

Dividends and Underinvestment in China: Did Foreign Investors Export Liquidity During the Global Financial Crisis?

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Foreign Ownership and Global Risk Exposures

- ❑ Post-liberalization, foreign capital may expose domestic market to international risks (Stiglitz, 1999; Bae et al., 2004; Chen et al., 2013).
- ❑ The influence of GFC on corporate policies and shareholder value in international markets has attracted much scholarly attention:
 - Bliss et al. (2015) document significant reduction in corporate payout in the U.S. during GFC.
 - Pianeselli and Zaghini (2014) document changes in risk premium on long-term debt paid by EU firms during 2010–12.
 - Rudolph and Schwetzler (2013) investigated the effect of 2008–09 financial crises on the value of MNCs.
 - Attig et al. (2016) find dividend reduction in nine East Asian countries during GFC.

Foreign Investors in China

- ❑ China opened Shanghai and Shenzhen Stock Exchanges in 1991.
- ❑ Circa 75% of the total foreign portfolio ownership of domestic Chinese firms is held by the entities based in North America (U.S. and Canada) and Western European markets (Chen et al., 2013).
- ❑ Portfolio investors: QFII (since 2003) and B-shares (101 B-share firms) in total are just over 2.23% (Chen et al., 2013; Huang and Zhu, 2015).
- ❑ Direct investors: The Ministry of Foreign Trade and Economic Cooperation issued regulations in 2001 to allow Foreign Invested Entities (FIEs) to be traded on the stock markets post-IPO.
 - But data on firm level % of FDI shareholding is mostly unavailable, hence very limited prior empirical studies on listed FDI firms.
- ❑ Our sample: 2005-2014, All A-share non-financial, non-utility, non-cross-listed FIEs. In total 801 firm/years with all necessary data, average shareholding by the foreign controlling shareholder is 37%.

Foreign Investors and Dividends

- ❑ Overall, foreign investors in emerging stock markets are known to invest in firms with stronger corporate governance (Leuz et al., 2010 – cross-country evidence; Tong and Yu, 2012 – China) and higher dividend payout (Jeon et al., 2011 – Korea).
- ❑ Dividend payout may be used as a mechanism to monitor free cashflow problem, and mitigate principal–agent conflict (Jensen, 1986; Easterbrook, 1984), high dividends constrain investments, especially during the onset of external financing shocks (Bliss et al., 2015; Ramalingegowda et al., 2013).
- ❑ Evidence on role of dividends among Chinese firms appears mixed:
 - Huang et al. 2011 find inter-group tunneling
 - Firth et al. 2016 report better monitoring
- ❑ The role of dividend payout during times of financial crisis has received insufficient attention, especially in the context of EMs.

Motivation

- ❑ First, we seek to offer new information regarding the impact of payout policy of the foreign–controlled Chinese firms on firm-level performance and investment decisions during GFC.
- ❑ Second, we consider this study complementary to other research (Brown, 2000; Pulvino, 1998; Shleifer and Vishny, 1992; *etc.*) that has considered the comparative advantage of possessing liquidity in times of financial crisis. We hope to offer new insight regarding a mechanism of liquidity transference during financial distress. While a number of recent papers (Antón and Polk, 2014; Gao et al., 2014; Jotikasthira et al., 2012) have highlighted the global transfer of liquidity through stock-price contagion, studies directly on dividends as a vehicle for liquidity transfer are next to none.

Key Highlights of this Study

- ❑ We conduct difference-in-differences (D-i-D) test on a large sample of Chinese listed firms.
 - Key Finding: Foreign controlled ownership is associated with larger dividend payouts during the GFC.
- ❑ This result is particularly strong when using QFII-invested firms as a control sample, indicating a difference in influence of foreign controlling ownership compared with foreign portfolio shareholding.
- ❑ As a consequence of dividend increase, firm investment dropped during GFC, which led to a significant underinvestment problem among foreign-controlled firms.
- ❑ These findings are consistent with dividend increase acting as a vehicle for expropriation of liquidity by foreign controlled shareholders during GFC.

Research Implications

- ❑ It is well known that investors seek liquidity during crises by cutting dividends, but our empirical tests suggest that contrary to dividend cuts, higher levels of dividend payout during the GFC were unique to foreign-controlled firms in China during this specific period.
- ❑ Since the primary impact of the GFC was in the West and much of the global markets faced liquidity crunch, this calls for a liquidity-based explanation for investment-damaging dividend appreciation by foreign-controlled firms in China during GFC.
- ❑ Our results do not indicate a general clientele effect, but suggest foreign controlled shareholders in China acted specifically to expropriate (export) liquidity through dividends.
- ❑ Prior literature supports a positive role of foreign investors in improving corporate governance in EMs, whereas our findings reveal a principal-principal agency cost during GFC.

