

Professionals on Company Boards: Do They Affect the Bottom Line?

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Research question and theory

- **Question:** Under what circumstances do professional-directors make a difference to the company's bottom line?
 - **Answer:** when companies face high environmental dependence due, for example, to government regulation.
- **Resource dependence** approach (Pfeffer & Salancik, 1978)
 - Board size and composition reflect demands placed on firms by external environment.
- **'Upper echelons'** approach (Hambrick & Mason 1984)
 - Organizational outcomes are a reflection of TMT (top management team) characteristics.
- We aim to combine the approaches to understand the environment
→ board composition → performance linkages
 - Whilst dealing with endogeneity and reverse causality

Hypotheses

- *H1. Professionals on company boards are positively associated with company performance.*
- *H2. Firms in heavily regulated industries are more likely to have professionals on their boards than firms in less regulated industries.*
- *H3. The performance impact of professionals on the company board is greater in heavily regulated industries than in less regulated industries.*
- *H4. Accountants and lawyers on the board of directors provide a bigger impact on firm performance if both are present, than if one or the other is present, on the board*

Panel data description

- Listed companies during 2004-2015: 44560 observations
- Data sources:
 - Development Bank of Japan Finance Database
 - Nikkei Needs Corporate Governance Evaluation System (CGES)
 - *TOYO KEIZAI Yakuin Shikiho* (Directory of directors and auditors).
- Ratio of the following among directors and auditors
 - Lawyers
 - Accountants
- We distinguish between directors and auditors who are insiders (executive) and outsiders (non-executive)

Variables

Table 1 Variable names, descriptions, and sources

Variable name	Variable description	Source
<i>roa_0</i>	Return on asset	Nikkei Needs CGES
<i>aveq_0</i>	Tobin's Q calculated by dividing firm value plus liability by total asset	Nikkei Needs CGES
<i>ratio_accountant</i>	Proportion (%) of accountants to the total number of directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_professional2</i>	Proportion of professionals (i.e. lawyers and accountants) to the total number of directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_lawyer_in</i>	Proportion of inside lawyers to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_lawyer_out</i>	Proportion of outside lawyers to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_accountant_in</i>	Proportion of inside accountants to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_accountant_out</i>	Proportion of outside accountants to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_professional2_in</i>	Proportion of inside professionals to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)
<i>ratio_professional2_out</i>	Proportion of outside professionals to directors and auditors	Directory of directors (<i>yakuin shikiho</i>)

Dependent variables

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Independent variables

Figure 1: Proportion of professionals

- The proportion of professionals is increasing.
- Proportion of lawyers increases from 2.56% in 2004 to 5.95% in 2015. That of accountants increases from 1.5% to 4.6%.

