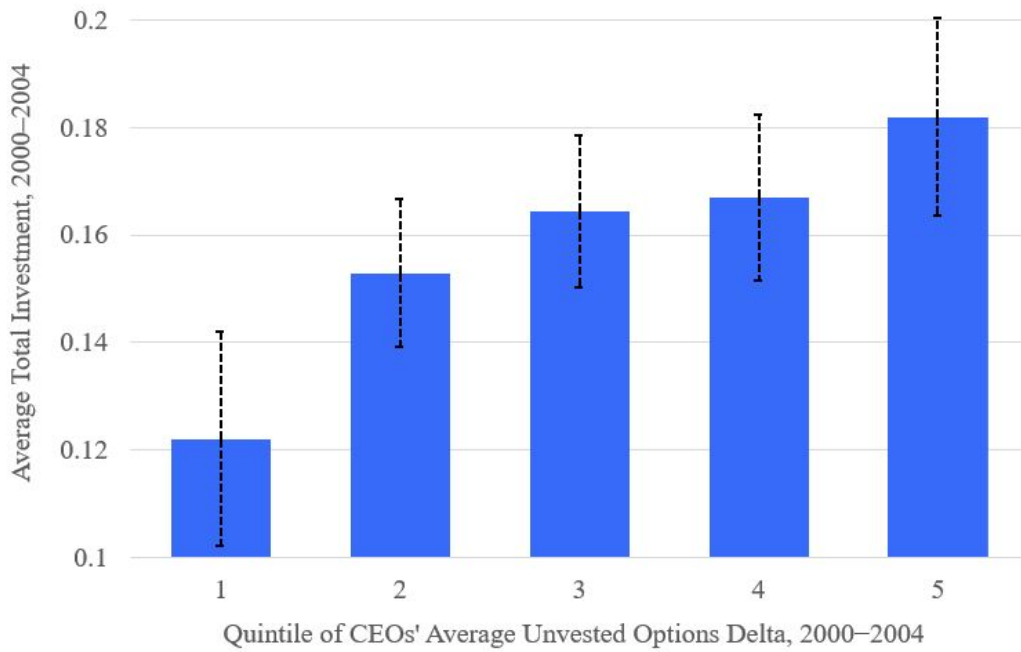


Internet Appendix for
Managerial Short-Termism and Investment:
Evidence from Accelerated Option Vesting

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I.A. Figure 1. Relation between option compensation and investment prior to FAS 123-R.

Notes: Bars show how annual investment varies with CEOs' unvested option holdings prior to FAS 123-R. For each firm we calculate the average delta of the CEO's unvested option holdings from 2000–2004, and then sort all firms into quintiles based on the average deltas. We regress *Total Investment* on quintile fixed effects, and bars plot the estimated coefficients on the fixed effects. We control for *Log Assets [t-1]* in the regression because larger firms grant CEOs more options with a higher delta. The figure also plots 2-standard error bars for each fixed effect coefficient estimate. *Total Investment* is the sum of R&D expenditures and capital expenditures. Unvested option delta is defined as the dollar change in the value of unvested options for a 1% change in the stock price, and is calculated in the same way as *Log Non-Accelerated Options Delta*. The figure contains only firms in Thomson Reuters Insiders.

I.A. Table I. Distribution of fiscal year-ends across industries

This table reports the distribution of industries across early and late fiscal year-ends, for the same set of firm-fiscal year observations. Early fiscal-year-end firms have a fiscal year ending in January through May. Late fiscal-year-end firms have a fiscal year ending in June through December. The table omits a small number of firms that enter the sample in 2006.

| FF12 Industry | Early Fiscal-Year-End Firms | | Late Fiscal-Year-End Firms | |
|-----------------------|-----------------------------|------|----------------------------|------|
| | N | % | N | % |
| Business Equipment | 138 | 30.8 | 688 | 24.2 |
| Chemicals | 3 | 0.7 | 87 | 3.1 |
| Consumer Durables | 11 | 2.5 | 73 | 2.6 |
| Consumer Non-Durables | 31 | 6.9 | 156 | 5.5 |
| Healthcare | 35 | 7.8 | 518 | 18.2 |
| Manufacturing | 37 | 8.3 | 339 | 11.9 |
| Oil, Gas, and Coal | 4 | 0.9 | 169 | 5.9 |
| Other | 44 | 9.8 | 444 | 15.6 |
| Telecommunications | 7 | 1.6 | 111 | 3.9 |
| Wholesale and Retail | 138 | 30.8 | 258 | 9.1 |

