

CORPORATE GOVERNANCE AND COMPANY PERFORMANCE: A CROSS-EUROPEAN STUDY

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Introduction

Motivation

- Prior studies: weak and conflicting evidence

	Tobin's Q	Mkt val	Acc perfm
emerging	+	+	?
oecd	+	0	0/-

- Possible reasons: low power / biases??

Perf = f(CG, ...) : We try harder

- econometric problems:
 - sample selection bias and endogeneity
 - selection: Heckman (Inverse Mills)
 - 2way causality: 2SLS (IV)
- Low variation in regressor (CG) — power?
 - multiple EU countries (standards etc)
 - recommendations, not mandates; CorE
 - time dimension (panel): rising attention

Perf = f(CG, ...) : We try harder (2)

- Slightly less crude modeling: let relation
 - depend on firm's shareholder protection
 - changes through time
- If this still fails, then
 - CG does not matter
 - or Cies are all at optimum level of CG
 - or even we did not try had enough

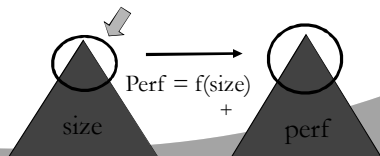
1.a: Sample selection bias

Problem

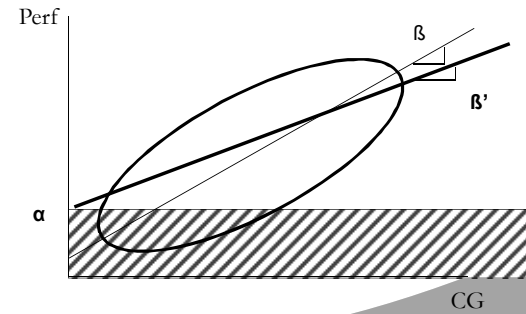
- CG ratings only for largest listed companies
- Sample not random
- more homogenous

Consequence

- OLS is inconsistent
- Underestimation of coeff



Sample selection bias



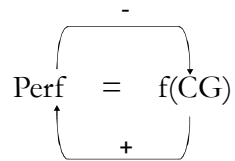
1.b: Endogeneity

Problem

- 2way causality
- Cov(CG, error term) $\neq 0$

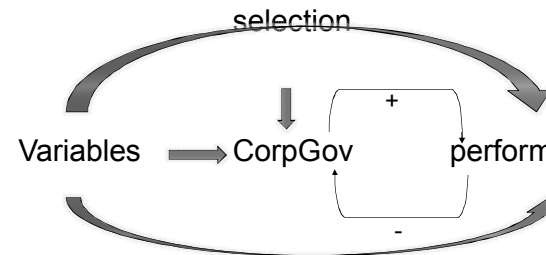
Consequences

- OLS is inconsistent
- Incorrect coefficient on CG



underestimation
(Bhagat and Black 2002;
Black et al. 2005)

1: Result: a mess



2. European v. US setting

- ⊙ *Varyingly sub-optimal level of CG*
 - *Concentrated ownership structures*
 - *Often private control benefits*
=> *reluctance to improve CG standards*
 - *Voluntary acceptance of corporate governance code*
 - *Codes have varying standards across countries*
 - *No active takeover market*

Model: bird's eye view

$$P(\text{rating}) = f(\text{explanatory var, exclusion restrictions}) \quad (1)$$

Produces Mills ratio λ

$$CGFIRM = f(\text{instruments, } \lambda, \text{ exogenous var}) \quad (2)$$

Produces predicted CG for firm

$$\text{Performance} = f(CG\text{FIRM predicted, } \lambda, \text{ exogenous var}) \quad (3)$$

EQ 1: selection equation

$$P(\text{rating}) = f(\text{explanatory var, exclusion restrictions})$$

- Sample selection bias (Heckman)
- Total population of listed companies (34,000)
- rating = 0/1 (no, yes)
- Output: Inverse Mills Ratio (λ)

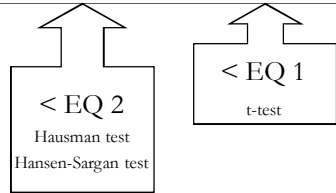
EQ 2: instrumenting equation

$$CGFIRM = f(\text{instruments, } \lambda, \text{ control var})$$

- ⊙ Endogeneity problem
- ⊙ First stage of 2SLS
- ⊙ Instruments? – big mess, see below
- ⊙ Output: CG predicted

EQ 3: structural equation

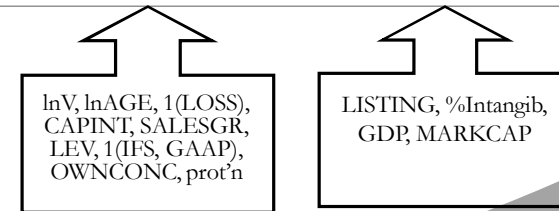
Performance
= f(CGFIRM predicted, λ , control var)



