# FIRM OWNERSHIP CHANGE IN RESPONSE TO CEO TURNOVER: EVIDENCE FROM CHINA

**ABSTRACT:** Corporate governance literature stresses the role of a firm's ownership structure in shaping firm strategies. The literature traditionally focuses on the consequences of a static ownership structure, while neglecting the changes that occur in ownership structure and the antecedents of those changes. This study investigates public firms' ownership change in response to their CEO turnovers. We argue that CEO turnovers increase the uncertainties in the capital market about a firm's value, future strategies and CEO ability. In light of the increased uncertainty, shareholders may restructure their shares. We identify four contingencies related to a firm's information environment that can moderate the relationship between CEO turnovers and ownership changes: abruptness of CEO turnover, internal succession, outsider ownership, and listings on multiple stock exchanges. We test our theoretical model based on 2,128 matched Chinese public firms from 2000 to 2014 and find support for most of the predictions. Our study contributes to corporate governance research on CEO turnover and ownership structure.

## INTRODUCTION

Corporate governance research has predominantly focused on understanding how to prevent or resolve agency problems that arise from the separation of ownership and control (Jensen and Meckling 1976, Dalton, Hitt et al. 2007). For example, the research has examined the role of a firm's ownership structure in monitoring and controlling the agency costs and in turn in shaping firm strategies and performance (Connelly, Hoskisson et al. 2010). In this stream of research, Hoskisson et al. (2002) highlight the heterogeneous impacts of distinct types of institutional investors on firms' innovation strategies. Connelly et al. (2010) show that a firm's transient and dedicated institutional investors have differential influences on the firm's competitive strategies. Further, Tihanyi et al. (2003) demonstrate a relationship between institutional ownership and international diversification. Moreover, Bruton et al. (2010) show that ownership concentration of private equity investors improves the performance of firms that have recently undergone an initial public offering.

While much is known about the consequences of a firm's ownership structure, our knowledge about changes in ownership structure and its antecedents remains surprisingly limited (Denis and Sarin 1999, Demsetz and Villalonga 2001). This gap may exist because research on corporate governance has historically been static in nature. This research has largely generated predictions regarding the effects of ownership structure on attributes of the firm's monitoring environment. It is commonly assumed that ownership changes very slowly over time (Denis and Sarin 1999). In light of the research gap, scholars have increasingly called for more studies on the evolution of firm ownership structure (Connelly, Hoskisson et al. 2010).

This study investigates public firms' ownership change in response to the firms' CEO changes. CEO turnovers often increase the uncertainties about a firm's value, future strategies and CEO ability in the capital market. In turn, the uncertainty can induce shareholders to restructure their equity ownership in the firm. Consequently, some firms' ownership structure changes following the CEO turnover. We further argue that the impact of CEO turnover on ownership change is contingent on the firm's information environment. The relationship is expected to be stronger when the CEO turnovers are abrupt and when a firm is dominated by outsider investors. In both cases, shareholders in the capital market perceive a greater information ambiguity and thus greater uncertainty associated with the CEO turnovers. The uncertainties around CEO turnover can be reduced or alleviated, however, when a firm has a more predictable or transparent information environment due to an internal succession and when the firm is listed on more stock exchanges. In turn, the firm's ownership change is less likely to occur despite the CEO turnovers.

This research contributes to the corporate governance literature. Traditional corporate governance research often concludes that ownership structure has an important influence on internal governance in public firms, which in turn affects CEO or top management turnover (e.g., Denis, Denis, and Sarin, 1997). The potential reverse causality has not been not considered and thus empirical evidence is lacking. Our study fills the gap by establishing the linkage and exploring the boundary conditions. Moreover, corporate governance studies often stress that CEO turnover is an effective way of disciplining managers and thus increasing firm value. This study suggests that CEO turnover may trigger changes in a firm's ownership structure, which in turn may affect firm strategies and performance in unintended ways.

## HYPOTHESES

Equity markets operate in ways that claims on the future value of firm are bought and sold (Benner and Zenger 2016). The ownership structure of a firm, as Demsetz (1983) argue, essentially reflects the influence of shareholders and of trading on the equity market. When shareholders of a publicly-held corporation agree to a dilution of ownership, they are, in effect, deciding to alter the ownership structure of their firms.

