

Poison or placebo? Evidence of the deterrence and wealth effects of modern antitakeover measures – Comment & Schwert (1995)

- **The adoption of defensive measures, and the demise of the takeover market.**
- **Poison pills are introduced and adopted at an increasing rate, while takeovers become less frequent.**
- **Takeover premium are a benefit to shareholders, so why deter takeovers?**
- **Tests on announcement effects show only a small negative effect.**

Is a poison pill adoption intended to deter takeover or increase bargaining power?

- **In most of the announcements, managers were asked about takeover possibility.**
- **Most pill adoptions are followed by a takeover attempt.**
- **The credit crunch.**

Self selection

- **Is poison pill adoption endogenous?**
 - **Adoption of a pill is simple and quick.**
 - **Do managers adopt a poison pill when they have knowledge of a takeover?**

Table 2 – Poison pill adoption wealth effect

| Variable | Regression coefficients (<i>t</i> -statistic) | Proportion of sample | Average return (<i>t</i> -statistic) |
|--------------------------------|---|----------------------|--|
| Prior control premium (= 1) | – 0.0209 (– 6.60) | 0.1659 | – 0.0155 (– 5.20) |
| Contemporaneous M&A news (= 1) | 0.0326 (3.16) | 0.0685 | 0.0404 (4.81) |
| NASDAQ-listed firm (= 1) | – 0.0076 (– 2.40) | 0.3633 | – 0.0022 (– 0.92) |
| <i>Year-by-year intercepts</i> | | | |
| 1984 | – 0.0232 (– 1.71) | 0.0062 | – 0.0285 (– 1.56) |
| 1985 | 0.0068 (0.81) | 0.0254 | 0.0017 (0.23) |
| 1986 | 0.0032 (1.31) | 0.2255 | 0.0005 (0.20) |
| 1987 | 0.0038 (0.81) | 0.0987 | 0.0022 (0.45) |
| 1988 | 0.0098 (3.29) | 0.2358 | 0.0072 (2.98) |
| 1989 | 0.0023 (0.66) | 0.2282 | – 0.0014 (– 0.50) |
| 1990 | 0.0036 (0.74) | 0.1206 | 0.0032 (0.71) |
| 1991 | 0.0087 (1.18) | 0.0596 | 0.0060 (1.09) |
| \bar{R}^2 | 0.048 | | |
| Standard error of regression | 0.0537 | | |
| Degrees of freedom | 1,448 | | |

