

Corporate Governance in the 2007-2008 Financial Crisis: Evidence from Financial Institutions Worldwide

David Erkens

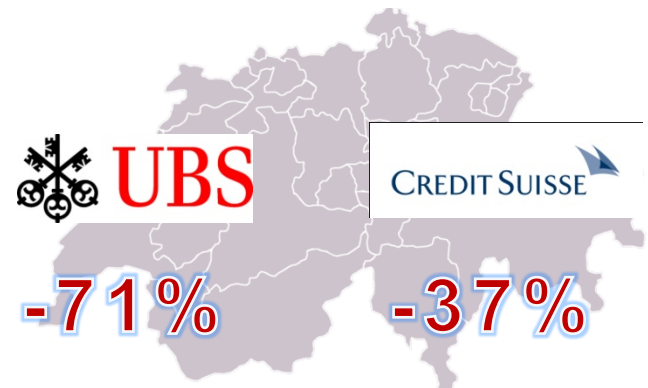
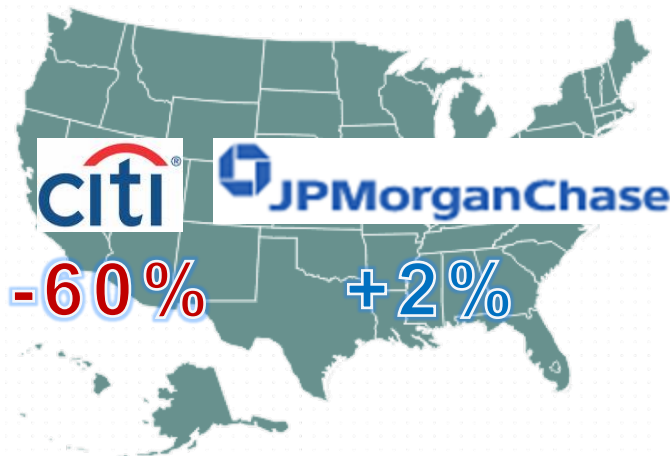
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Motivation

- A large number of financial institutions have collapsed or were bailed out by governments since the onset of the global financial crisis in 2007
- Studies on the financial crisis generally focus on macroeconomic factors
 - Taylor [2009]; Gorton [2008]
- But macroeconomic factors cannot explain the observed within country variation in financial firms' performance during the crisis



Motivation (continued)

- Within country variation in performance during the crisis is the result of firm-specific risk-management and financing policies (Brunnermeier [2009]).
- Risk-management and financing policies are ultimately the result of cost-benefit trade-offs made by corporate boards and shareholders (Kashyap et al. [2008])
 - Regulators argue that weak governance has contributed to the crisis (Kirkpatrick [2008]; Schapiro [2009])

