

When Do Optimistic CEOs Enhance Firm Value?

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CEOs Impact Firm Policies

- There is extensive evidence that CEOs leave their imprint on corporate policies.
- Management styles of top executives account for some of the unexplained variation in a wide range of corporate policies (Bertrand and Schoar, 2003).
- Corporate leverage choices mimic the personal leverage choices of CEOs (Cronqvist, Makhija, and Yonker, 2012).
- Behavioral traits of CEOs are related to corporate financial policies (Graham, Harvey, and Puri, 2013).
- Personality traits of CEOs predict financing choices, investment choices, and firm operating performance (Gow et al., 2016).

How Do CEOs Impact Firm Value?

- Despite evidence about the impact of CEOs on corporate policies, value implications of managers have not been adequately considered.
- Understanding the circumstances under which different CEO traits are beneficial to the firm can help us understand how CEOs are chosen and improve the matching of CEOs with firms for firm-value maximization.
- Findings about the impact of specific CEO traits on firms have implications for firm-CEO matching. (Goldman, Rocholl, and So, 2009; T. Jalbert, Furumo, and M. Jalbert, 2010; Halford and Hsu, 2014; Bandiera et al., 2017)).
- We focus on the effect of CEO optimism on firm value.

Questions

- What is the overall effect of CEO optimism on firm value?
- Which firms are more likely to benefit from optimistic CEOs?

Overconfidence and Optimism

- Overconfidence is defined as
 - an upward bias in expectations of future outcomes (optimism)
 - overestimation of the precision of one's information (hyperprecision)
- Hyperprecision can lead to optimism.
- We focus on optimism.

Results

- The value of a firm managed by an optimistic CEO is about 17-23% higher than that of a firm managed by a non-optimistic CEO after controlling for other differences.
- The increase in firm value associated with CEO optimism is higher in
 - firms in less concentrated industries
 - firms in industries with a larger fraction of optimistic CEOs
 - firms with higher cash flow volatility
 - firms with greater R&D expenditures
 - firms with greater investment spending
 - firms with greater cash flow
- The value premium associated with CEO optimism declines in post-SOX years

CEO optimism introduces bias in corporate policies

- An optimistic CEO
 - overestimates the value of investment opportunities and
 - believes that investors undervalue her firm
- As a result, an optimistic CEO's investment spending is more sensitive to internal funds (Malmendier and Tate, 2005).
- Optimistic CEOs overinvest in acquisitions and acquisition announcements result in a more negative stock price (Malmendier and Tate, 2008)
- Optimistic CEOs believe external financing is too costly and pay lower dividends (Deshmukh, Goel, and Howe, 2013)
- Optimistic CEOs prefer to delay raising external financing to future dates and, therefore, hold less cash. (Deshmukh, Goel, and Howe, 2021)

CEO Optimism in a World without Frictions

- In a frictionless world, rational CEOs' actions maximize shareholder value.
- Any deviation in optimistic CEO's real decisions such as investment and acquisitions is, therefore, suboptimal and lowers firm value.
- These arguments suggest that firms led by optimistic CEOs should be less valuable.
- For CEO optimism to be valuable, the assumption of frictionless economy must be relaxed. We now consider conditions under which CEO optimism may enhance value.

Optimism and Risk-Taking

- An optimistic manager underestimates risk and ends up making riskier choices. This increases the chance that an optimistic CEO wins a CEO selection tournament (Goel and Thakor, 2008).
 - CEO optimism can be beneficial to the firm as it counteracts the underinvestment problem that results from the CEO's risk-aversion.
 - However, too much optimism leads to overinvestment.
 - Optimistic CEOs also underinvest in information acquisition.
- Incentivizing managers to take on more risk through compensation contracts is costly (Gervais, Heaton, and Odean, 2011).
 - Firms can lower this cost by exploiting the optimistic manager's bias.
 - Optimistic managers overestimate the benefits from risky projects and exert greater effort.
 - Extreme levels of optimism can make managers worse off.

Optimism as Motivator

- When agents' actions in a firm are complements, if an optimistic agent overestimates his productivity and works harder, than the productivity of other agents increases and they rationally work harder. This can make the firm and all agents in the firm better off (Gervais and Goldstein, 2007).
- CEO optimism will lead to a greater firm value increase in firms where employee or executive effort choices are important determinants of firm value and their effort choices are synergistic.
- CEOs with strong beliefs can help achieve profitable innovation and coordination among employees (Rotemberg and Saloner, 2000; Van den Steen, 2005).

