incorporation is higher than has been formerly documented. [7]

[Insert Table I here]

Data on various poison pill attributes, board structure, and firm characteristics are presented in Table I. The table first presents summary statistics for the full sample then segments the sample into Delaware and non-Delaware incorporated firms. The final column contains test-statistics for differences in means between the two

[7] Another possible explanation for differences in the two samples is that the adoption of poison pills is endogenous; the state of incorporation is the main driver of results. In particular, if a state is known to be anti-takeover then the adoption of a poison pill is likely to add little and the market reaction would be muted. To test this, we examine the state of incorporation and headquarters for our sample of 99 non-Delaware firms. The distribution of firms is in 32 and 27 states, respectively with over 50% of the states with two or more firms and no one state representing more than 20% of the sample. Thus, it is unlikely that differences are driven by variations in other states' laws.

subsets. Governance attributes are obtained from *Thomson Financial Securities* Poison Pill Database while information on board size and independence are taken from *Standard & Poor's Register of Corporations, Directors, and Executives*. Board size is the total number of directors. Board independence is the number of outside directors divided by total directors. *Duration* of the pill is the number of years it will take for the pill to expire. As shown in Table I, the mean duration of pills adopted by Delaware firms is 9.91 years and is similar to the mean of 9.75 years for non-Delaware firms. *Trigger level* is the percentage ownership of a firm's shares that a hostile bidder would need for the pill to be triggered. Like duration, the mean trigger level of poison pills adopted by Delaware firms (17.28%) is similar to the mean trigger level for non-Delaware firms (17.52%).

In addition, Table I presents data on two important provisions of these poison pills. Adverse person provisions permit a firm to set a lower trigger for shareholder deemed by the firm to have a harmful effect on the firm. So, for example, the trigger level may be 10% for the adverse shareholder whereas the normal trigger level may be 15%. Only 8.29% of the Delaware firms have an adverse person provision. In contrast, 13.13% of non-Delaware firms have an adverse person provision. The t-statistic for the difference between these two percentages, however, does not indicate any statistical significance.

Dead-hand provisions are another important poison pill provision that has received much press in recent years. Dead-hand provisions allow redemption of the poison pill only by those directors in place when the pill was originally adopted. As shown in Table I, 2.32% of pills adopted by Delaware firms have a dead-hand provision. In contrast, no firms in the other subset of non-Delaware firms have a dead-hand provision. The t-statistic for the difference between these two percentages is 3.78, indicating statistical significance at the 0.01 level.

Next, Table I presents data on board size and board independence. Delaware firms appear to have governance characteristics different than firms incorporated and headquartered in two different non-Delaware states. Delaware firms' boards of directors have 7.39 members on average, while the non-Delaware sample board average board size is 8.31. These numbers are significantly different at the 5% level, suggesting the boards of Delaware firms are smaller. In addition, Delaware firm boards consist, on average, of 62% outside directors versus 66% for the non-Delaware sample. These two samples are marginally different (at the 10% level). One possible explanation that may be driving these differences in governance characteristics is that Delaware corporate law acts as a substitute for these variables.

Table I also describes certain firm characteristics of the sample firms that adopt poison pills. Delaware firms appear to be associated with better performance than non-Delaware firms. Specifically, return on equity (ROE) is significantly higher for the Delaware firms than the other subset. However, firm size does not differ between the two samples and thus Delaware firms are not simply larger than the non-Delaware sample. Finally, Delaware firms have marginally higher leverage ratios than non-Delaware firms, consistent with the notion that Delaware firms face a higher degree of monitoring.

4. Empirical results

Event-study methodology is used to examine stock-price responses to announcements of adoptions of poison pills. The announcement date (day 0) is defined as the first public announcement of the poison pill adoption, as reported in *Thomson Financial Securities* Poison Pill Database. Abnormal returns are calculated over a two-day announcement period encompassing days 0 and 1 in event time.

The procedure used for calculating common stock abnormal returns surrounding the announcement date are described in detail in Mikkelson and Partch (1986). The abnormal return (AR_{it}) for firm i on day t is the deviation of firm i's realized return (R_{it}) from an expected return generated by the market model.

$$AR_{it} = R_{it} \left(\hat{\alpha}_i + \hat{\beta}_i R_{mt}\right) \quad \textbf{(1)}$$

The coefficients in the above equation are the OLS estimates of firm i's market model parameters obtained from an estimation period of 150 consecutive trading days beginning 180 trading days prior to the announcement date. The *CRSP* Equally Weighted Index is used to measure the market return over day t, noted as R_{mt}.[8]

4.1. Univariate results

[8] Results are qualitatively similar if we use the *CRSP* Value Weighted Index to calculate market returns over day t and are thus omitted. In addition, we examine additional event windows including –1 to +1, -5 to +5, and –30 to +5. All results are once again qualitatively similar and thus omitted.

