

Online Appendix: Do Stock Price Informativeness and Managerial Attributes Facilitate M&A Success?

Table A.1 The effect of past managers' use of the private information in stock prices on M&A investments and performance

This table reports the results of the effect of past managers' use of the private information in stock prices on M&As and their performance. Specifically, we estimate the following equation:

$$DV = \alpha + \beta \times MA_SCORE \times HI_PIN + \gamma Controls + \varepsilon,$$

where DV is the acquirer's $M\&A_INVST$, CAR (-2, +2), and $OPER_PERF$, respectively. $M\&A_INVST$ is the M&A dummy, which takes the value of one if the firm announces an M&A in a given year, and zero otherwise. CAR (-2, +2) is the stock cumulative abnormal return over the five-day window [-2, 2] around the M&A announcement date, based on the Fama–French three-factor model. $OPER_PERF$ is an acquirer's three-year post-merger operating performance after the deal completion date. In Panels A and B, we use the MA_SCORE and HI_PIN at t-2 and t-3, respectively. MA_SCORE is the managerial ability score estimated following Demerjian et al. (2012)'s approach. We use the probability of informed trading (PIN) as our stock price informativeness measures. HI_PIN is a dummy that is equal to one if a firm's PIN value is above the median in its FF48 industry, and zero otherwise. Other controls are CEO_DELTA , CEO_VEGA , $DUAL_CEO$, $ABSDA$, LEV , $SPLUS_CASH$, $Tobin's\ Q$, $NWCR$, $STOCK_RET$, $SALE_FROWTH$, $SIZE$, $FAGE$, industry dummies, and year dummies. When $M\&A_INVST$ is used as the DV , we use probit regression to estimate the model. For other DVs , OLS is used. The detailed definitions of the variables are listed in Appendix A. Standard errors in parentheses are heteroskedasticity robust and are clustered at the firm level. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

Panel A: The effect of past managers' use of the private information in stock prices (t-2)

| DV | (1) | (2) | (3) |
|----------------------------|-----------------------|---------------------|-----------------------|
| | $M\&A_INVST$ | CAR (-2, +2) | $OPER_PERF$ |
| $MA_SCORE \times HI_PIN$ | 0.6806*** (0.2406) | 0.0205* (0.0117) | 1.1485* (0.6857) |
| MA_SCORE | -0.4136* (0.2314) | -0.0133 (0.0087) | -0.1056 (0.5312) |
| HI_PIN | -0.0574 (0.0427) | -0.0015 (0.0022) | -0.2497** (0.1151) |
| Controls & Fixed | Yes | Yes | Yes |
| Observations | 25208 | 6503 | 6049 |
| R^2 / Pseudo R^2 | 0.0582 | 0.0262 | 0.3541 |

Panel B: The effect of past managers' use of the private information in stock prices (t-3)

| DV | (1) | (2) | (3) |
|----------------------------|---------------------|----------------------|------------------------|
| | $M\&A_INVST$ | CAR (-2, +2) | $OPER_PERF$ |
| $MA_SCORE \times HI_PIN$ | 0.3182 (0.2552) | 0.0267** (0.0131) | 1.8595*** (0.4993) |
| MA_SCORE | -0.2448 (0.2416) | -0.0101 (0.0101) | -1.2778*** (0.4357) |
| HI_PIN | -0.0114 (0.0459) | -0.0008 (0.0023) | -0.2348*** (0.0900) |
| Controls & Fixed | Yes | Yes | Yes |
| Observations | 22616 | 5124 | 4684 |
| R^2 / Pseudo R^2 | 0.0576 | 0.0272 | 0.3599 |

Table A.2 Multivariate analysis of acquirer abnormal returns and three-year post-merger operating performances:

