



White Knights or Machiavellians? Understanding the motivation for reverse takeovers in Singapore and Thailand

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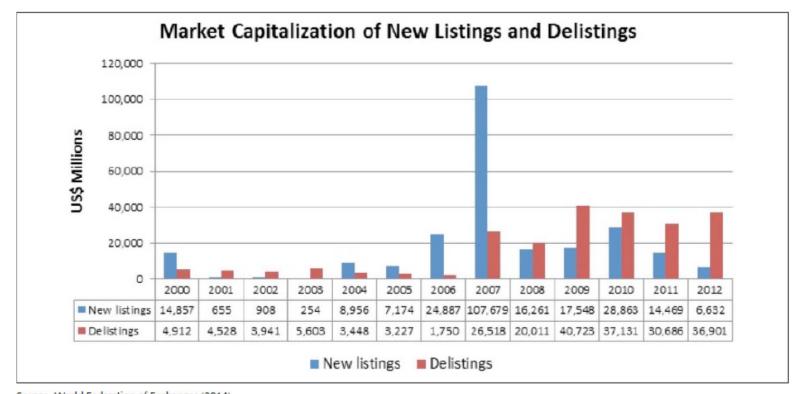
SEC Working Paper Forum 2017





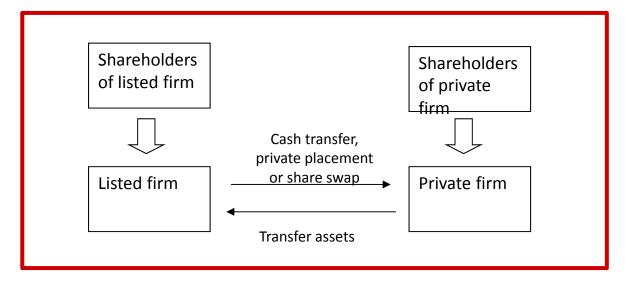
## Life after IPOs

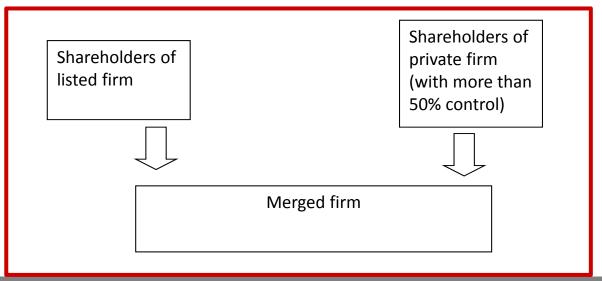
- Pour and Lasfer (Journal of Banking and Finance, 2013): Using UK delisted firm samples (1995-2009), delisting occur about four years after IPO on London's Alternative Investment Market (AIM).
- Park, park, Shiroshita, and Sun, 2014 EFA Proceeding: Wealth effect of involuntary delisting between 2002-2012 in Japan is -70%. (TSE, Osaka, etc.)
- Saengow (MIF, Thammsat, 2015) Using IPOs between 2002-2005, 10 out of 93 firms posted NC status. The probability of becoming delisted increases considerably after year 6 of listing.





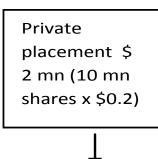
## Illustration of reverse takeover







# Controlling structure in reverse takeovers



	Value \$ mn	No of shares	% Own
Private firm shareholders	10	50	79%
Private placement	2	10	16%
Public firm shareholders	0.6	3	5%
	12.6	63	100%

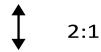
Merged firm

Combined value \$12.6 mn (63 mn shares x \$0.2



1:1

Private firm value \$ 10 mn (50 mn shares × \$0.2)



Public firm value \$ 0.6 mn (3 mn new shares x \$0.2)



## Many facets of RTOs



#### **FINANCE**

f

in

g+

 $\checkmark$ 

#### Reverse Mergers: Cross-border Regulation or Cold War with China?

Asia-Pacific, China, North America Feb 12, 2013 In the last several years, many small- to medium-sized Chinese companies found a way to trade on the New York Stock Exchange and NASDAQ through an obscure transaction called a reverse merger. Through these transactions, both U.S. and foreign companies can gain access to U.S. capital markets by merging with a U.S.-listed "shell" company without going through a more involved initial public offering (IPO). However, according to U.S. regulators, shareholders' attorneys and others, the financial statements of many Chinese reverse-merger firms weren't altogether legitimate. James Doty, chairman of the U.S. Public Company Accounting Oversight Board (PCAOB), oversees auditors of U.S.-listed companies and has been actively negotiating with Chinese