In Table II, we present mean abnormal returns for a total of 702 poison pills; 603 adoptions by Delaware firms and 99 by non-Delaware firms. During the announcement period, poison pills adoptions by Delaware firms elicit a positive stock-price reaction: an announcement-period abnormal return of 0.54%, which is statistically different from zero at the 5% level. In contrast to the adoption of poison pill by Delaware firms, the announcements of adoptions of poison pills by non-Delaware firms are associated with a negative, albeit insignificant, announcement return of -0.47%. Furthermore, these two samples have a mean difference in announcement returns of 1.10%, which is significantly different at the 5% level.

[Insert Table II here]

It is possible the choice to adopt a poison pill is endogenous. Firms may have chosen to adopt a poison pill in response to a specific takeover threat and thus the market reaction to the poison pill adoption may not signal the increased probability the firm is a likely takeover attempt but rather would measure the market's assessment of management's use of the pill. As a result, for each firm we examine whether it received a takeover attempt in the previous year. For both the Delaware and non-Delaware samples, approximately 4% received a takeover attempt in the year prior to the adoption of a poison pill. Table II also segments returns into firms that did not have a takeover attempt in the previous attempt (No Pre-attempt) and those that did (Pre-Attempt). In general, results for these two sub-samples are the same as for the overall sample; Delaware announcement returns are positive, non-Delaware returns are negative, and the difference between the two is significant at the 5% level.

Another possible endogeneity issue is that the state of incorporation and not the poison pill adoption is the main driver of results. In particular, if a state is known to be anti-takeover then the adoption of a poison pill is likely to add little and the market reaction would be muted. To test this, we examine the state of incorporation and headquarters for our sample of 99 non-Delaware firms. For these 99 firms, firms are headquartered in 32 different states and incorporated in 27 different states, with over 50% of the states containing two or more firms and no one state representing more than 20% of the sample. Thus, it is unlikely that differences are driven by variations in other states' laws. Further, we segment announcement returns for the non-Delaware sample into those firms incorporated in states known to be management friendly with regards to takeover laws (Massachusetts, Pennsylvania, and Ohio) as indicated by Daines, 2001 and others. Results show similar to the overall sample, there is no difference in returns based on the state of incorporation. It does not appear that state laws are driving results for the non-Delaware sample.

These results provide evidence concerning the informational content of poison pill adoption announcements. In particular, the more favorable stock-price response to poison pill adoptions by Delaware firms is consistent with two explanations rooted in the stockholder-interest hypothesis. First, the adoption of a poison pill may convey the firm is going to receive a takeover offer. Second, the market believes that Delaware firms will use the poison pill to create a delay in the takeover process which in turn will give target managers time to induce competitive bidding and obtain a higher premium from the potential bidder. Results for the existence of takeover bids pre-poison pill provide further support for these explanations.

The above analysis, however, only examines the effect of Delaware incorporation in a univariate setting. Recent studies suggest additional firm and governance variables may affect poison pill adoption. As a result, we next attempt to ascertain whether the impact of Delaware incorporation remains after controlling for other important variables shown to impact returns to poison pill adoptions. Moreover, we further test the stockholder-interest evidence by examining takeover activity in the three years subsequent to a poison pill adoption.

4.2. Regression analysis of announcement returns

In this section we examine if the impact of Delaware incorporation remains after controlling for other important variables shown to impact returns to poison pill adoptions. Table III provides a correlation matrix of the variables in our study. Of note, announcement returns are not significantly correlated to any of our explanatory variables. Delaware firms are associated with smaller, less independent boards, higher performance (as measured by ROE), and more likely to announce poison pill adoptions in the 1990s. In addition, board size is positively correlated with board independence and firm size but negatively correlated with return on equity, leverage and the 1990s. Next, board independence is positively correlated with firm size and negatively correlated with return on equity, leverage, and the 1990s. Firm performance (return on equity) is positively correlated with leverage and negatively correlated with firm size and 1990s. Finally, firm size is negatively correlated with leverage and 1990s.

