

Internet Appendix to

Inventor CEOs

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Table IA1. Inventor CEOs and innovation outputs (including Leverage and Tobin's Q as additional control variables)

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and corporate innovation. The dependent variables are *Patents*, defined as $\log(1+\text{\#of new patents applied for at time (t+1)})$, *Citations* defined as $\log(1+\text{\# of citations attributable to patents applied for at time (t+1)})$, *Average Citations* is defined as $\log(1+ \text{Citations}/\text{Patents at time (t+1)})$, *Patent Value* is the $\log(1+\text{the dollar value of patents applied for at time (t+1)})$ as computed in Kogan et al. (2017), *#Radical Patents* defined as $\log(1+\text{\# of patents applied for at (t+1) that are cited in the 99}^{\text{th}}$ percentile of the technology-class-year citations distribution) and *Radical Innovation* is an indicator variable equal to one if *#Radical Patents* is greater than zero. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. *Leverage* is long-term debt plus short-term debt scaled by total assets. *Tobin's Q* is defined as the log of the book value of debt plus the market value of equity scaled by the book value of total assets. All regressions include year and industry (based on two-digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*- ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|------------------------|-----------------------|-----------------------|---------------------|-----------------------|----------------------|----------------------------|
| | Patents | Citations | Average Citations | Patent Value | #Radical Patents | Radical Innovation (Logit) |
| Inventor CEO | 0.485*** (4.153) | 0.741*** (4.425) | 0.319*** (4.271) | 0.739*** (4.915) | 0.571*** (2.727) | 0.097* (1.830) |
| Leverage | -0.742*** (-2.954) | -0.983*** (-2.638) | -0.297 (-1.621) | -1.396*** (-3.823) | -1.125** (-2.068) | -0.270*** (-2.979) |
| Tobin's Q | 0.242*** (3.488) | 0.357*** (3.654) | 0.130*** (2.959) | 0.791*** (8.098) | 0.543*** (3.979) | 0.099*** (3.191) |
| Baseline Controls | Y | Y | Y | Y | Y | Y |
| Observations | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 |
| Adjusted R-squared | 0.561 | 0.540 | 0.457 | 0.597 | 0.304 | N/A |
| Year fixed effects | Y | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y | Y |

Table IA2. Inventor CEOs and innovation outputs: Industry-year fixed effects

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and corporate innovation. The dependent variables are *Patents*, defined as $\log(1+\# \text{ of new patents applied for at time } (t+1))$, *Citations* defined as $\log(1+\# \text{ of citations attributable to patents applied for at time } (t+1))$, *Average Citations* is defined as $\log(1+ \text{ Citations}/\text{Patents at time } (t+1))$, *Patent Value* is the $\log(1+\text{the dollar value of patents applied for at time } (t+1))$ as computed in Kogan et al. (2017), *#Radical Patents* defined as $\log(1+\# \text{ of patents applied for at } (t+1) \text{ that are cited in the } 99^{\text{th}} \text{ percentile of the technology-class-year citations distribution})$ and *Radical Innovation* is an indicator variable equal to one if *#Radical Patents* is greater than zero. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. *Firm Size* is the natural logarithm of the book value of a firm's total assets. All regressions include Industry*Year (based on two-digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*- ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|-------------------|----------------------------|
| | Patents | Citations | Average Citations | Patent Value | #Radical Patents | Radical Innovation (Logit) |
| Inventor CEO | 0.496*** (4.068) | 0.736*** (4.262) | 0.311*** (4.169) | 0.794*** (4.799) | 0.106* (1.882) | 0.619*** (2.961) |
| Baseline Controls | Y | Y | Y | Y | Y | Y |
| Observations | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 |
| Adjusted R-squared | 0.564 | 0.557 | 0.480 | 0.572 | 0.298 | N/A |
| Industry-Year fixed effects | Y | Y | Y | Y | Y | Y |

Table IA3. Inventor CEOs and two-year ahead innovation outputs

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and corporate innovation. The dependent variables are *Patents (t+2)*, defined as $\log(1 + \# \text{ of new patents applied for at time } (t+2))$, *Citations* defined as $\log(1 + \# \text{ of citations attributable to patents applied for at time } (t+2))$, *Average Citations* is defined as $\log(1 + \text{Citations/Patents at time } (t+2))$. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. All regressions include year and industry (based on two-digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) |
|------------------------|---------------------|---------------------|-------------------------|
| | Patents (t+2) | Citations (t+2) | Average Citations (t+2) |
| Inventor CEO | 0.432*** (3.574) | 0.633*** (3.777) | 0.259*** (3.757) |
| Baseline Controls | Y | Y | Y |
| Observations | 4,394 | 4,394 | 4,394 |
| Adjusted R-squared | 0.544 | 0.542 | 0.488 |
| Year fixed effects | Y | Y | Y |
| Industry fixed effects | Y | Y | Y |