I.A. Table II. Non-replenishment of unvested equity following option acceleration

The regressions contain all CEO-fiscal year observations in fiscal years 2006 and 2007 (i.e., the two fiscal years after each firm's FAS 123-R compliance date). The regressions contain only firms in ExecuComp. The regressions in Columns (3) and (6) exclude firm-fiscal year observations with CEO turnover events. $\Delta \text{Log Unvested Option Delta}$ is the fiscal-year-on-fiscal year change in the natural log of the delta of a CEO's unvested stock options. Delta is the dollar change in the value of stock options for a 1% change in the stock price, measured at the end of the fiscal year. $\Delta \text{Log Unvested Option Value}$ is fiscal-year-on-fiscal year change in the natural log of the dollar value of a CEO's unvested stock options (in thousands of USD), measured at the end of the fiscal year. $\Delta \text{Log Unvested Equity Delta}$ and $\Delta \text{Log Unvested Equity Value}$ are similarly defined, but calculated for unvested options and restricted stock. *Accelerating Firm* equals 1 in all fiscal years for a firm that accelerated option vesting, and 0 otherwise. The year fixed effect equals 1 for fiscal year 2006, and 0 for fiscal year 2007. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | $\Delta \text{Log Unvested Option Delta}$ | $\Delta \text{Log Unvested Option Value}$ | $\Delta \text{Log Unvested Option Delta}$ | $\Delta \text{Log Unvested Equity Delta}$ | $\Delta \text{Log Unvested Equity Value}$ | $\Delta \text{Log Unvested Equity Delta}$ |
|-----------------------------------|---|---|---|---|---|---|
| | OLS | OLS | OLS | OLS | OLS | OLS |
| Model | ExecuComp Firms | | | ExecuComp Firms | | |
| Sample | Exclude obs. with CEO turnover | | | Exclude obs. with CEO turnover | | |
| Window of Analysis | All obs. 2006–2007 | All obs. 2006–2007 | All obs. 2006–2007 | All obs. 2006–2007 | All obs. 2006–2007 | All obs. 2006–2007 |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| <i>Accelerating Firm</i> | 0.033 (0.14) | 0.116 (0.37) | 0.131 (0.52) | 0.210 (0.95) | 0.351 (1.15) | 0.294 (1.21) |
| <i>Log Assets (t-1)</i> | 0.030 (0.51) | 0.035 (0.44) | 0.050 (0.80) | -0.008 (-0.14) | -0.019 (-0.25) | -0.000 (-0.00) |
| <i>Market-to-Book Ratio (t-1)</i> | -0.029** (-2.05) | -0.029 (-1.46) | -0.026* (-1.73) | -0.054*** (-2.66) | -0.064** (-2.22) | -0.055*** (-2.79) |
| <i>Net Leverage (t-1)</i> | 0.235 (0.54) | 0.401 (0.67) | 0.442 (0.91) | 0.188 (0.45) | 0.368 (0.63) | 0.394 (0.88) |
| <i>Sales Growth (t-1)</i> | -0.313 (-0.72) | -0.281 (-0.48) | -0.153 (-0.35) | -0.098 (-0.24) | -0.069 (-0.12) | -0.095 (-0.23) |
| <i>Cash Flow (t-1)</i> | 1.861*** (3.30) | 2.398*** (3.26) | 1.718*** (2.59) | 1.385* (1.80) | 1.796* (1.75) | 1.531** (1.99) |
| <i>Stock Return (t-1)</i> | 0.495* (1.91) | 0.549 (1.54) | 0.523* (1.88) | 0.211 (0.81) | 0.119 (0.33) | 0.088 (0.32) |
| <i>Stock Return (t-2)</i> | 0.287 (1.06) | 0.352 (0.94) | 0.099 (0.34) | 0.386 (1.45) | 0.450 (1.21) | 0.192 (0.71) |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Obs. | 1836 | 1836 | 1626 | 1835 | 1835 | 1625 |
| Adj. R ² | 0.017 | 0.013 | 0.014 | 0.010 | 0.006 | 0.011 |