Hypothesis Development

H1: *FIEs paid higher dividends during the period of GFC than domestic firms and did not have relatively higher payouts at other times.*

H2: *Dividend increases for FIEs during GFC was negatively associated with future firm-level investments and positively associated with underinvestment.*

Table 1: Key Descriptive Statistics

| Variable | Unit | Panel A: All firms | | | Panel B: Foreign controlled firms (FIEs) | | |
|----------|-----------|--------------------|--------|-----------|--|--------|-----------|
| | | Obs. | Mean | Std. Dev. | Obs. | Mean | Std. Dev. |
| DPS | Yuan - ¥ | 18,423 | 0.103 | 0.150 | 801 | 0.110 | 0.180 |
| Ln_DIV | Nat. Log. | 11,629 | 17.535 | 1.371 | 455 | 17.598 | 1.361 |
| DIV_TA | Ratio | 18,423 | 0.012 | 1.700 | 801 | 0.015 | 2.246 |
| FIE | Dummy | 18,423 | 0.043 | 0.204 | 801 | 1.000 | NA |
| SOE | Dummy | 18,423 | 0.523 | 0.499 | 801 | 0.000 | NA |
| TradeSh | Ratio | 18,423 | 0.664 | 27.671 | 801 | 0.656 | 28.124 |
| No1Sh | Ratio | 18,423 | 0.365 | 15.280 | 801 | 0.375 | 15.821 |
| INV | Ratio | 16,274 | 7.105 | 8.245 | 708 | 6.913 | 8.805 |
| UNINV | Ratio | 16,266 | 0.013 | 7.758 | 706 | -0.286 | 7.901 |
| D_DPS | Yuan - ¥ | 15,870 | -0.009 | 0.098 | 687 | -0.004 | 0.099 |
| D_DIV_TA | Ratio | 15,870 | 0.050 | 1.112 | 687 | 0.076 | 1.234 |

Table 2: Dividend Payout Policy of FIE Chinese Firms during GFC

| Method | Tobit | Tobit | OLS | OLS | OLS | OLS | Tobit | Tobit |
|------------------|-----------------------|-----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Sample | All firms | All firms | Payers | Payers | All firms | All firms | All firms | All firms |
| Dep. Var. | DPS | DPS | Ln_DIV | Ln_DIV | DIV_TA | DIV_TA | DIV_TA | DIV_TA |
| FIE * Crisis | 0.063** (2.01) | 0.047** (2.02) | 0.204 (0.90) | 0.299** (2.25) | 0.639*** (2.76) | 0.458** (2.55) | 0.925** (2.36) | 0.674** (2.39) |
| FIE * Postcrisis | -0.021 (-0.93) | -0.038** (-2.23) | -0.371** (-2.48) | -0.168** (-1.98) | -0.018 (-0.09) | -0.242* (-1.65) | -0.063 (-0.22) | -0.383** (-1.95) |
| FIE | -0.043* (-1.75) | -0.016 (-0.87) | 0.336* (1.79) | -0.003 (-0.03) | -0.310* (-1.88) | 0.020 (0.15) | -0.639** (-2.08) | -0.166 (-0.74) |
| Crisis | 0.091*** (10.26) | -0.023*** (-3.00) | 0.266*** (3.82) | -0.716*** (-16.39) | 0.392*** (5.65) | -0.930*** (-14.48) | 0.804*** (7.05) | -0.721*** (-7.57) |
| Postcrisis | 0.049*** (7.06) | 0.044*** (7.63) | 0.079 (1.46) | -0.022 (-0.71) | 0.081 (1.50) | 0.149*** (3.27) | 0.428*** (5.15) | 0.426*** (6.46) |
| TradeSh | -0.002*** (-23.15) | -0.001*** (-14.60) | -0.003*** (-6.78) | -0.002*** (-7.65) | -0.012*** (-20.70) | -0.005*** (-9.65) | -0.019*** (-22.60) | -0.008*** (-10.78) |
| No1Sh | 0.002*** (18.07) | 0.001*** (8.19) | 0.021*** (23.21) | 0.002*** (4.65) | 0.012*** (12.28) | 0.005*** (6.45) | 0.022*** (16.19) | 0.009*** (8.28) |
| SOE | -0.012*** (-3.21) | -0.011*** (-3.33) | 0.534*** (18.61) | 0.006 (0.31) | -0.249*** (-8.66) | -0.109*** (-4.38) | -0.317*** (-7.16) | -0.117*** (-3.16) |
| Firm controls | No | Yes | No | Yes | No | Yes | No | Yes |
| Industry effects | No | Yes | No | Yes | No | Yes | No | Yes |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 17,653 | 17,653 | 11,149 | 11,149 | 17,653 | 17,653 | 17,653 | 17,653 |
| No. of Firms | 2,423 | 2,423 | 2,209 | 2,209 | 2,423 | 2,423 | 2,423 | 2,423 |
| R-squared | | | 0.12 | 0.72 | 0.07 | 0.38 | | |