The Washington Post

SEC to Examine Boards' Role in Financial Crisis

February 20, 2009

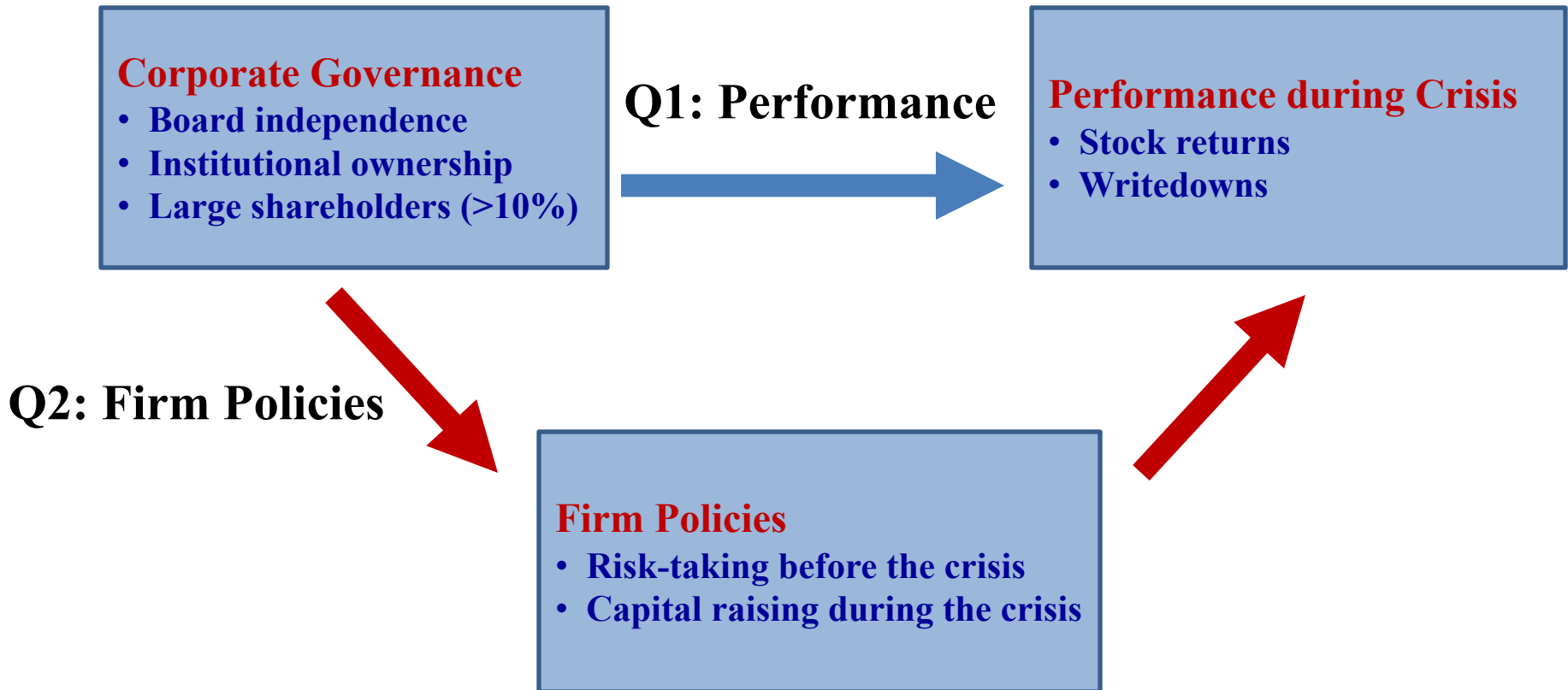


A review of corporate governance
in UK banks and other financial
industry entities

16 July 2009

- But there is no systematic empirical evidence on this issue
- This study provides empirical evidence on whether and how corporate governance influenced financial firms' performance during the crisis

Research Questions



Summary of Main Findings

- **Governance and Firm Performance (Q1)**
 - Firms with more independent boards and higher institutional ownership performed worse during the crisis period
 - Inconsistent with the view that poor governance at financial institutions made the financial crisis worse
- **Governance and Firm Policies (Q2)**
 - Firms with higher institutional ownership took more risk before the crisis
 - Firms with more independent boards raised more equity capital during the crisis, which led to a wealth transfer from existing shareholders to debt holders

Timeline of the Financial Crisis

US:



Non-US:



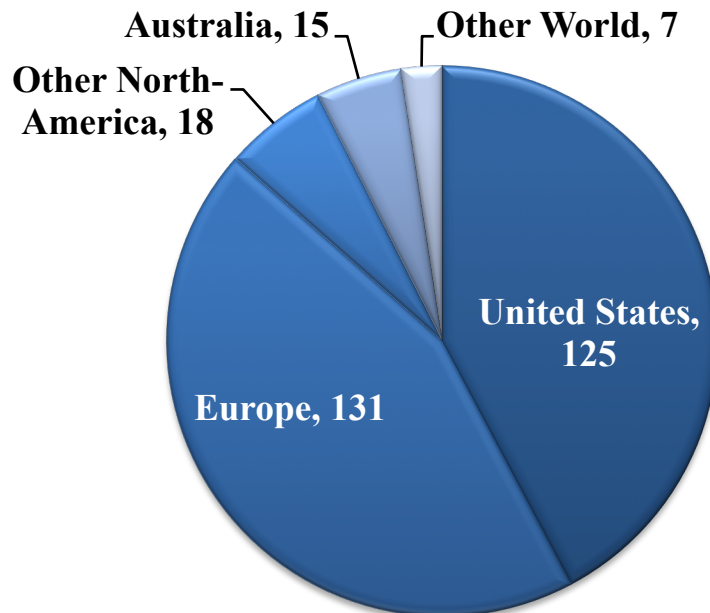
TED spread



Sample Selection

Sample Selection: 296 financial firms from 30 countries

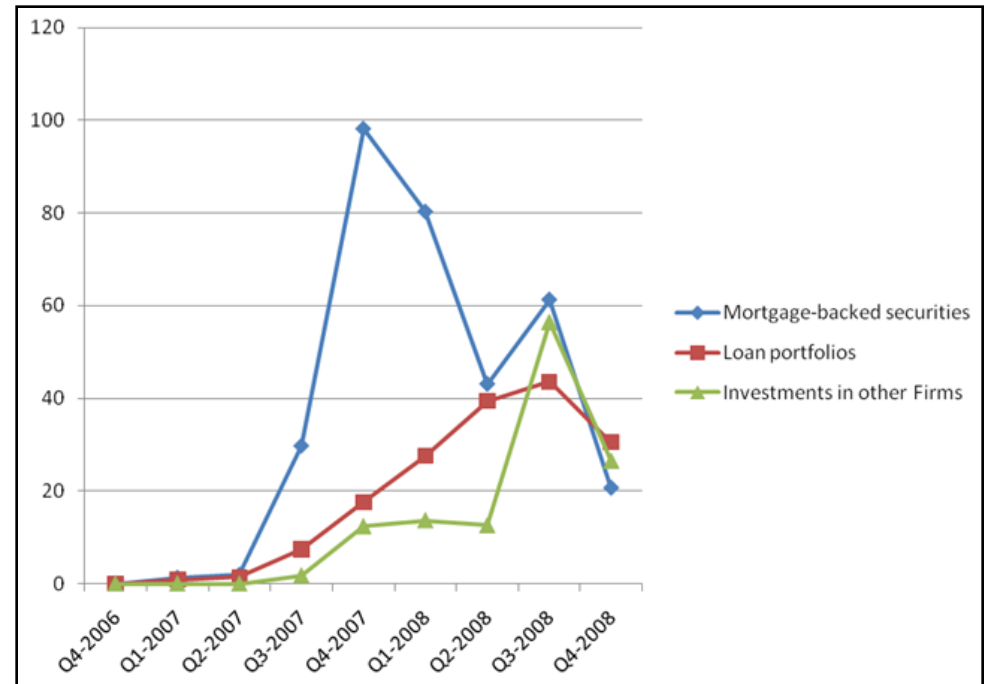
- *Compustat North America + Compustat Global*
- Board (*BoardEx*) and Ownership (*FactSet/Lionshares*) data
- *Bloomberg WDCI* data on writedowns
- Firms with assets > US \$10 billion



Global Sample of Financial Firms

Bloomberg: WDCI		
Base Currency: Billions (USD)		
	Total	
All Financial	Loss	Capital
Worldwide	1114.1	1002.2
Americas	763.4	572.1
Europe	319.5	374.8
Asia	31.3	55.4
Banks/Brokers		
Worldwide	827.8	866.1
Wachovia Corporation	97.9	11.0
Citigroup Inc.	85.4	109.3
Merrill Lynch & Co.	55.9	29.9
UBS AG	50.6	32.1
Washington Mutual Inc.	45.6	12.1
Bank of America Corp.	40.2	78.5
Insurers		
Worldwide	171.9	99.8
American International Group	60.9	65.6
Hartford Financial Services	11.9	3.0
Ambac Financial Group	10.6	1.4
Prudential Financial Inc	9.1	4.7
Metlife	7.2	2.3
GSE		
Freddie Mac	58.4	20.8
Fannie Mae	56.0	15.6

Fig.1 Writedowns per Quarter(\$bln)



- Global
- Affected not only banks, but also insurers and other financial firms

Performance Test: Main Measures

Corporate Governance (December 2006)

- Board Structure:
 - Independence: % of non-executive directors (*BoardEx*)
- Ownership Structure:
 - Institutional Ownership: % shares owned by institutional investors (*Thomson Financial* and *FactSet/Lionshares*)
 - Large Shareholders: dummy=1 if shareholder with >10% voting rights (*Bureau van Dijk*)