Potential owners in the capital market often face a great deal of information asymmetry regarding the prospects of firms in which they might invest. Changes in a firm's CEO position, whether voluntary or involuntary, signal to potential investors that firm prospects may be different from that previously believed, and there might be changes in the firm's future strategies with a new CEO. Thus, the CEO change also increases the uncertainty over the firm's strategic direction and management's ability to lead the firm. This in turn heightens uncertainty about the firm's future cash flows. Given the increased uncertainties accompanying CEO turnover, market expectations about firm value may be more variable than in the past. The more volatile valuations of a firm in the capital market suggest that ownership change is more likely following a CEO turnover.

> **Hypothesis 1 [H1]:** Changes in a firm's CEO position increase the likelihood of subsequent ownership change of the firm.

Compared to predictable CEO changes such as voluntary retirement, abrupt CEO changes such as forced dismissal and unexpected resignations create higher uncertainty to potential investors in the capital market. Abrupt CEO changes, by nature, are unplanned and thus often force the firm into a crisis mode. Speculations may amount about what happens in the event the CEO unexpectedly cannot fulfill his or her duties. It is also uncertain whether a firm can act swiftly to reassure stakeholders that everything is under control. Such increased uncertainties lead to a greater level of volatility of share trading in the market, which in turn is reflected in ownership change in a focal firm. Therefore, the impact of CEO turnover on ownership change is even stronger.

> **Hypothesis 2 [H2]:** The impact of a firm's CEO changes on its ownership change is stronger for firms with abrupt CEO changes than with routine CEO changes.

However, the impact of CEO turnover on ownership change is lower when the turnover event is followed by internal succession than by external succession. External succession often suggests a major change in the firm's strategy. This produces additional uncertainty to the CEO changes. By contrast, internal CEO succession is often perceived by investors to be based on a thoughtful succession plan to ensure limited disruptions in the firm's strategy and operations thereby maintaining more stability and hopefully continued success (Dalton and Kesner, 1983). As a result, internal CEO succession likely attenuates the uncertainty created by CEO changes; this in turn leads to a lower level of ownership change.

> **Hypothesis 3 [H3]:** The impact of a firm's CEO changes on its ownership change is weaker for firms with internal successions.

Additionally, the impact of CEO turnover on ownership change is likely to be contingent on a firm's ownership structure. Insider owners differ from outsider owners in a firm. Insider owners comprise executives, board directors, and employees who often have adequate firm-specific information on the operations, competitive capabilities and performance relative to rivals. Outsider owners are investors not affiliated with the firm such as financial institutions. Compared to dominant insider owners, outsider owners tend to have higher information ambiguity due to their information disadvantage. Essentially, information asymmetry exists for most external investors. Alternatively, internal investors commonly have more and higher quality information. Therefore, when CEO turnover occurs, firms predominated with insider owners are more likely to effectively manage the transition process, attenuating the uncertainty created by the turnover. As a result, change in the firm's ownership is less likely to occur in the face of CEO turnover.

> **Hypothesis 4 [H4]:** The impact of a firm's CEO changes on its ownership change is weaker for firms with a higher level of insider ownership.

The effect of CEO turnover should be less salient when a firm is highly transparent to shareholders and other stakeholders due to its listing in multiple stock exchanges. Indeed, Baker, Nofsinger, and Weaver (2002) show that international firms listing their shares on the New York Stock Exchange (NYSE) or the London Stock Exchange (LSE) experience a significant increase in visibility, as proxied by analyst coverage and print media attention. The greater transparency helps attenuate the uncertainty generally experienced by shareholders, thereby reducing the impact of CEO turnovers on subsequent ownership changes.

> **Hypothesis 5 [H5]:** The impact of a firm's CEO changes on its ownership change is weaker for firms with more stock exchange listings.

## RESEARCH METHODS

### Data

We obtain the data from the China Stock Market and Accounting Research (CSMAR) database (http://www.gtarsc.com), one of the most reliable sources of information about Chinese listed firms. It contains comprehensive historical information on the financial statements and corporate governance conditions of 2,709 Chinese firms listed on the Shanghai and Shenzhen Stock Exchanges from 1999 to 2014.

**Measures**

***Ownership changes***. We measure ownership change by the proportion of a company's shares changed hand to its total share capital in the year following the CEO changes. We constructed three additional measures for ownership changes to assess the robustness of the baseline result. First, a dummy variable indicating whether there is a change in a firm's ownership is created. Second, we examine whether there is a change in the identity of the largest shareholder in the firm. Third, we measure the change in the controlling shareholders' shares before and after the CEO change.

