Concentrating on Governance

"The governance of companies is more important for world economic growth than the government of countries."

– James Wolfensohn, 9th President World Bank

Dalida Kadyrzhanova – University of Maryland

Matthew Rhodes-Kropf – Harvard University

The idea

- The Central question in corporate governance is whether and how governance mechanisms create shareholder value.
- The Seminal contributions of Gompers Ishi Metrick(2003) and Bebchuck, Cohen and Farrel (2004) show that anti-takeover provisions are negatively related to firm value.
- Of course, the mechanisms don't create value, they affect decisions that create value.
- Negative is consistent with the classical agency view that anti-takeover provisions entrench management. But also consitent with low valued firms enacting ATPs.
- There is also limited direct evidence on the takeover market.
  - Bebchuk, Coats and Subramanian (2002) decrease prob of takeover
  - Comment and Schwert (1995) weak positive relation on target premiums.
- So, there is potentially a tradeoff.
- Work in this area considers of course and average effect across all types of industries.
- Our idea is that this tradeoff may differ across industries

The Backdrop

- Anti-takeover provisions are negatively related to firm value.
  - Gompers, Ishii, Metrick(2003), Bebchuk and Cohen (2005), and Core, Guay and Rusticus (2006).
  - *Agency view* -- anti-takeover provisions prevent takeovers and entrench management.
    - Also consistent with the view that low value firms have more ATPs
- Limited direct evidence on takeover market.
  - *Entrenchment view* - Anti-takeover provisions decrease probability of takeover. Bebchuk, Coats and Subramanian (2002).
  - *Bargaining view* - Anti-takeover provisions increase premiums (weak evidence). Comment and Schwert (1995) and Schwert (2000).

Our Idea

- Bargaining vs. Agency -- *This tradeoff may be different across different industries*.
- Can governance mechanisms systematically create value in some industries, but destroy value in others?
- Industry concentration alter the benefits from Bargaining and the costs of Agency.

Agency and Concentration

- Competition is a substitute for governance.
  - Adam Smith, Leibenstein (1966), Alchian (1950), Stigler (1958), Fama (1980), Hart (1983) and Fama and Jensen (1983).
- Intuitively appealing but hard to formalize.
  - Holmstrom and Tirole (1989)
- Even harder to project market value effect.
  - Managers in competitive industries who slack off a little may impact the firm a lot.

Bargaining and Concentration

- Anti-takeover provisions are more valuable when bargaining is more important.
- Theoretically extend preemptive bidding models of Fishman(1988) and Berkovitch and Khanna(1990) to consider effect of industry structure.
- *Importance of bargaining is larger in more concentrated industries.*

CSX and Conrail

- Oct 15, 1996, $8.3B (23.5% Premium) deal about to close.
  - Part of industry-wide consolidation.
- Target's corporate governance mandated a shareholder vote that delayed deal.
- Delay allowed Norfolk Southern to counter.
- Staggered Board and Poison Pill allowed Conrail to reject Norfolk Southern's offer.
- Bidding war erupted – eventual outcome $10.5B (60% Premium)

> *"Takeover contests are very intense when the target is a scarce jewel in a rapidly evolving industry that is populated by relatively few firms."*
>
> - Analyst covering railroads

Main Results

- Model Predicts
  - Anti-takeover provisions should lead to higher takeover premiums, *but only in concentrated industries.*
  - Anti-takeover provisions could be value enhancing, *but only in concentrated industries.*
- Large dataset (1990-2005)
  - Target premiums increase with ATPs *only in concentrated industries.*
  - Tobin's Q **increases** with ATPs *only in concentrated industries.*
- Ignoring heterogeneity underestimates effect of governance on firm value.
  - First study to document large valuation effects of governance and the mechanism through which this occurs.