Optimism and Innovation

- When innovation is costly to CEOs, an optimistic CEO who overestimates his ability to make innovation successful is more likely to innovate (Galasso and Simcoe, 2011).
- This effect is stronger in more competitive industries. Galasso and Simcoe (2011) confirm these predictions.
- A marginal increase in cash flow tends to have a greater impact on the investment decisions of biased CEOs (Galasso and Simcoe, 2011; Malmendier and Tate, 2005).
- Overconfident CEOs invest more in innovation, obtain more patents and patent citations, and achieve greater innovative success for given research and development expenditures (Hirshleifer, Low, and Teoh, 2012). However, they find that overconfident managers achieve greater innovation only in innovative industries.

Model: CEO Optimism and Industry Externalities

- Consider an industry with N firms with average firm value \bar{V} .
- Firm value (V_i) is proportional to firm quality (Q_i):

$$V_i = \frac{Q_i}{\sum_{j=1}^N Q_j} N\bar{V}.$$

- Choosing a quality Q for a firm imposes a personal cost aQ^2 on its CEO. The CEO maximizes firm value net of this cost.
- A fraction p of the firms have optimistic CEOs who underestimate the cost of quality Q to be αaQ^2 ($0 < \alpha < 1$).
- CEO optimism reduces the wedge between the CEO's and the shareholders' objectives and benefits shareholders.
- Each CEO chooses her firm's quality taking choices of other firms as given.

Nash Equilibrium

- The first-order conditions for quality choices Q_R and Q_O of rational CEOs and optimistic CEOs are

$$\frac{\{(1-p)N-1\}Q_R + pNQ_O}{\{(1-p)Q_R + pQ_O\}^2 N} \bar{V} = 2aQ_R,$$

$$\frac{(1-p)NQ_R + (pN-1)Q_O}{\{(1-p)Q_R + pQ_O\}^2 N} \bar{V} = 2\alpha aQ_O.$$

- These yield a quadratic equation in $\gamma = Q_O/Q_R$:

$$\alpha p \gamma^2 + \left\{ \alpha(1-p) - p + \frac{1-\alpha}{N} \right\} \gamma - (1-p) = 0.$$

- The solution satisfies $\gamma > 1$ and γ is increasing in N . That is, the value premium associated with optimistic CEO is higher in more competitive industries.
- Intuition: Less aggressive reaction by rivals allows firms led by optimistic CEOs to absorb more of the impact of their CEOs' actions.

Predictions

Prediction (Risk)

CEO optimism adds more value in riskier firms than in safe firms.

Prediction (Nonlinear)

Moderate optimism increases firm value but sufficiently high optimism decreases firm value.

Prediction (Effort)

CEO optimism will lead to a greater firm value increase in firms where employee or executive effort choices are important determinants of firm value and their effort choices are synergistic.

Prediction (R&D)

CEO optimism has a greater impact on firm value in firms with greater R&D investment.

Predictions Continued

Prediction (Cash Flow)

CEO optimism has a greater impact on firm value in firms with greater cash flow.

Prediction (Competition)

CEO optimism has a greater impact on firm value in more competitive industries.

Prediction (Fraction of Optimistic CEOs)

CEO optimism has a greater impact on firm value in industries with a greater fraction of optimistic CEOs.

Data

- Execucomp firms over 1992-2012, COMPUSTAT
- 10,611 firm-year observations for 1,587 firms
- *Optimism*=1 over all the CEO-years if the CEO held options with average moneyness more than 100% at least once.
- Underdiversified CEOs should exercise their options early if they are sufficiently deep in-the-money. An optimistic CEO, however, overestimates firm value and holds options longer.
- Average moneyness calculation follows Campbell et al. (2011)
- *Post-Optimism*=1 in all CEO-years since the first year in which the CEO held options with average moneyness $> 100\%$.