***CEO changes.*** We count the total number of changes in a firm's CEO position in a year. This variable varies from 0 to 4 in our sample. For a robustness check, we also examine 1) total number of changes in a firm's board chairman ranging from 0 to 5, and 2) total number of changes in a firm's CEOs or Chairman; the variable ranges from 0 to 7.

***Abruptness of CEO changes***. We measure abrupt CEO turnover by a dummy variable indicating whether a firm's CEO changes involve turnover in a year other than retirement, expiration of term, and health issues. In turn, we test the moderating effect of this dummy variable on the relationship between CEO turnover and firm ownership change.

***Internal CEO successions***. This is a count variable, indicating the total number of internal successions that occurred in a firm over the sample period.

***Outsider ownership***. The outsider ownership is calculated based on the percentage of shares owned by individuals or institutions unaffiliated with the firm to the firm's total number of shares. The outsider ownership excludes shares held by employees, executives, and board directors. The level of outsider ownership ranges from 1% to 100%, averaging 95%.

***Listings on stock exchanges***. We use two indicators alternatively. First, we count the total number of exchanges on which a firm is listed (both domestic and foreign); the more exchanges, the higher the transparency of the firm is assumed in the capital market. Second, we create a dummy variable, with 1 indicating that a firm is cross-listed on foreign exchanges, and 0 otherwise.

We control for the following confounding factors that may induce changes in a firm's ownership structure or CEO turnover: total equity, percentage of tradable shares, firm size, ROA, state ownership, strategic investor ownership, ownership split reform, board size, supervisory committee size, independent director percentage, board ownership, supervisor ownership, executive ownership. We also control for year fixed effects and industry fixed effects.

**Sample: Propensity Score Matching**

To address the endogeneity of CEO changes, we use the propensity score matching to construct a randomized sample containing comparable firms experiencing CEO changes and those without CEO changes. We estimated a firm i's propensity score of experiencing CEO turnover in period t based on a logistic regression. The equation estimates a firm's propensity of having CEO changes based on a vector of covariates $X_{it-1}$, including *firm size, return on assets, average CEO age, average CEO tenure, CEO gender, and CEO ownership, debt to asset ratio, and debt to equity ratio*, plus *industry dummies*. The matched sample consists of 2,128 firms from 2000 to

2014. The matched sample resulting from the procedures ensure comparable firms with randomly experienced CEO changes during the sample period. Estimations based on the matched sample, therefore, imply a causal relationship rather than correlations.

**Estimation**

To test the hypotheses based on the matched sample, we use Panel level OLS with random effects estimator. The preliminary results for testing H1 to H5 are reported in Tables 1 and 2. We find strong support for H1, H2, H3, and H5, while finding the opposite result for H4.

## REFERENCES


Baker, H. K., Nofsinger, J. R., & Weaver, D. G. 2002. International cross-listing and visibility. Journal of Financial and Quantitative Analysis, 37(3): 495-521.

Benner, M. J. and T. Zenger (2016). "The lemons problem in markets for strategy." Strategy Science 1(2): 71-89.

Bruton, G. D., et al. (2010). "Governance, ownership structure, and performance of IPO firms: The impact of different types of private equity investors and institutional environments." Strategic Management Journal 31(5): 491-509.

Connelly, B. L., et al. (2010). "Ownership as a form of corporate governance." Journal of Management Studies 47(8): 1561-1589.

Connelly, B. L., et al. (2010). "Marching to the beat of different drummers: The influence of institutional owners on competitive actions." Academy of Management Journal 53(4): 723-742.

Dalton, D. R., & Kesner, I. F. 1983. Inside/outside succession and organizational size: The pragmatics of executive replacement. Academy of Management Journal, 26(4): 736-742.

Dalton, D. R., et al. (2007). "1 The Fundamental Agency Problem and Its Mitigation: Independence, Equity, and the Market for Corporate Control." The Academy of Management Annals 1(1): 1-64.

Demsetz, H. 1983. The structure of ownership and the theory of the firm. Journal of Law and Economics, 26(2): 375-390.

Demsetz, H. and B. Villalonga (2001). "Ownership structure and corporate performance." Journal of Corporate Finance 7(3): 209-233.

Denis, D. J. and A. Sarin (1999). "Ownership and board structures in publicly traded corporations." Journal of Financial Economics 52(2): 187-223.

Hoskisson, R. E., et al. (2002). "Conflicting voices: The effects of institutional ownership heterogeneity and internal governance on corporate innovation strategies." Academy of Management Journal 45(4): 697-716.