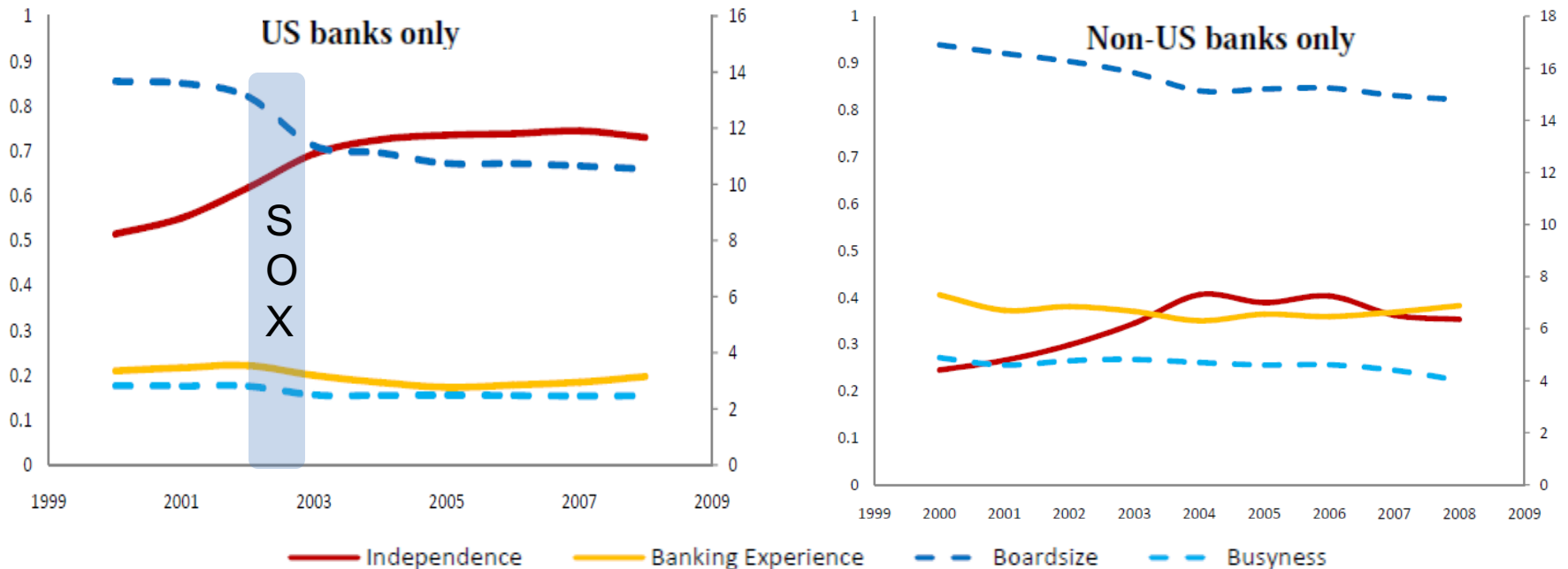
Performance (Q1 2007 – Q3 2008)

- Stock Returns (*Compustat*)
- Writedowns / Total Assets (*Bloomberg WDCI*)

Why Look at Board Structure Internationally?

- **Board Independence:** US (high, effect of S-OX); Non-US (much lower!)
- **Board Size:** US (smaller, effect of S-OX) ; Non-US (larger!)
- **Board Financial Expertise:** Non-US (more experience!)
- **CEO-Chairman Separation:** US (infrequent); Non-US (more frequent!)

Time Trends in Board Characteristics – 2000-2008



source: Ferreira, Kirchmaier & Metzger, *Boards of Banks*, 2010

Why Look at Board Structure Internationally?

In our study we explore the within-country variation (Table 1) ...

