CEO Gender, Government Ownership, and Firm Performance: Evidence from China

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Overview of the Content

- Research Question
- Hypotheses
- Main Findings
- Why is Important?
- What We do?
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Research Question

- **Background:**
  - This paper is motivated by the literature in the field of psychology and leadership, which focuses on the ***female leadership advantage*** (Eagly & Carli, 2003).
  - The idea of ***women are better managers*** is increasingly recognized and acknowledged by the popular press publications (Paustian-Underdahl et al., 2014).
    - ***New York Times****:* "no doubts: women are better managers" (Smith, 2009).
    - ***Daily Mail****:* (Women in top jobs are viewed as "better leaders" than men, 2010).
  - Women merely hold 5.8% of the S&P 500 CEO positions as of December 2019 (Women CEOs of the S&P 500, 2020)

Research Question

- **Background:**
  - Whether there exists a ***female leadership advantage?*** In psychology and leadership literature (Cowen & Montgomery, 2019; Eagly & Carli, 2003a).
    - Paustian-Underdahl et al. (2014) conclude that after all leadership contexts are considered, the perceived leadership effectiveness does not differ between men and women
      - Through a systematic review of the psychology and leadership literature
      - However, the on-average effectiveness view of female leadership is challenged for its simplicity.
    - The psychology and leadership literature further suggests:
      - It would make better sense to investigate ***when and why there is a gender difference*** in the leadership effectiveness (Eagly & Carli, 2003a, 2003b; Vecchio, 2002) rather than whether there exists a gender difference.

Research Question

- **Motivation:**
  - However, there is a lack of evidence in literature with respect to when and why CEO gender matters, especially under different corporate governance conditions (i.e. ownership structures).
  - Specifically, we investigate whether there exists a female leadership advantage under government ownership.
    - Government ownership (e.g. state-owned enterprises (SOEs)) impacts females differently from males
    - whether/how government ownership matters in terms the gender effect on firm performance?
- **Research Question:**
  - What exactly is **the joint impact** of CEO gender and government ownership on firm performance?
  - (In this paper, we call state-owned enterprises SOEs)

Research Question

- **Literature:**

  - **Gender issues** are an important topic in corporate governance (Adams & Ferreira, 2009; Adler, 2001).
    - Promoting women into executive positions is highly associated with the profitability of Fortune 500 firms (Adler, 2001).
    - CEO gender appears to affect various aspects of firm performance and firm behavior:
      - lower risk-taking, better survival, and less efficient capital allocation (Faccio, Marchica & Mura, 2016);

  - The Efficiency of **government ownership** remains unresolved.
    - ***Inefficient View:*** *(compared to private ownership):* Boycko, Shleifer & Vishny (1996); Dewenter & Malatesta (2001); Porta, Lopez-de-Silanes & Shleifer (2002); Chen & Qian (1998)
    - ***Efficient View:*** Caves & Christensen (1980), Kay & Thompson (1986), Wortzel & Wortzel (1989), Martin & Parker (1995) and Kole and Mulherin (1997)

Hypothesis Development

- **We predict a positive relationship between female CEOs and firm performance under government ownership**
  - First, psychology and gender studies suggest that female CEOs are better at communication (Wood, Polek, & Aiken, 1985; Eagly & Carli, 2003; Schubert, 2006).
    - political connections (Fan, Wong, & Zhang, 2007) and political resources (Faccio, 2006)
  - Second, prior literature suggests that the CEO turnover is less sensitive to firm performance in state-owned enterprises (SOEs) (Kato & Long, 2006).
    - This provides CEOs in SOEs with a less competitive environment, which is particularly good for female CEOs as women tend to shy away from competition (Niederle & Vesterlund, 2007).
  - Third, working in government-owned enterprises is in general considered to be more stable, less pressured, and better respected in society. (Unger & Chan (1995); Nolan & Xiaoqiang (1999))
    - For these reasons, the less competitive work environment is preferable to women (Niederle & Vesterlund, 2007).

Main Findings

Female CEOs outperform male CEOs under government ownership

- *(In this paper, we call government/state-owned enterprises as SOEs.)*

1. We show that firms with female CEOs and government ownership have significantly better performance.
2. The magnitude of this effect is much bigger in central state-owned enterprises (CSOEs) than that in local state-owned enterprises (LSOEs).
3. The mechanisms of the improved firm performance of female-CEO-run and state-owned enterprises (SOEs) are identified as increased profitability and operating efficiency.

Why Important?

- **Female Leadership Advantage**
  - We draw insights upon the literature on psychology and leadership, and extend the literature on the ***female leadership advantage*** in the context of corporate governance.

- **This study adds to several streams of literature:**
  - Government Ownership
    - Adds to the discussion on the impact of government ownership on its efficiency role (Bai et al., 2004; Boycko et al., 1996; La Porta et al., 2002) and its impact on firm performance and corporate governance.
  - Gender issues in corporate governance
    - Female CEOs outperformance male CEOs under specific conditions (i.e. government ow
  - Corporate governance
    - Efficiency of corporate governance

Why Important?