Jensen, M. C. and W. H. Meckling (1976). "Theory of the firm: Managerial behavior, agency costs and ownership structure." Journal of Financial Economics 3(4): 305-360.

Tihanyi, L., et al. (2003). "Institutional ownership differences and international diversification: The effects of boards of directors and technological opportunity." Academy of Management Journal 46(2): 195-211.

**Table 1: OLS Estimation with Random Effects based on PSM Matched Sample: The Positive Impact of CEO Turnover on Ownership Change (H1)**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 |
|---|---|---|---|---|---|---|---|
| 1. # of CEO turnover | | 0.49** | | | | | |
| | | (0.23) | | | | | |
| 2. CEO turnover dummy | | | 0.23 | | | | |
| | | | (0.24) | | | | |
| 3. # of Chairman turnover | | | | 0.71** | | | |
| | | | | (0.28) | | | |
| 4. Chairman turnover dummy | | | | | 0.62** | | |
| | | | | | (0.31) | | |
| 5. # of top management turnover | | | | | | 0.45*** | |
| | | | | | | (0.16) | |
| 6. Top management turnover dummy | | | | | | | 0.36 |
| | | | | | | | (0.25) |
| 7. Total equity | 0.00* | 0.00* | 0.00* | 0.00* | 0.00* | 0.00* | 0.00* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| 8. % of Tradable shares | -1.02 | -1.00 | -1.01 | -0.99 | -1.00 | -0.98 | -1.02 |
| | (0.63) | (0.63) | (0.63) | (0.62) | (0.63) | (0.62) | (0.63) |
| 9. Firm size | -1.09*** | -1.09*** | -1.09*** | -1.07*** | -1.08*** | -1.08*** | -1.09*** |
| | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) |
| 10. ROA | -0.79** | -0.79** | -0.79** | -0.76** | -0.77** | -0.77** | -0.79** |
| | (0.39) | (0.39) | (0.39) | (0.38) | (0.39) | (0.38) | (0.39) |
| 11. State ownership | 0.43 | 0.44 | 0.43 | 0.42 | 0.41 | 0.43 | 0.42 |
| | (0.80) | (0.80) | (0.80) | (0.80) | (0.80) | (0.80) | (0.80) |
| 12. Strategic investor ownership | -19.49*** | -18.56*** | -19.08*** | -18.48*** | -18.69*** | -17.98*** | -18.76*** |
| | (3.56) | (3.65) | (3.63) | (3.47) | (3.50) | (3.59) | (3.64) |
| 13. Ownership split reform | -0.32 | -0.30 | -0.31 | -0.28 | -0.28 | -0.28 | -0.30 |
| | (0.29) | (0.29) | (0.29) | (0.29) | (0.29) | (0.29) | (0.29) |
| 14. # of directors | 0.10 | 0.10 | 0.10 | 0.11 | 0.11 | 0.11 | 0.10 |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) |
| 15. # of supervisors | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 | -0.07 |
| | (0.11) | (0.11) | (0.11) | (0.11) | (0.11) | (0.11) | (0.11) |
| 16. # of independent directors | -2.02 | -2.14 | -2.06 | -1.95 | -1.97 | -2.09 | -2.08 |
| | (2.25) | (2.24) | (2.25) | (2.24) | (2.24) | (2.23) | (2.24) |
| 17. % of director ownership | -2.44*** | -2.39*** | -2.43*** | -2.11*** | -2.20*** | -2.18*** | -2.40*** |
| | (0.81) | (0.81) | (0.81) | (0.81) | (0.81) | (0.80) | (0.81) |
| 18. % of supervisor ownership | -8.44* | -7.79* | -8.15* | -7.77* | -7.96* | -7.41 | -7.96* |
| | (4.64) | (4.62) | (4.63) | (4.61) | (4.62) | (4.60) | (4.62) |
| 19. % of executive ownership | -1.36 | -1.16 | -1.26 | -1.30 | -1.31 | -1.14 | -1.20 |
| | (0.94) | (0.92) | (0.93) | (0.93) | (0.93) | (0.92) | (0.93) |
| Constant | 31.56*** | 31.02*** | 31.35*** | 30.58*** | 30.83*** | 30.44*** | 31.16*** |
| | (3.09) | (3.08) | (3.11) | (3.06) | (3.07) | (3.06) | (3.09) |
| # of observations | 7,381 | 7,381 | 7,381 | 7,381 | 7,381 | 7,381 | 7,381 |
| # of firms | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 | 2,128 |

Notes: 1) *** p<0.01, ** p<0.05, * p<0.1; 2) Robust standard errors in parentheses; 3) Year and industry fixed effects are included but not reported due to space limit.