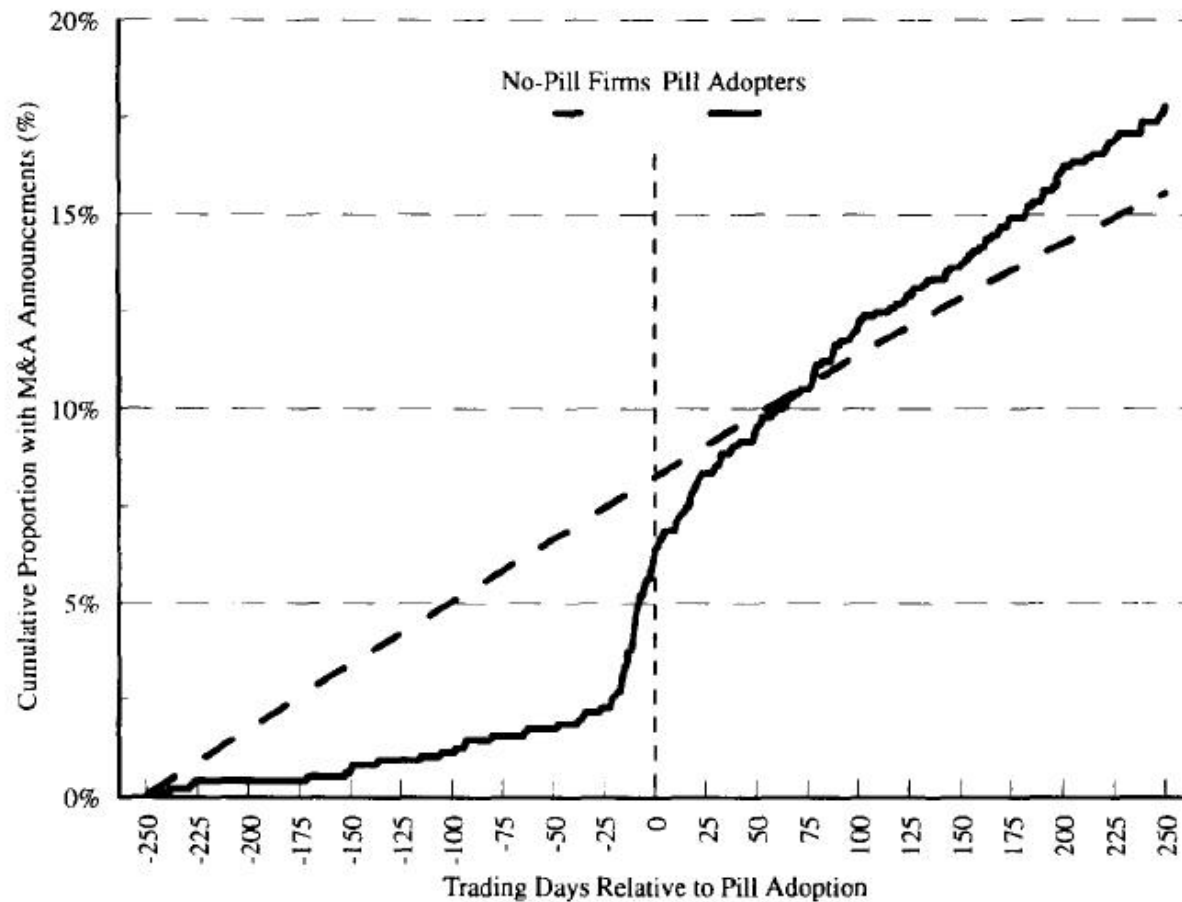


Fig. 5. Event study showing the cumulative proportion of firms receiving merger and acquisition (M&A) announcements within a year of the date of adoption of an initial poison pill, for 960 exchange-listed firms that adopted pills in the period 1983–90. The dotted line shows the cumulative fraction, over corresponding two-year periods, for exchange-listed firms that never adopted a poison pill. M&A announcements include merger proposals, merger agreements, and inter-firm tender offers, regardless of success.

The Method

- **The two stage model uses first a Probit model to estimate the probability of adopting a poison pill.**

$$\text{Pr ob}(P = 1) = \Phi(b' X)$$

where $\Phi(b' X)$ is the cumulative standard normal distribution function.

- **The second stage uses either a Probit model or linear model where instead of using the actual pill adoption dummy variable, the expected probability and the residual are used.**

$$Y = g_1 \hat{P} + g_2 \hat{e}_1 + b' X + e_2$$

Where \hat{P} is the expected value from the first stage, and \hat{e}_1 is the residual.

