How industry vertical integration and country legal and financial development affect the prevalence of partial acquisitions

Niron Hashai, Hebrew University
(with Sharon Belenzon, Duke University)

EM firms acquire 50% less equity in their targets than DM firms. WHY?

Table 1 – Acquisitions by country and shares acquired

Acquirer Country	Average Final Stake	100% Acquisitions	Number of Acquisitions	Average Deal Value
KOREA	47.91	23%	3,442	68,917
Russia	56.89	28%	18,242	114,131
JAPAN	70.12	44%	9,299	116,120
INDIA	72.09	42%	5,033	38,814
AUSTRALIA	73.71	57%	8,842	108,995
CHINA	74.06	45%	8,743	62,602
ITALY	75.64	39%	6,937	218,543
SWITZERLAND	77.41	45%	5,169	371,573
SWEDEN	82.70	53%	7,128	65,716
GERMANY	83.85	41%	13,807	355,408
UNITED KINGDOM	85.28	59%	38,454	126,344
FRANCE	87.61	51%	14,453	312,498
SPAIN	87.79	58%	8,834	182,935
CANADA	90.81	64%	12,398	104,581
NETHERLANDS	91.84	68%	10,991	359,361
FINLAND	93.25	78%	9,966	102,923
UNITED STATES	96.42	76%	74,946	310,995

Research question

- Why acquirers from DM buy higher equity stakes than acquirers from EM?
  - What is the role of country protection of minority owners and financial development?
  - What is the role of external input markets?
  - What is the role of post-acquisition integration strategies? – The causal effect of equity stakes on target firm survival and how it varies by EM and DM acquirers

- Implications for strategy: Does the higher % of equity acquired by DM firms reflect a positive/negative competitive advantage relative to EM firms?

Possible explanations

1. Property rights: acquiring firms in more financially developed countries buy the higher optimal level of equity
   - Minority owners would be less prevalent as country financial development improves, especially when input markets are underdeveloped
   - Higher post-acquisition performance for target firms due to higher incentives to invest (targets are more likely to survive)
2. TCE (1): higher minority protection raises transaction costs
   - Each transaction has to be contractual (higher contractual costs, bargaining, etc.)
   - Costs are especially high in underdeveloped input markets
3. TCE (2): higher minority protection reduces transaction costs
   - Contracts are more enforceable, and thus more widely used
   - The effect of greater protection would be especially strong in weaker market environments (substitution effect)

Diversified *vs.* specialized acquisitions

- Lower financial development may lead firms to diversify risk through unrelated acquisitions
- No need for post-acquisition integration/resource-sharing
- Control for industry pair input/output relationship

Data (1): Acquisition data for 1997-2012 from Zephyr

1. **Mergers and Acquisition from Zephyr**
   - 370,000 mergers and acquisition deals covering 38 countries
   - Information on % acquired, industry and country
   - Match to Orbis to get information on ownership structure, post-merger performance and integration, and financial information
2. **Financial and ownership data from Orbis: industry vertical integration**
   - Use ownership and financial information to construct industry-pair level of vertical integration
   - For each firm, use information on ultimate owners to determine the share of firms (sales) of an industry pair that are owned by the same owner of total firms (sales) in the two industries
3. **Country data**
   - World-bank financial development (e.g., stock market capitalization over GDP)
   - Minority shareholder protection (Djankov et al., 2008)
   - Low correlation between target country minority protection and acquiring country financial development (0.24, insignificant)
4. **Industry input/output matrix**

Minority owners are more prevalent in countries with lower financial development and higher minority protection, especially in underdeveloped input markets

	Dependent variable: Dummy for Partial Acquisition							
	(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	All	All	All	All	Kept Targets	Dissolved Targets	Low Financial Development	High Financial Development
Industry Vertical Integration × Minority Shareholder Protection		0.214**	0.219**	0.206**	0.277**	0.023	0.096**	0.356**
		(0.008)	(0.008)	(0.008)	(0.010)	(0.026)	(0.010)	(0.018)
Industry Vertical Integration × Stock Market Capitalization			-0.071**	-0.045**	-0.070**	-0.093		
			(0.015)	(0.015)	(0.018)	(0.057)		
Industry Vertical Integration	0.186**	-0.625**	-0.549**	-0.502**	-0.573**	-0.129	-0.161**	-1.197**
	(0.014)	(0.033)	(0.036)	(0.035)	(0.042)	(0.112)	(0.042)	(0.063)
Stock Market Capitalization			-0.064**					
			(0.002)					
Minority Shareholder Protection		0.022**	0.029**				0.001	0.034**
		(0.001)	(0.001)				(0.001)	(0.002)
Acquirer industry fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target industry fixed-effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dear completion year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies (acquirer)	No	No	No	Yes	No	No	No	No
R-squared	0.353	0.360	0.365	0.392	0.372	0.407	0.338	0.452
Number of observations	370,338	370,338	370,338	370,338	247,865	122,473	222,352	147,986