Table 3: Dividend Payout Policy of FIE Chinese Firms during GFC while controlling for Excess Leverage

| Method | Tobit | OLS | OLS | Tobit |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Sample | All firms | Payers | All firms | All firms |
| Dep. Var. | DPS | Ln_DIV | DIV_TA | DIV_TA |
| FIE * Crisis * Ex_Lev | -0.002*** (-4.23) | -0.009*** (-3.13) | -0.019*** (-4.45) | -0.025*** (-4.22) |
| Ex_Lev | -0.001*** (-13.13) | -0.002*** (-2.96) | -0.021*** (-28.62) | -0.032*** (-27.59) |
| FIE * Crisis | 0.047** (2.00) | 0.296** (2.24) | 0.476*** (2.64) | 0.645** (2.29) |
| FIE * Postcrisis | -0.043** (-2.51) | -0.190** (-2.29) | -0.308** (-2.08) | -0.447** (-2.25) |
| Crisis | 0.007 (0.90) | -0.770*** (-17.76) | -0.449*** (-7.19) | -0.003 (-0.04) |
| Postcrisis | 0.039*** (6.83) | -0.021 (-0.67) | 0.079* (1.73) | 0.320*** (4.85) |
| FIE | -0.015 (-0.82) | -0.009 (-0.08) | 0.027 (0.20) | -0.143 (-0.63) |
| Firm-level controls | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes |
| Year effects | Yes | Yes | Yes | Yes |
| Observations | 17,653 | 11,149 | 17,653 | 17,653 |
| No. of Firms | 2,423 | 2,209 | 2,423 | 2,423 |
| R-squared | | 0.72 | 0.38 | |

Table 4: Dividend Payout Policy of FIE Chinese Firms during GFC while controlling for Institutional Shareholding

| Method | Tobit | OLS | OLS | Tobit |
|----------------------|----------------------|-----------------------|-----------------------|----------------------|
| Sample | All firms | Payers | All firms | All firms |
| Dep. Var. | DPS | Ln_DIV | DIV_TA | DIV_TA |
| FIE * Crisis * InsSh | 0.001*** (3.98) | 0.003** (2.30) | 0.010*** (3.24) | 0.010*** (2.90) |
| InsSh | 0.001*** (14.36) | 0.001*** (3.14) | 0.006*** (8.42) | 0.009*** (9.30) |
| FIE * Crisis | 0.009 (0.39) | 0.197 (1.38) | 0.208 (1.12) | 0.380 (1.28) |
| FIE * Postcrisis | -0.054*** (-3.16) | -0.194** (-2.29) | -0.394** (-2.51) | -0.518** (-2.53) |
| Crisis | -0.017** (-2.22) | -0.719*** (-16.49) | -0.898*** (-14.08) | -0.675*** (-7.12) |
| Postcrisis | 0.045*** (7.95) | -0.023 (-0.74) | 0.156*** (3.44) | 0.436*** (6.66) |
| FIE | -0.016 (-0.91) | -0.002 (-0.02) | 0.012 (0.10) | -0.171 (-0.76) |
| Firm-level controls | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes |
| Year effects | Yes | Yes | Yes | Yes |
| Observations | 17,653 | 11,149 | 17,653 | 17,653 |
| No. of Firms | 2,423 | 2,209 | 2,423 | 2,423 |
| R-squared | | 0.72 | 0.38 | |

Dividends and underinvestment in China:
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PSM and D-i-D combined

- ❑ The potential endogeneity of foreign control may possibly lead to sample selection bias.
- To address this concern, we use Propensity Score Matching (PSM) without replacement (Rosenbaum and Rubin, 1983) in conjunction with D-i-D estimation to conduct an additional robustness test of H1.
- A non-FIE firm is selected as a match to the FIE-firm on the following set of matching criteria:
 - Market capitalization
 - Leverage
 - Tobin-Q
 - Return on assets
 - Industry of operation and
 - Year of observation.
- For 774 FIE firm-years in our sample, we identify unique 774 matching non-FIEs.