Regression model

$$\begin{aligned} \frac{MV_{i,t}}{BVA_{i,t}} = & \beta_0 + \beta_1 \text{Optimism}_{i,t} + \beta_2 \frac{E_{i,t}}{BVA_{i,t}} + \beta_3 \frac{dE_{i,t}}{BVA_{i,t}} + \beta_4 \frac{RD_{i,t}}{BVA_{i,t}} + \beta_5 \frac{dRD_{i,t}}{BVA_{i,t}} + \\ & \beta_6 \frac{D_{i,t}}{BVA_{i,t}} + \beta_7 \frac{dD_{i,t}}{BVA_{i,t}} + \beta_8 \frac{I_{i,t}}{BVA_{i,t}} + \beta_9 \frac{dI_{i,t}}{BVA_{i,t}} + \beta_{10} \frac{dBVA_{i,t}}{BVA_{i,t}} + \\ & \beta_{11} \text{Annual Stock Return}_{i,t-1} + \beta_{12} \text{Annual Stock Return}_{i,t-2} + \beta_{13} \text{Annual Stock Return}_{i,t-3} + \\ & \beta_{14} \text{Annual Stock Return}_{i,t-4} + \beta_{15} \text{Annual Stock Return}_{i,t-5} + \text{Year Fixed Effects} + \text{Firm Fixed Effects} + \epsilon_{i,t}. \end{aligned}$$

- Based on Fama and French (1998) and Dittmar and Mahrt-Smith (2007)
- dX_t : change from $t - 2$ to t
- $MV_{i,t}$: market value of assets, $BVA_{i,t}$: book value of assets
- $E_{i,t}$: earnings before extraordinary items
- $RD_{i,t}$: R&D expenditures (set to zero if missing)
- $I_{i,t}$: interest expense, $D_{i,t}$ common dividends

Summary Statistics

Panel A: All Observations

Variable	Optimistic CEOs			Non-Optimistic CEOs		
	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation
MV-to-BV of Assets	2.1361	1.7124	1.41	1.6212	1.3995	0.85
Book Value of Assets	6000.11	1481.72	21824.83	8619.37	1473.68	36552.81
Earnings to Assets	0.0711	0.0825	0.12	0.0475	0.0653	0.14
RD to Assets	0.0264	0	0.06	0.0246	0	0.06
Dividends to Assets	0.0103	0	0.03	0.0142	0.0065	0.03
Interest Expense to Assets	0.0142	0.0111	0.02	0.0178	0.0145	0.02
Cash Flow Volatility	0.0778	0.0362	0.18	0.0738	0.0302	0.31
Capex to Assets	0.0709	0.0507	0.07	0.0591	0.0424	0.06
CEO Tenure (years)	9.56	8.00	8.11	4.94	3.00	6.05
Observations		4969			5114	

Firm Value is Increasing in CEO Optimism

	All Observations		All Observations <i>with</i> Forward-Looking Variables		Observations with Time-Varying Optimism	
	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
Optimism	0.3209*** (7.86)		0.2739*** (6.10)		0.3137*** (8.15)	
Post-Optimism		0.3935*** (11.23)		0.3126*** (7.67)		0.3886*** (11.54)
Earnings to Assets	0.8842*** (3.62)	0.9085*** (4.53)	0.8350** (2.35)	0.6678* (1.66)	1.0785*** (4.44)	1.0589*** (3.99)
ΔL2 Earnings to Assets	-0.3105** (-2.36)	0.2601** (2.54)	0.2015** (2.27)	0.3470*** (3.47)	0.0024 (0.02)	0.3078*** (2.69)
ΔF2 Earnings to Assets			0.4376 (1.48)	0.4419 (1.30)		
R&D to Assets	1.7197*** (2.92)	1.5554*** (2.72)	4.9203*** (2.95)	4.4221*** (2.58)	1.6355 (1.14)	2.8260* (1.84)
ΔL2 R&D to Assets	-0.6172*** (-3.27)	0.2353 (1.53)	0.6945 (0.84)	0.9207 (1.08)	3.1476*** (4.86)	0.7670 (0.75)
ΔF2 R&D to Assets			4.8112*** (4.05)	4.6002*** (3.73)		
Dividends to Assets	2.8245** (2.39)	2.3855* (1.83)	2.9101 (1.50)	2.7446 (1.31)	2.1153* (1.84)	1.8012 (1.51)
ΔL2 Dividends to Assets	-0.3249 (-0.86)	-0.4289 (-1.06)	0.0830 (0.22)	0.0593 (0.16)	-0.2581 (-0.82)	-0.2843 (-0.80)
ΔF2 Dividends to Assets			1.5256** (2.08)	1.4218* (1.85)		
Interest Expense to Assets	-1.2391 (-1.40)	3.7287** (1.99)	-0.6843 (-0.28)	0.6834 (0.27)	3.2019** (2.17)	4.5214** (2.00)
ΔL2 Interest Expense to Assets	2.3002** (2.40)	-4.5867*** (-3.27)	-3.6560*** (-2.92)	-4.5748*** (-3.51)	-0.0753 (-0.05)	-4.4626** (-2.57)
ΔF2 Interest Expense to Assets			-5.7479*** (-4.12)	-5.6863*** (-3.83)		
ΔL2 Assets to Assets	0.0016 (0.59)	0.0046 (0.13)	0.0315 (1.08)	0.0386 (1.18)	-0.0316 (-0.84)	0.0093 (0.25)
ΔF2 Assets to Assets			0.7044*** (8.50)	0.7113*** (8.20)		
ΔF2 Market Value to Assets			-0.2545*** (-8.23)	-0.2397*** (-7.47)		
Five Lags of Stock Return	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm	Firm	Firm	Firm	Firm	Firm
Standard Errors Clustered	By Firm	By Firm	By Firm	By Firm	By Firm	By Firm
Firm-Year Observations	10611	10083	7610	7217	7291	6979
Adjusted R ²	0.6646	0.6847	0.7664	0.7740	0.6512	0.6732