## ASX and availability of shells

#### SHELL BE RIGHT

Recent and proposed back-door listings			Proposed		Previous
New entity	Ticker	Activity	raising \$m	Shell	activity
LionHub Group	LHB	Chinese property	\$7-12	Arasor	Electro- optical
Digital CC	DCC	Bitcoins	\$9	Macro Energy	Oil exploration
Sandon Capital	SDO	Listed investment company	\$35	Global Mining Invests	Resources investment
Reproductive Health Sciences	AOM	IVF	\$2.4	AO Energy	Minerals exploration
Ziptel	SKL	SIM cards	\$3	Skywards	Nickel exploration
Ecopropp	CKK	Fracking proppants	\$3	Coretrack	Drilling
Roxy Casino	CAQ	Cambodian casinos	\$0	Cell aquaculture	Barramundi farming
YPB	AUV	Anti-counterfeiting	\$3-6	AUV Enterprises	Sapphire exploration
Dairy Farm Investments	APA	Dairy farming	\$6-10	APA Fin Services	Portfolio administration
Future Generation Investment Fund	AIX	Charity listed investment company	\$100-200	Aust Infra Fund	Airport ownership

Source: The Australian Business

Review: July 2014

#### Why do a reverse takeover?

January 23, 2014

For technology firm Bulletproof, it made perfect sense to use a mining company's shell to list rather than do an IPO.



It is possibly the 21st century Australian equivalent of swords to ploughshares: a technology company doing a reverse takeover of a mining company.

Caitlin Fitzsimmons

While there has been a lot of focus on initial public offerings in the technology space lately, with high-profile floats such as Matt Barrie's Freelancer.com, the founders of Bulletproof Networks opted to list on the Australian Securities Exchange via a reverse takeover of mining company Spencer Resources instead.

The company is now on the ASX with the ticker BPF, opening on Thursday at 50c and falling to 41c by 11am.



Read later

Anthony Woodward and his co-founders will own about 73 per cent of Bulletproof Networks after a reverse takeover.



## TSE vs OSE: Strategic consolidation





# Importance of study on RTOs

- Regulators need to strike balance between investor protection without delineating potential firms to enter the exchanges.
- Anecdotal evidence suggests firms that choose to list via RTOs (back-door listing) are low quality firms and that these transactions can be associated with pump-and-dump schemes.
- Evaluation on the merits of RTOs should be based on different regulations on each exchange (Vermeulen, 2014)



# Research questions posed

- What are the characteristics of firms involved in RTO transactions?
- What is the investors' experience in RTO transactions over short and long-term periods?
- What is the financial accounting performance of the merged entity?



# Agenda

- Existing research on RTOs
- RTO rules on Singapore and Thai Exchanges
- Data source and empirical methods
- RTO characteristics and empirical results
- Conclusions and policy discussion



### What we know and don't know about RTOs?

### **Existing literature**

- Signaling via listing mode
  - Gleason et al. (2005) Adjei,
     Cyree, and Walker (2005) และ
     Floros and Shastri (2009)
     Carpentier, Cumming, and
     Suret (2009)
- Legal and regulatory critique
  - Sjostrom, 2008,
     Winyuhuttakit (2011),
     Pakov (2006), and
     Vermeulen, 2014

### **Further explorations**

- RTOs must be evaluated based on different regulatory environments
- If the regulations on RTO listing are similar to IPOs then why list via RTOs?