Panel B: Summary statistics of corporate governance and controls

Region	Country	Board independence [December 2006]			Institutional ownership [December 2006]			Large shareholder [December 2006]		
		Mean	Med.	Std. dev.	Mean	Med.	Std. dev.	Mean	Med.	Std. dev.
North- America	U.S.	85%	87%	8%	67%	67%	21%	0.30	0	0.46
	Canada	87%	92%	9%	48%	50%	21%	0.23	0	0.44
	Other North America	85%	90%	8%	79%	78%	17%	0.00	0	0.00
	<i>Subtotal North America</i>	<i>85%</i>	<i>88%</i>	<i>8%</i>	<i>66%</i>	<i>66%</i>	<i>21%</i>	<i>0.29</i>	<i>0</i>	<i>0.45</i>
Europe	Germany	72%	69%	11%	17%	11%	16%	0.74	1	0.45
	Italy	88%	94%	11%	13%	11%	10%	0.58	1	0.51
	U.K.	64%	64%	9%	63%	72%	24%	0.29	0	0.47
	Switzerland	93%	100%	11%	26%	72%	24%	0.40	0	0.51
	France	85%	83%	8%	33%	15%	32%	0.67	1	0.50
	Spain	78%	80%	6%	12%	8%	9%	0.78	1	0.44
	Greece	71%	71%	8%	13%	12%	7%	0.57	1	0.53
	Netherlands	69%	67%	12%	32%	32%	15%	1.00	1	0.00
	Ireland	68%	67%	7%	35%	35%	2%	0.00	0	0.00
	Sweden	90%	92%	4%	58%	52%	27%	1.00	1	0.00
	Belgium	78%	88%	19%	17%	14%	16%	1.00	1	0.00
	Denmark	81%	75%	16%	24%	24%	5%	0.33	0	0.58
	Portugal	71%	67%	15%	46%	22%	47%	0.67	1	0.58
	Other Europe	83%	84%	16%	17%	11%	16%	0.92	1	0.29
<i>Sub-total Europe</i>	<i>78%</i>	<i>80%</i>	<i>14%</i>	<i>27%</i>	<i>20%</i>	<i>25%</i>	<i>0.61</i>	<i>1</i>	<i>0.49</i>	
Other	Australia	85%	88%	8%	18%	16%	13%	0.33	0	0.49
	Other countries	83%	81%	10%	43%	43%	21%	0.71	1	0.49
	<i>Average</i>	<i>82%</i>	<i>86%</i>	<i>12%</i>	<i>46%</i>	<i>48%</i>	<i>30%</i>	<i>0.44</i>	<i>0</i>	<i>0.50</i>

Performance Test: Main Measures

Corporate Governance (December 2006)

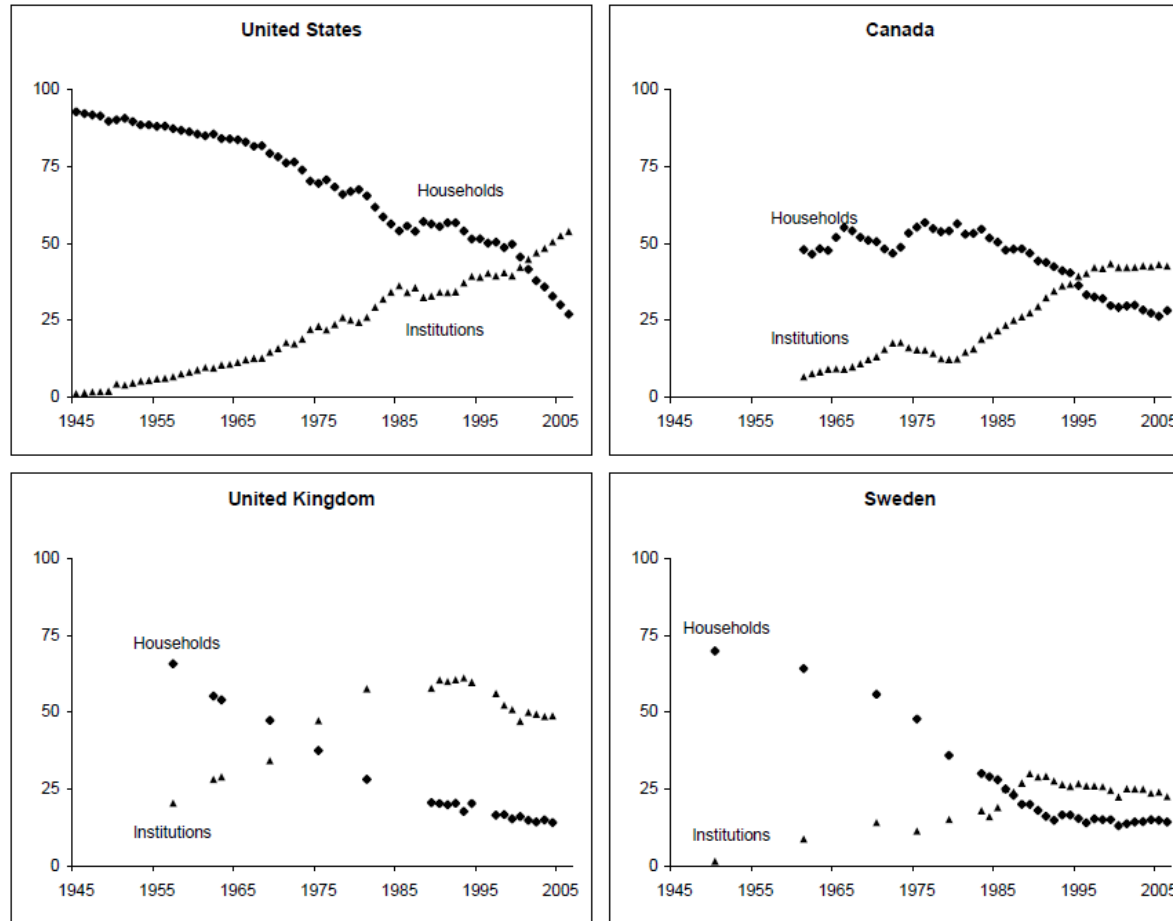
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Performance (Q1 2007 – Q3 2008)