Standard Set Up –
Berkovitch & Khanna (1990) and Fisman (188)

- Two potential Acquirers
  - Synergy $s_i = \{H, L\}$ with prob *q* and *(1-q)*
  - Must pay a cost c to participate
    - Search, due diligence, etc
  - If bidder 2 pays cost then English Auction
- Target
  - May or may not have ATPs, $\alpha \in \{0,1\}$
  - ATPs allow resistance (impose costs, *k* on bidder)
  - Create Agency cost, C, on Target

With novel twist – Product Market Competition

- After takeover contest players will compete
- Acquire profits are $\pi_i^A = \pi + s_i$
- Rival (losing bidder) profits are $\pi_i^R = \pi - \lambda_i$
  - λ is the difference in rivals pre and post merger profits denotes the "product market effect" of the merger on the rival.
- In IO models, mergers occur when λ is large.
  - "*A CSX-Conrail combination posed a serious threat to Norfolk Southern… I was concerned about being excluded from important markets.*" – David Goode, Norfolk Southern's CEO on Conrail takeover contest

Equilibrium

- Proposition 1 – Unique separating equilibrium
- Leads to target shareholder merger premium of $P^{\alpha=0} < P^{\alpha=1}$
- And profits to adopting ATPs of

$$\Pi = P^{\alpha=1} - P^{\alpha=0} - C$$

- Key Proposition – ATPs are more valuable in industries where mergers have larger impacts on industry rivals. $d\Pi/d\lambda \geq 0, \ \forall \lambda > \lambda^*$

The Value of ATPs & Concentration

- ATPs allow target to resist offer but impose a cost on bidder and target.
- Bids are increased more by resistance when rival is more likely to be hurt by the merger.
- Rival is more likely to be hurt by the merger in concentrated industries.

Empirical Predictions

- Prediction 1: **ATPs and Merger Premia** - An increase in industry concentration strengthens the positive impact of ATPs on target premiums.

- Prediction 2: **ATPs and Valuation** – Concentration mitigates the negative impact of ATPs on firm value.

Key idea – Concentration is an important mediating factor on the impact of ATPs on the firm.

Data (1990-2005)

- ATPs:
  - SB&P∈[0,2] (IRRC and proxy statements)
  - SB∈[0,1] (IRRC and proxy statements)
  - E∈[0,6] (Bebchuk, Cohen and Ferrell (2004))
  - GIM∈[0,24] (IRRC)
- Concentration
  - 4 firm concentration ratio at 4-dig SIC level (Census Bureau)
  - Import penetration (NBER International Trade database
  - HHI (Census Bureau)
  - # of competitors
- Merger deals and characteristics
  - SDC Platinum M&A database
- Firm, managerial and other governance characteristics
  - Firm characteristics (Compustat),
  - Managerial ownership, compensation (Execucomp),
  - Internal governance (Thomson Financial),
  - State AT statutes (Bebchuk and Ferrell (2003))

Two Datasets

- *Acquisition Sample* - 888 deals in the US between 1990 and 2005, manufacturing industries [SIC 2000-3999]
  - Target Premia
  - Governance Measures
  - Industry concentration (4CR, HHI, Import penetration ratio, number of firms)
  - Deal characteristics (hostility, method of payment, contest, successful)
  - Target characteristics (ROE, liquidity, D/E, P/e, etc)

- *Valuation Sample* – Panel data on 896 firms in manufacturing industries [SIC 200-3999] with data on ATPs from IRRC between 1990 and 2005 [8254 observations]
  - Tobin's Q
  - Firm characteristics (Size, Age, ATPs, etc)
  - Governance Characteristics (ATPs, Insider ownership, Institution ownership)
  - Industry concentration (4CR, HHI, Import penetration ratio, number of firms)

Takeover Sample

Variable	Observations	Mean	Median	Standard Dev
SB&P	888	1.26	1	0.65
SB	888	0.5	1	0.5
Concentration	888	0.39	0.36	0.17
Target Premium	888	0.34	0.33	0.56
Hostility	888	0.24	0	0.44
Auction	888	0.11	0	0.31
Cash	866	0.58	1	0.46
Tender Offer	888	0.31	0	0.46
Success	888	0.86	1	0.35
ROE	814	0.11	0.08	0.12
Sales Growth	808	0.09	0.08	0.32
Liquidity	820	0.33	0.31	0.21
D/E	817	0.59	0.23	1.27
M/B	814	2.6	1.64	5.09
P/E	767	16.71	11.72	20.21
Size	888	6.89	5.63	3.48

IRRC Sample

Variable	Observations	Mean	Median	Standard Dev
SB&P	8969	1.21	1	0.78
E	8969	2.36	2	1.34
G	8969	9.39	9	2.8
Concentration	8819	0.42	0.39	0.18
Managerial Ownership	8941	0.05	0.01	0.16
Block	8969	0.5	1	0.5
Pension Fund	8969	0.41	0	0.49
Size	8969	7.12	6.99	1.49
Tobin.s Q	8251	1.92	1.49	1.4
State Laws	8969	0.33	0	0.47
Delaware	8969	0.57	1	0.5
ROA	8969	0.14	0.14	0.1
R&D	8969	0.08	0.02	0.64
Advertising	8969	0.04	0.02	0.05
Capex	8880	0.11	0.09	0.07
Dividend	8969	0.08	0.04	0.18
Cashflow	8969	0.41	0.35	1.18

Do ATPs affect Target Premiums?