Additional managerial attributes measures

This table reports the multivariate analysis results of acquirer's announcement cumulative abnormal returns, *CAR* (-2, 2), and three-year post-merger operating performance, *OPER_PERF*, using additional managerial attributes measures. The dependent variables of regressions (1) to (4) and (5) to (8) are *CAR* and *OPER_PERF*, respectively. From Panels A to B, the managerial attributes measure is fitted value of CEO fixed effect (*CEO_FIX*) and CEO compensation (*CEO_COMP*), respectively. *INFO* is the measure of stock price informativeness. We use the probability of informed trading (*PIN*), stock price nonsynchronicity (*NSY*), idiosyncratic volatility (*IVOL*), and bid-ask spread (*BASPD*) as our *INFO*, alternately. *HI_INFO* is a dummy that equals one if a firm's *INFO* value is above the median in its FF48 industry, otherwise zero. Other controls are *CEO_DELTA*, *CEO_VEGA*, *DUAL_CEO*, *ABSDA*, *Tobin's Q*, *MRKT_CAP*, *LEV*, *CASH_D*, *STOCK_D*, *SPLUS_CASH*, *PUBLIC_D*, *TENDER_D*, *TECH_D*, *HOSTILE_D*, *DIV_D*, *DEAL_RATIO*, industry dummies, and year dummies. The detailed definitions of the variables are listed in Appendix A. The results are estimated by using two-step Heckman model. The specification of the first stage probit model is the same as regression (5) of Panel B in Table 3. The results of the second stage are reported. Standard errors are reported in parentheses. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

| DV: | <i>CAR</i> (-2, 2) | | | | <i>OPER_PERF</i> | | | |
|----------------------------------|----------------------|-----------------------|-----------------------|---------------------|------------------------|-----------------------|------------------------|------------------------|
| Panel A: <i>CEO_FIX</i> | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| <i>INFO</i> | <i>PIN</i> | <i>NSY</i> | <i>IVOL</i> | <i>BASPD</i> | <i>PIN</i> | <i>NSY</i> | <i>IVOL</i> | <i>BASPD</i> |
| <i>CEO_FIX</i> × <i>HI_INFO</i> | 0.0164** (0.0067) | 0.0040 (0.0070) | 0.0136** (0.0067) | 0.0113* (0.0068) | 0.4399** (0.1542) | 0.0172 (0.1617) | 1.0300*** (0.1536) | 1.0488*** (0.1568) |
| <i>CEO_FIX</i> | -0.0054 (0.0068) | -0.0006 (0.0069) | -0.0032 (0.0069) | -0.0023 (0.0071) | 0.5004*** (0.1589) | 0.6825*** (0.1570) | 0.2593* (0.1576) | 0.1784 (0.1638) |
| <i>HI_INFO</i> | -0.0068 (0.0037) | 0.0042 (0.0042) | -0.0012 (0.0039) | 0.0002 (0.0038) | -0.2623*** (0.0829) | 0.2343** (0.0930) | -0.6005*** (0.0878) | -0.7698*** (0.0853) |
| Panel B: <i>CEO_COMP</i> | | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| <i>INFO</i> | <i>PIN</i> | <i>NSY</i> | <i>IVOL</i> | <i>BASPD</i> | <i>PIN</i> | <i>NSY</i> | <i>IVOL</i> | <i>BASPD</i> |
| <i>CEO_COMP</i> × <i>HI_INFO</i> | 0.0020 (0.0017) | 0.0034** (0.0017) | 0.0036** (0.0078) | 0.0032* (0.0017) | 0.2026*** (0.0380) | 0.0548 (0.0380) | 0.1669*** (0.0403) | 0.1176*** (0.0380) |
| <i>CEO_COMP</i> | 0.0007 (0.0015) | 0.0002 (0.0014) | -0.0005 (0.0016) | -0.0003 (0.0015) | -0.1357*** (0.0348) | -0.0469 (0.0320) | -0.1236*** (0.0357) | -0.0859** (0.0353) |
| <i>HI_INFO</i> | 0.0043 (0.0039) | 0.0124*** (0.0041) | 0.0117*** (0.0042) | 0.0113 (0.0040) | 0.3206*** (0.0893) | 0.3742*** (0.0935) | 0.1913** (0.0967) | -0.0759 (0.0915) |