[Insert Table III here]

Next, we conduct the following multivariate regression analysis of announcement period returns associated with our sample of firms announcing poison pill adoptions:

CAR = *f* (Incorporation, board characteristics, control variables, time trend). (**2**)

The results from this model are presented in Table IV. The first model includes a dummy variable equal to one if the firm is incorporated in Delaware. This variable is not significant. The second model controls for board size and independence. Once again, these variables fail to provide explanatory power. The third model controls for firm characteristics. Firm size, leverage, and firm performance (measured by return on equity) are all unrelated to announcement period returns. The fourth model includes all variables from the first three models simultaneously. None of the variable's coefficient approaches statistical significance at the 10% level. The fifth model includes a dummy variable equal to one if the poison pill is adopted in the 1990s and zero otherwise. Announcement returns are unrelated to this variable.[9]

[Insert Table IV here]

The sixth model includes corporate governance variables likely to influence the market for corporate control. A number of recent studies have focused on either the absolute number or interaction of anti-takeover defenses and firm value (Bebchuk, and Cohen, 2004; Gompers et al., 2003). For example, Bebchuck and Cohen (2004) argue the combination of a staggered board and a poison pill serve as an extremely effective entrenchment device. Moreover, Gompers et al. (2003) find a negative relation between the absolute number of anti-takeover defenses and firm value. Therefore, we merge our sample with the IRRC database that documents the existence of anti-takeover defenses for publicly traded firms and catalogs the type and number of such restrictions. This results in a sample of 295 firms. From this database, we collect the total number of anti-takeover provisions (GDC Index) as well as whether the firm has a staggered board provision. Model six includes two additional explanatory variables: a dummy variable equal to one if the firm has a staggered board provision and zero otherwise and the total number of anti-takeover provisions the firm has in place at the time of pill adoption (G-index). Coefficients on these variables are insignificantly related to announcement returns.

Our multivariate results suggest the Delaware advantage found in univariate analysis disappears. That is, after controlling for other important variables, the impact of Delaware law on announcement returns around the adoption of a poison pill is negligible. However, as indicated in the univariate results, poison pill adoptions may be driven by an existing takeover threat or individual state laws (beyond Delaware). Thus, in results not presented, we rerun our analyses in Table IV including controls for firms with merger attempts in the year prior to the announcement of a poison pill adoption (Pre-Attempt) and a dummy for firms incorporated in states known to be hostile towards takeovers (Pennsylvania, Massachusetts, and Ohio). Neither variable in significant in any specification and the results of the remaining variables remain qualitatively and quantitatively the same. Finally, however, the adoption of a poison pill could have two alternate interpretations. On the one hand, managers may adopt poison pills to protect shareholders only from inadequate bids or undesirable future bidders. On the other hand, poison pills may be adopted predominantly to thwart *any* future takeover attempts. As a result, we next examine the relation between poison pill adoption and subsequent takeover activity.

4.3. Post-adoption takeover activities

The positive returns in the univariate analysis to Delaware firms that announce the adoption of a poison pill may convey to the market that the firm is going to receive a takeover offer and the firm will use the poison pill to delay the takeover process in hopes of inducing competitive bidding. As a result, in this section, we detail the takeover activity subsequent to poison pill adoption in order to better gauge the impact of Delaware takeover laws. Specifically, we address whether or not firms receive a takeover bid within the three years following adoption. Moreover, we examine deal attitude, rate of takeover completion, and merger terms to ascertain the impact of state takeover laws. That is, we attempt to identify whether Delaware law creates an environment that is different from that in other states based on the rate of bid incidence, deal attitude, bid completion, and merger terms.

For each firm, we examine *Thomson Financial Securities* Mergers & Acquisitions Database to determine whether a firm received a takeover bid by a public U.S. company within the three years subsequent to adoption of a poison pill. We next collect the number of takeover bids, the date of the bid(s), the attitude of the bid (friendly, neutral, or hostile), the status of the bid (completed or withdrawn), as well as the merger

[9] Subramanian (2004) argues Delaware may have had an advantage in the early 1990s but it disappeared in the late 1990s. As a result, we run the regression is Table V replacing our dummy variable for all of the 1990s with two binary variables: one for the early 1990s (indicator variable equal to one for 1990-1996 and zero otherwise) and one for the late 1990s. Overall, the results are quantitatively and qualitatively the same when we use the two binary variables as compared to one dummy for all of the 1990s and are thus omitted.

premium. Given that there may exist considerable variation between the announcement of a merger and the publication of this merger in the financial press, we hand collect merger announcement dates.[10]

In addition, merger premium is defined as the cumulative abnormal return from 30 days prior to the merger announcement date to five days after and is calculated using return data from the *Center for Research of Security Prices* (CRSP). Next, in order to capture the merger effect only, we eliminate any restructurings or leveraged buyouts as well as any deal where the bidders are not clearly identifiable. Thus, we delete any takeover attempt where the bidder is listed as the following: Employees, Employee Stock Option Plan, Employee Stock Ownership Plan, Individual Group, Investor, Investor Group, Investor Group (Non-US), Seeking [Undisclosed] Buyer, Shareholders, Undisclosed Acquirer, Undisclosed Foreign Co., or Undisclosed Investor.

