

Shareholder Rights and Firm Value: An Empirical Examination

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Research Motivations

- ✚ **Enormous empirical research focus on the wealth effects of the adoption of takeover defenses**
 - ❑ Earlier research to examine any one defense or a few defenses in isolation: JarrellPoulsen, Annette (1987 JFE), Jarrell, Brickley, and Netter (1988 JEP), Karpoff and Malatesta (1989 JFE), Comment and Schwert (1995 JFE), and Daines(2001,JFE), etc.
 - ❑ Recent studies to focus more comprehensive combine defenses: Gompers, Ishii, and Metrick (2003 QJE), Klock, Mansi, and Maxwell (2004 JFQA), Cremers and Nair (2005 JF), Core, Guay, and Rusticus (2006 JF), Ferreira and Laux (2006 JF).

- ✚ **Mixed theoretical predictions**

- ✚ Negative Impact: Agency theory stemming from Jensen and Meckling (1976); Value-enhancing risk taking model by John, Litov, and Yeung (2005)
- ✚ Positive Impact: Job security argument by Shleifer and Vishny (1989) to reduce overinvesting; Reduce managerial “myopia” by Stein (1988)

Questions: Appropriate empirical methodology ?



An Outline of this Study

- ✚ **The Popularity of the G-index**
- ✚ **Main Empirical Model**
- ✚ **The Main Empirical Problems to Handle**
- ✚ **Comparison of Different Methodology**
- ✚ **What Do We Need to Consider?**



The Popularity of the G-index

24 governance provisions combined by the Investor Responsibility Research Center (IRRC)

- ✚ The IRRC has published seven such volumes: September, 1990; July, 1993; July, 1995; February, 1998; November, 1999; February, 2002, and January 2004
- ✚ Each volume includes information on between 1,400 and 1,800 firms.

All the firms in the S&P 500 are covered in each of the IRRC volumes.

- ✚ In any given year of publication, the firms in the IRRC volume accounted for more than 90% of the total U.S. stock market capitalization.



The Popularity of the G-index

Gompers, Ishii, and Metrick (2003) summarize the 24 provisions into five categories:

- ✚ **Takeover Delay** : Classified board (or “Staggered” board), Blank check, Special Meeting, Written Consent
- ✚ **Management Protection**: Golden parachutes, Compensation plans, Contracts, Indemnification, Liability, Severance package
- ✚ **Voting Power**: Supermajority requirements for mergers and charter amendments, Limits to amend by-laws, Cumulative Voting, Secret Ballot, Unequal Voting
- ✚ **Direct Takeover Defences**: Poison pills, Antigreenmail, Directors’ Duties, Fair Price, Pension Parachutes, Silver Parachutes
- ✚ **State Laws**: Business combination law, Control share acquisition law, Antigreenmail Law, Cash-out Law, Directors’ Duties Law, Fair Price Law



Main Empirical Model

The pooled OLS model to examine the relation between firm operating performance (or firm value) and the Governance index is:

$$F_t = \beta_0 + G_t\beta_1 + C_t\beta_2 + c + \varepsilon_t$$

Where t denotes the time, C_t is the control variables, and c be an unobservable random variable.



The Main Empirical Problems to Handle

Endogeneity

- ✚ Model Misspecification
- ✚ Two Way Causality
- ✚ Purely Spurious



Comparison of Different Methodology

We summarize the common econometrical methodology use in the literature:

- ✚ The pooled OLS
- ✚ Instrumental methods
- ✚ Fama-MacBeth regression
- ✚ Firm-fixed effect panel model



A summary of the Regression Variables (1990-2005)

Variables	N	Mean	Std. Dev.	Min	Max
G-index	18908	9.17	2.75	2.00	19.00
Tobin Q	18908	1.78	1.19	0.71	7.59
Total book value assets (in millions of \$)	18908	5721.07	14000.45	61.92	99844.06
Market value of equity (in millions of \$)	18908	4868.89	12147.78	29.61	86616.32
Firm age	18908	26.12	18.76	1.00	81.00
Leverage ratio	18908	0.24	0.18	0.00	0.75
Sales growth (past three years average)	18802	0.14	0.24	-0.22	1.46
Sales growth	18785	0.10	0.23	-0.50	1.18
Capital expenditure to total assets	18827	0.06	0.05	0.00	0.26
R&D to sales	10796	0.08	0.19	0.00	1.51
EBIDTA	18426	627.88	1443.15	-64.47	10526.00
Delaware Incorporation	18908	0.54	0.50	0.00	1.00
S&P 500	18908	0.30	0.46	0.00	1.00
Dividend payment	18908	0.62	0.49	0.00	1.00