## RTO rules in Singapore and Thailand

Method	Computation
Net tangible asset (NTA)	Equity increase x NTA of listed firm  NTA of listed firm
Net income	Equity increase x Net income of listed firm  Net income of listed firm
Total considerations	Total consideration paid to listed firm  Total assets of listed firm
Equity value	New equity increase  Total equity of listed firm
Proven and probable reserves*	Proven and probable reserve to be disposed  Total group proven and probable reserves

Source: SGX rule book Chapter 10 section 1006 and SEC circular 20/2551

\*Applies to SGX rule book Chapter 10 section 1006



## IPOs vs RTOs: Process

Table 1 IPOs vs RTOs: Process

IPO	RTO				
(1) Prelisting restructuring and due diligence of	(1) Negotiation and due diligence between the				
firm in order to comply to listing criteria and	listed firm and the private (outsider) firm leading				
ready firm for public disclosure.	to an MOU or sale and purchase agreement				
	(SPA).				
(2) Preparation of prospectus and application	(2) Preparation of circulars to shareholders and				
submission to SEC and SET. The prospectus	for stock exchange approval. Circulars contain				
contains disclosures required regarding business	description of the transactions, financial				
and firm.	information of target group and merged group.				
(3) Public exposure: Road shows, nomination of	(3) Obtain approval from extraordinary				
underwriter, and share subscription and	shareholder meeting (EGM).				
distribution.					
(4) Trading commences	(4) Disposal of assets of listed firms (if				
	necessary) and mandatory tender offer.				
	Acquisition completed and trading of merged				
	group begins.				



### Data source and overview

- RTO cases in Singapore and Thailand 2007-2015
- List of RTO cases from SGX website (under "Catalodge" submenu) and Thai SEC websites
- Listed firm circulars and announcements http://infopub.sgx.com and <a href="https://www.set.or.th/set">https://www.set.or.th/set</a>
- IFA reports
- Key event dates: MOU and EGM



# Measuring short-term response to RTO announcements

The sample consists of 47 firms on Singapore and Thai exchanges. The table reports cumulative market model abnormal return for RTO announcements (MOU date). Define abnormal return as  $AR_{it} = R_{it} - E(R_{it} \mid \Omega_t)$  where  $AR_{it}$ ,  $R_{it}$ , and  $E(R_{it} \mid \Omega_t)$  are the abnormal, actual, and normal returns respectively. The conditioning information,  $\Omega_t$  is the market return. Cumulative abnormal return between days  $\tau_1$  and  $\tau_2$  is derived from  $CAR_{it} = \sum_{t=T-k}^{T+k} AR_{it}$ . The standard cumulative abnormal return

is  $SCAR_i(\tau_1, \tau_2) = \frac{CAR_i(\tau_1, \tau_2)}{\sigma_i(\tau_1, \tau_2)}$ . T-test statistics are tests for the null that CAR and SCAR are equal to

zero. P-values relating tests of group mean and median differences are in italics.



# Measuring, benchmarking, and bootstrapping BHARs

• T1- T2 is trading days, the conditioning information  $\Omega$  is market return

$$BHAR_{i(T_1,T_2)} = \prod_{t=T_1}^{T_2} (1+R_{it}) - \prod_{t=T_1}^{T_2} (1+E[R_{it} \mid \Omega_{it}]),$$

- Benchmark portfolios (control samples) selected by first eliminating top third market capitalization firms from Singapore and Thai exchanges.
- Next, firms sorted into decile groups by price and top decile price range is eliminated.
- Assume event firm abnormal returns are independent as RTO occurrence is random and spread out.
- Assign evaluation date to a randomly selected control group firms, then compute mean BHAR for the pseudo sample resulting in one pseudo sample mean.
- Repeat previous step to generate 1,000 BHAR means and bootstrap distribution under null.



## Findings: RTO Characteristics

- 56% RTO transactions are on Singapore secondary board whereas around 47% are on Thai secondary board.
- RTO transactions are evenly split between distressed vs nondistressed firms and within industry vs between industry transactions.
- Premiums received on new consolidated share price of distressed firms are 36% compared to non-distressed of 9.3%, but this is primarily due to substantially lower VWAP of distressed group.
- Days from MOU to EGM runs around three months to one year.
- Up to 31% and 67% of RTO firms in Singapore and Thailand use mixed mode payment involving combination of share swap with cash/warrants is indicative of incoming firm's concern of valuation uncertainty and potential bargaining power they have on incumbent firms.
- Singapore RTOs involved with international firms.