SB&P	Democracy (SB&P=0)	Dictatorship (SB&P≥1)	Difference
All	32.3%	37.2%	0.049
Unconcentrated	34.5%	31.5%	-0.029
Concentrated	26.4%	40.6%	0.142***

Premiums = Cumulative Abnormal Returns (-63,126)

Interaction of Concentration & Governance on Target Premiums

Variable	Baseline Controls	+ Deal Controls
SB&P	-0.109*	-0.091
	(0.066)	(0.061)
Concentration	-0.219	-0.181
	(0.163)	(0.165)
SB&P *Concentration	**0.374*****	**0.331*****
	(0.149)	(0.031)
Observations	700	700
R^2	12.1%	13.9 %

	Baseline		Deal Controls	
	(1)	(2)	(3)	(4)
ATPs				
SB&P	-0.109*		-0.091	
	(0.066)		(0.061)	
SB&P*Concentration	0.374***		0.331***	
	(0.149)		(0.031)	
SB		-0.065*		-0.059
		(0.038)		(0.039)
SB*Concentration		0.230***		0.217***
		(0.069)		(0.064)
Firm & Industry				
Concentration	-0.219	-0.141	-0.181	-0.121
	(0.163)	(0.122)	(0.165)	(0.124)
Size	-0.026***	-0.027***	-0.043***	-0.044***
	(0.007)	(0.007)	(0.011)	(0.011)
Liquidity	-0.195***	-0.180***	-0.222***	-0.210***
	(0.062)	(0.065)	(0.061)	(0.063)
D/E	-0.013	-0.013	-0.014	-0.013
	(0.009)	(0.009)	(0.009)	(0.009)
M/B	-0.009	-0.009	-0.007	-0.007
	(0.009)	(0.009)	(0.008)	(0.008)
P/E	-0.004***	-0.004***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Sales Growth	-0.094**	-0.091*	-0.093*	-0.090*
	(0.047)	(0.048)	(0.049)	(0.050)
ROE	-0.023***	-0.023***	-0.021***	-0.022***
	(0.007)	(0.008)	(0.007)	(0.008)
Deal				
Hostility			0.048	0.049
			(0.049)	(0.049)
Auction			0.094**	0.093**
			(0.044)	(0.045)
Cash			0.083	0.083
			(0.052)	(0.052)
Tender			0.194***	0.201***
			(0.074)	(0.074)
R^2	12.1%	12.0%	13.9%	13.8%
Observations	700	700	700	700

$$\text{Premia}_i = b_0 + b_1 ATP_i + b_2 Concentration_i + b_3 * ATP_i * Concentration_i + b_4 X_i + e_i$$

This effect is HUGE!

This effect is HUGE!

- If you are considering an ATP and you move from an unconcentrated to a concentrated industry your premium goes up by about 16%!
- This is HALF the unconditional sample mean.
- Previous research finds mixed evidence that ATPs affect premia and when it finds a positive effect (e.g Comment and Schwert(1995)) the effect is about 3%.