- Stock Returns (*Compustat*)
- Writedowns / Total Assets (*Bloomberg WDCI*)

Why Look at Institutional Ownership Internationally?

Figure 2: Evolution of Stock Ownership



Source:
Rydqvist,
Spizman and
Strebulaev, 2008

The figure shows the aggregate ownership fraction of households and financial institutions (pension funds, mutual funds, and life insurance companies) in percent.

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Performance (Q1 2007 – Q3 2008)

- Stock Returns (*Datastream*)
- Writedowns / Total Assets (*Bloomberg WDCI*)



Performance Test: Table 2

Panel A: Using **stock returns** to proxy for firm performance (OLS model)

	(1)	(2)	(3)	(4)
Board independence	-0.38** [-2.30]			-0.40** [-2.35]
Institutional ownership		-0.30*** [-3.96]		-0.31*** [-4.27]
Large shareholder			0.02 [0.65]	-0.01 [-0.36]
ADR	0.06 [0.81]	0.09 [1.13]	0.07 [0.90]	0.08 [1.04]
Leverage	-0.33 [-1.52]	-0.18 [-0.58]	-0.24 [-1.11]	-0.27 [-0.85]
Firm size	-0.04** [-2.60]	-0.03** [-2.06]	-0.04*** [-2.83]	-0.03** [-2.28]
2006 stock return	0.01 [0.07]	-0.04 [-0.21]	-0.01 [-0.05]	-0.01 [-0.07]
Industry indicators	Yes	Yes	Yes	Yes
Country indicators	Yes	Yes	Yes	Yes
N	296	296	296	296
Adj- R^2	0.17	0.18	0.16	0.19

*** $p < 1\%$, ** $p < 5\%$, * $p < 10\%$, two-sided p -values

Performance Test (Table 2 cont.)

Panel B: Using **accounting writedown** to proxy for firm performance (Tobit model)

	(1)	(2)	(3)	(4)
Board independence	-0.14*** [-3.44]			-0.14*** [-3.72]
Institutional ownership		-0.03*** [-3.97]		-0.04*** [-5.11]
Large shareholder			-0.00 [-0.19]	-0.01 [-1.14]
ADR	-0.00 [-0.15]	0.01 [0.75]	0.01 [0.93]	-0.00 [-0.13]
Leverage	-0.03 [-0.91]	0.02 [0.41]	0.00 [0.12]	-0.02 [-0.62]
Firm size	-0.02*** [-6.18]	-0.02*** [-5.55]	-0.02*** [-7.19]	-0.02*** [-6.71]
2006 stock return	0.03* [1.75]	0.01 [0.72]	0.02 [1.10]	0.02 [1.62]
Industry indicators	Yes	Yes	Yes	Yes
Country indicators	Yes	Yes	Yes	Yes
N	296	296	296	296
χ^2	160.5***	149.7***	146.4***	164.7***

*** $p < 1\%$, ** $p < 5\%$, * $p < 10\%$, two-sided p -values

Pre-Crisis Risk-taking: Predictions and Measures

- Pre-crisis Risk-taking
 - Poor external monitoring will lead to sub-optimally conservative investment strategies, because managers will seek to protect their firm-specific human capital and private benefits from control (Laeven and Levine [2009])
- Risk-taking Measures
 - Expected Default Frequency (EDF): Probability that a firm will default within one year (source: Moody's KMV CreditMonitor)
 - Volatility: Standard deviation of weekly stock returns

Panel A: Descriptive statistics on risk-taking

Variable	N	Mean	Median	Std. dev.
logEDF [December 2006]	269	-3.16	-3.26	1.25
Volatility [2004-2006]	296	0.03	0.03	0.01