From our original sample of 702 firms that announce poison pill adoptions from 1983 to 1998 we are able to match 656 with the SDC mergers and acquisitions database. This sample consists of 563 firms incorporated in Delaware and, 93 non-Delaware firms. Table V provides a description of takeover bids by incorporation as well as a chi-squared test of the difference in percentages. Of the 563 Delaware incorporated firms in our sample, 16% receive a takeover bid within three years of poison pill adoption. In comparison, of the 93 non-Delaware firms, 10.5% receive a takeover bid within three years. However, these proportions are not significantly different. Therefore, it is unclear if firms incorporated in Delaware are more likely to receive a takeover bid than non-Delaware firms.

[Insert Table V here]

Next, we further decompose these takeover bids to examine deal completion and attitude. Roughly 70% of takeover attempts launched for firms incorporated in Delaware that receive a takeover bid are completed. This compares to 50% of non-Delaware firms. Once again, these samples are not statistically different. Combining the two, however, Delaware firms are significantly more likely to be successfully taken over than the non-Delaware sample as the percentage of Delaware firms ultimately acquired is double that of non-Delaware firms (11.2% versus 5.26%). Further, for those firms that receive at least one takeover attempt in the three years after adopting a poison pill, Delaware firms attract multiple bidders in 14.5% of takeovers relative to no multiple bids for non-Delaware firms (chi-square statistic of 3.60). This result suggests that Delaware firms are significantly more likely to receive multiple takeover offers and ultimately more likely to be acquired. Of the completed takeovers, 16% of the Delaware incorporated targets are classified as hostile whereas no deals for non-Delaware firms are classified as hostile. However, once again, these are not statistically different.

As a final test of the relation between takeover activity and incorporation decisions, we compare merger premiums in Table V. Firms incorporated in Delaware receive an average (median) merger premium of 26% (24%) over the entire event window. Non-Delaware firms, on the other hand, receive an average (median) merger premium of 24% (21%). These premiums are not significantly different from one another.[11] Thus, while Delaware firms may receive more takeover offers than non-Delaware firms, it does not appear they receive significantly larger takeover premiums than non-Delaware firms.

As a further test, we estimate a set of regressions to examine if Delaware incorporated firms are associated with different takeover activity than other firms in a multivariate setting:

Outcome = f (Incorporation, board characteristics, control variables, time trend) (**3**)

where *Outcome* is takeover bid, bid completion, multiple bids, or merger premium.

We present the results from these regressions in Table VI. In the first set of models, we present logistic regressions in which the dependent variable is equal to one if the firm receives a takeover bid within three years of the poison pill adoption and zero, otherwise. The next two sets of models detail logistic regressions that examine incidence of multiple bids and completion rates, respectively. The final models present regression results in which the dependent variable is the merger premium. For each dependent variable, the first model includes an indicator variable equal to one if the firm is incorporated in Delaware and zero otherwise. Similar to Daines (2001), the next model also controls for firm size, profitability, as well as leverage. Unlike Daines, however, we also include controls for board size and independence.

[Insert Table VI here]

[10] Announcement dates are collected from various sources including *Lexis-Nexis* and *Dow Jones Newswire*.

[11] As a further robustness check, we also conduct this analysis on windows from –5 to +1 and –1 to +1. Once again, we observe no difference in merger terms between the two samples of interest.

For bid incidence and deal completion, the Delaware firm indicator variable is not significant; suggesting these firms are no more likely to receive a takeover bid or have different completion rates. For multiple bids, however, Delaware firms are marginally more likely to attract multiple bids (p-value of coefficient is 0.10). For the most part, none of the other control variables are related to the dependent variables of interest. The exception is that board size is marginally positively related to bid completion. Thus, in the multivariate setting, Delaware firms do not appear more likely to receive a bid or successfully be acquired compared to non-Delaware firms. However, Delaware firms are marginally more likely to attract multiple bids.

The last two models examine merger premiums of completed deals. Again, neither incorporation indicators is related to merger terms but prior firm performance is positively related to the merger premium. This suggests better performing firms may receive better offers. Overall, it appears Delaware laws do not create an environment in which takeover attempts of firms incorporated in Delaware are negotiated at either an advantage or disadvantage to the firm.

