The Internal Capital Markets of Business Groups: Evidence from Intra-Group Loans

Journal of Financial Economics, 2014

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October 31, 2014
BCG Lab Seminar

Overview

- Background
  - Pro and con for business group.
- Research Question
  - To test two different hypothesis of business group.
- Main Result
  - Business group benefits from financing advantage.

Business Group

- Conglomerate, chaebol, *etc*
- Controlled by families.
- Pyramidal ownership structures.
- Able to overcome market frictions.
  - Financing advantage.
- Potential expropriation of minor shareholders.
  - Tunneling problem.
- Lee, Park, and Shin (2009, JBF).

Tunneling

- CFR: controlling shareholder's cash-flow rights.
  - Bertrand, Mehta, and Mullainathan (2002).
- Loan: low CFR $\rightarrow$ high CFR.
  - Jiang, Lee, and Yue (2010).
- Lending firm: ROE or dividends $\downarrow$
  - Minority shareholders are harmed.

Financing Advantage

- Under-developed capital markets.
  - Khanna and Yafeh (2007).
- Receiving firm: investment or ROE $\uparrow$
  - Alleviating financial constraints.
- Leverage: overall $\uparrow$, external $\downarrow$
  - Internal loan is cheap and renegotiable, and maintain controls.

Data

- Chille
  - Politically and economically unique.
  - Ownership and internal transactions are disclosed.
- Data source
  - Financial and accounting data: Economatica.
  - Control structure: hand collection from annual report.
  - Internal transactions: Chile's stock market regulator (SVS).
- Year: 1990 - 2009.

Summary Statistics

Panel A: Pyramid firms	Number of observations	Mean	Standard deviation	25th percentil	Median	75th percentile
Net loans/Total assets	1,187	1.58%	13.29%	−0.83%	0.44%	3.88%
Cash-flow rights	1,243	47.94%	23.08%	30.00%	46.00%	64.00%
PPE / Total assets	1,187	27.08%	29.62%	0.06%	15.53%	50.07%
Ln (Total assets)	1,187	18.83	1.57	17.78	18.75	19.95
EBIT/Total assets	1,154	4.58%	7.47%	−0.23%	1.95%	8.27%
Tobin's Q	1,134	1.27	0.78	0.79	1.08	1.54
ROE	1,216	10.96%	18.16%	5.02%	10.32%	18.16%
Leverage	1,187	25.48%	19.31%	7.34%	24.52%	40.30%
External leverage	1,068	12.79%	13.66%	0.02%	8.19%	22.09%
Extraordinary dividends/ Total assets	1,165	5.48%	7.90%	0.00%	2.93%	6.84%
Fixed investment	1,143	1.10%	5.93%	−0.27%	0.00%	1.32%

Panel B: Pyramid and non-pyramid firms	Means for pyramid firms			
	Providers	Receivers	Non-providers/ Non-receivers	Means for non-pyramid firms
Net loans/Total assets	17.61%	−19.53%	0.39%	2.66%
Cash-flow rights	40.44%	50.26%	49.83%	66.92%
PPE/Total assets	19.77%	39.60%	27.05%	31.94%
Ln (Total assets)	19.28	18.55	18.74	17.64
EBIT/Total assets	3%	7.03%	4.48%	4.03%
Tobin's Q	1.24	1.45	1.24	1.40
ROE	8.71%	16.64%	10.61%	7.67%
Leverage	29.97%	40.68%	21.01%	34.47%
External leverage	18.62%	7.74%	11.89%	15.15%
Extraordinary dividends/ Total assets	4.55%	7.89%	5.31%	4.47%
Fixed investment	−0.04%	3.03%	1.09%	1.03%

Comparison of Providers and Receivers

Panel A: Frequency of providers and receivers

	Provider	Receiver
All firms	20.7%	12.2%
In position 1 of pyramid	22.0%	6.8%
In position 2 of pyramid	16.2%	14.4%
In position 3 of pyramid	34.8%	12.9%
In position 4 or more of pyramid	29.5%	34.6%