- **Implications:**
  - CEO-level:
    - The implications of CEO gender of firm performance/accounting information – CEO performance (Faccio, Marchica & Mura, 2016)
  - Firm-level:
    - Relevant to boards of directors to better incentivize both male and female CEOs – corporate governance (Adams & Ferreira, 2009)
  - Government-level:
    - Public policy making advice to the government
  - Society-level:
    - Underrepresentation of female in CEOs

What We Do?

- **Research Question:**
  - How does CEO gender matter under a government ownership structure in terms of firm performance?

- **Setting:**
  - We exploit a powerful setting in the context of China, where there is a sufficient presence of government ownership and sufficient observations of firms run by female CEOs
    - state-owned enterprises (SOEs), around 35% to 20% SOEs from 2005 to 2016 respectively)
    - sufficient observations of firms run by female CEOs (around 5% each year from 2005 to 2016).
- **Data:**
  - We use data from CSMAR for the Chinese listed companies (2005-2016)

What We Do?

CEO Gender

Report Date	Female CEO	Male CEO	Female%
12/31/2005	57	1225	4.45%
12/31/2006	59	1276	4.42%
12/31/2007	74	1407	5.00%
12/31/2008	80	1464	5.18%
12/31/2009	92	1593	5.46%
12/31/2010	122	1931	5.94%
12/31/2011	136	2136	5.99%
12/31/2012	144	2242	6.04%
12/31/2013	137	2290	5.64%
12/31/2014	127	2385	5.06%
12/31/2015	128	2539	4.80%
12/31/2016	160	2803	5.40%

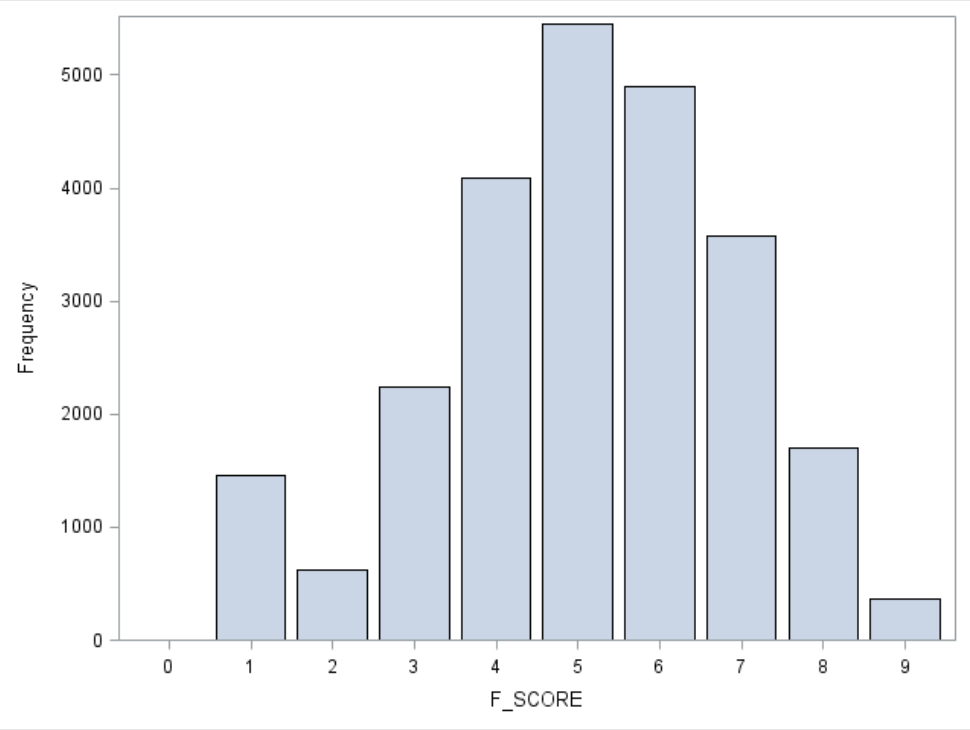
Government Ownership

- **state-owned enterprises (SOEs)**

Year	(1)		
	SOE	non-SOE	SOE%
2005	464	821	36.11%
2006	458	883	34.15%
2007	498	986	33.56%
2008	521	1,027	33.66%
2009	427	1,265	25.24%
2010	485	1,574	23.56%
2011	489	1,806	21.31%
2012	553	1,862	22.90%
2013	568	1,888	23.13%
2014	597	1,969	23.27%
2015	607	2,121	22.25%
2016	636	2,380	21.09%
Mean			26.68%
Total	6,303	18,582	

What We Do?