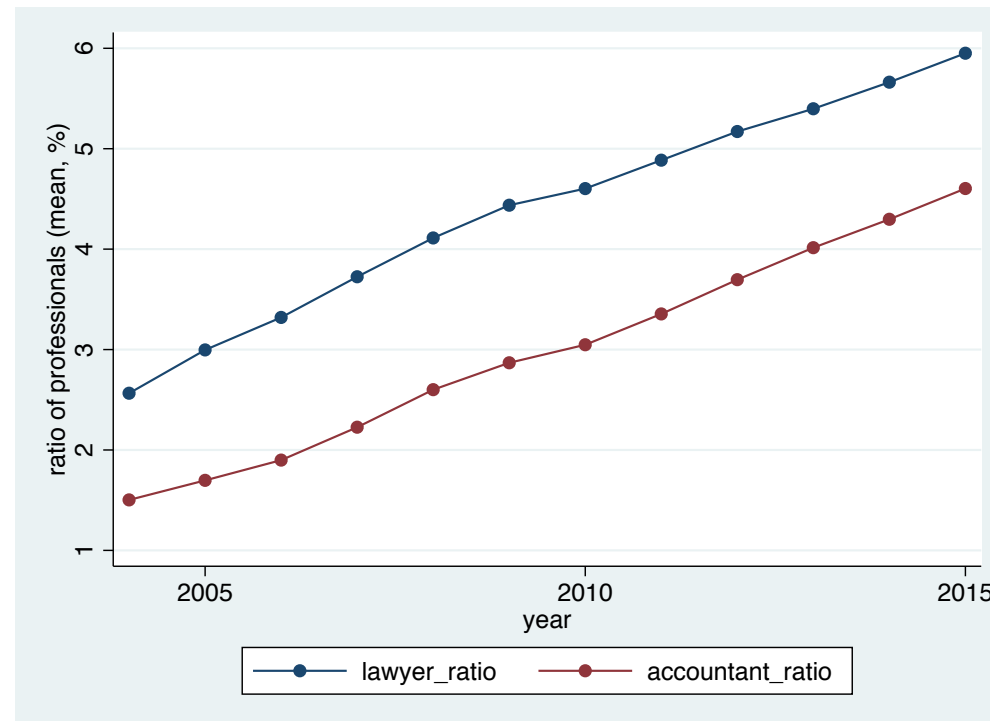


Figure 2: Proportion of company boards with professionals

- The proportion of firms with professionals on board is increasing.
- The proportion of firms with lawyers increases from 27.6% in 2004 to 55% in 2015. The proportion of firms with accountants increases from 13.6% in 2004 to 39.8% in 2015.
- The proportion of firms with both lawyers and accountants also increases from 4.9% in 2004 to 24.5% in 2015.

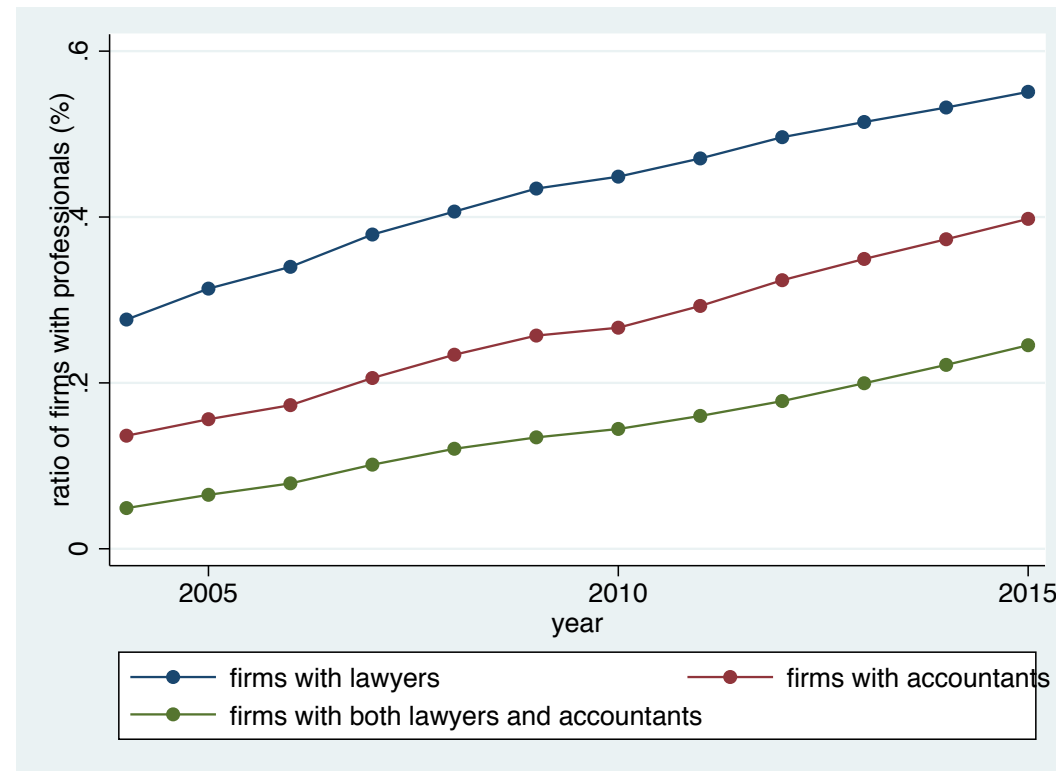


Table 4: The Effect of Professionals on Performance

- Regression (OLS, IV) show that firms with professionals (lawyers plus accountants) are more likely to achieve higher performance.
- We include log of asset, institutional investor ownership ratio, volatility and dummy variable for first section of Tokyo Stock exchange as control variables.
- We use four Instruments; R&D ratio, Advertisement cost ratio and sector means for IP rights, IP litigation.

Dep. Vars	ROA	Tobin's Q	ROA	Tobin's Q
Estimation	OLS	OLS	IV	IV
ratio_professional2	0.0318	0.0024	0.321	0.0822
	[0.0113]***	[0.0012]**	[0.0525]***	[0.0069]***
Sector dummies	Yes	Yes	No	No
Year dummies	Yes	Yes	No	No
<i>N</i>	39,877	39,818	39,877	39,818

Table 5: The Effects of Professionals on Firm Performance in Regulated and Nonregulated Sectors

- Professionals in regulated sectors are more likely to achieve higher performance while those in non-regulated sectors are not.