Our findings are consistent with property rights view and TCE (2)

- Country variation in % of equity acquired
  - 76% of acquisitions by American firms are 100%, as compared to 39% for Italian, 41% for German, and 23% for Korean firms
- Strong relationship between partial acquisitions and country legal and financial institutions
  - Financial development is negatively related to the prevalence of minority owners, especially when external input markets are underdeveloped (high industry VI)
  - Consistent with property rights view
- Higher minority protection is associated with more minority ownership
  - Consistent with TCE (2) – minority protection makes contracts more enforceable, which leads to more partial acquisitions, especially when market are underdeveloped – an institutional void perspective
  - Rejects TCE (1) – minority protection as a source of market friction
- BUT – Property rights and TCE (2) predict better post-acquisition performance for target firms due to higher incentives to invest in the target. What is the causal effect of equity share stakes on post-acquisition target firm performance?

Data (2): Restrictions on Foreign Ownership

<table>
<tr><th>Country</th><th>Main data sources</th><th>Examples of industries with high restriction</th></tr>
<tr><td>China</td><td>"Foreign investment guidance catalogue" (first issued in 1995 and revised versions were issued in 1997, 2002, 2004, 2007 and 2011)</td><td>Automobile manufacture; Air Transportation; Water Transportation; Television- programming and broadcasting; Telecom; Publication printing; Mining; Insurance (51%)</td></tr>
<tr><td rowspan="2">Indonesia</td><td>PRESIDENTIAL REGULATION OF THE REPUBLIC OF INDONESIA NUMBER 77 OF 2007.</td><td rowspan="2">Air Transportation; Water Transportation; Insurance; Mining; Telecom; Insurance; Finance; Agriculture(95%); Energy(95%).</td></tr>
<tr><td>PRESIDENTIAL REGULATION OF THE REPUBLIC OF INDONESIA NUMBER: 36 OF 2010</td></tr>
<tr><td rowspan="6">Thailand</td><td>Press Act, B.E. 2484 (1941)</td><td rowspan="6">Publishing (49%); Radio&Television broadcasting(49%); Mining(49%); Telecom(49%);</td></tr>
<tr><td>Life Insurance Act, B.E. 2535 (1992)</td></tr>
<tr><td>Insurance Against Loss Act, B.E. 2535 (1992)</td></tr>
<tr><td>The Foreign Business Act B.E.2542 (1999)</td></tr>
<tr><td>Telecommunication Act B.E. 2544 (2001)</td></tr>
<tr><td>Financial Institution Act B.E. 2551(2008)</td></tr>
<tr><td rowspan="2">India</td><td>Foreign Exchange Management (Transfer or issue of Security by a Person Resident outside India) Regulations, 2000</td><td rowspan="2">Air Transportation(74%); Finance; Telecom(74%); Mining;</td></tr>
<tr><td>Press Notes (PN)- changes in sectorial policy/sectorial equity cap over the years are notified through Press Notes (PN)</td></tr>
<tr><td rowspan="2">Brazil</td><td>Federal Constitution(1988) and several Constitutional amendment</td><td rowspan="2">Television broadcasting ; Telecom(49%); Newspaper .</td></tr>
<tr><td>Specific laws that restrict foreign ownership within some sectors</td></tr>
<tr><td rowspan="4">Russia</td><td>Air Code of the Russian Federation No. 60-FZ (1997)</td><td rowspan="4">Television- programming and broadcasting(50%); Air Transportation; Insurance.</td></tr>
<tr><td>Law of the Russian Federation On Foreign Investment (Federal Law No. 160-FZ of 9 July 1999)</td></tr>
<tr><td>Strategic Investments Law (Federal Law No. 57-FZ of 29 April 2008)</td></tr>
<tr><td>Federal Law No. 322-FZ (2011)</td></tr>
<tr><td rowspan="7">Turkey</td><td>Foreign Direct Investment Law (No. 4875 of 2003)</td><td rowspan="7">Air Transportation; Radio& Television Broadcasting(50%)</td></tr>
<tr><td>Public Law on Turkish Civil Aviation (No. 2920 of 1983)</td></tr>
<tr><td>Regulation on Commercial Air Transport Operations (No. SHY-6A of 1984 amended by several Regulation later on)</td></tr>
<tr><td>Regulation on Airport Ground handling (SHY-22), Article 7, Amendment: RG-10/04/1997-22960</td></tr>
<tr><td>Article 29 of the Law on Establishment and Broadcasting of Radios and Television Channels (Law No. 3984) published in the Official Gazette dated April 20, 1994</td></tr>
<tr><td>Law No. 6112 of February 15, 2011 on the Establishment of Radio and Television Enterprises and their Media Services (TR053)</td></tr>
<tr><td>Law on Privatization Practices, No 4046, 1994 - Article 37</td></tr>
<tr><td rowspan="5">Vietnam</td><td>Decree 121/2008/ND-CP of the Government dated December 3, 2008 on investment in postal and telecommunication</td><td rowspan="5">Air Transportation; Water Transportation; Mining; Rail Transport Services; Telecom(65%)</td></tr>
<tr><td>Articles 3 and 20 of Decree No. 48/2000/ND-CP of September 12, 2000, detailing the Petroleum Law</td></tr>
<tr><td>Decree No. 76/2007/ND-CP dated May 9, 2007 on air businesses</td></tr>
<tr><td>Vietnam's WTO commitment 2006</td></tr>
<tr><td>LAW ON CREDIT INSTITUTIONS No. 47/2010/QH12</td></tr>
<tr><td>Malaysia</td><td>Foreign Investment Committee (FIC) guidelines on mergers and acquisitions, 2003 and its amendments</td><td>Telecom(70%); Insurance(70%); Finance(70%).</td></tr>
<tr><td rowspan="2">Philippines</td><td>1987 CONSTITUTION OF THE REPUBLIC OF THE PHILIPPINES</td><td rowspan="2">Air Transportation; Finance(60%).</td></tr>
<tr><td>Regular Foreign Investment Negative List - Third to Ninth addition</td></tr>
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1. 50,358 acquisitions of target companies in those 10 countries with industry restrictions on foreign ownership (Russia 42%, China 25%). Average: 48%
2. 86% of acquirers are from EM (Russia 40%, China 19%, India 10%, Brazil 3%), and the remaining are from DM countries (US 5%)
3. Identification strategy: instrument for shares acquired using restrictions on foreign ownership for EM and DM acquirers