Distribution of the F_SCORE



- **Firm Performance**
  - *F_SCORE (0-9)* (Piotroski, 2000; Piotroski & So, 2012)

- ***Profitability***
  1. ROA (current year's net income before extraordinary items/beginning of the year total assets)
  2. CFO (cash flow from operations/beginning of the year total assets)
  3. ΔROA (current year's – prior year's)
  4. ACCRUAL(equals 1 if CFO>ROA)
- ***Capital Structure (to meet future debt obligations)***
  1. ΔLEVER (the historical change in the ratio of total long-term debt to average total assets)
  2. ΔLIQUID (change in current ratio – current assets to current liabilities)
  3. EQ_OFFER
- ***Operating Efficiency***
  1. ΔMARGIN (change in current gross margin ratio)
  2. ΔTURN (change in turnover ratio – total sales/beginning of the year total assets)

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What We Do?

- **Baseline Model: (Faccio et al., 2016; Bae et al., 2019)**

$$F\_SCORE = \beta_1 Female + \beta_2 SOE + \beta_3 Female*SOE$$
$$+ \beta_4 age + \beta_5 degree + \beta_6 log\_totalSalary + \beta_7 CEO\_Duality$$
$$+ \beta_7 firmsize + \beta_8 Ln\ (1 + company's\ age) + \beta_9 asset\text{-}liability\text{-}ratio$$
$$+ \gamma\ \Sigma YearDum + \delta\ \Sigma IndDum + \varepsilon$$

- **Extended Model:**

$$SOE = CSOE + LSOE$$

What We Do?

Table 5. Female CEOs and firm performance in the full sample (SOEs)

Variable	Full samples
Female CEO	-0.094
	(0.254)
SOE	0.304***
	(0.000)
Female CEO*SOE	**0.425*** **
	(0.009)
Age	0.425***
	(0.009)
Degree	-0.007
	(0.622)
Log (total salary)	0.057**
	(0.015)
CEO duality	-0.307***
	(0.000)
Firm size	0.123***
	(0.000)
Ln (1+company's age)	0.161***
	(0.000)
Asset-liability ratio	0.908***
	(0.000)
Number of observations	18,096
Industry fixed effect	Yes
Year fixed effect	Yes

Table 7. Female CEOs and firm performance in the full sample (CSEOs and LSOEs)

Variable	Full samples
Female CEO	-0.094
	(0.254)
CSOE	0.275***
	(0.000)
LSOE	0.309***
	(0.000)
Female CEO*CSOE	**1.393*** **
	(0.000)
Female CEO*LSOE	**0.335** **
	(0.044)
Age	0.008***
	(0.004)
Degree	-0.007
	(0.627)
Log (total salary)	0.055**
	(0.018)
CEO duality	-0.310***
	(0.000)
Firm size	0.124***
	(0.000)
Ln (1+company's age)	0.908***
	(0.000)
Asset-liability ratio	-0.050
	(0.538)
Number of observations	18,096
Industry fixed effect	YES
Year fixed effect	YES

What We Do?

- **Mechanisms**
  - Profitability
  - Operating Efficiency

Table 8. Female CEOs and Mechanisms of Improved Performance

Variable	(1) Profitability	(2) Capital Structure	(3) Operating Efficiency
Female CEO	-0.046	0.011	-0.011
	(0.371)	(0.590)	(0.651)
SOE	0.129***	0.032***	0.044***
	(0.000)	(0.010)	(0.001)
Female CEO*SOE	**0.260****	**0.024**	**0.098***
	(0.020)	**(0.634)**	**(0.082)**
Age	0.003**	0.001	-0.000
	(0.050)	(0.284)	(0.827)
Degree	-0.002	-0.003	0.002
	(0.859)	(0.457)	(0.628)
Log (total salary)	0.030**	0.004	0.023***
	(0.040)	(0.565)	(0.003)
CEO duality	-0.168***	-0.030***	-0.068***
	(0.000)	(0.006)	(0.000)
Firm size	0.173***	-0.023***	0.035***
	(0.000)	(0.000)	(0.000)
Ln (1+company's age)	0.475***	0.136***	0.243***
	(0.000)	(0.000)	(0.000)
Asset-liability ratio	-0.166***	-0.524***	0.215***
	(0.001)	(0.000)	(0.000)
Number of observations	18,435	18,435	18,435
Industry fixed effect	YES	YES	YES
Year fixed effect	YES	YES	YES

What We Do?

- **Additional Tests:**
  - **Propensity Score Matching (PSM):**
    - Address potential selection bias
      - Matching non-SOEs with SOEs
  - **Heckman Selection Model:**
    - Potential non-random selection of the observations
  - **Analysis of Transition firms:**
    - Firms with CEO Gender Transitions
    - Propensity Score Matching on Firms with CEO Gender Transitions

Discussion

- **Conclusion**
  - There is a female leadership advantage under a specific corporate governance setting (i.e. government ownership).

- **Implications**
  - Female CEOs impact firm performance differently under different conditions
  - Challenges the underrepresentation issue of female managers
  - Government should improve the recruiting and promoting mechanisms for female CEOs

- **Future Research**
  - In international settings
  - Female CEOs under other conditions, besides government ownership
  - A more detailed investigation on the evidence of the three possible explanations

Thank You!

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