In comparing firms incorporated in Delaware to all other firms, Daines (2001) finds that Delaware firms are more likely to receive a takeover bid. However, his sample differs from our sample in two important dimensions. First, the author compares the universe of firms regardless of poison pill adoptions. Our sample, by contrast, contains those firms adopting poison pills and would seem, ex ante, more likely to receive a bid compared to the universe of firms. Second, Daines compares Delaware firms to all other firms. As mentioned before, we argue the relevant comparison group is firms that choose to incorporate out of state but not in Delaware. As a result, overall our findings differ from Daines (2001) in that we find that Delaware firms do not have takeover outcomes that differ significantly from non-Delaware firms.

4.4. Robustness checks

To ensure our results are not a result of omitted variables, we employ a number of robustness checks. First, we collect specific provisions thought to impact the market for corporate control including blank check provisions as well as restrictions on written consent and special meetings from the IRRC database. We repeat both univariate and multivariate analysis detailed above and find these variables are related to announcement period returns for either our Delaware or non-Delaware samples.

Second, it is possible there is leakage surrounding the announcement of the adoption of a poison pill. Therefore, we extend Table II to include analysis -30 days to -1 day prior to the adoption of the poison pill to capture potential information leakage pre-announcement. Further, we examine +2 days to +30 days after the announcement to capture any post-announcement drift. In both cases returns are insignificant for both the Delaware and non-Delaware firms and the difference between the run-up or post-drift returns for the Delaware and non-Delaware is insignificantly different (p-values of 0.95 and 0.37, respectively).

We also separate poison pill announcement effect from subsequent takeover announcement. We find weak evidence of a longer delay between pill adoption and subsequent takeover activity for Delaware firms. However, given the small sample size and the fact that this result does not hold for all time periods, we are reluctant to make any meaningful conclusion. Next, we repeat all analyses including those firms headquartered and incorporated in the same state. In general, this sample of firms does not materially differ from the two samples that this paper studies. Given our motivation for examining out-of-state incorporation (as opposed to the home state bias), we do not include these results in our models.

Furthermore, we conduct a series of analyses to ascertain whether the relation between incorporation and poison pill adoption is time dependent. Therefore, we split our sample into the 1980s and the 1990s and rerun all tests for each of these time periods. Overall, we observe no strong differences in results between the samples over time. We further test for differences in the 1990s by splitting the sample into the early (1990-1995) and late (1996-1998) to capture differences that may have emerged. Once again, our results are qualitatively similar.

We examine poison pill adoptions in Delaware and non-Delaware states in order to distinguish between shareholder-interest and management-interest hypotheses. Our univariate results suggest that the positive cumulative abnormal returns to Delaware firms may be consistent with the shareholder-interest hypothesis (though these results do not hold in multivariate analyses). It is possible, however, that an executive became CEO of a firm that has already been incorporated and thus, this CEO did not choose where to incorporate. As prior studies demonstrate, there are not a large number of firms that choose to undertake re-incorporations (Heron and Lewellen, 1998). In these cases, the interests of the CEO who chose to incorporate in Delaware may be different than those of the current CEO and the adoption of the poison pill may reflect information about the current CEO, the value of Delaware law, the likelihood of a takeover, or a combination of these three.

As a result, we repeat our analyses based on the status of the CEO. For all firms that announce the adoption of a poison pill in the 1990s, we collect the incorporation date of the firm (first day publicly traded)

and determine whether the CEO at the incorporation date is the same CEO at the poison pill adoption date.[12] For the sample where the CEO remains the same, at least, there is no conflict between the CEO that chose to incorporate in a state and then later chose to adopt a poison pill. In general, we find that for both the Delaware and non-Delaware firms, announcement returns are not different for the firms where the CEO is the same at incorporation and pill adoption versus when the CEO is different (p-value of all differences are insignificant).

Finally, we conduct a number of econometric tests to ensure the stability of our results. We run all our regressions including variance inflation factors (VIFs) to test for multicollinearity. Overall, including the VIFs do not change any of the statistical inferences we draw about the significance of the coefficients. In particular, the largest variance inflation factor in any of the regressions for any variable is 2.20. Bowerman, O'Connell, and Dickey (1986) and others suggest multicollinearity may seriously influence the estimates if the largest variance inflation factor is greater than ten. As a further robustness check, we also run tests for heteroscedasticity. Specifically, we adjust standard error terms using a White test (heteroscedasticity). Results remain qualitatively the same in all regression specifications.