I.A. Table III. Option acceleration and investment: Role of option duration

The regression contains all firm-fiscal year observations ending between January 2005 and December 2006. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Unvested Option Duration* is the weighted average number of months until a CEO's unvested option grants were scheduled to vest (in the absence of acceleration). *Accelerate* equals 1 if a firm accelerated option vesting during the fiscal year, and 0 otherwise. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | <i>Total Investment</i> |
|--|-------------------------|
| Model | OLS |
| Sample | All Firms |
| Window of Analysis | 2005–2006 |
| | (1) |
| <i>Unvested Option Duration x Accelerate</i> | –0.001** (–2.18) |
| <i>Unvested Option Duration</i> | 0.001 (1.59) |
| <i>Accelerate</i> | 0.020 (1.60) |
| <i>Log Assets (t–1)</i> | –0.004** (–2.36) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.003 (1.49) |
| <i>Net Leverage (t–1)</i> | –0.078*** (–7.16) |
| <i>Sales Growth (t–1)</i> | 0.040*** (3.11) |
| <i>Cash Flow (t–1)</i> | 0.070** (2.27) |
| <i>Stock Return (t–1)</i> | 0.031*** (3.27) |
| <i>Stock Return (t–2)</i> | 0.021*** (3.82) |
| Year Fixed Effects | Yes |
| Industry Fixed Effects | Yes |
| Obs. | 2976 |
| Adj. R ² | 0.298 |

I.A. Table IV. Option acceleration and investment: High versus low discretionary-accruals firms

The regressions contain all firm-fiscal year observations ending between January 2005 and December 2006. High Discretionary Accruals firms are those whose average accruals from 2003 to 2004 are above the sample median, and Low Discretionary Accruals firms are those whose average accruals from 2003 to 2004 are below the sample median. We compute discretionary accruals using the Jones (1991) model. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Frac. Options Accelerated* is the number of options accelerated during the fiscal year, divided by the number of options outstanding at the beginning of the fiscal year. The regressions instrument *Frac. Options Accelerated* using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below each regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | <i>Total Investment</i> | |
|--|-------------------------|----------------------|
| | 2SLS | 2SLS |
| Model | | |
| Sample | All Firms | |
| | High Disc. | Low Disc. |
| | Accruals in | Accruals in |
| | 2003–2004 | 2003–2004 |
| Window of Analysis | 2005–2006 | 2005–2006 |
| | (1) | (2) |
| <i>Frac. Options Accelerated</i> | –0.594*** (–2.95) | –0.270* (–1.67) |
| <i>Log Assets (t–1)</i> | –0.004** (–2.14) | –0.002 (–0.93) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.002 (1.05) | 0.007** (2.20) |
| <i>Net Leverage (t–1)</i> | –0.074*** (–5.78) | –0.076*** (–4.23) |
| <i>Sales Growth (t–1)</i> | 0.090*** (3.18) | 0.046 (1.51) |
| <i>Cash Flow (t–1)</i> | 0.014 (1.52) | 0.019 (1.57) |
| <i>Stock Return (t–1)</i> | 0.027*** (4.07) | 0.019*** (2.65) |
| <i>Stock Return (t–2)</i> | 0.063*** (4.30) | 0.047** (2.48) |
| Year Fixed Effects | Yes | Yes |
| Industry Fixed Effects | Yes | Yes |
| First-Stage Diagnostics | | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.024*** | 0.032*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (4.28) | (4.41) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 18.29 | 19.41 |
| Obs. | 2107 | 1907 |