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EQ 1: selection equation

P(rating)
= f(explanatory var, exclusion restrictions)



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Eq 2, LHS: CG ratings

- ⊙ Deminor rating
- ⊙ FTSE Eurotop 300 index (now FTSEurofirst 300)
- ⊙ Largest companies (market capitalisation)
- ⊙ 1999-2003
- ⊙ CG score
 - 300 CG criteria
 - 4 categories
 - Maximum score = 40

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EQ 2, RHS: Good instruments?

- ⊙ Strong correlation with endogenous variable
- ⊙ No correlation with error term (exogenous)

'Where do you get such a variable?'

(Maddala, 1977)

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Variable definitions

EQ 2, RHS: Good instruments cont'd?

Prior studies:

- 'Weak' instruments (e.g., size dummy, market segment dummy, legal origin)
- Problems:
 - "Cure worse than the disease"
 - affect performance not only through CG

This study:

- semi-endogenous instruments
- 2 conditions in order to lead to *lower* bias:
 - High correlation with endogenous variable
 - Lower endogeneity than endogenous variable

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Variable definitions

EQ 2, RHS: Good instruments cont'd?

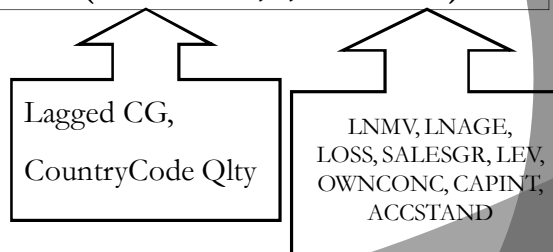
- Company level: CG ratings lagged 1 year ($CGFIRM_{t-1}$)
 - High correlation with current ratings
 - More exogenous than current ratings:
At most an indirect link, via current performance
- Country level: Level of CG recommendations
 - CGI: 50 principles of OECD CG (1999) checkboxed
 - Medium to strong correlation with company ratings
 - Highly exogenous

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Variable definitions

EQ 2: instrumenting equation

$$CGFIRM = f(\text{instruments}, \lambda, \text{control var})$$

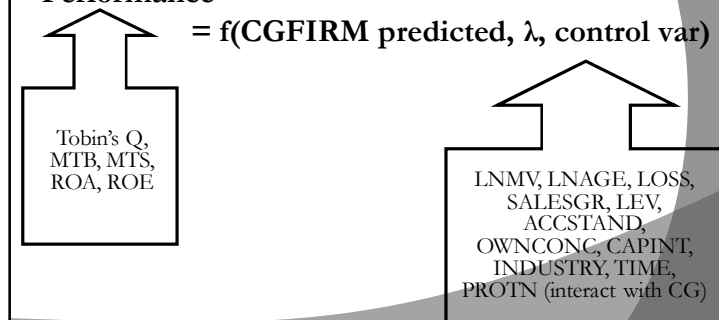


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Variable definitions

EQ 3: structural equation

$$\text{Performance} = f(\text{CGFIRM predicted}, \lambda, \text{control var})$$



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Sample

Deminor	1999	2000	2001	2002	2003	Total
Austria	0	0	1	2	2	5
Belgium	7	9	10	9	9	44
Denmark	2	4	7	4	4	21
Finland	4	5	6	5	5	25
France	42	39	37	38	41	197
Germany	24	26	32	30	32	144
Greece	3	0	3	4	6	16
Ireland	4	3	5	5	6	23
Italy	22	20	22	21	24	109
Netherlands	20	18	19	17	18	92
Portugal	3	0	2	4	4	13
Spain	9	9	10	13	16	57
Sweden	13	17	17	18	15	80
UK	65	74	79	78	77	373
Total	218	224	250	248	259	1,199

Sample

Population	1999	2000	2001	2002	2003	Total
Austria	123	122	134	129	135	643
Belgium	135	130	130	133	131	659
Denmark	217	223	226	226	223	1,115
Finland	172	172	173	173	175	865
France	1,039	1,025	1,038	1,015	1,021	5,138
Germany	1,054	1,061	1,034	1,028	1,022	5,199
Greece	395	397	395	395	394	1,976
Ireland	77	77	75	75	76	380
Italy	365	371	364	361	361	1,822
Netherlands	227	234	225	223	221	1,130
Portugal	113	111	110	112	110	556
Spain	151	150	148	148	149	746
Sweden	449	450	445	457	440	2,241
UK	2,236	2,284	2,264	2,228	2,185	11,197
Total	6,753	6,807	6,761	6,703	6,643	33,667