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

Other Potential Explanations

- Option-exercise behavior of the CEO may be determined by factors other than optimism. However, Malmendier and Tate (2005) and Malmendier and Tate (2008) rule out several alternative interpretations of their option-based optimism measure.
- Optimism variable may be capturing private information. However, private information is not public and cannot explain the higher market-to-book value of these firms.
- Board pressure may affect the CEO's option-exercise behavior. However, firm fixed-effects should control for differences in board influence and corporate governance.
- Optimism variable may capture risk preferences. However, we control for cash flow volatility and the CEO's ownership of both stock and vested options, which are likely to depend on the CEO's risk preferences.

Our main result is robust to

- a regression model of firm value on optimism or post-optimism with no control variables other than firm fixed-effects and year fixed-effects
- a regression on pooled data without fixed effects or clustering of standard errors
- industry fixed-effects instead of firm fixed-effects
- alternative criteria to identify optimistic CEOs (67% moneyness, requiring that the CEO hold an option more than 100% in the money at least twice)
- controlling for CEO tenure, CEO stock ownership, and CEO option ownership

Endogeneity checks

- Managerial style inferred from management changes may not represent causation as boards may simultaneously change the firm's leadership and corporate policies (Fee, Hadlock, and Pierce, 2013).
- Our measure of CEO optimism is not a manager-specific dummy variable.
- Our empirical results hold with the time-varying post-optimism variable.
- We perform several tests to address the broader point about endogeneity of CEO selection.

Instrumental Variable

- Some firm characteristics that cause boards to hire optimistic CEOs also cause these CEOs to increase firm value. We address this concern using an instrumental variable.
- The instrument measures the incidence of optimism in the candidate pool from which the board chooses a CEO as the fraction of optimistic CEOs, among all other CEOs in our data, appointed in the same month.
- Our main result holds with the Two-stage Least Squares approach.