I.A. Table V. Reduced-form regressions: Firm fixed effects

The regressions contain all firm-fiscal year observations ending between January 2003 and December 2007. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *R&D* is R&D expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Capex* is capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | <i>Total</i> | | |
|-----------------------------------|----------------------|----------------------|----------------------|
| | <i>Investment</i> | <i>R&D</i> | <i>Capex</i> |
| Model | OLS | OLS | OLS |
| Sample | All Firms | | |
| Window of Analysis | 2003–2007 | 2003–2007 | 2003–2007 |
| | (1) | (2) | (3) |
| <i>FAS 123-R Takes Effect</i> | –0.010*** (–3.52) | –0.003** (–2.46) | –0.007*** (–3.27) |
| <i>Log Assets (t–1)</i> | –0.006 (–0.75) | 0.004 (1.25) | –0.008 (–1.56) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.004*** (2.58) | 0.001*** (2.59) | 0.002* (1.94) |
| <i>Net Leverage (t–1)</i> | –0.072*** (–6.48) | –0.009*** (–2.87) | –0.061*** (–6.71) |
| <i>Sales Growth (t–1)</i> | 0.007 (1.06) | –0.001 (–0.19) | 0.008 (1.64) |
| <i>Cash Flow (t–1)</i> | 0.019 (1.39) | 0.005* (1.87) | 0.013 (1.17) |
| <i>Stock Return (t–1)</i> | 0.027*** (7.51) | 0.006*** (5.01) | 0.021*** (6.90) |
| <i>Stock Return (t–2)</i> | 0.023*** (6.84) | 0.004*** (3.85) | 0.018*** (6.96) |
| Firm Fixed Effects | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes |
| Obs. | 10016 | 10040 | 10016 |
| Adj. R ² | 0.079 | 0.001 | 0.006 |

I.A. Table VI. Option acceleration and investment: Firm fixed effects

The regressions contain all firm-fiscal year observations ending between January 2003 and December 2007. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *R&D* is R&D expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Capex* is capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Frac. Options Accelerated* is the number of options accelerated during the fiscal year, divided by the number of options outstanding at the beginning of the fiscal year. *Log Accelerated Options Delta* is the natural log of the delta of accelerated options. Delta represents the amount of incentives affected by option acceleration, and is defined as the dollar change in the value of accelerated options for a 1% change in the stock price, measured at the start of the acceleration year. It is set to 0 for firms that did not accelerate option vesting. The 2SLS regressions instrument the acceleration measures using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below each regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable Model | Total Investment | | | Total Investment | | |
|--|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| | R&D | Capex | R&D | Capex | R&D | Capex |
| | 2SLS | 2SLS | 2SLS | Thomson Firms | Thomson Firms | Thomson Firms |
| Sample | All Firms | All Firms | All Firms | All Firms | All Firms | All Firms |
| Window of Analysis | 2003–2007 | 2003–2007 | 2003–2007 | 2003–2007 | 2003–2007 | 2003–2007 |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| <i>Frac. Options Accelerated</i> | –0.289*** (–2.63) | –0.087** (–2.02) | –0.216** (–2.44) | | | |
| <i>Log Accelerated Options Delta</i> | | | | –0.008* (–1.92) | –0.002 (–1.15) | –0.008** (–2.04) |
| <i>Log Assets (t–1)</i> | –0.005 (–0.53) | 0.005 (1.46) | –0.010 (–1.47) | –0.005 (–0.49) | 0.003 (0.89) | –0.006 (–0.85) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.003* (1.88) | 0.001** (1.98) | 0.002 (1.45) | 0.002* (1.80) | 0.001* (1.78) | 0.001 (1.47) |
| <i>Net Leverage (t–1)</i> | –0.090*** (–6.07) | –0.012*** (–3.22) | –0.074*** (–6.40) | –0.069*** (–4.42) | –0.009** (–2.43) | –0.058*** (–4.28) |
| <i>Sales Growth (t–1)</i> | 0.006 (0.76) | –0.001 (–0.25) | 0.007 (1.27) | 0.007 (0.73) | –0.002 (–0.86) | 0.008 (1.10) |
| <i>Cash Flow (t–1)</i> | 0.042* (1.80) | 0.009* (1.70) | 0.029* (1.71) | 0.034 (1.24) | 0.006* (1.82) | 0.024 (0.97) |
| <i>Stock Return (t–1)</i> | 0.028*** (7.22) | 0.008*** (5.17) | 0.020*** (6.63) | 0.022*** (4.61) | 0.003** (2.07) | 0.019*** (4.65) |
| <i>Stock Return (t–2)</i> | 0.023*** (5.49) | 0.006*** (3.76) | 0.018*** (5.30) | 0.017*** (3.87) | 0.002* (1.83) | 0.016*** (4.10) |
| <i>Log Non-Accelerated Options Delta</i> | | | | 0.000 (0.58) | 0.000 (0.44) | 0.000 (0.19) |
| Firm Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| First-Stage Diagnostics | | | | | | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.030*** | 0.030*** | 0.030*** | 0.711*** | 0.713*** | 0.711*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (6.38) | (6.37) | (6.38) | (7.22) | (7.25) | (7.22) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 40.64 | 40.64 | 40.64 | 52.07 | 52.59 | 52.07 |
| Obs. | 7797 | 7803 | 7797 | 6200 | 6215 | 6200 |