Table A.4 Multivariate analysis in the subsamples

This table reports the multivariate analysis results of acquirer's announcement cumulative abnormal returns, *CAR* (-2, 2), and three-year post-merger operating performance, *OPER_PERF*, in the subsamples. Regressions (1) and (2), regression (3) and (4), and regressions (4) and (5) are estimated in the subsamples with the M&A deals that the acquirers have 0%, 20%, and 30% of targets' shares before the M&A announcement, respectively. Regressions (7) and (8) are estimated in a subsample with a deal value greater than 100 million. *CAR* is the stock cumulative abnormal return over the five-day window [-2, 2] around the M&A announcement date, based on the Fama–French three-factor model. *OPER_PERF* is an acquirer's three-year post-merger operating performance after the deal completion date. *MA_SCORE* is the managerial ability score. *HI_PIN* is a dummy that equals one if an acquirer's probability of informed trading (*PIN*) value is above the median in its FF48 industry, otherwise zero. Other controls are *CEO_DELTA*, *CEO_VEGA*, *DUAL_CEO*, *ABSDA*, *Tobin's Q*, *MRKT_CAP*, *LEV*, *CASH_D*, *STOCK_D*, *SPLUS_CASH*, *PUBLIC_D*, *TENDER_D*, *TECH_D*, *HOSTILE_D*, *DIV_D*, and *DEAL_RATIO*. The detailed definitions of the variables are listed in Appendix A. We also control for industry- and year-fixed effects in all the specifications. Standard errors reported in parentheses are heteroskedasticity robust and are clustered at the firm level. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------|-----------------------------|-----------------------|
| Sampling criterion | <i>Hold 0% of Target's shares</i> | <i>Hold 20% of Target's shares</i> | <i>Hold 20% of Target's shares</i> | <i>Hold 30% of Target's shares</i> | <i>Hold 30% of Target's shares</i> | <i>Deal value > 100M</i> | <i>Deal value > 100M</i> | |
| DV | <i>CAR</i> | <i>OPER_PERF</i> | <i>CAR</i> | <i>OPER_PERF</i> | <i>CAR</i> | <i>OPER_PERF</i> | <i>CAR</i> | <i>OPER_PERF</i> |
| <i>MA_SCORE</i> × <i>HI_PIN</i> | 0.0443*** (0.0170) | 0.7500** (0.3432) | 0.0438** (0.0170) | 0.7624** (0.3416) | 0.0434** (0.0170) | 0.7335** (0.3438) | 0.0805** (0.0372) | 0.6992* (0.3921) |
| <i>MA_SCORE</i> | -0.0116 (0.0072) | 0.5127 (0.2619) | -0.0103 (0.0072) | 0.4808* (0.2602) | -0.0106 (0.0072) | 0.5092* (0.2630) | -0.0129 (0.0097) | 0.1061 (0.2794) |
| <i>HI_PIN</i> | -0.0003 (0.0021) | -0.0606 (0.0603) | -0.0001 (0.0021) | -0.0612 (0.0602) | -0.0002 (0.0021) | -0.0690 (0.0602) | -0.0036 (0.0036) | -0.1723** (0.0713) |
| Controls & Fixed | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 7,960 | 7,203 | 8,026 | 7,263 | 8,051 | 7,282 | 3,896 | 3,432 |
| Adjusted R ² | 0.0252 | 0.2660 | 0.0252 | 0.2660 | 0.0253 | 0.2633 | 0.0527 | 0.3097 |

Table A.5 Multivariate analysis: Controlling for pre-acquisition earnings smoothing