Pre-Crisis Risk-taking: Table 3

Panel B: Regression of risk-taking on corporate governance (OLS model)^a

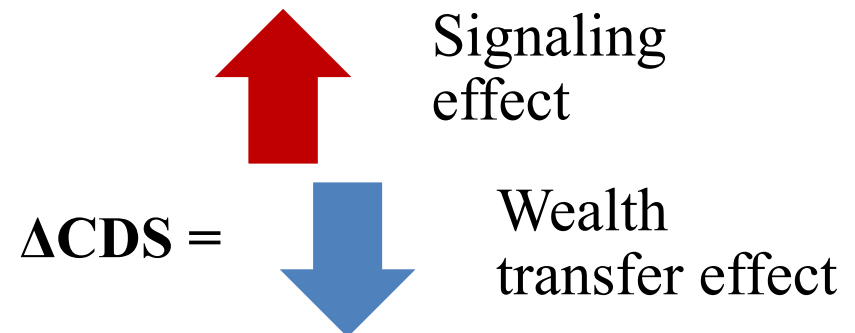
	logEDF [December 2006]	Volatility [2004-2006]
Board independence	0.51 [0.51]	0.01 [1.11]
Institutional ownership	1.28*** [4.07]	0.01*** [3.41]
Large shareholder	0.30 [1.60]	0.00** [2.31]
ADR	-0.04 [-0.22]	0.00 [0.79]
Leverage	6.01*** [2.94]	0.02* [1.95]
Firm size	-0.21*** [-3.54]	-0.00*** [-7.18]
2006 stock return	-0.73** [-2.24]	0.00 [0.57]
Industry indicators	Yes	Yes
Country indicators	Yes	Yes
N	269	296
Adj-R ²	0.32	0.42

Equity Capital Raisings: Predictions

- Potentially led to a wealth transfer from existing shareholders to debt holders (Myers [1977])
- Reputational concerns gave independent board members an incentive to push firms into raising equity capital during the crisis
 - Severe reputational costs of a bankruptcy (Gilson [1990])
 - Independent directors built their reputations as being good monitors by encouraging firms to have more transparent financial reporting (Klein [2002]) → led to equity capital raisings to maintain capital adequacy

Equity Capital Raisings: Wealth Transfer Analysis

- Wealth transfer from existing shareholders to debt holders?
 - Empirical strategy: Examine abnormal stock returns and abnormal changes in credit default spreads (CDS) spreads (Veronesi and Zingales [2009])
- Two effects of equity offering announcements:
 1. Signals that more losses are to come
 - Decrease stock returns
 - Increase in CDS spreads
 2. Reduces bankruptcy risk (potential wealth transfer to debt holders)
 - Decrease stock returns
 - Decrease in CDS spreads

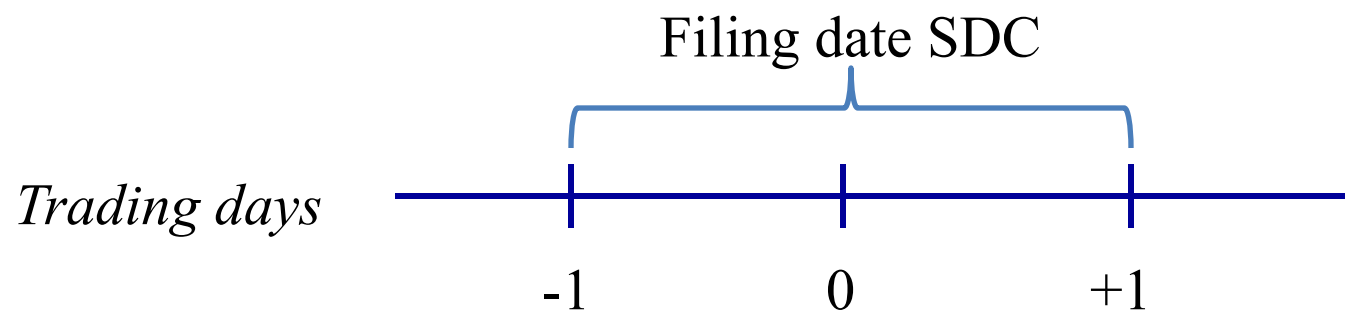


Equity Capital Raisings: Wealth Transfer Analysis

Data Sources:

- Equity capital raising data: SDC platinum
- Credit Default Swap data: DataStream