The Original G-index

year	Fr equency	Per cent (%)	Cummul at i ve Per c. (%)
1990	1, 344	12. 44	12. 44
1993	1, 333	12. 34	24. 78
1995	1, 365	12. 64	37. 42
1998	1, 692	15. 66	53. 08
2000	1, 662	15. 39	68. 47
2002	1, 660	15. 37	83. 84
2004	1, 746	16. 16	100
Tot al	10, 802	100	



The Distribution of the G-index			
gindex	Frequency	Percent (%)	Cummulative Perc. (%)
2	28	0.26	0.26
3	107	0.99	1.25
4	285	2.64	3.89
5	592	5.48	9.37
6	882	8.17	17.53
7	1,152	10.66	28.2
8	1,363	12.62	40.82
9	1,440	13.33	54.15
10	1,461	13.53	67.67
11	1,274	11.79	79.47
12	914	8.46	87.93
13	689	6.38	94.31
14	347	3.21	97.52
15	190	1.76	99.28
16	63	0.58	99.86
17	11	0.1	99.96
18	3	0.03	99.99
19	1	0.01	100
Total	10,802	100	



The Distribution of the Change of the G-index			
g chg	Frequency	Percent (%)	Cummulative Perc. (%)
-8	3	0.04	0.04
-7	6	0.08	0.12
-6	4	0.05	0.17
-5	12	0.15	0.32
-4	15	0.19	0.51
-3	27	0.35	0.86
-2	83	1.07	1.93
-1	623	8.01	9.94
0	4,705	60.51	70.46
1	1,648	21.2	91.65
2	429	5.52	97.17
3	130	1.67	98.84
4	40	0.51	99.36
5	28	0.36	99.72
6	11	0.14	99.86
7	8	0.1	99.96
8	1	0.01	99.97
10	2	0.03	100
Total	7,775	100	



Tobin's Q and the G-index

Variables	Pooled OLS		Fama-MacBeth(OLS)		Fama-MacBeth(LAD)		Firm Fixed-effect	
	Coefficients	Robust Std.	Coefficients	Robust Std. Err.	Coefficients	Robust Std. Err.	Coefficients	Robust Std. Err.
G-index	-0.0073	0.0007	-0.0063	0.0008	-0.0054	0.0008	-0.0046	0.0017315
Log(market value of equity)	0.0186	0.0018	0.0396	0.004	0.0469	0.0045	0.03211	0.0046942
Log(book-to-market ratio)	-0.3827	0.0040	-0.398	0.0086	-0.3821	0.0126	-0.3754	0.0065605
Log(firm age)	0.0070	0.0030	0.0033	0.0022	0.0104	0.0033	-0.2166	0.0107246
Leverage ratio	-0.3462	0.0123	-0.3688	0.0208	-0.2741	0.0231	-0.404	0.0205459
Sales growth (three years average)	0.0387	0.0105	0.0418	0.0133	0.0251	0.0137	0.02103	0.0101635
Capital expenditure to total assets	0.6217	0.0384	0.4734	0.082	0.349	0.078	0.23329	0.0523583
Delaware Incorporation	-0.0523	0.0040	-0.0448	0.0053	-0.0488	0.0044	-0.0043	0.0133145
S&P 500	-0.0016	0.0053	-0.0662	0.0087	-0.0949	0.0068	0.03102	0.0069975



Firm Operating Performance and The G-index

Variables	Fama-MacBeth (LAD)		Firm Fixed-effect	
	Coefficients	<i>p</i> -value	Coefficients	<i>p</i> -value
ROE	0.0001	0.82	-0.0043328	0.04
ROA before depreciation	0.0001	0.71	-0.0008935	0.05
ROA after depreciation	-0.0001	0.54	-0.0009964	0.03
return on cash-adjusted assets before depreciation	-0.0006	0.06	-0.0019603	0
return on sales before depreciation	-0.0006	0	-0.0016181	0.02
cash-flow return on assets	0.0002	0.52	0.0003658	0.59
return on market value of assets before depreciation	0.0009	0	-0.0001059	0.7



What Do We Need to Consider?

- ✚ **Examine the regularity of the data**
- ✚ **Choose appropriate model specifications**
- ✚ **Consistent robustness checks**



Thank You!