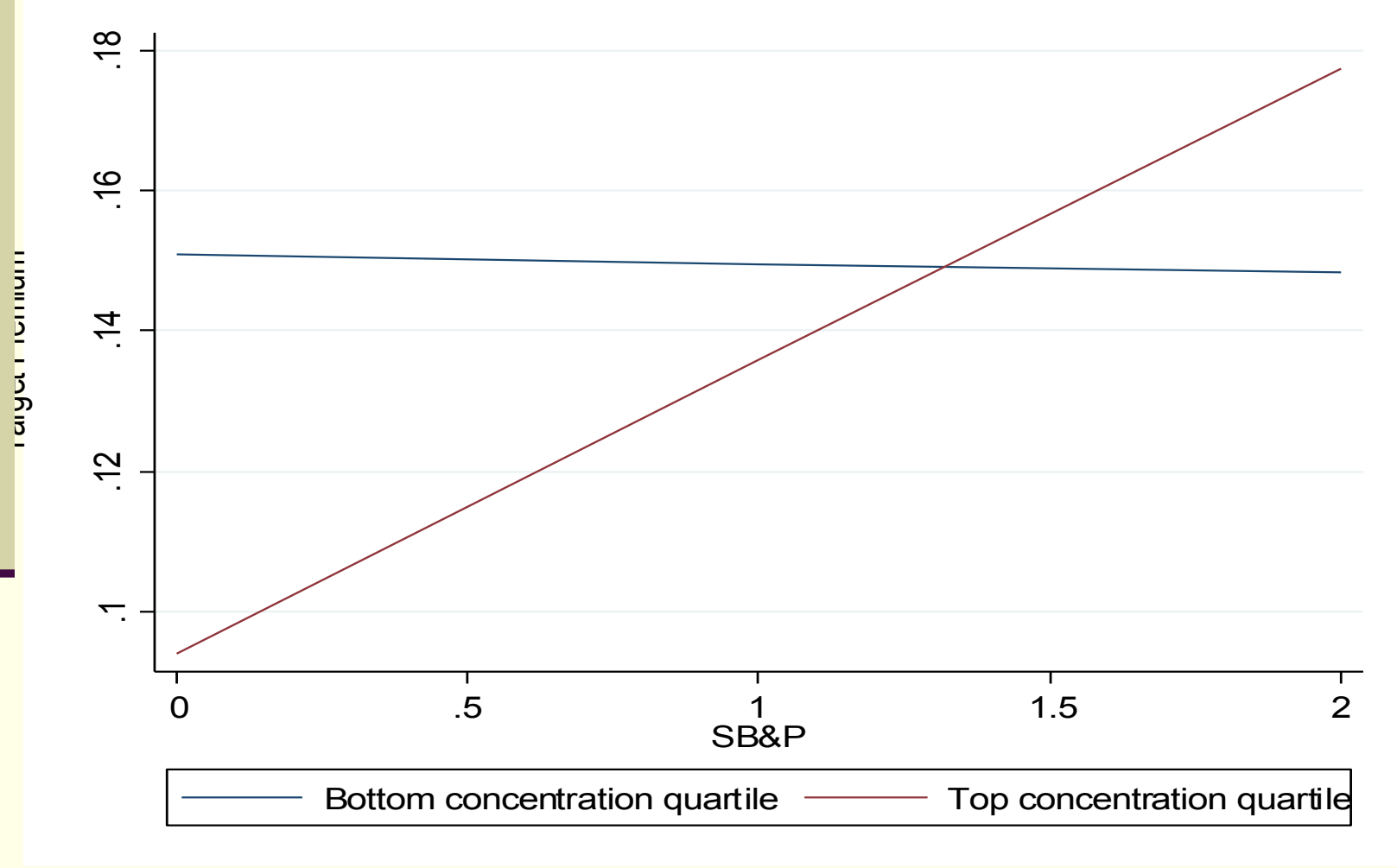
Split sample…

Variable	All	Unconcentrated	Concentrated
SB&P	0.038*	-0.040	0.156***
	(0.021)	(0.044)	(0.035)
Observations	700	175	173
R^2	13.3 %	27.6 %	29.3 %