# Characteristics of sample

			Singapore				Thailand	
			Non-	P-value			Non-	P-value
Characteristics:	All	Distress	distress	diff	All	Distress	distress	diff
Main board	14	9	5		8	6	2	
% Main Board	44%	28%	16%		53%	40%	13%	
Secondary	18	13	5		7	4	3	
% Secondary	56%	41%	16%		47%	27%	20%	
Same industry	14	7	7		8	3	5	
Different industry	18	15	3		7	5	2	
% Different industry	56%	47%	9%		47%	33%	13%	
Deal value (LCY mn)	279	324	151	0.124	2,701	1,185	4,349	0.063
	(141)	(150)	(35.6)	0.086	(1,725)	(763)	(3,187)	0.032
Relative size	12.17	14.6	5.61	0.213	7.36	7.98	5.48	0.390
	(1.96)	(2.49)	(0.58)	0.079	(6.15)	(8.55)	(2.97)	0.224
Premium*	42%	35.7%	9.3%	0.517	149%	13.8%	-15.5%	0.325
	(-6.9%)	(11.2%)	(-14.1%)	0.432	(-7.1%)	(-2.1%)	(-12.7%)	0.245
VWAP (LCY)	0.12	0.08	0.19	0.017	7.86	3.69	9.66	0.396
	(0.09)	(0.05)	(0.15)	0.0008	(1.87)	(1.75)	(2.00)	0.648



# Characteristics of sample

-			Singapore				Thailand	-/
			Non-	P-value		1224 31	Non-	P-value
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	(0.09)	(0.05)	(0.15)	0.0008	(1.87)	(1.75)	(2.00)	0.648
Days from MOU to								
EGM		260	222			79	65	
Day from MOU to								
completion		321	371			217	88	
Stock swap	22	15	7		5	4	1	
%Stock swap	69%	47%	22%		33%	27%	7%	
Stock swap with								
cash/warrants	10	7	3		10	4	6	
%Stock swap with								
cash/warrants	31%	22%	9%		67%	27%	40%	
Foreign counter-								
party	18	15	3		None	None	None	
% Foreign	56%	47%	9%					
%EPS growth 3 year								
pre-MOU	111%	-153.1%	-83.6%	0.542	-176%	-237.3%	-154.3%	0.463
						(-		
	(-79.7%)	(-86.1%)	(-52.4%)	0.075	(-92%)	232.5%)	(-91.7%)	0.648
%Rev growth 3 year								
pre-MOU	-7.4%	-11.6%	1.2%	0.433	-33.1%	-46.5%	-16.2%	0.171
						(-		
	(-14.19%)	(-31.5%)	(0.03%)	0.086	(-30.5%)	30.5%)	(-17.4%)	0.196



# Findings: Investor's experience

- Market gradually responds positively to MOU announcements. CAR drifts up 29% over course of 20 days before and after.
- BHAR of RTO samples are higher than controlled sample.
- BHAR of non-distressed RTOs are higher than distressed RTOs.
- BHAR is decreasing in relative deal size and future changes in book value to equity.
- Liquidity shows improvement post announcements as indicative in lowered spreads, turnover doubling in Singapore RTOs and increasing 64% in Thai RTOs 12 months.



# Empirical methods and results: Market gradually learns about forthcoming MOU and MOU is event date carrying most information

#### Figure 1 Plot of cumulative market model abnormal return for RTO announcements (MOU date)

This figure plots the cumulative market model abnormal return for RTO announcements (MOU date). Define abnormal return as  $AR_{it} = R_{it} - E(R_{it} \mid \Omega_t)$  where  $AR_{it}$ ,  $R_{it}$ , and  $E(R_{it} \mid \Omega_t)$  are the abnormal, actual, and normal returns respectively. The conditioning information,  $\Omega_t$  is the market return.