5. Conclusion

As the dominant location for firm incorporations and corporate law, Delaware occupies a distinctive place in corporate governance and control. Critics of Delaware's success in attracting corporations assert Delaware enacts laws that are more enticing to managers than the shareholders of the firm leading toward a "race to the bottom." Defenders of Delaware's prominence suggest an alternative "race to the top" view of state charter competitions managers will be disciplined by the market if they incorporate in a state whose laws benefit managers to the detriment of the firm's shareholders.

Our investigation provides fresh evidence on this debate by investigating the announcements of a large sample of firms that adopt poison pills. Consistent with the "race to the top" view, our results show that announcement of poison pill adoptions by Delaware firms elicits a positive stock-price reaction. In contrast, the announcements of adoptions of poison pills by firms headquartered and incorporated in different states (non-Delaware) are associated with a negative but insignificant response.

However, in multivariate analysis that controls for additional variables, we fail to find evidence Delaware firms are associated with higher announcement returns. Moreover, Delaware firms that adopt poison pills are no more likely to receive a takeover bid, be successfully acquired, or receive better merger terms than non-Delaware firms. They are marginally more likely, however, to attract multiple bidders. Our results are robust to a number of additional tests including the absolute number of anti-takeover provisions, the existence of a staggered board, and are not time dependent. The adoption of a poison pill does not inherently benefit or harm shareholders. Thus, our results support neither the "race to the top" nor "race to the bottom" hypotheses regarding Delaware primacy in the market for incorporation. It appears Delaware law, with regards to takeovers, promotes an environment consistent with a "race to the middle" philosophy, neutral to management and shareholders.

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[12] Over two-thirds of our sample firms announced the adoption of a poison pill in the 1990s. Further, for a majority of the firms that do adopt poison pills in the 1990s, the CEO at incorporation is the same CEO at the announcement of the adoption of a poison pill. This is not surprising as research indicates that firms are likely to alter their governance structures around the time of their initial public offering. In addition, for a number of firms where the CEO is not the same at incorporation as at the adoption of a poison pill, the CEO at incorporation is the Executive Chair of the board (has split the CEO-Chair positions) and likely played a key role in the decision to adopt the pill.

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Table I. Attributes of poison pills adopted by firms

This table details attributes of poison pills adopted by firms from 1983 to 1998. The first column details all 702 firms, while the second and third column details our Delaware sample (603 firms) and our non-Delaware sample (99 firms), respectively. The fourth column provides a t-statistic of the difference in means between the second and third columns. Duration is the length of the pill in years. Trigger level is the percentage of firm's outstanding shares that activates the pill. Adverse person provisions in poison pills permit a firm to set a lower trigger for shareholder deemed by the firm to have a harmful effect on the firm (for example, the trigger level may be 10% for the adverse shareholder whereas the normal trigger level may be 15%). Dead-hand provisions allow redemption of the poison pill only by those directors in place when the pill was originally adopted. Board size is the number of directors on the firm's board. Board independence is the proportion of outside directors divided by board size. Return on equity is net income to total equity for the year prior to the announcement. Firm size is total assets (millions) for the year prior to the announcement. Leverage is total debt to total assets for the year prior to the announcement. The time dummy is equal to one if the announcement is during the 1990s and zero otherwise. The firm governance index is the measure taken from the IRRC database and is the sum of shareholder restrictions. The classified board dummy is equal to one if the firm has a classified board provision in place the year of the announcement and zero otherwise. Significance is measured at the 1% (***), 5% (**) and 10% (*) levels.

Attribute	All firms	DE firms	Non-DE firms	t-statistic (DE vs. non-DE)
Mean (median) duration	9.89 (10)	9.91 (10)	9.75 (10)	1.17
Mean (median) trigger level	17.32 (15)	17.28 (15)	17.52 (20)	0.56
Percentage of pills with an adverse person provision [b]	8.98	8.29	13.13	1.35
Percentage of pills with a dead-hand provision [c]	1.99	2.32	0.00	3.78***
Mean (median) board size	7.52 (7)	7.39 (7)	8.31 (8)	2.47**
Mean (median) board independence	62% (67%)	62% (67%)	66% (71%)	1.82*
Mean (median) return on equity	9.9% (6.2%)	10.2% (6.7%)	7.8% (3.3%)	2.35**
Mean (median) firm size (assets millions)	1,753 (245)	1,806 (232)	1,431 (395)	0.85
Mean (median) leverage (debt/total assets)	0.09 (0.06)	0.10 (0.06)	0.08 (0.04)	1.82*

Table II. Mean abnormal announcement returns surrounding adoptions of poison pills

This table details mean abnormal returns around the announcement of the adoption of a poison pill for 702 firms from 1983 to 1998. Returns are provided for all firms and then segmented whether a takeover attempt was made in the year prior to the adoption of the poison pill (Pre-Attempt) or not (No Pre-Attempt). The announcement date is (day 0) is defined as the first public announcement of the poison pill adoption, as reported in *Security Data Corporation's* Poison Pill Database. Abnormal returns are calculated over a two-day announcement period encompassing days 0 and 1 in event time. The first row details firms that are incorporated in Delaware. The second row provides announcement returns for our non-Delaware sample. The third and fourth row segments the Non-Delaware sample into firms located in states documented to be more hostile to takeovers versus those states that are neutral or friendly. The last row provides a t-statistic of the difference in means between the Delaware and Non-Delaware samples. T-statistics are in parentheses below coefficients.