I.A. Table VII. Option acceleration and investment: Excluding CEO turnover

The regressions contain firm-fiscal year observations ending between January 2005 and December 2006, after excluding observations with CEO turnover events. A turnover event occurs when the CEO is at the firm at the end of the previous fiscal year but not at the end of the current fiscal year. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *R&D* is R&D expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Capex* is capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Frac. Options Accelerated* is the number of options accelerated during the fiscal year, divided by the number of options outstanding at the beginning of the fiscal year. *Log Accelerated Options Delta* is the natural log of the delta of accelerated options. Delta represents the amount of incentives affected by option acceleration, and is defined as the dollar change in the value of accelerated options for a 1% change in the stock price, measured at the start of the acceleration year. It is set to 0 for firms that did not accelerate option vesting. The 2SLS regressions instrument the acceleration measures using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below each regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | <i>Total Investment</i> | | | <i>Total Investment</i> | | |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | <i>R&D</i> | <i>Capex</i> | | <i>R&D</i> | <i>Capex</i> | |
| Model | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS |
| Sample | All Firms | All Firms | All Firms | Thomson Firms | Thomson Firms | Thomson Firms |
| | Exclude obs. with CEO turnover | Exclude obs. with CEO turnover | Exclude obs. with CEO turnover | Exclude obs. with CEO turnover | Exclude obs. with CEO turnover | Exclude obs. with CEO turnover |
| Window of Analysis | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| <i>Frac. Options Accelerated</i> | –0.428*** (–2.70) | –0.252*** (–2.73) | –0.191 (–1.62) | | | |
| <i>Log Accelerated Options Delta</i> | | | | –0.014** (–2.30) | –0.007** (–2.13) | –0.008* (–1.70) |
| <i>Log Assets (t–1)</i> | –0.002 (–1.03) | –0.001 (–0.73) | –0.001 (–0.63) | –0.004** (–2.18) | –0.002** (–2.46) | –0.002 (–1.09) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.008*** (5.17) | 0.004*** (2.61) | 0.004** (2.20) | 0.007*** (3.34) | 0.004*** (3.53) | 0.002** (1.97) |
| <i>Net Leverage (t–1)</i> | –0.072*** (–6.31) | –0.052*** (–8.46) | –0.017** (–2.07) | –0.068*** (–5.88) | –0.049*** (–8.08) | –0.017* (–1.96) |
| <i>Sales Growth (t–1)</i> | 0.057*** (4.46) | 0.026*** (3.77) | 0.030*** (2.90) | 0.048*** (3.58) | 0.023*** (3.77) | 0.024** (2.18) |
| <i>Cash Flow (t–1)</i> | 0.055*** (2.76) | 0.008 (1.10) | 0.043*** (2.94) | 0.092*** (3.10) | 0.007 (0.86) | 0.081*** (3.26) |
| <i>Stock Return (t–1)</i> | 0.015* (1.75) | –0.008** (–2.24) | 0.022*** (3.22) | 0.012 (1.29) | –0.010*** (–2.76) | 0.021*** (2.79) |
| <i>Stock Return (t–2)</i> | 0.023*** (4.35) | 0.006* (1.96) | 0.017*** (4.17) | 0.022*** (3.84) | 0.005* (1.66) | 0.018*** (3.84) |
| <i>Log Non-Accelerated Options Delta</i> | | | | 0.002*** (2.84) | 0.002*** (6.48) | –0.000 (–0.01) |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes |
| First-Stage Diagnostics | | | | | | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.026*** | 0.026*** | 0.026*** | 0.663*** | 0.663*** | 0.663*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (5.54) | (5.54) | (5.54) | (6.34) | (6.36) | (6.34) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 30.70 | 30.70 | 30.70 | 40.14 | 40.41 | 40.14 |
| Obs. | 3591 | 3591 | 3591 | 3279 | 3288 | 3279 |