Table IA4. Inventor CEO and new product announcements

The table presents regression estimates from a model examining the relationship between Inventor CEO-led firms and new product announcements. The dependent variables are *New Product Announcement Returns* defined as the sum of all positive cumulative abnormal returns around new product announcements over the year and *Major New Product Announcements* defined as the log $(1+\#Major\ New\ Product\ Announcements)$ where $\#Major\ New\ Product\ Announcements$ is the number of product announcements with cumulative abnormal returns above the 75th percentile of announcement return distribution. Both variables are obtained from Mukherjee et al. (2017). *Inventor CEO* is equal to one if the CEO has at least one patent issued in her own name from the US Patent and Trademark office (USPTO). *High-Impact Inventor CEO* is equal to one if the CEO holds more than two patents which register an above median number of technology class-year adjusted citations. *Low-Impact Inventor CEO* is equal to one if the number of patents registered to the CEO that accumulate an above median number of technology class-year adjusted citations is less than or equal to 2. *Active Inventor CEO* is equal to one if the CEO has at least one patent issued in her own name around 2 years of focal firm year. All regressions include year and industry (based on two digit SIC code) fixed effects. Baseline controls are included in the models but suppressed in the table. Standard errors are clustered at the firm level. t-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | Full sample | | | Excluding Active Inventor CEOs | Full sample | | | Excluding Active Inventor CEOs |
|--------------------------|----------------------------------|---------------------|--------------------|---|---------------------------------|---------------------|---------------------|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| | New Product Announcement Returns | | | | Major New Product Announcements | | | |
| Inventor CEO | 0.205** (2.252) | | | | 0.309*** (2.761) | | | |
| High-impact Inventor CEO | | 0.175*** (2.691) | | 0.112* (1.812) | | 0.371*** (2.879) | | 0.301* (1.896) |
| Low-impact Inventor CEO | | 0.226* (1.879) | | 0.192 (1.528) | | 0.268** (1.974) | | 0.239* (1.675) |
| Active Inventor CEO | | | 0.226** (2.545) | | | | 0.385*** (3.191) | |
| Baseline controls | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1,438 | 1,438 | 1,438 | 1,348 | 1,438 | 1,438 | 1,438 | 1,348 |
| Adjusted R-squared | 0.305 | 0.306 | 0.296 | 0.298 | 0.334 | 0.334 | 0.334 | 0.320 |
| Industry fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |
| Year fixed effects | Y | Y | Y | Y | Y | Y | Y | Y |

Table IA5. Inventor CEOs and innovation outputs: Alternative econometric modelling

The table reports the estimates from Negative Binomial and Poisson regressions examining the relationship between Inventor CEOs and corporate innovation. The dependent variables are *Patents*, defined as # of patents applied for at time (t+1) and *Citations* defined as # of citations attributable to patents applied for at time (t+1). *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. *High-Impact Inventor CEO* is equal to one if the CEO holds more than two patents which register an above median number of technology class-year adjusted citations. *Low-Impact Inventor CEO* is equal to one if the number of patents registered to the CEO that accumulate an above median number of technology class-year adjusted citations is less than or equal to 2. *Active Inventor CEO* is equal to one if the CEO has at least one patent issued in her own name around 2 years of focal firm year. All regressions include year and industry (based on two digit SIC code) fixed effects. Standard errors are clustered at the firm level. z- stats are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|--------------------------|---------------------|---------------------|-------------------|-------------------|---------------------|---------------------|-------------------|--------------------|---------------------|---------------------|--------------------|---------------------|
| | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations |
| | Negative Binomial | | Poisson | | Negative Binomial | Poisson | Negative Binomial | Poisson | Negative Binomial | Poisson | Negative Binomial | Poisson |
| Inventor CEO | 0.849*** (5.620) | 1.263*** (6.541) | 0.250* (1.716) | 0.299* (1.760) | | | | | | | | |
| Active Inventor CEO | | | | | 1.271*** (6.180) | 1.780*** (7.475) | 0.301* (1.916) | 0.483** (2.548) | | | | |
| High-impact Inventor CEO | | | | | | | | | 1.285*** (5.752) | 1.858*** (7.276) | 0.426** (2.314) | 0.582*** (2.715) |
| Low-impact Inventor CEO | | | | | | | | | 0.437*** (3.153) | 0.562*** (2.989) | 0.184 (1.020) | 0.205 (0.962) |
| Baseline Controls | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 | 4,621 |
| Year fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |

Table IA6. Inventor CEOs and innovation outputs: Controlling for *additional* CEO level characteristics and incentive compensation

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and corporate innovation after controlling for additional CEO level characteristics and CEO incentive compensation. The dependent variables are *Patents*, defined as $\log(1+\# \text{ of new patents applied for at time } (t+1))$, and *Citations* defined as $\log(1+\# \text{ of citations attributable to patents applied for at time } (t+1))$. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. Columns 1 and 2 control for CEOs obtaining Finance Education (instead of the baseline control for MBA degree). *Finance Education* is an indicator variable for CEOs' obtaining degree in accounting, finance, business, economics, or MBA degree. *CEO Age* is the age of the CEO in years. *Delta* is the change in the dollar value of the executive's wealth for a one percentage point change in stock price. *Vega* is change in the dollar value of the executive's wealth for a 0.01 change in the annualized standard deviation of stock returns. *CEO ownership* is defined as the ratio of the number of shares owned by the CEO after adjusting for stock splits to total shares outstanding. All regressions include year and industry (based on two digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations |
| Inventor CEO | 0.499*** (4.164) | 0.759*** (4.474) | 0.501*** (4.104) | 0.758*** (4.392) | 0.485*** (4.006) | 0.728*** (4.199) | 0.487*** (3.856) | 0.734*** (4.154) | 0.523*** (4.252) | 0.781*** (4.556) | 0.486*** (4.040) | 0.734*** (4.308) |
| Finance Education | -0.120 (-1.217) | -0.194 (-1.345) | | | | | | | | | | |
| CEO Age | | | -0.006 (-0.949) | -0.007 (-0.749) | | | | | | | | |
| Log (Delta) | | | | | 0.122*** (3.192) | 0.155*** (2.920) | | | | | 0.134** (2.513) | 0.189*** (2.751) |
| Log (Vega) | | | | | | | 0.037 (1.047) | 0.080* (1.671) | | | 0.004 (0.095) | 0.027 (0.471) |
| CEO Ownership | | | | | | | | | 0.826 (1.097) | 0.078 (0.067) | -0.574 (-0.634) | -1.923 (-1.446) |
| Baseline Controls | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 4,621 | 4,621 | 4,480 | 4,480 | 4,247 | 4,247 | 4,431 | 4,431 | 4,316 | 4,316 | 4,247 | 4,247 |
| Adjusted R-squared | 0.552 | 0.533 | 0.553 | 0.534 | 0.565 | 0.545 | 0.554 | 0.539 | 0.561 | 0.542 | 0.565 | 0.547 |
| Year fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |

Table IA7. Inventor CEOs and innovation outputs: Controlling for *additional* corporate governance characteristics

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and corporate innovation after controlling for additional corporate governance level characteristics. The dependent variables are *Patents*, defined as $\log(1+\# \text{ of new patents applied for at time } (t+1))$, and *Citations* defined as $\log(1+\# \text{ of citations attributable to patents applied for at time } (t+1))$. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. *Institutional Holdings (%)* is the percentage of shares held by institutional investors. *Board Size* is the number of directors in the corporate board. *Board Independence* is the ratio of independent directors to the size of the board. *Co-option* is the fraction of directors those are appointed after CEO assumed office as defined in Coles et al. (2014). *GIM Index* is the Gompers, Ishi, and Metrick (2003) Index. *E-Index* is the Bebchuk, Cohen, and Ferrell (2009) Entrenchment Index. All regressions include year and industry (based on two digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------------|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|
| | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations | Patents | Citations |
| Inventor CEO | 0.473*** (3.867) | 0.770*** (4.370) | 0.527*** (4.035) | 0.673*** (3.939) | 0.498*** (3.194) | 0.730*** (3.503) | 0.467*** (2.919) | 0.591*** (2.850) | 0.484*** (2.941) | 0.702*** (3.224) | 0.436*** (2.954) | 0.598*** (3.159) |
| Institutional Holdings (%) | -0.004** (-2.018) | 0.001 (0.231) | | | | | | | | | | |
| Board Size | | | -0.030 (-1.032) | -0.053 (-1.357) | | | | | | | | |
| Board Independence | | | | | 0.770** (2.233) | 1.106** (2.138) | | | | | | |
| Co-option | | | | | | | 0.274 (1.549) | 0.297 (1.228) | | | | |
| GIM Index | | | | | | | | | -0.034 (-1.057) | -0.057 (-1.260) | | |
| E-Index | | | | | | | | | | | -0.113** (-2.098) | -0.175** (-2.361) |
| Baseline Controls | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 3,564 | 3,564 | 3,145 | 3,145 | 2,041 | 2,041 | 2,337 | 2,337 | 2,328 | 2,328 | 2,715 | 2,715 |
| Adjusted R-squared | 0.575 | 0.560 | 0.558 | 0.557 | 0.598 | 0.569 | 0.589 | 0.574 | 0.590 | 0.595 | 0.599 | 0.621 |
| Year fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Industry fixed effects | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |

Table IA8. Trends in innovation measures for *Treated* and *Control* firms: Mean and median comparisons

The table presents the mean and median yearly changes in innovation measures for firms in the *Treated* and *Control* groups going back up to three years prior to the exogenous turnover event year. All changes in these measures are calculated relative to the value of the measure at the year of the turnover ($t=0$). Innovation measures are *Patents*, defined as $\log(1+\text{\# of new patents applied for at time } (t+1))$, *Citations* defined as $\log(1+\text{\# of citations attributable to patents applied for at time } (t+1))$, and *Patent Value* defined as the $\log(1+\text{the dollar value of patents applied for at time } (t+1))$ as computed in Kogan et al. (2017). The first row in table reports statistics for changes in innovation going back 3 years prior to the exogenous turnover event year. As an example, this data point represents the difference between *Patents* (or *Citations*) at time $t=-3$ (3 years prior to the turnover) and time $t=0$. A similar calculation is reported in the second (third) row of the table, but the data goes back 2 (1) years prior to the exogenous turnover event year. The table also reports p -values associated with test statistics for differences in means (standard t -test) and medians (Wilcoxon-Mann-Whitney test) across treated and control groups. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| Time Horizon | Control | Treatment | p -value of | Control | Treatment | p -value of | Control | Treatment | p -value of |
|-------------------------------------|------------------|------------------|--|-------------------|------------------|--|------------------|------------------|--|
| | Mean [Median] | Mean [Median] | difference t -test [Wilcoxon- Mann- Whitney test] | Mean [Median] | Mean [Median] | difference t -test [Wilcoxon- Mann- Whitney test] | Mean [Median] | Mean [Median] | difference t -test [Wilcoxon- Mann- Whitney test] |
| | Patents | | | Citations | | | Patent Value | | |
| 3 years prior to exogenous turnover | -0.065 [0.00] | -0.101 [0.00] | 0.905 [0.691] | 0.255 [0.172] | 0.058 [0.00] | 0.681 [0.576] | 0.034 [0.00] | 0.385 [0.640] | 0.508 [0.194] |
| 2 years prior to exogenous turnover | -0.117 [0.00] | -0.087 [0.00] | 0.883 [0.920] | 0.145 [0.181] | 0.154 [0.00] | 0.981 [0.984] | 0.367 [0.00] | 0.428 [0.780] | 0.909 [0.298] |
| 1 year prior to exogenous turnover | -0.161 [0.00] | 0.051 [0.116] | 0.221 [0.103] | -0.203 [0.002] | 0.129 [0.178] | 0.224 [0.136] | 0.220 [0.00] | 0.076 [0.00] | 0.593 [0.570] |

Table IA9. Difference-in-differences matching estimator analysis of exogenous CEO turnovers using patent value outcomes