Sample Category	All Firms Mean CAR	No Pre-Attempt Mean CAR	Pre-Attempt Mean CAR
Poison pill adoptions by DE incorporated firms	0.539% (2.13)	0.483% (2.02)	2.609% (1.43)
N	603	576	27
Poison pill adoptions by Non-DE firms	-0.471% (-1.16)	-0.438% (-1.07	-1.492% (-1.37)
N	99	95	4
Poison pill adoptions by Non-DE firms – Management Friendly (MA, PA, OH)	-1.405% (-1.05)	-1.405% (-1.05)	-- (--)
N	7	7	0
Poison pill adoptions by Non-DE firms – Shareholder Friendly	-0.411% (-0.98)	-0.362% (-0.84)	-1.492 (-1.37)
N	92	88	4
Differences			
DE vs. Non-DE	1.10%	0.92%	4.10%
t-statistic	2.34	2.34	1.93
Shareholder Friendy vs. Management Friendly t-statistic	0.99% 0.64	1.04% 0.66	-- --

Table III. Correlation matrix

This table provides a correlation matrix of variables used in regression analysis of the 702 firms that adopt a poison pill from 1983 to 1998. Abnormal returns are calculated over a two-day announcement period encompassing days 0 and 1 in event time. DE firms is an indicator variable equal to one if the firm is incorporated in Delaware. Board size is the number of directors on the firm's board. Board independence is the proportion of outside directors divided by board size. Return on equity is net income to total equity for the year prior to the announcement. Firm size is total assets (millions) for the year prior to the announcement. Leverage is total debt to total assets for the year prior to the announcement. The time dummy is equal to one if the announcement is during the 1990s and zero otherwise. P-values are in parentheses below coefficients.

Variable	DE Firms	Board Size	Board Independ	ROE	Firm Size	Leverage	Dummy = 1 for 1990s
Announcement return	0.059	-0.034	-0.003	0.058	-0.036	0.032	0.023
	(0.12)	(0.36)	(0.94)	(0.12)	(0.34)	(0.39)	(0.55)
DE Firms		-0.093	-0.069	0.073	0.017	0.058	0.105
		(0.01)	(0.07)	(0.05)	(0.65)	(0.13)	(0.01)
Board Size			0.578	-0.279	0.345	-0.239	-0.287
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Board Independence				-0.069	0.088	-0.078	-0.079
				(0.07)	(0.00)	(0.04)	(0.04)
ROE					-0.157	0.440	0.176
					(0.00)	(0.00)	(0.00)
Firm Size						-0.154	-0.145
						(0.00)	(0.00)
Leverage							0.022
							(0.56)

Table IV. Determinants of the abnormal returns for poison pill adoption announcements

This table details regressions of the two-day announcement returns (0, +1) surrounding poison pill adoptions. The dummy variable is equal to one if the firm is incorporated in Delaware and zero otherwise. Board size is the number of directors on the firm's board. Board independence is the proportion of outside directors divided by board size. Return on equity is net income to total equity for the year prior to the announcement. Firm size is total assets (millions) for the year prior to the announcement. Leverage is total debt to total assets for the year prior to the announcement. The Time Trend is a binary variable equal to one if the announcement occurred during the 1990s and zero otherwise. Staggered board is a dummy variable equal to one if the firm has a classified board provision and zero otherwise. GDC Index is the total number of anti-takeover provisions taken from the IRRC database. T-statistics are in parentheses below coefficients.