Panel B: Average cash-flow rights of controlling shareholder

	Provider	Receiver	*t*-Test
All firms	0.40	0.50	***
In position 1 of pyramid	0.62	0.62	
In position 2 of pyramid	0.40	0.52	***
In position 3 of pyramid	0.26	0.54	***
In position 4 or more of pyramid	0.08	0.31	***

Multivariate Probit Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Provider			Receiver			Receiver (0), Other (1), Provider (2)		
	Probit			Probit			Ordered probit		
Lagged cash-flow rights	−1.286***		−1.202***	0.062		0.162	−0.765***		−0.828***
	(0.209)		(0.219)	(0.224)		(0.260)	(0.174)		(0.195)
Lagged PPE/Total assets		−0.563***	−0.608***		0.634***	0.627***		−0.579***	−0.602***
		(0.182)	(0.181)		(0.191)	(0.190)		(0.138)	(0.140)
Lagged Ln(Total assets)		0.115***	0.086***		−0.086**	−0.081**		0.106***	0.084***
		(0.031)	(0.031)		(0.034)	(0.035)		(0.025)	(0.025)
Lagged EBIT/Total assets		0.007	−0.572		0.455	0.553		−0.271	−0.683
		(0.961)	(0.980)		(0.945)	(0.953)		(0.773)	(0.786)
Lagged Tobin's *Q*		0.091	0.076		0.152**	0.153**		−0.014	−0.026
		(0.070)	(0.070)		(0.072)	(0.072)		(0.064)	(0.064)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,195	1,093	1,093	1,157	1,069	1,069	1,195	1,093	1,093