This table presents results based on a matching estimator analysis of exogenous CEO turnovers. The outcome variables is *Patent Value*. *Patent Value* is calculated as the three-year average of the yearly values of *Patent Value* (defined in Table A.1). This variable is calculated separately for the *Pre-turnover period* and the *Post-turnover period*. The *Pre-turnover period* is defined as the period spanning 3 years prior to the turnover year. The *Post-turnover period* is defined as the period spanning 3 years after the turnover year. Panel A presents an analysis of the change in *Patent Value* the *Pre-turnover period* to the *Post-turnover period* (the difference-in-difference), for *Treated* and *Non-Treated* turnovers. *Treated* turnovers are defined as those where an Inventor CEO is exogenously replaced by a non-Inventor CEO and *Non-Treated* turnovers are defined as where a non-Inventor CEO is exogenously replaced by another non-Inventor CEO. Panel B presents a similar analysis, except comparing *Treated* turnovers to *Control* turnovers. *Control* turnovers are a subset of the *Non-Treated* turnovers matched to the *Treated* turnovers based on Firm Size, Firm Age, and 2-digit SIC industry using the Abadie and Imbens (2006, 2011) matching estimator. Each *Treated* firm can be matched to two *Control* firms. Matching with replacement is permitted. In Panel C we use the same *Treated* and *Control* turnovers and examine changes in innovation around a placebo turnover year. The placebo turnover year is chosen to occur 3 years before the actual turnover. The cell in the final row and column of each Panel reports the difference-in-difference estimate. This reflects the change innovation in the *Treated* firms relative to the *Control* firms, from the *Pre-turnover period* to the *Post-turnover period*. ATT is the Abadie and Imbens (2006, 2011) bias corrected average treatment effect on the treated. *t*-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| <i>Panel A: Patent Value Average before and after exogenous CEO turnovers (Treated vs. Non-treated)</i> | | | |
|--|--------------------|--------------------|----------------------|
| | Pre-turnover | Post-turnover | Post-Pre |
| Treated firms | 3.862*** (6.50) | 3.186*** (5.54) | -0.676** (-2.37) |
| Non-Treated firms | 3.086*** (6.28) | 2.953*** (5.93) | -0.133 (-0.74) |
| Difference (<i>t</i> -statistic) | 0.776 (0.77) | 0.233 (0.23) | -0.543 (-1.37) |
| <i>Panel B: Patent Value Average before and after exogenous CEO turnovers (Treated vs. Control)</i> | | | |
| | Pre-turnover | Post-turnover | Post-Pre |
| Treated firms | 3.862*** (6.50) | 3.186*** (5.54) | -0.676** (-2.37) |
| Control Firms | 3.652*** (5.72) | 3.933*** (6.24) | 0.281* (1.77) |
| Difference (<i>t</i> -statistic) | 0.210 (0.50) | -0.747 (-1.61) | -0.957*** (-2.94) |
| Matching Estimator (ATT) | | | -0.954** (-2.15) |
| <i>Panel C: Placebo Test - Patent Value Average before and after placebo turnovers (Treated vs. Control)</i> | | | |
| | Pre--turnover | Post-turnover | Post-Pre |
| Treated firms | 3.464*** (4.28) | 3.263*** (4.10) | -0.201 (-0.60) |
| Control firms | 4.285*** (4.45) | 4.322*** (4.66) | 0.037 (0.52) |
| Difference (<i>t</i> -statistic) | -0.821 (-1.14) | -1.059 (-1.47) | -0.238 (-0.75) |
| Matching Estimator (ATT) | | | -0.225 (-0.48) |

Table IA10. Exogenous differences in the depth of the CEO replacement pool between *Treated* and *Non-Treated* firms.

The table examines how exogenous measures of the depth of a firm’s replacement pool for corporate executives varies across the *Treated* and *Non-Treated* firms in our sample of exogenous CEO turnovers. *Density Populated HQ* is an indicator variable equal to one if a firm’s headquarters is located in a zip code where there are 7.5 million or more inhabitants living within a 100-mile radius. *100-mile Radius Population (mill)* is the raw population of inhabitants living within a 100-mile radius of the zip code of the firm’s headquarters. Both population-based measures are constructed using U.S. Census data. *Sunny Location* is an indicator equal to one when a firm is headquartered in location that receives an average of 100 or more days of sunshine, based on data from the U.S. National Oceanic and Atmospheric Administration (NOAA). *Days of Sunshine* is the raw number of days in a year that are classified as “clear” by the NOAA. Both climate measures are collected based on the weather station that is nearest to the firm’s headquarters. The simple average of these measures is calculated for *Treated* and *Non-Treated* firm, defined as firms where an Inventor CEO is exogenously replaced by a non-Inventor CEO and where a non-Inventor CEO is exogenously replaced by another non-Inventor CEO, respectively. The difference in these means is reported in the second last row, and the p value of a two-sample t-test of the statistical significance of these differences is reported in the final row. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | Population Measures | | Climate Measures | |
|------------------------|----------------------|-----------------------------------|------------------|------------------|
| | Densely Populated HQ | 100-mile Radius Population (mill) | Sunny Location | Days of Sunshine |
| Treated Firms Mean | 0.615 | 8.789 | 0.308 | 103.077 |
| Non-Treated Firms Mean | 0.719 | 13.054 | 0.544 | 116.281 |
| Difference | -0.104 | -4.265 | -0.236 | -13.204 |
| <i>p</i> value | 0.505 | 0.006*** | 0.130 | 0.246 |