Dep. Vars	ROA				Tobin's Q			
Estimation	OLS		IV		OLS		IV	
Regulated or not	Regulated	Not	Regulated	Not	Regulated	Not	Regulated	Not
ratio_professional2	0.0711	0.0045	1.3842	0.0864	0.002	0.0039	0.1752	0.0617
	[0.0236]***	[0.0132]	[0.1883]***	[0.0594]	[0.0027]	[0.0014]***	[0.0241]***	[0.0072]***
Sector dummies	Yes	Yes	No	No	Yes	Yes	No	No
Year dummies	Yes	Yes	No	No	Yes	Yes	No	No
<i>N</i>	11,366	16,931	11,366	16,931	11,345	16,907	11,345	16,907

Table 6: The Effects of Different Types of Professionals: Panel A Effects on ROA

- There is positive effects on ROA.
- Coefficients for interaction term are not very significant.

Dep. Vars	ROA					
	OLS	OLS	IV	IV	OLS	OLS
ratio_lawyer	0.026		0.7574		0.0156	
	[0.0148]*		[0.1057]***		[0.0159]	
ratio_accountant		0.0434		0.5437	0.0315	
		[0.0173]**		[0.0846]***	[0.0199]	
Interaction of ratio_lawyer and ratio_accountant					0.002	0.0047
					[0.0025]	[0.0020]**
Sector dummies	Yes	Yes	No	No	Yes	Yes
Year dummies	Yes	Yes	No	No	Yes	Yes
<i>N</i>	39,877	39,877	39,877	39,877	39,877	39,877

Table 6: The Effects of Different Types of Professionals: Panel B Effects on Tobin's Q

- There is positive effects.
- Coefficients for interaction term are not very significant.

Dep. Vars	Tobin's Q					
Estimation	OLS	OLS	IV	IV	OLS	OLS
ratio_lawyer	0.0019		0.1669		0.0001	
	[0.0016]		[0.0150]***		[0.0017]	
ratio_accountant		0.0034		0.1416	0.0011	
		[0.0017]**		[0.0116]***	[0.0019]	
c.ratio_lawyer#c. ratio_accountant					0.0004	0.0005
					[0.0003]	[0.0002]**
Sector dummies	Yes	Yes	No	No	Yes	Yes
Year dummies	Yes	Yes	No	No	Yes	Yes
<i>N</i>	39,818	39,818	39,818	39,818	39,818	39,818

Table 7: The effect of Inside and Outside Professionals

- Inside professionals are more likely to achieve higher ROA .

Dep. Vars	ROA		Tobin's Q	
	OLS	OLS	OLS	OLS
ratio_lawyer_in	0.2103		0.0294	
	[0.1124]*		[0.0133]**	
ratio_lawyer_out	0.0218		0.0013	
	[0.0149]		[0.0016]	
ratio_accountant_in		0.175		0.0041
		[0.0550]***		[0.0052]
ratio_accountant_out		0.0278		0.0033
		[0.0178]		[0.0018]*
<i>N</i>	39,877	39,877	39,818	39,818

Table 8: The Effects of the Number of Professionals

- The results are consistent with previous tables with the ratio of professionals.

Dep. Vars	ROA			Tobin's Q		
Estimation	IV	IV	IV	IV	IV	IV
Professionals	lawyer	accountant	professional2	lawyer	accountant	professional2
n_ad	0.0167 [0.0163]	0.0436 [0.0183]**	0.0422 [0.0185]**	0.0175 [0.0022]***	0.0278 [0.0026]***	0.0273 [0.0026]***
n_lawyer	7.1187 [1.1061]***			1.4682 [0.1454]***		
n_accountant		6.2859 [1.0106]***			1.7007 [0.1455]***	
n_professional2			3.9441 [0.6637]***			1.0581 [0.0942]***
<i>N</i>	39,877	39,877	39,877	39,818	39,818	39,818

Implications and further analyses

- Key findings
 - Performance impact of professionals on company boards is contingent on external environment (**regulated vs less regulated**)
- Implications for policy & practice
 - **Independence** of directors may have a basis in professional license rather than in having an outside (non-executive) status
- Further analyses
 - Investigating accountant-lawyer interaction effects
 - Difference-in-difference analysis to look at the impact of the introduction of a professional-director on performance
 - Lagged independent variable: impact of professional-director in time t-1 or t-2 on performance in t
 - Interviews with lawyers, accountants, and other board members in July 2017