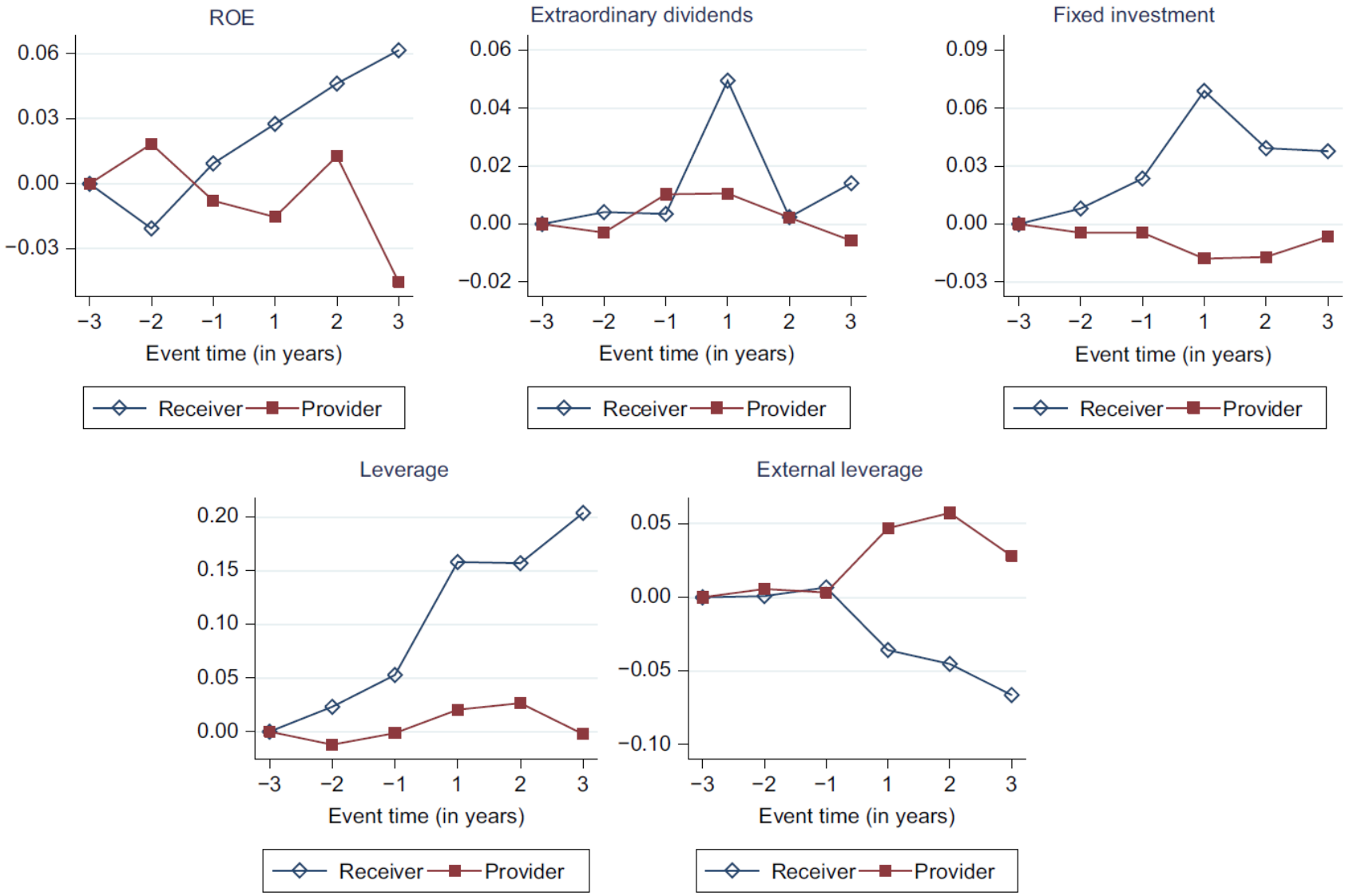
Characteristics of Firm Pairs

	Firm-pairs:			
	All	Without loans	With loans	*t*-Test
Loans/Total assets	0.007	–	0.040	–
abs[ΔCash-flow rights]	0.241	0.264	0.127	***
abs[ΔPPE/Total assets]	0.290	0.298	0.249	**
abs[ΔLn (Total assets)]	1.609	1.693	1.187	***
abs[ΔEBIT/Total assets]	0.062	0.062	0.063	
abs[ΔTobin's Q]	0.688	0.744	0.418	***
Same industry	0.154	0.092	0.458	***
Integration	0.041	0.034	0.078	***
abs[ΔHerfindahl index]	0.310	0.333	0.194	***
Holding company involvement	0.454	0.469	0.378	**

Probit Analysis of Lending Relationship

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable: Lending relationship								
abs[ΔCash-flow rights]	−3.2267***								−2.8169***
	(0.3072)								(0.4136)
abs[ΔPPE /Total assets]		−0.3618**							−0.5184***
		(0.1564)							(0.1999)
abs[ΔLn (Total assets)]			−0.2106***						−0.2601***
			(0.0318)						(0.0446)
abs[ΔEBIT/Total assets]				0.1670					0.4625
				(0.6109)					(1.0226)
abs[ΔTobin's Q]					−0.7086***				−0.6007***
					(0.1073)				(0.1359)
Same industry						1.2556***			1.3376***
						(0.1014)			(0.1505)
Integration							2.7703***		2.2484***
							(0.4128)		(0.5767)
abs[ΔHerfindahl index]								−1.3984***	−0.2656
								(0.2450)	(0.3022)
Holding company involvement								0.2101**	1.1248***
								(0.0967)	(0.1608)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,379	1,373	1,373	1,361	1,269	1,405	1,405	1,376	1,251

Event Study Results



Conclusion

- Results are consistent with the financing advantage hypothesis.
  - Less supportive of tunneling hypothesis.
- Might be consequence of Chile's strong regulation.
  - Similar to Lee, Park, and Shin's (2009) arguments.
- Business group can benefit the economy.
  - If appropriate regulation is given.