Firm Value is Increasing in Instrumented CEO Optimism

	MVA to BVA		MVA to BVA	Change in	MVA to BVA
	(Model 1)		(Model 2)	MVA to BVA	(Model 4)
	2SLS			(Model 3)	
	First Stage	Second Stage			
Fraction of Optimistic CEOs	1.1399*** (12.31)				
Optimism		0.3033*** (2.84)			
Post-Optimism			0.3835*** (9.01)		0.5300*** (11.19)
Pre-Optimism			-0.0275 (-0.68)		
Lagged Post-Optimism				0.0977*** (3.42)	
Lagged MV of Assets to BV of Assets				-0.5766*** (-16.41)	
Earnings to Assets	0.0685 (1.35)	0.8698*** (3.85)	0.9685*** (4.53)	0.7383*** (3.76)	0.9274*** (3.61)
ΔL2 Earnings to Assets	-0.0051 (-0.19)	-0.2962** (-2.44)	0.2606** (2.55)	0.0178 (0.22)	0.1938 (1.51)
R&D to Assets	0.1177 (0.80)	1.7761*** (3.27)	1.5572*** (2.72)	1.8276*** (2.64)	1.2715*** (2.49)
ΔL2 R&D to Assets	-0.0078 (-0.22)	-0.6027*** (-3.47)	0.2355 (1.53)	-0.2998 (-0.50)	0.1444 (0.75)
Dividends to Assets	-0.4248 (-1.13)	2.7985** (2.54)	2.3803* (1.82)	1.4238* (1.93)	2.6169* (1.88)
ΔL2 Dividends to Assets	0.0636 (0.24)	-0.3398 (-0.94)	-0.4287 (-1.06)	0.1063 (0.33)	-0.6271 (-1.34)
Interest Expense to Assets	-0.3798 (-1.59)	-1.3722* (-1.67)	3.7514** (2.00)	1.9865 (1.21)	4.0760 (1.59)
ΔL2 Interest Expense to Assets	0.3600 (1.40)	2.4370*** (2.71)	-4.6114*** (-3.28)	-0.7573 (-1.48)	-4.0353** (-2.07)
ΔL2 Assets to Assets	-0.0003 (-0.28)	0.0016 (0.62)	0.0051 (0.15)	0.0079 (1.26)	-0.0045 (-0.09)
Lags of Stock Return	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm	Firm	Firm	Firm	CEO-Firm
Standard Errors Clustered	By Firm	By Firm	By Firm	By Firm	CEO-Firm
Firm-Year Observations	10384	10384	10083	9918	10083
Adjusted R ²			0.6847	0.3879	0.7313
F Statistic	10.27***	22.38***			

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

Pre- and Post-Optimism

- We create a variable, *Pre-Optimism*, which equals one for those CEO years where *Optimism* equals one and *Post-Optimism* equals zero, and zero otherwise.
- The split of the optimism indicator variable into pre-optimism and post-optimism variables captures the time variation in CEO option-exercise behavior.
- We replace the optimism variable with both pre- and post-optimism variables. The results indicate that the coefficient on post-optimism is positive and statistically significant while the coefficient on pre-optimism is not statistically significant.

Firm Value Increasing in Post-Optimism, not Pre-Optimism

	MVA to BVA		MVA to BVA	Change in	MVA to BVA
	(Model 1)		(Model 2)	MVA to BVA	(Model 4)
	2SLS			(Model 3)	
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Change in Firm Value

- If causality is in the opposite direction (firms with higher values attract optimistic CEOs), then the correlation between CEO optimism and firm value should remain cross-sectional.
- We estimate a regression model of the change in firm value (over the fiscal year) using the lagged value of post-optimism, including lagged firm value and five annual lags of stock return as controls.
- We find that the change in firm value is positively related to CEO optimism and the coefficient is statistically significant at the 1% level.

Firm Value Continues to Rise with Optimistic CEO

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CEO-Firm Fixed Effect

- There may be omitted factors that influence both CEO choice and firm value. These omitted factors can be captured with CEO-firm fixed effect.
- We include fixed effects based on the CEO-firm combination and cluster standard errors by the CEO-firm combination.
- The coefficient on post-optimism is positive and statistically significant at the 1% level.