I.A. Table VIII. Option acceleration and investment: Alternative specifications

The regressions contain all firm-fiscal year observations ending between January 2005 and December 2006. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Frac. Options Accelerated* is the number of options accelerated during the fiscal year, divided by the number of options outstanding at the beginning of the fiscal year. *Accelerate* equals 1 if a firm accelerated option vesting during the fiscal year, and 0 otherwise. The regressions instrument these acceleration measures using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. Fiscal-year-end fixed effects are based on the month of a firm's fiscal year-end. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below each regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable Model | <i>Total Investment</i> | | | | | | |
|--|-------------------------|-------------------------------|-----------------------|----------------------|----------------------|--|-------------------------------------|
| | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS | 2SLS |
| Sample | All Firms | March through Oct. FYEs | Accelerating Firms | All Firms | All Firms | Excluding Wholesale & Retail Industry | Excluding Healthcare Industry |
| Window of Analysis | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| <i>Frac. Options Accelerated</i> | -0.478*** (-3.63) | -0.351** (-2.00) | -0.057* (-1.78) | -0.476*** (-3.48) | | -0.673*** (-3.25) | -0.440*** (-3.29) |
| <i>Accelerate</i> | | | | | -0.125*** (-4.10) | | |
| <i>Log Assets (t-1)</i> | -0.003* (-1.95) | 0.003 (1.54) | -0.055 (-1.28) | -0.003** (-2.07) | -0.003** (-2.05) | -0.003** (-2.08) | -0.004** (-2.25) |
| <i>Market-to-Book Ratio (t-1)</i> | 0.004* (1.70) | 0.001 (0.99) | 0.012** (2.22) | 0.004* (1.79) | 0.004* (1.85) | 0.003 (1.62) | 0.003 (1.44) |
| <i>Net Leverage (t-1)</i> | -0.072*** (-6.84) | -0.066*** (-4.34) | -0.126*** (-4.24) | -0.071*** (-6.83) | -0.069*** (-7.23) | -0.073*** (-6.12) | -0.072*** (-6.53) |
| <i>Sales Growth (t-1)</i> | 0.055*** (2.84) | 0.019 (0.97) | 0.048** (1.96) | 0.056*** (2.87) | 0.067*** (3.19) | 0.054*** (2.72) | 0.077*** (3.54) |
| <i>Cash Flow (t-1)</i> | 0.017** (2.15) | 0.005 (0.50) | -0.007 (-0.75) | 0.018** (2.23) | 0.015* (1.95) | 0.017* (1.79) | 0.016* (1.74) |
| <i>Stock Return (t-1)</i> | 0.026*** (5.02) | 0.012* (1.73) | 0.006 (1.07) | 0.025*** (4.95) | 0.027*** (5.50) | 0.029*** (4.93) | 0.022*** (3.90) |
| <i>Stock Return (t-2)</i> | 0.059*** (4.92) | 0.078*** (3.90) | 0.010 (0.77) | 0.058*** (4.90) | 0.054*** (4.77) | 0.061*** (4.75) | 0.070*** (4.52) |
| Year Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry-by-Year Fixed Effects | Yes | No | No | No | No | No | No |
| Fiscal-Year-End Fixed Effects | No | No | No | Yes | No | No | No |
| Firm Fixed Effects | No | No | Yes | No | No | No | No |
| First-Stage Diagnostics | | | | | | | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.031*** | 0.026*** | 0.197*** | 0.028*** | 0.115*** | 0.026*** | 0.030*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (6.42) | (4.31) | (6.69) | (6.13) | (8.35) | (4.62) | (6.02) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 41.24 | 18.55 | 44.67 | 37.56 | 69.65 | 21.30 | 36.25 |
| Obs. | 4111 | 1171 | 728 | 4111 | 4331 | 3663 | 3455 |

I.A. Table IX. Alternative explanation: Change in risk-taking incentives after FAS 123-R