This table reports the effects of the interaction between acquirer's managerial attributes (MA_SCORE) and private information in stock prices (PIN) on acquirer's $M\&A_DEAL_VALUE/M\&A_INVST/CAR(-2, 2)/OPER_PERF$. Specifically, we estimate the following equation:

$$M\&A_DEAL_VALUE/M\&A_INVST/CAR/OPER_PERF = \alpha + \beta_1 \times MA_SCORE \times HI_PIN \times ABSDA + \beta_2 \times MA_SCORE \times HI_PIN + \gamma Controls + \varepsilon,$$

where $M\&A_DEAL_VALUE$, the sum of acquirer's M&A deal value in a given year scaled by assets value; $M\&A_INVST$ is the M&A deal dummy, which takes the value of one if the firm announces an M&A in a given year, and zero otherwise; CAR is the stock cumulative abnormal return over the five-day window $[-2, 2]$ around the M&A announcement date, based on the Fama–French three-factor model; $OPER_PERF$ is the average three-year post-merger operating performance. MA_SCORE is estimated following Demerjian et al. (2012)'s approach. HI_PIN is a dummy that equals one if PIN value is above the median in its FF48 industry, otherwise zero. $ABSDA$ is the absolute value of discretionary accruals estimated using the approach introduced by Kothari, Leone, and Wasley (2005). Other controls are CEO_DELTA , CEO_VEGA , $DUAL_CEO$, $ABSDA$, *Tobin's Q*, $MRKT_CAP$, LEV , $CASH_D$, $STOCK_D$, $SPLUS_CASH$, $PUBLIC_D$, $TENDER_D$, $TECH_D$, $HOSTILE_D$, DIV_D , and $DEAL_RATIO$. The detailed definitions of the variables are listed in Appendix A. We also control for industry- and year-fixed effects in all the specifications. Regressions (1) and (4) are estimated using OLS regression model. Regression (5) is the second stage results of the two-step Heckman model. The specification of the first stage probit model is the same as regression (5) of Panel B in Table 3. IMR is the inverse of Mills' ratio. Panel A reports the result based on the overall M&A sample (M&A deals involving both public and private targets). Panel B reports the results based on a public M&A subsample (M&A deals involving only public targets). Standard errors reported in parentheses are heteroskedasticity robust and are clustered at the firm level. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

| DV: | (1) | (2) | (3) | (4) |
|---|-------------------------------|-------------------------------|------------------------|------------------------|
| Model | $M\&A_DEAL_VALUE$ Linear | $M\&A_INVST$ <i>Logit</i> | $CAR(-2, 2)$ Linear | $OPER_PERF$ Linear |
| $MA_SCORE \times HI_PIN$ | 1.4977** (0.6388) | 0.9702*** (0.2818) | 0.0741*** (0.0254) | 0.7535* (0.4401) |
| $MA_SCORE \times HI_PIN \times ABSDA$ | -0.5730 (3.2165) | -1.7042 (1.8537) | -0.2714** (0.1153) | -0.9614 (3.4612) |
| $HI_PIN \times ABSDA$ | 0.1450 (0.4821) | 0.1447 (0.2900) | -0.0151 (0.0168) | -1.8052** (0.7228) |
| $MA_SCORE \times ABSDA$ | 1.6861 (1.6344) | 0.7163 (1.5143) | 0.1143 (0.0757) | 2.7495 (2.1411) |
| MA_SCORE | 0.0525 (0.3193) | -0.1373 (0.2580) | -0.0215* (0.0110) | 0.2380 (0.3056) |
| HI_PIN | 0.1004 (0.1105) | -0.0243 (0.0476) | 0.0014 (0.0028) | 0.0949 (0.0921) |
| $ABSDA$ | -0.4786 (0.3079) | -0.1529 (0.2274) | 0.0146 (0.0094) | 0.5730 (0.4459) |
| Controls & Fixed | Yes | Yes | Yes | Yes |
| Observations | 28186 | 28186 | 8128 | 7347 |
| Pseudo/Adjusted R ² | 0.0178 | 0.0584 | 0.0261 | 0.2656 |

Table A.6 The three-way fixed effects of CEO managerial attributes on acquirer abnormal returns using a restricted sample