Table 5: Robustness check of the Dividend Payout Policy by FIE Chinese Firms during GFC using PSM

| Method | Tobit | Tobit | Tobit | OLS | OLS | OLS |
|-----------------------|--------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
| Sample | All firms | All firms | All firms | All firms | All firms | All firms |
| Dep. Var. | DPS | DPS | DPS | DIV TA | DIV TA | DIV TA |
| FIE * Crisis * Ex_Lev | | -0.002*** (-2.93) | | | -0.027*** (-5.37) | |
| Ex_Lev | | -0.002*** (-3.57) | | | -0.014*** (-4.66) | |
| FIE * Crisis * InsSh | | | 0.001*** (2.62) | | | 0.009** (2.31) |
| InsSh | | | 0.001*** (3.32) | | | 0.006* (1.68) |
| FIE * Crisis | 0.081** (1.97) | 0.081** (1.97) | 0.037 (0.90) | 0.512** (2.22) | 0.527** (2.26) | 0.305 (1.27) |
| FIE * Postcrisis | -0.051* (-1.94) | -0.056** (-2.13) | -0.064** (-2.37) | -0.306* (-1.65) | -0.355* (-1.94) | -0.446** (-2.33) |
| Crisis | -0.070* (-1.82) | -0.014 (-0.37) | -0.045 (-1.21) | -1.582*** (-6.15) | -1.061*** (-4.35) | -1.437*** (-5.57) |
| Postcrisis | 0.067** (2.42) | 0.058** (2.05) | 0.071*** (2.58) | 0.460** (2.23) | 0.378* (1.85) | 0.530*** (2.59) |
| FIE | -0.036 (-1.02) | -0.039 (-1.13) | -0.034 (-0.99) | -0.024 (-0.13) | -0.080 (-0.41) | -0.026 (-0.14) |
| Firm-level controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1,542 | 1,542 | 1,542 | 1,548 | 1,548 | 1,548 |
| | | | | 0.46 | 0.47 | 0.47 |

Dividends and underinvestment in China

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Chinese Foreign Invested Enterprises (FIEs)

Dividend Changes and Investment

- ❑ Miller and Modigliani (1961) establish that in a perfect capital market, investments are independent of dividend payout policy.
- ❑ However, markets were far from perfect during the GFC. So dividend expropriations by foreign-controlled shareholders during GFC can lead to economically significant underinvestment (H2).
- ❑ Since the focus is how dividend increases by FIEs influence firm investment policy, rather than the level of dividend; so in this case, we exclude firm-years where there is no dividend change.

Table 8: Effect of Change in Dividend Payout Policy on Future Investments of FIEs during GFC

| Dep. Var. | Panel A: Dividend Increase | | | | Panel B: Dividend Decrease | | | |
|-------------------------|----------------------------|--------------------|--------------------|--------------------|----------------------------|--------------------|-------------------|--------------------|
| | F_INV | F_UNINV | F_INV | F_UNINV | F_INV | F_UNINV | F_INV | F_UNINV |
| D_DPS | -1.500 (-1.45) | 1.460 (1.37) | | | -1.097 (-1.03) | 1.520 (1.44) | | |
| D_DPS * Crisis | 1.432 (0.85) | -1.567 (-0.93) | | | -4.113* (-1.86) | 4.268** (1.97) | | |
| D_DPS * Crisis * FIE | -9.084** (-2.05) | 9.065** (2.00) | | | 5.162 (0.63) | -5.365 (-0.66) | | |
| D_DIV_TA | | | -0.190 (-1.10) | 0.146 (0.83) | | | 0.012 (0.09) | 0.068 (0.55) |
| D_DIV_TA * Crisis | | | 0.058 (0.27) | -0.057 (-0.27) | | | -0.120 (-0.56) | 0.127 (0.59) |
| D_DIV_TA * Crisis * FIE | | | -0.746* (-1.91) | 0.748** (1.96) | | | 0.147 (0.24) | -0.191 (-0.31) |
| Crisis | -0.826 (-1.23) | 2.055*** (3.03) | -0.625 (-1.00) | 1.798*** (2.86) | -1.110 (-1.57) | 2.468*** (3.46) | -0.776 (-1.05) | 2.161*** (2.89) |
| FIE | -0.665 (-1.13) | 0.414 (0.70) | -0.447 (-0.69) | 0.193 (0.30) | -0.486 (-0.66) | 0.301 (0.41) | -0.799 (-1.18) | 0.689 (1.01) |
| Firm level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3,168 | 3,168 | 4,090 | 4,090 | 3,480 | 3,480 | 3,042 | 3,042 |
| R-squared | 0.19 | 0.05 | 0.17 | 0.04 | 0.16 | 0.05 | 0.17 | 0.05 |