Model: CAR = *f* (Incorporation, board characteristics$_t$, control variables$_t$, time trend$_t$)

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.005	0.006	0.002	-0.007	-0.007	-0.021
	(0.43)	(0.97)	(0.46)	(-0.70)	(-0.64)	(-1.17)
Dummy = 1 if DE firm	0.010			0.010	0.010	0.011
	(1.57)			(1.46)	(1.45)	(1.25)
Board size		-0.001		-0.001	-0.000	0.000
		(1.06)		(-0.31)	(-0.29)	(0.14)
Board Independence		-0.006		0.004	0.004	0.009
		(0.55)		(0.33)	(0.33)	(0.57)
Return on Equity			0.001	0.001	0.000	0.000
			(1.23)	(1.06)	(1.05)	(0.87)
Firm Size (Assets)			-0.002	-0.002	-0.002	-0.001
			(-0.71)	(-0.62)	(-0.62)	(-0.33)
Leverage			0.003	0.001	0.001	0.014
			(0.13)	(0.06)	(0.06)	(0.37)
Time Trend					0.001	0.004
					(0.04)	(0.66)
Staggered Board						0.003
						(0.48)
GDC Index						-0.001
						(-0.40)
Sample Size	702	702	702	702	702	295
R-squared	0.004	0.002	0.004	0.008	0.008	0.017

Table V. Takeover bids subsequent to adoptions of poison pills

This table details information on takeover bids for the three years following the adoption of a poison pill for firms from 1983 to 1998. The first column details our sample of Delaware firms. The second column provides details for our sample of non-Delaware firms. The third column provides a chi-square statistic (since variables are percentages) of the difference in means between the first two columns. Takeover bid incidence is the percentage of firms receiving a takeover bid within three years of adopting a poison pill. Completion rate is the percentage of takeover bids that are successful and Takeover bid * Completion rate is the percentage of all firms that receive successful takeover bids. Multiple bids is for the sample of firms successfully acquired and is a binary variable equal to one if the target firm received more than one takeover attempt in the three years after adopting a poison pill. Deal attitude is a binary variable equal to one if the takeover was defined as hostile (resisted by target management). Merger premium is the merger premium is defined as the cumulative abnormal return from 30 days prior to the merger announcement date to five days after and is calculated using return data from the *Center for Research of Security Prices* (CRSP).

Variable	DE firms	Non-DE firms	Chi-square
Takeover bid incidence	16.11%	10.53%	1.38
Completion rate	69.70%	50.00%	1.27
Takeover bid * Completion rate	11.20%	5.26%	2.65
Multiple bids	14.49%	0.00%	3.60
Deal attitude = Hostile	16.16%	10.00%	0.51
Merger premium	26.36%	24.00%	0.26

Table VI. Regressions estimating the probability of takeover bids and merger premium subsequent to poison pill adoptions

This table details regressions estimating the probability of a firm receiving a takeover bid, the bid is completed, and receiving multiple bids within three years of adopting a poison pill. The final regressions provide OLS estimates where the dependent variable is merger premium. DE Firm is a dummy variable equal to one if the firm is incorporated in Delaware and zero otherwise. Board size is the number of directors on the firm's board. Board independence is the proportion of outside directors divided by board size. Return on equity is net income to total equity for the year prior to the announcement. Firm size is total assets (millions) for the year prior to the announcement. Leverage is total debt to total assets for the year prior to the announcement. Standard errors are in parentheses below coefficients. Significance is measured at the 1% (***), 5% (**) and 10% (*) levels.

Model: Outcome = f (Incorporation$_t$, board characteristics$_t$, control variables$_t$)

	Outcome = Takeover bid		Outcome = Bid completion		Outcome = Multiple bids		Outcome = Merger premium	
Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-2.140***	-2.253***	-3.611***	-3.937***	-2.653***	-2.768**	0.215***	0.133
	(0.37)	(0.53)	(0.72)	(1.35)	(0.46)	(0.62)	(0.03)	(0.09)
DE Firm	0.475	0.520	-0.202	-0.197	0.767*	0.803*	-0.004	-0.031
	(0.39)	(0.40)	(0.78)	(0.79)	(0.48)	(0.48)	(0.03)	(0.06)
Board Size		0.047		0.182*		0.078		-0.001
		(0.05)		(0.11)		(0.05)		(0.01)
Board Independence		-0.268		-0.608		-0.687		0.099
		(0.61)		(0.52)		(0.66)		(0.10)
Return on Equity		-0.006		0.062		0.011		0.004**
		(0.01)		(0.05)		(0.01)		(0.00)
Firm Size (Assets)		0.000		-0.001		-0.000		-0.000
		(0.00)		(0.00)		(0.00)		(0.00)
Leverage		-2.244		-1.718		-2.020		0.288
		(1.45)		(2.55)		(1.51)		(0.30)
Sample Size	656	656	656	656	656	656	138	138
Likelihood Ratio	2.47	8.93	0.06	7.00	3.06	8.08	--	--
p-value	0.29	0.18	0.80	0.32	0.08	0.23	0.90	0.10