This table reports the three-way fixed effects of CEO managerial attributes, CEO FE, on acquirer announcement cumulative abnormal returns, *CAR* (-2, 2) using a restricted sample. Specifically, we use Abowd, Kramarz, and Margolis (1999) method to generate a restricted sample of firms that fired at least one moving CEO. Then, we estimate a three-way fixed effects model using this sample. *CAR* is the stock cumulative abnormal return over the five-day window [-2, 2] around the M&A announcement date, based on the Fama–French three-factor model. In Panels A to C, we report results based on the overall M&A sample and the subsamples conditional on the acquirers’ private information in stock prices (*PIN*). An acquirer is considered as a high-*PIN* (a low-*PIN*) acquirer if the firm’s *PIN* is above (below) the median in its FF48 industry. In each panel, we report results for two different specifications: “Acquirer and Year FE” and “CEO, Acquirer, and Year FE”. In the “Acquirer and Year FE” specification, acquirer and year dummies are included. In the “CEO, Acquirer, and Year FE” specification, CEO, acquirer, and year dummies are included. *F*-statistics for the joint significance of CEO FE are reported, along with the corresponding p-values and the number of CEOs/firms (categories). The R squared and the adjusted R squared are also reported. Other control variables are *CEO_VEGA*, *CEO_DELTA*, *DUAL_CEO*, *ABS_DA*, *Tobin’s Q*, *MRKT_CAP*, *LEV*, *CASH_D*, *STOCK_D*, *SPLUS_CASH*, *PUBLIC_D*, *TENDER_D*, *TECH_D*, *HOSTILE_D*, *DIV_D*, and *DEAL_RATIO*. The detailed definitions of the variables are listed in Appendix A. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

| | CEO/Acquirer FE F-test | #obs. | R squared | Adj R squared |
|---|---------------------------|-------|-----------|---------------|
| Panel A: Overall M&As | | | | |
| Acquirer and Year FE | - | 620 | 0.2112 | 0.0059 |
| CEO, Acquirer, and Year FE | 2.0998*** (0.000, 126/89) | 620 | 0.4587 | 0.1693 |
| Panel B: M&As involving acquirers with high <i>PIN</i> | | | | |
| Acquirer and Year FE | - | 310 | 0.3227 | -0.0768 |
| CEO, Acquirer, and Year FE | 3.3128*** (0.000, 95/76) | 310 | 0.6971 | 0.3388 |
| Panel C: M&As involving acquirers with low <i>PIN</i> | | | | |
| Acquirer and Year FE | - | 310 | 0.1042 | -0.0285 |
| CEO, Acquirer, and Year FE | 3.0581*** (0.000, 96/65) | 310 | 0.6733 | 0.4113 |

Table A.7 Multivariate analysis of acquirer BHAR

This table reports the effects of the interaction between acquirer's managerial attributes (*MA_SCORE*) and private information in stock prices (*PIN*) on acquirer's three-year post-merger operating performance. Specifically, we estimate the following equation:

$$BHAR = \alpha + \beta \times MA_SCORE \times HI_PIN + \gamma Controls + \varepsilon,$$

where *BHAR* (3, 750) is an acquirer's buy- and-hold abnormal returns over the 748-day window [3, 750] around the M&A announcement date, based on the Fama–French three-factor model. *MA_SCORE* is estimated following Demerjian et al. (2012)'s approach. *HI_PIN* is a dummy that equals one if an acquirer's *PIN* value is above the median in its Fama-French 48 industry, otherwise zero. Other controls are *CEO_DELTA*, *CEO_VEGA*, *DUAL_CEO*, *ABSDA*, *Tobin's Q*, *MRKT_CAP*, *LEV*, *CASH_D*, *STOCK_D*, *SPLUS_CASH*, *PUBLIC_D*, *TENDER_D*, *TECH_D*, *HOSTILE_D*, *DIV_D*, and *DEAL_RATIO*. The detailed definitions of the variables are listed in Appendix A. We also control for industry- and year-fixed effects in all the specifications. Regressions (1) and (4) are estimated using OLS regression model. Regression (5) is the second stage results of a two-step Heckman model. The specification of the first stage probit model is the same as regression (5) of Panel B in Table 3. *IMR* is the inverse of Mills' ratio. We report the result based on the overall M&A sample (M&A deals involving both public and private targets) and a public M&A subsample (M&A deals involving only public targets). Standard errors reported in parentheses are heteroskedasticity robust and are clustered at the firm level. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