The regressions in Panel A contain all CEO-fiscal year observations ending between January 2004 and December 2007. In Panel A, the regressions contain only firms in ExecuComp. Δ *New Options/New Equity Pay* is the fiscal-year-on-fiscal-year change in the value of a CEO's new stock option grants divided by the value of new option and restricted stock grants. Δ *Vega* is fiscal-year-on-fiscal-year change in the Black-Scholes vega of a CEO's new equity grants. *Accelerating Firm* equals 1 in all fiscal years for a firm that accelerated option vesting, and 0 otherwise. *Post Compliance* equals 1 for fiscal years after FAS 123-R took effect, and 0 otherwise. The regressions in Panel B contain all firm-fiscal year observations ending between January 2005 and December 2006. The sample in Columns (1) through (3) is restricted to firms with *Unvested Option Moneyiness* > 1.3. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *R&D* is R&D expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Capex* is capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Volatility* is the standard deviation of fractional daily stock returns from the 365 days preceding the end of the fiscal year. *Frac. Options Accelerated* is the number of options accelerated during the fiscal year, divided by the number of options outstanding at the beginning of the fiscal year. The regressions instrument *Frac. Options Accelerated* using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2005, and 0 for firm-fiscal year observations ending in calendar year 2006. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below the regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Panel A. Effect of FAS 123-R on risk-taking incentives | | | | |
|--|--|----------------------|---|----------------------|
| Dependent Variable | Δ <i>New Options/New Equity Pay</i> | | Δ <i>New Options/ New Equity Pay</i> | |
| | Δ <i>Vega</i> | Δ <i>Vega</i> | Δ <i>Vega</i> | Δ <i>Vega</i> |
| Model | OLS | OLS | OLS | OLS |
| Sample | ExecuComp Firms | | | |
| Window of Analysis | 2004–2007 | 2004–2007 | 2004–2007 | 2004–2007 |
| | (1) | (2) | (3) | (4) |
| <i>Accelerating Firm x Post Compliance</i> | | | –0.090 (–0.95) | 0.260 (0.79) |
| <i>Accelerating Firm</i> | | | 0.059 (0.65) | –0.243 (–0.77) |
| <i>Post Compliance</i> | –0.085** (–2.07) | –0.701*** (–3.63) | –0.043 (–0.91) | –0.649*** (–3.06) |
| <i>Log Assets (t–1)</i> | 0.005 (0.94) | –0.142*** (–3.99) | 0.005 (0.66) | –0.173*** (–3.98) |
| <i>Market-to-Book Ratio (t–1)</i> | –0.001 (–0.25) | –0.029*** (–2.70) | –0.002 (–0.54) | –0.029*** (–3.15) |
| <i>Net Leverage (t–1)</i> | 0.010 (0.27) | 0.027 (0.08) | –0.008 (–0.18) | 0.191 (0.46) |
| <i>Sales Growth (t–1)</i> | 0.081 (1.64) | –0.241 (–0.86) | 0.062 (1.13) | –0.462 (–1.40) |
| <i>Cash Flow (t–1)</i> | 0.013 (0.90) | –0.096 (–0.72) | 0.095 (1.22) | 0.739* (1.79) |
| <i>Stock Return (t–1)</i> | 0.074*** (2.58) | 0.550*** (3.13) | 0.061** (1.96) | 0.478*** (2.82) |
| <i>Stock Return (t–2)</i> | 0.029 (1.10) | 0.009 (0.05) | 0.036 (1.19) | 0.008 (0.04) |
| Year Fixed Effects | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes |
| Obs. | 2255 | 1149 | 1843 | 939 |
| Adj. R ² | 0.004 | 0.053 | 0.002 | 0.040 |

I.A. Table IX (continued)