- ΔPremium/ΔATPs = 15.6 in concentrated industries

	All		Unconcentrated		Concentrated	
Variable	(1)	(2)	(3)	(4)	(5)	(6)
ATPs						
SB&P	0.038*		-0.040		0.156***	
	(0.021)		(0.044)		(0.035)	
SB		0.027		-0.111		0.189***
		(0.026)		(0.073)		(0.059)
Firm						
Size	-0.043***	-0.042***	-0.046*	-0.045*	-0.036***	-0.034**
	(0.010)	(0.010)	(0.024)	(0.024)	(0.013)	(0.014)
Liquidity	-0.220***	-0.231***	-0.202	-0.193	-0.067	-0.094
	(0.060)	(0.062)	(0.183)	(0.177)	(0.205)	(0.200)
D/E	-0.012	-0.012	-0.028	-0.031	0.084**	0.088**
	(0.009)	(0.009)	(0.024)	(0.024)	(0.038)	(0.038)
M/B	-0.007	-0.007	-0.026	-0.025	-0.022*	-0.022
	(0.008)	(0.008)	(0.019)	(0.019)	(0.013)	(0.014)
P/E	-0.004***	-0.004***	-0.005**	-0.005**	-0.002	-0.002
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
Sales Growth	-0.092*	-0.093*	-0.102	-0.098	-0.247	-0.246
	(0.048)	(0.050)	(0.174)	(0.182)	(0.155)	(0.155)
ROE	-0.022***	-0.022***	-0.018***	-0.018***	-0.351	-0.333
	(0.007)	(0.007)	(0.004)	(0.004)	(0.223)	(0.209)
Deal						
Hostility	0.055	0.057	0.056	0.065	0.006	0.002
	(0.050)	(0.049)	(0.130)	(0.129)	(0.084)	(0.087)
Auction	0.090**	0.089*	0.005	0.011	0.062	0.065
	(0.045)	(0.046)	(0.081)	(0.077)	(0.089)	(0.091)
Cash	0.076	0.072	0.024	0.013	0.113	0.110
	(0.054)	(0.055)	(0.177)	(0.176)	(0.145)	(0.142)
Tender	0.215***	0.216***	0.291**	0.290**	0.277**	0.267**
	(0.077)	(0.076)	(0.130)	(0.133)	(0.126)	(0.126)
t-test					3.133	3.171
R^2	13.3%	13.2%	27.6%	28.6%	29.3%	28.4%
Observations	700	700	175	175	173	173

Target Premiums and ATPs by Industry Concentration



But do ATPs increase VALUE?

- If we are right, then in concentrated industries ATPs should not be as bad for firm value as previous studies have found.
- But, results so far are conditional on receiving an offer.
- What if ATPs deter takeover offers differentially?
  - In this case the large market reaction could be surprise at the takeover offer.

Cash Payments

Industry concentration strengthens the positive effect of ATPs on the target's likelihood of receiving a cash offer.

$$\Pr(Cash_i) = f(b_0 + b_1 ATP_i + b_2 Concentration_i + b_3 * ATP_i * Concentration_i + b_4 X_i + e_i)$$

Variable	SB&P	SB
ATPs	-0.065*	-0.060
	(0.031)	(0.039)
Concentration	-0.064	-0.078*
	(0.043)	(0.042)
ATPs*Concentration	**0.072***	**0.117****
	(0.040)	(0.057)
Observations	700	700
R^2	16.0%	15.9%

Interaction of Concentration & Governance on Takeover Likelihood

Variable	
SB&P	-0.014***
	(0.004)
Concentration	0.014
	(0.013)
SB&P *Concentration	0.004
	(0.009)
Observations	7389
R^2	25.8%

- SB&P reduce likelihood but reduction is not affected by concentration.

Interaction of Concentration & Governance on Tobin's Q

Variable	Baseline Controls	+ Governance Controls
SB&P	-0.048***	-0.059***
	(0.014)	(0.012)
Concentration	-0.084*	-0.053
	(0.049)	(0.052)
SB&P *Concentration	**0.075****	**0.109*****
	(0.031)	(0.035)
Observations	7841	7841
R^2	26.8%	32.7%

	Baseline			Governance Controls		
Variable	(1)	(2)	(3)	(4)	(5)	(6)
ATPs						
SB&P	-0.048***			-0.059***		
	(0.014)			(0.012)		
Concentration*SB&P	0.075**			0.109***		
	(0.031)			(0.035)		
E		-0.046***			-0.052***	
		(0.010)			(0.008)	
Concentration*E		0.053***			0.075***	
		(0.016)			(0.019)	
G			-0.011***			-0.018***
			(0.004)			(0.005)
Concentration*G			0.025***			0.036***
			(0.008)			(0.012)
Firm & Industry						
Concentration	-0.084*	-0.085*	-0.084*	-0.053	-0.050	-0.052
	(0.049)	(0.048)	(0.049)	(0.052)	(0.042)	(0.048)
Size	0.016*	0.016*	0.017*	0.006	0.006	0.004
	(0.009)	(0.009)	(0.010)	(0.009)	(0.010)	(0.010)
Age	-0.053***	-0.051***	-0.049***	-0.048***	-0.048***	-0.044***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Other Governance						
Managerial Ownership				0.111***	0.108***	0.112***
				(0.015)	(0.015)	(0.015)
(Managerial Ownership)^2				-0.044***	-0.042***	-0.044***
				(0.010)	(0.010)	(0.010)
Block				-0.036**	-0.038**	-0.036**
				(0.018)	(0.018)	(0.018)
Pension Fund				0.043**	0.047**	0.042**
				(0.018)	(0.018)	(0.018)
R^2	26.8%	27.2%	26.8%	32.7%	33.0%	32.7%
Observations	7841	7841	7841	7841	7841	7841

This effect is HUGE!