Table IA11. Inventor CEO and Total Compensation (ExecuComp item: tdc1)

The table reports the estimates from several regression models examining the relationship between Inventor CEOs and total compensation. The dependent variable is *Log (Total Payment)*, defined as $\log(1+tdc1)$. Execucomp Item tdc1 is defined as a CEO's Total Compensation including fixed salary, bonuses, restricted stock grants and the value of option grants. *Inventor CEO* is equal to one if the CEO has at least one patent registered in her own name. *High-Impact Inventor CEO* is equal to one if the CEO holds more than two patents which register an above median number of technology class-year adjusted citations. *Low-Impact Inventor CEO* is equal to one if the number of patents registered to the CEO that accumulate an above median number of technology class-year adjusted citations is less than or equal to 2. *Active Inventor CEO* is equal to one if the CEO has at least one patent issued in her own name around 2 years of focal firm year. Appendix A1 provides definitions for most of the control variables, with a few exceptions. *Free Cash Flow* is defined as net cash flows from operating activities, less capital expenditures, scaled by market capitalization. *Return on Assets* is operating income before depreciation scaled by year beginning total assets. *Stock Return* is the simple contemporaneous 1-year stock return. *Stock Volatility* is the annualized standard deviation of contemporaneous daily stock returns. *Cash-flow Volatility* is the annual standard deviation of a firm's quarterly ratio of cash flows to assets. All regressions include year and industry (based on two digit SIC code) fixed effects. Standard errors are clustered at the firm level. *t*-ratios are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | (1) | (2) | (3) |
|--------------------------|----------------------------|----------------------|----------------------|
| | <i>Log (Total Payment)</i> | | |
| Inventor CEO | 0.100 (1.337) | | |
| Active Inventor CEO | | 0.203* (1.925) | |
| High-impact Inventor CEO | | | 0.250** (2.325) |
| Low-impact Inventor CEO | | | -0.002 (-0.029) |
| Firm-size | 0.474*** (19.383) | 0.476*** (19.360) | 0.477*** (19.490) |
| RD/Assets | 1.010*** (2.800) | 1.002*** (2.782) | 0.973*** (2.697) |
| CAPEX | -0.689 (-1.231) | -0.726 (-1.310) | -0.637 (-1.143) |
| Firm-Age | -0.062 (-1.620) | -0.062 (-1.622) | -0.059 (-1.521) |
| CEO Tenure | -0.004 (-0.913) | -0.004 (-0.892) | -0.004 (-0.985) |
| PhD (STEM) | 0.058 (0.759) | 0.062 (0.848) | 0.043 (0.565) |
| Technical Education | 0.058 (0.920) | 0.058 (0.905) | 0.056 (0.869) |
| MBA | -0.007 (-0.132) | -0.003 (-0.054) | 0.001 (0.012) |
| No school information | -0.020 (-0.194) | -0.015 (-0.149) | -0.017 (-0.170) |

| | | | |
|------------------------|-----------------------|-----------------------|-----------------------|
| CEO Ownership | -3.937*** (-7.379) | -3.941*** (-7.299) | -3.836*** (-7.164) |
| Free Cash Flow | -0.000 (-1.161) | -0.000 (-1.163) | -0.000 (-1.226) |
| Return on Assets | 0.611** (2.533) | 0.612** (2.546) | 0.624** (2.586) |
| Stock Return | 0.001*** (3.159) | 0.001*** (3.164) | 0.001*** (3.176) |
| Stock Volatility | 0.285* (1.938) | 0.282* (1.929) | 0.295** (1.998) |
| Cash-flow Volatility | 1.987*** (4.670) | 1.979*** (4.662) | 1.960*** (4.614) |
| Founder CEO | 0.012 (0.130) | 0.000 (0.001) | -0.006 (-0.064) |
| Overconfident CEO (67) | 0.185*** (2.982) | 0.180*** (2.923) | 0.181*** (2.935) |
| Observations | 3,599 | 3,599 | 3,599 |
| Adjusted R-squared | 0.406 | 0.407 | 0.408 |
| Year fixed effects | Y | Y | Y |
| Industry fixed effects | Y | Y | Y |