| Panel B. Excluding CEO risk-taking channel | | | | |
|--|---|----------------------|--------------------|-----------------------|
| Dependent Variable Model | <i>Total</i> | | | |
| | <i>Investment</i> | <i>R&D</i> | <i>Capex</i> | <i>Volatility</i> |
| | 2SLS | 2SLS | 2SLS | 2SLS |
| Sample | Only Firms with <i>Unvested Option Moneyess > 1.3</i> | | | All Firms |
| Window of Analysis | 2005–2006 | 2005–2006 | 2005–2006 | 2005–2006 |
| | (1) | (2) | (3) | (4) |
| <i>Frac. Options Accelerated</i> | –0.731** (–2.51) | –0.409** (–2.41) | –0.334* (–1.79) | –0.007 (–0.34) |
| <i>Log Assets (t–1)</i> | –0.002 (–1.12) | –0.001 (–0.87) | –0.001 (–0.80) | –0.005*** (–15.09) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.005* (1.92) | 0.003** (2.27) | 0.001 (0.75) | –0.000 (–0.62) |
| <i>Net Leverage (t–1)</i> | –0.064*** (–4.43) | –0.041*** (–6.23) | –0.019* (–1.80) | 0.005** (2.09) |
| <i>Sales Growth (t–1)</i> | 0.075*** (4.17) | 0.025*** (2.82) | 0.049*** (3.48) | –0.007* (–1.95) |
| <i>Cash Flow (t–1)</i> | 0.063*** (2.72) | 0.004 (0.53) | 0.055*** (3.02) | 0.003 (1.60) |
| <i>Stock Return (t–1)</i> | 0.020** (1.97) | –0.003 (–0.76) | 0.023*** (2.94) | –0.002* (–1.69) |
| <i>Stock Return (t–2)</i> | 0.032*** (4.06) | 0.008* (1.85) | 0.024*** (4.12) | –0.001* (–1.91) |
| Year Fixed Effects | Yes | Yes | Yes | Yes |
| Industry Fixed Effects | Yes | Yes | Yes | Yes |
| First-Stage Diagnostics | | | | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.022*** | 0.022*** | 0.022*** | 0.029*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (3.89) | (3.89) | (3.89) | (5.28) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 15.14 | 15.14 | 15.14 | 27.86 |
| Obs. | 2441 | 2441 | 2441 | 1152 |

I.A. Table X. Placebo test: Investment before 2005

The regression contains all firm-fiscal year observations ending between January 2003 and December 2004. *Total Investment* is the sum of R&D expenditures and capital expenditures during the fiscal year, scaled by total capital at the start of the fiscal year. *Frac. Options Accelerated in 2005/2006* is the number of options accelerated in the fiscal years ending between January 2005 and December 2006 (i.e., two years into the future), divided by the number of options outstanding at the beginning of the fiscal year. The regression instruments *Frac. Options Accelerated in 2005/2006* using *FAS 123-R Takes Effect*. This variable equals 1 for firm-fiscal year observations ending between June 2005 and May 2006, and 0 for all other firm-fiscal year observations. The year fixed effect equals 1 for firm-fiscal year observations ending in calendar year 2003, and 0 for firm-fiscal year observations ending in calendar year 2004. Industry fixed effects are based on the Fama-French 48 industries. *t*-statistics are based on robust standard errors that are clustered at the firm level. Below the regression, we report diagnostic information on the first-stage regression. We report the coefficient, *t*-statistic, and Kleibergen-Paap rk Wald *F*-Statistic for the instrument *FAS 123-R Takes Effect*. ***, **, * indicate significance levels of 1%, 5%, and 10%, respectively. Variable definitions are in Appendix A.

| Dependent Variable | <i>Total Investment</i> |
|--|-------------------------|
| Model | 2SLS |
| Sample | All Firms |
| Window of Analysis | 2003–2004 |
| | (1) |
| <i>Frac. Options Accelerated in 2005/2006</i> | –0.029 (–0.23) |
| <i>Log Assets (t–1)</i> | 0.003* (1.81) |
| <i>Market-to-Book Ratio (t–1)</i> | 0.009*** (4.10) |
| <i>Net Leverage (t–1)</i> | –0.060*** (–9.12) |
| <i>Sales Growth (t–1)</i> | 0.061*** (5.89) |
| <i>Cash Flow (t–1)</i> | 0.027 (1.11) |
| <i>Stock Return (t–1)</i> | 0.014** (2.38) |
| <i>Stock Return (t–2)</i> | 0.015** (2.30) |
| Year Fixed Effects | Yes |
| Industry Fixed Effects | Yes |
| First-Stage Diagnostics | |
| Coeff. (<i>FAS 123-R Takes Effect</i>) | 0.033*** |
| <i>t</i> -stat. (<i>FAS 123-R Takes Effect</i>) | (5.70) |
| KP <i>F</i> -Stat. (<i>FAS 123-R Takes Effect</i>) | 32.53 |
| Obs. | 3186 |