Split sample

Variable	All	Unconcentrated	Concentrated
SB&P	-0.015***	-0.041***	**0.041***
	(0.007)	(0.011)	(0.014)
Observations	7841	1943	1997
R^2	29.7%	41.7%	40.6%

- Large negative effects of ATPs in unconcentrated industries.
- Large **positive** effects of ATPs in concentrated industries.

Robustness

ATPs and Target Premia – Concentration robustness

	HHI		Import Penetration		Number of Firms	
	(1)	(2)	(3)	(4)	(5)	(6)
ATPs						
SB&P	-0.022		-0.059		-0.014	
	(0.031)		(0.039)		(0.031)	
SB&P*Concentration	0.115***		0.135***		0.149**	
	(0.039)		(0.043)		(0.071)	
SB		-0.041		-0.115**		-0.030
		(0.039)		(0.054)		(0.034)
SB*Concentration		0.149***		0.214***		0.186**
		(0.056)		(0.072)		(0.092)
R^2	11.0%	10.9%	14.0%	14.3%	15.5%	13.1%
Observations	656	656	684	684	661	661

Robustness II

Valuation effect of ATPs – Concentration robustness

	HHI			Import Penetration			Number of Firms		
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ATPs									
SB&P	-0.062***			-0.069***			-0.064***		
	(0.011)			(0.015)			(0.011)		
Concentration*SB&P	0.077***			0.137***			0.105***		
	(0.030)			(0.040)			(0.014)		
E		-0.056***			-0.060***			-0.062***	
		(0.014)			(0.010)			(0.013)	
Concentration*E		0.049***			0.090***			0.054***	
		(0.051)			(0.023)			(0.014)	
G			-0.046***			-0.024***			-0.074***
			(0.012)			(0.006)			(0.011)
Concentration*G			0.037*			0.045***			0.081***
			(0.022)			(0.014)			(0.020)
R^2	39.3%	39.5%	39.2%	30.4%	30.4%	30.5%	43.4%	43.3%	43.1%
Observations	7504	7504	7504	7219	7219	7219	7800	7800	7800

Endogeneity? IV

- Do ATPs effect firm value or do low value firms adopt ATPs in unconcentrated industries and high value firms adopt ATPs in concentrated industries?

- Instrument – correlated with ATPs but not altered by firm value.
  - Industry concentration at IPO plus other variables at IPO to ‘predict’ ATPs.

IV Results

Variable	Unconcentrated	Concentrated
SB&P	-0.057***	0.034***
	(0.022)	(0.010)
E	-0.038***	0.017***
	(0.013)	(0.007)
G	-0.021***	0.012***
	(0.008)	(0.004)
Observations	1943	1997