Event Study Wealth Transfer:



- *Abnormal stock return*: Cumulative stock returns adjusted for the return on the MSCI World index
- *Abnormal change in CDS Spread*: Δ CDS spread adjusted for the Δ CDS index comprising of global universe of CDS

Equity Capital Raisings : Table 4

Panel A: Descriptive statistics on capital raisings

Variable	N	Mean	Median	Std. dev.
Firms that raised equity capital	57	1.95%	1.15%	1.82%
Overall sample	296	0.38%	0.00%	1.11%

Panel B: Market reaction during [-1, +1] event window, with day 0 being the filing date of equity offerings

	N	Mean	t-stat
Abnormal stock returns (%)	54	-2.29**	-2.42
Abnormal change in CDS spread (basis point)	54	-3.99**	-2.29

*** $p < 1\%$, ** $p < 5\%$, * $p < 10\%$, two-sided p -values

→ Equity capital raisings led to a wealth transfer from existing shareholders to debt holders

Equity Capital Raisings (Table 4 cont.)

Panel C: Relation between board independence and capital raisings during the crisis^a

	Capital raising (Tobit Model) (Full sample) [Q1/2007-Q3/2008] (1)	Capital raising (Tobit Model) (Full sample) [Q1/2007-Q3/2008] (2)	Stock returns (OLS Model) (Excl. capital raising firms) [Q1/2007-Q3/2008] (3)
Board independence	0.09*** [3.02]	0.08** [2.37]	-0.11 [-0.47]
Institutional ownership	0.04*** [2.38]	0.05*** [2.17]	-0.32*** [-3.69]
Large shareholder	0.00 [0.33]	0.00 [0.24]	0.02 [0.44]
Writedowns		-0.23** [-2.43]	
ADR	-0.01 [-1.21]	-0.01 [-1.11]	0.10 [1.04]
Leverage	-0.04 [-1.33]	-0.04 [-1.10]	-0.11 [-0.31]
Firm size	0.00** [2.59]	0.00 [1.55]	-0.01 [-0.68]
2006 stock return	0.03* [1.74]	0.03** [2.06]	-0.03 [-0.17]
Industry indicators	Yes	Yes	Yes
Country indicators	Yes	Yes	Yes
N	296	296	239
χ^2 / Adj-R ²	128.6	136.3	0.17

Analysis on Country-level Governance (Table 5)

Panel B: Regression of stock returns during the crisis on country-level governance variables

	(1)	(2)	(3)
Institutions	0.01 [0.19]		0.03 [0.51]
Antidirector rights		0.01 [0.80]	0.01 [0.83]
ADR	0.08 [1.24]	0.06 [0.78]	0.06 [0.76]
Leverage	-0.31 [-1.43]	-0.34 [-1.49]	-0.36 [-1.53]
Firm size	-0.04*** [-2.94]	-0.04*** [-3.37]	-0.04*** [-3.51]
2006 stock return	-0.00 [-0.01]	-0.05 [-0.27]	-0.04 [-0.26]
Industry indicators	Yes	Yes	Yes
Country indicators	No	No	No
N	296	282	282
Adj-R ²	0.15	0.15	0.15

→ Country-level governance mechanisms did not have an influence on financial firms' performance during the crisis

Other Additional Analyses (Table 6)

T6 – Panel A: Alternative /additional control variables:

- Corporate governance: Risk Committee, Financial expertise independent board members, CEO-Chairman Duality, Closely-held shares (instead of large shareholder variable)
- Financial measures: ROA, Leverage, Total Assets (instead of market value of assets)
 - results are qualitatively the same

T6 – Panel B: Alternative time line:

- Alternative time periods: Q3/07-Q3/08 and Q3/07-Q4/08
- Abnormal stock returns
 - results are qualitatively the same

Conclusions

- Corporate governance had an important influence on the degree to which financial firms were affected by the crisis through influencing firms' risk-taking and financing policies.
- Our findings are inconsistent with prior studies that find that greater external monitoring is associated with better performance during the Asian financial crisis (Johnson et al. [2000]; Mitton [2002]). Therefore, our study suggests that the implications of prior studies on financial crises do not extend to the current financial crisis.
- Our study informs the regulatory debate on reform of financial institutions. Our findings cast doubt on whether regulatory changes that increase shareholder activism and monitoring by outside directors will be effective in reducing the consequences of future economic crises.