Results

Benchmark model(s): OLS

	Q	MTS	MTBV	ROA	ROE
CGFIRM	0.016	0.029	0.017	-0.003	-0.001
LNMV	0.171*	0.133	0.312	0.006	0.009
LNAGE	-0.153**	-0.309***	-0.426*	-0.004	-0.023**
SALESGR	0.709*	1.030*	0.865	0.081*	0.052*
LEVERAGE	-0.071***	-0.172***	-0.105*	-0.003***	-0.002
OWNCONC	0.169	-0.930	-0.474	-0.036	-0.092
CAPINT	-1.013*	-2.604***	-3.211***	-0.003	-0.053
LOSS	-0.467**	-0.055	-0.786	-0.149***	-0.414***
ACCSTAND	-0.098	-0.243	-0.207	-0.001	-0.018
R ²	0.091	0.080	0.104	0.145	0.195

Results

EQ 1: selection model

	coef	t-stat
LNMV	0.935***	4.03
LNAGE	0.090**	2.15
SALESGR	-0.146***	-2.48
LEVERAGE	0.015***	2.66
OWNCONC	-0.864***	-3.31
CAPINT	0.029	0.55
LOSS	-0.043	-0.45
ACCSTAND	-0.008	-0.48
LISTING	0.160***	3.03
PERCIA	0.396***	2.58
GDP	0.309***	2.88
MARKCAP	0.008***	2.34
Pseudo R ²		0.692

Results

EQ 2: instrumenting equation

	coef	t-stat
CGFIRMt-1	0.821***	7.90
CGCOUNTRY	0.067***	3.91
LNMV	0.160**	2.14
LNAGE	-0.296***	-3.39
SALESGR	0.134**	1.96
LEVERAGE	-0.008	-0.09
OWNCONC	-2.680***	-4.44
CAPINT	0.951**	1.77
LOSS	-0.165	-0.73
ACCSTAND	0.289	1.39
MILLS	0.023	0.89
R ²	0.834	
partial R ²	0.791	
F-test	1088.1***	

Results

EQ 3: structural equation

	Q	MTS	MTBV	ROA	ROE
CGFIRM pred	0.076***	0.097***	0.206**	0.012***	0.018***
LNMV	0.378***	0.512***	0.789*	0.013*	0.042**
LNAGE	-0.208*	-0.693**	-0.049*	-0.013*	-0.031**
SALESGR	0.819*	1.148*	1.548	0.079*	0.016*
LEVERAGE	-0.077***	-0.166***	-0.085	-0.002***	-0.002***
OWNCONC	0.067	-1.057	-1.392	-0.007	-0.018
CAPINT	-1.078**	-2.210**	-3.286***	0.061***	-0.005
LOSS	-0.463***	-0.043*	-0.670*	-0.122**	-0.422***
ACCSTAND	-0.088	-0.205	-0.412	-0.002	-0.023
MILLS	0.501**	0.922**	1.021**	0.021*	0.083**
R ²	0.133	0.091	0.131	0.212	0.193
Hausman	1.76*	1.69*	1.74*	1.86**	1.73*

Results

Comparison

	(1) OLS	(2) SSB	(3) Endog-ty	(4) 3-stage model
Q	0.013	0.033*	0.041*	0.076***
MTS	0.026	0.045**	0.065**	0.097***
MTBV	0.019	0.076*	0.098*	0.206**
ROA	-0.000	0.000	0.001	0.012***
ROE	-0.001	0.002	0.001	0.018***

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Results

Sensitivity tests

- ⊙ Individual countries
- ⊙ Instruments:
either works, but coeff seems smaller
- ⊙ Different method to control for sample selection bias:
gradually cut 10, 20, ... 50% from sample, and observe increasing bias

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Conclusion

Why did we fail less miserably?

- Power:
 - Uses a setting where we expect varying sub-optimal levels of CG—Europe
 - Panel; growing awareness/compliance
- Econometrics:
Investigates the effect of controlling for sample selection bias (Heckman) and endogeneity (2SLS, Heckman) on the coefficient of CG

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Conclusion

Key conclusions

- ⊙ *It does help to have a better sample*
- ⊙ *Controlling for SSB and endogeneity is important: without them, no link seems to exist*
- ⊙ *SSB and endogeneity are roughly equally important—so don't shirk*

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Conclusion

Other conclusions

- ⊙ *CG standards do improve over time*
- ⊙ *Higher protn / Code Qlty: higher indiv standards*
- ⊙ *Interactions of CG:*
 - with Protn: better Protn lowers impact CG
 - with time: later on, impact CG falls

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