The causal effect of % acquired on survivals reveals distinct post-acquisition integration strategies for EM and DM firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Dependent variable:	*Dummy for Survival*, OLS			*Acquired Stakes*	*Dummy for Survival*, IV		
VARIABLES	All	EM Acquirers	DM Acquirers	All	All	EM Acquirers	DM Acquirers
Acquired Stakes	0.001**	0.001**	0.001**		0.032	0.008**	-0.012**
	(0.0001)	(0.0001)	(0.0001)		(0.027)	(0.001)	(0.003)
ln(*Stakes allowed*)				-0.308**			
				(0.107)			
R-squared	0.291	0.304	0.044	0.0621	-	-	-
Observations	50,358	43,695	6,663	50,358	50,358	43,695	6,663

- Target survival: target is alive 5-years post acquisition year. 64% of targets survive
- OLS estimates are biased: % equity acquired correlated with target firm quality which can also affects survival

10% increase in acquired stakes raises survival likelihood by 1%

10% increase in stakes allowed lowers acquired stakes by 14%

10% **increase** in acquired stakes **raises** survival by 8% for EM acquirers, and **lowers** survival by 12% for DM acquirers

Findings and next steps

- Results are consistent with property rights and TCE (2) views
  - Partial acquisitions are more common in countries with higher financial development and stronger protection of minority owners
- Property rights and TCE (2) predict better post-acquisition target firm performance as % equity acquired increase
- But, our causal analysis reveals that target firms are less likely to survive as % equity stakes increase for DM acquirers
  - Inconsistent with the property rights mechanism of higher incentives to invest in target firms as % ownership increases
- Alternative mechanism: post-acquisition integration strategies by DM (dissolve/fully integrate) *vs.* EM (keep independent)
- Next steps:
  - Expand the causal analysis to DM targets
  - Add target controls