Table 3

| | Takeover dummy | | | Pill adoption dummy | | |
|-------------------------------------|--------------------|------------------------------|-----------------|---------------------|---------------------|-----------------|
| | Probit coefficient | Adjusted <i>t</i> -statistic | Marginal effect | Probit coefficient | <i>t</i> -statistic | Marginal effect |
| <i>Poison pill</i> | 0.345 | 4.60 | 0.0234 | | | |
| Predicted pills (from probit) | - 0.735 | - 2.01 | - 0.0498 | | | |
| Surprise pills (error from probit) | 0.418 | 5.23 | 0.0283 | | | |
| Control share law | 0.184 | 1.55 | 0.0124 | 0.277 | 5.49 | 0.0233 |
| Business combination law | 0.267 | 1.74 | 0.0181 | 0.573 | 7.88 | 0.0481 |
| Abnormal return (in % over 4 years) | 0.177 | 1.42 | 0.0120 | - 0.054 | - 0.46 | - 0.0045 |
| Sales growth (4-year average) | - 0.086 | - 0.51 | - 0.0059 | - 0.450 | - 3.28 | - 0.0378 |
| Liquidity (4-year average) | 0.073 | 0.64 | 0.0048 | 0.453 | 4.59 | 0.0380 |
| Debt/equity (4-year average) | - 0.024 | - 1.30 | - 0.0017 | - 0.011 | - 0.99 | - 0.0009 |
| Market/book (4-year average) | - 0.012 | - 0.70 | - 0.0008 | 0.011 | 0.96 | 0.0009 |
| Price/earnings (4-year average) | - 0.001 | - 0.62 | - 0.0001 | 0.003 | 2.33 | 0.0003 |
| Size | - 0.048 | - 3.24 | - 0.0032 | 0.231 | 20.79 | 0.0194 |
| Constant | - 1.602 | 11.81 | - 0.1086 | - 4.997 | - 31.39 | - 0.4199 |
| 1986 | 0.216 | 1.61 | 0.0147 | 1.188 | 7.52 | 0.0998 |
| 1987 | 0.155 | 1.17 | 0.0105 | 2.374 | 17.29 | 0.1995 |
| 1988 | 0.300 | 2.20 | 0.0204 | 2.577 | 18.85 | 0.2165 |
| 1989 | 0.234 | 1.41 | 0.0159 | 2.866 | 21.04 | 0.2408 |
| 1990 | - 0.114 | - 0.58 | - 0.0077 | 2.689 | 18.22 | 0.2260 |
| 1991 | - 0.681 | 2.58 | - 0.0462 | 2.746 | 18.19 | 0.2307 |
| Log-likelihood | | - 2922.89 | | | - 3291.12 | |
| Degrees of freedom | | 21,869 | | | 21,871 | |

Table 4

| Predictors | Full sample | | Successful takeover sample | |
|---|-------------|---------------------|----------------------------|---------------------|
| | Coefficient | <i>t</i> -statistic | Coefficient | <i>t</i> -statistic |
| <i>Poison pill</i> | 0.0144 | 4.38 | 0.1627 | 2.95 |
| Predicted pills (from probit) | 0.0024 | 0.30 | 0.4588 | 1.60 |
| Surprise pills (error from probit) | 0.0151 | 4.33 | 0.1453 | 2.31 |
| Control share law | 0.0080 | 1.96 | 0.1094 | 1.61 |
| Business combination law | 0.0054 | 2.22 | 0.0269 | 0.29 |
| Abnormal return (in % over 4 years) | 0.0059 | 1.71 | 0.0439 | 0.61 |
| Sales growth (4-year average) | 0.0048 | 1.27 | 0.3964 | 3.48 |
| Liquidity (4-year average) | 0.0096 | 3.18 | 0.0813 | 1.33 |
| Debt/equity (4-year average) | - 0.0003 | - 1.77 | - 0.0167 | - 1.37 |
| Market/book (4-year average) | - 0.0005 | - 2.52 | - 0.0212 | - 2.00 |
| Price/earnings (4-year average) | - 0.0001 | - 1.46 | - 0.0012 | - 0.97 |
| Size | - 0.0008 | - 2.38 | 0.0020 | 0.20 |
| Constant | 0.0137 | 5.31 | 0.2048 | 3.02 |
| 1986 | 0.0020 | 0.92 | - 0.1214 | - 3.74 |
| 1987 | - 0.0012 | - 0.48 | - 0.1665 | - 2.78 |
| 1988 | 0.0119 | 2.66 | 0.0198 | 0.29 |
| 1989 | - 0.0007 | - 0.18 | - 0.2400 | - 2.30 |
| 1990 | - 0.0103 | - 3.97 | - 0.3008 | - 4.42 |
| 1991 | - 0.0144 | - 4.21 | - 0.3300 | - 2.08 |
| Auction (<i>t</i> = 1 if multiple bidders) | | | 0.1137 | 3.61 |
| Cash (<i>t</i> = 1) | | | 0.0857 | 3.53 |
| Tender offer (<i>t</i> = 1) | | | 0.1296 | 5.27 |
| \bar{R}^2 | 0.005 | | 0.192 | |
| Standard error of regression | 0.0826 | | 0.2933 | |
| Degrees of freedom | 21,869 | | 648 | |