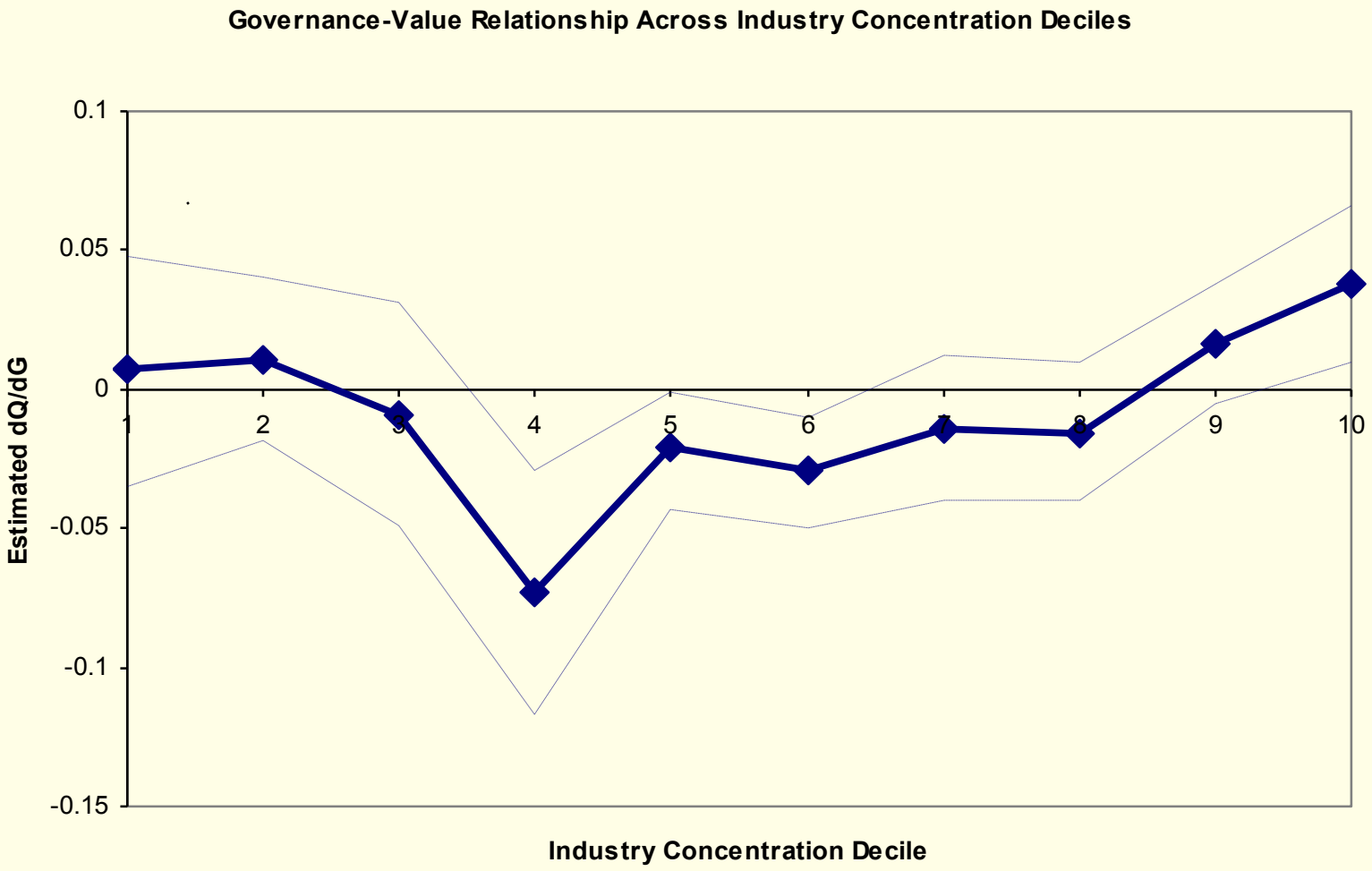
The Relationship is non-linear

	Industry Concentration *Terciles*		
Variable	1	2	3
GIM	-0.003	-0.030***	-0.001
	(0.010)	(0.010)	(0.009)

	Industry Concentration *Quartiles*			
Variable	1	2	3	4
GIM	-0.007	-0.039***	-0.020**	0.006
	(0.011)	(0.011)	(0.010)	(0.011)

	Industry Concentration *Quintiles*				
Variable	1	2	3	4	5
GIM	-0.008	-0.042***	-0.027***	-0.028**	0.027**
	(0.012)	(0.016)	(0.010)	(0.011)	(0.011)

First Agency dominates then Bargaining



The relationship is non-linear

	Industry Concentration (Percentile)							
Variable	<10	<20	<33	<50	>50	>66	>80	>90
GIM	-0.007 (0.021)	-0.008 (0.012)	-0.003 (0.010)	-0.016** (0.008)	-0.009 (0.007)	-0.001 (0.009)	0.027** (0.011)	0.038** (0.018)
N	1246	2612	4421	6729	7072	4749	2863	1452
R^2	15.5%	13.0%	13.2%	13.6%	28.5%	37.6%	37.9%	40.9%

- Negative if look at terciles
- More and more positive if have finer split

Conclusion

- Time to discard the idea that governance statues are simply “good” or “bad”.
- Industry concentration is an important mediating factor in the governance-value relationship.
- We provide novel evidence on how antitakeover provisions affect merger premia and firm value.
- Governance role of the market for corporate control is a double edge sword – enhances disciplinary role of takeovers, but comes at the price of losing bargaining power vis-à-vis acquirers.