Table 9: Robustness Check for the Effect of Change in Dividend Payout Policy on Future Investments of FIEs during GFC using PSM

| Dep. Var. | Panel A: Dividend Increase | | | | Panel B: Dividend Decrease | | | |
|-------------------------|----------------------------|---------------------|---------------------|--------------------|----------------------------|---------------------|-------------------|-------------------|
| | F_INV | F_UNINV | F_INV | F_UNINV | F_INV | F_UNINV | F_INV | F_UNINV |
| D_DPS | 3.851 (0.49) | -4.544 (-0.63) | | | -4.403 (-0.76) | 6.587 (1.13) | | |
| D_DPS * Crisis | 2.222 (0.32) | -2.157 (-0.35) | | | 7.171* (1.82) | -8.998** (-2.24) | | |
| D_DPS * Crisis * FIE | -19.091*** (-2.81) | 18.395*** (2.70) | | | -2.753 (-0.37) | 3.441 (0.45) | | |
| D_DIV_TA | | | -0.305 (-0.55) | 0.040 (0.08) | | | -0.735 (-1.18) | 1.144* (1.88) |
| D_DIV_TA * Crisis | | | -0.002 (-0.01) | 0.031 (0.09) | | | 0.398 (0.47) | -0.682 (-0.82) |
| D_DIV_TA * Crisis * FIE | | | -1.175** (-2.33) | 1.233*** (2.55) | | | -0.434 (-0.49) | 0.371 (0.42) |
| Crisis | 2.186 (1.58) | -0.978 (-0.77) | 1.989 (1.57) | -0.877 (-0.77) | -0.516 (-0.54) | 0.804 (0.85) | -1.005 (-0.96) | 0.948 (0.90) |
| FIE | -1.618* (-1.75) | 0.754 (0.83) | -1.202 (-1.22) | 0.482 (0.52) | -0.829 (-0.77) | 0.188 (0.17) | -1.374 (-1.24) | 0.672 (0.58) |
| Firm level controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 266 | 266 | 342 | 342 | 266 | 266 | 238 | 238 |
| R-squared | 0.11 | 0.05 | 0.10 | 0.04 | 0.15 | 0.10 | 0.15 | 0.09 |

Table 11: Dividend Change during GFC and Post–Crisis Recovery in Profitability and Growth

| Dep. Var. | ROA | D_ROA | Sales_Growth | D_Sales_Growth |
|--------------------|----------------------|---------------------|----------------------|-----------------------|
| DPS_inc_crisis*FIE | −2.303*** (−2.62) | −1.902** (−2.34) | −8.916*** (−2.95) | −12.292*** (−2.75) |
| DPS_inc_crisis | 0.730 (0.64) | 0.883 (1.06) | −1.678 (−0.44) | 10.189* (1.77) |
| FIE | 0.862* (1.74) | 0.743** (2.07) | −5.727 (−1.49) | 2.118 (0.22) |
| DPS | 1.212*** (17.40) | 0.876*** (10.45) | −0.739 (−1.52) | 2.942** (2.77) |
| Controls | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes |
| Year effects | Yes | Yes | Yes | Yes |
| Observations | 620 | 620 | 620 | 620 |
| R–squared | 0.378 | 0.376 | 0.224 | 0.151 |

Conclusion

- ❑ We study the effect of foreign controlled ownership on dividend payment and investment efficiency of Chinese corporations during the GFC.
- ❑ We conduct D–i–D analysis on a large sample of Chinese listed firms and document that foreign control ownership is associated with higher dividend payouts during GFC.
- ❑ Our findings are consistent with the agency cost of equity involving principal–principal conflict between majority (in this case foreign) and minority (domestic) shareholders.
- ❑ We also evidence a constraining effect of these dividend increases on investment which led to a significant underinvestment problem among FIE-controlled Chinese firms.
- ❑ We argue that these findings are consistent with expropriation of firm finances by the majority foreign shareholders.
- ❑ These results are robust after deploying various empirical methods, controlling for a battery of firm-level characteristics. PSM and falsification tests provide further strength and validity to our findings.