Firm Value Increases in CEO Optimism for a Fixed CEO

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Pre-Optimism			-0.0275 (-0.68)		
Lagged Post-Optimism				0.0977*** (3.42)	
Lagged MV of Assets to BV of Assets				-0.5766*** (-16.41)	
Earnings to Assets	0.0685 (1.35)	0.8698*** (3.85)	0.9685*** (4.53)	0.7383*** (3.76)	0.9274*** (3.61)
ΔL2 Earnings to Assets	-0.0051 (-0.19)	-0.2962** (-2.44)	0.2606** (2.55)	0.0178 (0.22)	0.1938 (1.51)
R&D to Assets	0.1177 (0.80)	1.7761*** (3.27)	1.5572*** (2.72)	1.8276*** (2.64)	1.2715** (2.49)
ΔL2 R&D to Assets	-0.0078 (-0.22)	-0.6027*** (-3.47)	0.2355 (1.53)	-0.2998 (-0.50)	0.1444 (0.75)
Dividends to Assets	-0.4248 (-1.13)	2.7985** (2.54)	2.3803* (1.82)	1.4238* (1.93)	2.6169* (1.88)
ΔL2 Dividends to Assets	0.0636 (0.24)	-0.3398 (-0.94)	-0.4287 (-1.06)	0.1063 (0.33)	-0.6271 (-1.34)
Interest Expense to Assets	-0.3798 (-1.59)	-1.3722* (-1.67)	3.7514** (2.00)	1.9865 (1.21)	4.0760 (1.59)
ΔL2 Interest Expense to Assets	0.3600 (1.40)	2.4370*** (2.71)	-4.6114*** (-3.28)	-0.7573 (-1.48)	-4.0353** (-2.07)
ΔL2 Assets to Assets	-0.0003 (-0.28)	0.0016 (0.62)	0.0051 (0.15)	0.0079 (1.26)	-0.0045 (-0.09)
Lags of Stock Return	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Firm	Firm	Firm	Firm	CEO-Firm
Standard Errors Clustered	By Firm	By Firm	By Firm	By Firm	CEO-Firm
Firm-Year Observations	10384	10384	10083	9918	10083
Adjusted R ²			0.6847	0.3879	0.7313
F Statistic	10.27***	22.38***			

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

Interactive Effect of Optimism and Industry Concentration

- We expect the difference between the values of firms with optimistic CEOs and those with rational CEOs to be higher in industries with lower concentration.
- We use two different measures of the Herfindahl-Hirschman Index (HHI) to measure industry concentration.
- The first measure is based on Fama-French 30 industrial classifications and the second is based on a textual analysis of 10K annual filings by firms (Hoberg and Phillips, 2016).
- With each measure, the coefficient on the interaction between each measure of HHI and post-optimism is negative and statistically significantly at the 5% level.

CEO Optimism Adds More Value in Competitive Industries

Post-Optimism	0.5027*** (8.14)	0.4625*** (8.83)	-0.3433*** (-3.13)
Fama-French-Industry-Based HHI	1.8226*** (2.59)		
Post-Optimism*Fama-French-Industry-Based HHI	-2.0205** (-2.50)		
Text-Based HHI		0.1428* (1.78)	
Post-Optimism*Text-Based HHI		-0.3430*** (-3.28)	
Fraction of Optimistic CEOs in the Industry			0.3045** (2.06)
Post-Optimism * Fraction of Optimistic CEOs in the Industry			1.3422*** (5.99)
Earnings to Assets	0.9751*** (4.55)	0.9314*** (4.21)	0.9604*** (4.58)
Δ L2 Earnings to Assets	0.2556** (2.50)	0.2696** (2.39)	0.2588** (2.55)
R&D to Assets	1.5653*** (2.75)	1.4237** (2.50)	1.5328*** (2.80)
Δ L2 R&D to Assets	0.2294 (1.49)	0.2442 (1.44)	0.2360 (1.55)
Dividends to Assets	2.3599* (1.80)	2.1875* (1.70)	2.3922* (1.84)
Δ L2 Dividends to Assets	-0.3995 (-0.99)	-0.3879 (-0.96)	-0.4616 (-1.17)
Interest Expense to Assets	3.6180* (1.94)	3.6452 (1.62)	4.1795** (2.24)
Δ L2 Interest Expense to Assets	-4.5469*** (-3.25)	-5.3455*** (-3.45)	-4.6996*** (-3.35)
Δ L2 Assets to Assets	0.0030 (0.09)	0.0187 (0.49)	-0.0003 (-0.01)
Lags of Stock Return	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Fixed Effects	Firm	Firm	Firm
Standard Errors Clustered	By Firm	By Firm	By Firm
Firm-Year Observations	10083	9388	10083
Adjusted R ²	0.6854	0.6908	0.6924

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

When Does CEO Optimism Enhance Firm Value?