| | DV: BHAR (3, 750) | | | |
|---------------------------------|-------------------------------|---------------------|---------------------------------|---------------------|
| | (1) | (2) | (3) | (4) |
| | Overall M&A sample | | Public M&A subsample | |
| | <i>OLS</i> | <i>Heckman</i> | <i>OLS</i> | <i>Heckman</i> |
| <i>MA_SCORE</i> × <i>HI_PIN</i> | -3.8551 (4.3176) | -4.2272 (3.1965) | -2.6900 (4.2705) | -2.1831 (3.7009) |
| <i>MA_SCORE</i> | 1.2000 (1.5150) | 1.1499 (2.4376) | 1.7418 (2.4054) | 1.9621 (2.7847) |
| <i>HI_PIN</i> | 0.3287 (0.6097) | 0.3136 (0.6164) | -0.2613 (0.7646) | -0.2504 (0.7371) |
| <i>IMR</i> | | -0.9533 (1.9323) | | 2.4692 (2.3079) |
| Controls & Fixed | | | | |
| Observations | 7,205 | 7,205 | 960 | 960 |
| Adjusted R ² | 0.0066 | 0.0060 | 0.0185 | 0.0107 |

Table A.8 Multivariate analysis of acquirer *CAR* and *OPER_PERF* conditional on payment type

This table reports the effects of the interaction between acquirer’s managerial attributes (*MA_SCORE*) and private information in stock prices (*PIN*) on acquirer’s announcement cumulative abnormal returns, *CAR* (-2, 2) conditional on payment type. We create “Cash Deals” (i.e., if the payment method is cash) and “Non- Cash Deals” subsamples and estimate the following models in each, respectively. Specifically, we estimate the following equation:

$$CAR/OPER_PERF = \alpha + \beta_1 \times MA_SCORE \times HI_PIN + \gamma Controls + \varepsilon,$$

where *CAR* is the stock cumulative abnormal return over the five-day window [-2, 2] around the M&A announcement date, based on the Fama–French three-factor model. *OPER_PERF* is an acquirer’s three-year post-merger operating performance after the deal completion date. *MA_SCORE* is estimated following Demerjian et al. (2012)’s approach. *HI_PIN* is a dummy that equals one if *PIN* value is above the median in its FF48 industry, otherwise zero. Other controls are *CEO_DELTA*, *CEO_VEGA*, *DUAL_CEO*, *ABSDA*, *Tobin’s Q*, *MRKT_CAP*, *LEV*, *SPLUS_CASH*, *PUBLIC_D*, *TENDER_D*, *TECH_D*, *HOSTILE_D*, *DIV_D*, and *DEAL_RATIO*. The detailed definitions of the variables are listed in Appendix A. We also control for industry- and year-fixed effects in all the specifications. Standard errors reported in parentheses are heteroskedasticity robust and are clustered at the firm level. ***, **, and * indicate significance at 1%, 5% and 10%, respectively.

| DV: Model | (1) CAR (-2, 2) | | (2) <i>OPER_PERF</i> | |
|---------------------------------|---------------------|----------------------|-------------------------|----------------------|
| | Linear | | Linear | |
| Subsample | Cash Deals | Non- Cash Deals | Cash Deal | Non- Cash Deals |
| <i>MA_SCORE</i> × <i>HI_PIN</i> | 0.0073 (0.0147) | 0.0629** (0.0247) | 0.2892 (0.4394) | 0.8477** (0.4086) |
| <i>MA_SCORE</i> | -0.0081 (0.0096) | -0.0112 (0.0096) | 0.5446 (0.3414) | 0.5612* (0.3205) |
| <i>HI_PIN</i> | 0.0035 (0.0031) | -0.0027 (0.0028) | -0.0201 (0.0761) | -0.1328* (0.0743) |
| Controls & Fixed | Yes | Yes | Yes | Yes |
| Observations | 3187 | 4941 | 2933 | 4414 |
| Adjusted R ² | 0.0058 | 0.0351 | 0.2630 | 0.2713 |