**Table 2: OLS Estimation with Random Effects based on PSM Matched Sample: The Moderating Effects (H2-H5)**

| | Model 1 | Model 2 | Model 3 | Model 4a | Model 4b |
|---|---|---|---|---|---|
| 1. # of CEO turnover | -0.25 | 1.22*** | 2.07*** | 2.00*** | 0.54** |
| | (0.34) | (0.42) | (0.74) | (0.65) | (0.23) |
| 2. Abrupt CEO turnover | -2.25** | | | | |
| | (0.96) | | | | |
| 1*2 (Hypothesis 2) | 2.65*** | | | | |
| | (0.95) | | | | |
| 3. Internal CEO succession | | 0.42*** | | | |
| | | (0.16) | | | |
| 1*3 (Hypothesis 3) | | -0.37** | | | |
| | | (0.16) | | | |
| 4. Outsider ownership | | | 7.61 | | |
| | | | (5.38) | | |
| 1*4 (Hypothesis 4) | | | -1.67* | | |
| | | | (0.87) | | |
| 5. # of stock exchanges | | | | 0.86 | |
| | | | | (0.56) | |
| 1*5 (Hypothesis 5) | | | | -1.47*** | |
| | | | | (0.54) | |
| 6. Cross-listing | | | | | 1.17 |
| | | | | | (0.89) |
| 1*6 | | | | | -2.13** |
| | | | | | (0.84) |
| 7. Total equity | 0.00* | 0.00* | 0.00* | 0.00** | 0.00** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| 8. % of tradable shares | -0.98 | -1.48** | -1.08* | -1.00 | -0.99 |
| | (0.62) | (0.68) | (0.63) | (0.63) | (0.63) |
| 9. firm size | -1.08*** | -1.09*** | -1.09*** | -1.09*** | -1.09*** |
| | (0.12) | (0.12) | (0.12) | (0.12) | (0.12) |
| 10. ROA | -0.77** | -0.77** | -0.78** | -0.79** | -0.79** |
| | (0.38) | (0.38) | (0.39) | (0.39) | (0.39) |
| 11. State ownership | 0.49 | 0.23 | 0.37 | 0.45 | 0.45 |
| | (0.80) | (0.83) | (0.80) | (0.80) | (0.80) |
| 12. Strategic investor ownership | -19.19*** | -18.09*** | -18.51*** | -18.71*** | -18.93*** |
| | (3.62) | (3.82) | (3.67) | (3.64) | (3.67) |
| 13. Ownership split reform | -0.34 | -0.19 | -0.29 | -0.30 | -0.30 |
| | (0.29) | (0.32) | (0.29) | (0.30) | (0.30) |
| 14. # of directors | 0.11 | 0.10 | 0.10 | 0.11 | 0.11 |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) |
| 15. # of supervisors | -0.07 | -0.08 | -0.07 | -0.07 | -0.07 |
| | (0.11) | (0.11) | (0.11) | (0.11) | (0.11) |
| 16. # of independent directors | -2.21 | -2.35 | -2.15 | -2.04 | -1.99 |
| | (2.22) | (2.34) | (2.24) | (2.26) | (2.27) |
| 17. % of director ownership | -2.27*** | -2.29** | 4.33 | -2.38*** | -2.39*** |
| | (0.80) | (0.94) | (5.44) | (0.81) | (0.81) |
| 18. % of supervisor ownership | -7.80* | -11.72** | 0.89 | -7.67* | -7.65* |
| | (4.63) | (4.97) | (7.55) | (4.62) | (4.62) |
| 19. % of executive ownership | -1.43 | -0.74 | -0.71 | -1.14 | -1.14 |
| | (0.93) | (1.22) | (0.90) | (0.92) | (0.92) |
| Constant | 31.06*** | 30.24*** | 23.64*** | 30.09*** | 30.87*** |
| | (3.07) | (3.17) | (5.66) | (3.08) | (3.21) |
| # of observations | 7,381 | 6,992 | 7,381 | 7,381 | 7,381 |
| # of firms | 2,128 | 1,856 | 2,128 | 2,128 | 2,128 |

Notes: 1) *** p<0.01, ** p<0.05, * p<0.1; 2) Robust standard errors in parentheses; 3) Year and industry fixed effects are included but not reported due to space limit.