Post-Optimism	0.3613*** (9.79)	0.3072*** (9.25)	0.2805*** (4.99)	0.1909*** (4.13)
Post-Optimism*Cash Flow Volatility	0.4931*** (2.57)			
Post-Optimism*R&D		3.4169*** (4.02)		
Post-Optimism*Cash Flow			1.1431** (2.12)	
Post-Optimism*Investment Spending				2.1829*** (4.85)
Cash Flow Volatility	-0.0969 (-0.70)			
Cash Flow			1.4445*** (4.08)	
Investment Spending				0.3492 (1.07)
Earnings to Assets	0.9832*** (4.61)	0.9686*** (4.64)	0.4073*** (2.76)	1.0564*** (5.19)
ΔL2 Earnings to Assets	0.2503** (2.44)	0.2162** (2.10)	0.2664** (2.52)	0.1784* (1.72)
R&D to Assets	1.5657*** (2.68)	-0.6522 (-0.71)	3.2575*** (3.60)	
ΔL2 R&D to Assets	0.1865 (1.11)	0.2677* (1.72)	-0.0837 (-0.46)	0.1722 (1.17)
Dividends to Assets	2.3020* (1.74)	2.3763* (1.80)	4.0827*** (3.27)	2.5323* (1.94)
ΔL2 Dividends to Assets	-0.3087 (-0.73)	-0.3985 (-0.99)	-0.2302 (-0.65)	-0.4762 (-1.20)
Interest Expense to Assets	3.7322** (2.01)	4.2559** (2.32)	5.1040*** (2.59)	4.4246** (2.41)
ΔL2 Interest Expense to Assets	-4.5167*** (-3.32)	-5.1833*** (-3.42)	-4.3365*** (-2.91)	-4.8473*** (-3.51)
ΔL2 Assets to Assets	0.0065 (0.20)	0.0138 (0.37)	-0.0111 (-0.33)	0.0147 (0.42)
Lags of Stock Return	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Fixed Effects	Firm	Firm	Firm	Firm
Standard Errors Clustered	By Firm	By Firm	By Firm	By Firm
Firm-Year Observations	10072	10083	10056	10025
Adjusted R ²	0.6855	0.6879	0.6940	0.6918

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

Passage of SOX Diminished Impact of CEO Optimism

Optimism	0.4192*** (7.85)	
Post-Optimism		0.6052*** (10.84)
Optimism*SOX	-0.1497*** (-2.84)	
Post-Optimism*SOX		-0.3201*** (-5.88)
Earnings to Assets	0.8944*** (3.66)	0.9822*** (4.59)
Δ L2 Earnings to Assets	-0.3151** (-2.41)	0.2384** (2.34)
R&D to Assets	1.7231*** (2.92)	1.5403*** (2.70)
Δ L2 R&D to Assets	-0.6231*** (-3.32)	0.2072 (1.35)
Dividends to Assets	2.9489** (2.47)	2.6458** (1.98)
Δ L2 Dividends to Assets	-0.3594 (-0.95)	-0.4808 (-1.17)
Interest Expense to Assets	-1.2363 (-1.41)	3.6842** (2.01)
Δ L2 Interest Expense to Assets	2.3056** (2.41)	-4.4741*** (-3.19)
Δ L2 Assets to Assets	0.0019 (0.70)	0.0022 (0.06)
Lags of Stock Return	Yes	Yes
Year Fixed Effects	Yes	Yes
Fixed Effects	Firm	Firm
Standard Errors Clustered	By Firm	By Firm
Firm-Year Observations	10611	10083
Adjusted R ²	0.6651	0.6875

*** Significant at the 0.01 level; ** Significant at the 0.05 level; * Significant at the 0.10 level.

CEO Optimism Estimated from Prior Firm

- Endogeneity concerns with the optimism measure can be alleviated with a proxy for CEO optimism, which is not influenced by the characteristics of the firm.
- One such measure is the CEO's optimism estimated from the CEO's option-exercise behavior at a previous firm.
- We create this measure for CEOs who switch firms in our data.
- We get 356 observations across 102 firms. We cannot include firm fixed effects with almost no time variation in optimism for firms.
- We are unable to find a statistically significant effect of optimism, inferred from a CEO's option-exercise behavior in a previous firm, on firm value.
- However, tests of interactive effects confirm that CEO optimism creates more value in riskier firms and in firms that are R&D-intensive and investment-intensive.

Conclusion

- We draw on the existing literature to derive several empirical predictions regarding the impact of CEO optimism on firm value.
- We develop a simple model of the effect of CEO optimism on firm value against a backdrop of industry competition.
- Our results suggest that CEO optimism appears to be a value-enhancing trait for firms that are risky, operate in competitive industries, engage in greater innovation and investment, and have more internal resources.