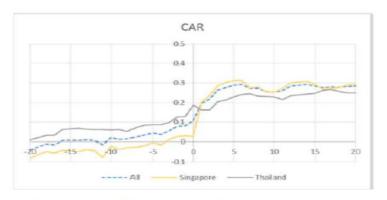


Figure 1 a All sample and by market

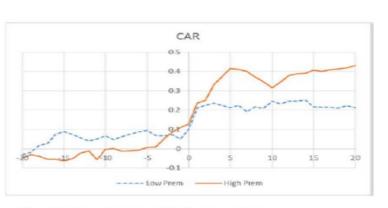


Figure 1 c Low vs high premium

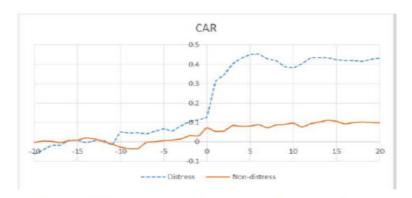


Figure 1 b Distressed vs non-distressed

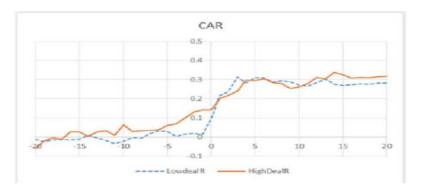


Figure 1 d Low vs high relative deal size



# Empirical methods and results: Formal tests of CAR and SCAR with varying event windows around MOU showing distressed vs non-distressed performance significantly different.

	Event window	CAR	t-CAR	SCAR	t-SCAR
All	[-10, 10]	0.204	3.31***	1.402	2.46**
	[-20, 20]	0.218	2.82***	1.119	2.63**
	[-10, 0]	0.095	2.37**	0.731	2.59**
	[-20, 0]	0.085	1.55	0.589	2.44**
	[0, 10]	0.132	2.22**	1.328	2.15**
	[0, 20]	0.156	2.74**	1.063	2.44**
Distress	[-10, 10]	0.288	2.99***	1.796	1.98*
Non distress	[-10, 10]	0.084	1.81*	0.796	2.11*
Distress-Non-distress	[-10, 10]	0.204		1.00	
Diff p-value		0.0673		0.3194	
Diff p-value Wilcoxon		0.0990	7	0.3370	
Low relative deal size	[-10, 10]	0.207	2.40**	1.731	1.68*
High relative deal size	[-10, 10]	0.201	2.22**	1.092	1.94*
High-Low		-0.006		-0.64	
Diff p-value		0.5604		0.5918	
Diff value Wilcoxon		0.5677		0.5522	
Low Premium	[-10, 10]	0.135	1.75*	0.769	2.31**
High Premium	[-10, 10]	0.306	3.00***	2.19	1.97**
High-Low		0.171		1.42	
Diff p-value		0.1798		0.2369	
Diff value Wilcoxon		0.2311		0.3391	



# Empirical methods and results: Non-distressed RTO firms outperforms control sample

		Panel A		
	RTO sample	Control Sample	Two-sided	Bootstrap
	BHAR	BHAR	p-values	p-value
Mean	0.006	-0.008	0.1992	< 0.0001
Median	-0.176	-0.189	(0.2516)	
SD	0.816	0.758		
Skewness	7.380	9.580		
		Panel B		
			Two-sided	Bootstrap
Distressed	BHR	BHAR	p-value	p-value
Mean	0.0127	-0.0601	0.6228	0.366152
Median	-0.1269	-0.242	(0.7245)	
SD	0.9900	1.025		
Skewness	2.157	2.895		
Non-distressed				
	BHR	BHAR		
Mean	0.1878	0.0840	0.0538	< 0.0001
Median	-0.0596	-0.0521	(0.0731)	
SD	0.6929	0.4849		
Skewness	1.643	2.2335		



### Empirical results: Determinants of BHARs

#### Table 6 Determinants of BHARs

This table reports the coefficients from three OLS models with white corrected t-statistics. The dependent variable is BHARs of 47 RTO sample firms from Singapore and Thai exchanges. Relative deal size is computed from deal size divided by listed firms' assets in pre-MOU year. Premium is preconsolidation issue price relative to 3-month pre-MOU value weighted average unadjusted closing price (VWAP) of listed firm. Percentage changes in return on assets (ROA) and net profit margin (NPM) is iss change over one year from MOU. Turnover is computed from average annual turnover (number of shares traded/total number of shares outstanding).

	Model 1		Mod	lel 2	Mod	Model 3	
	Estimate	t-value	Estimate	t-value	Estimate	t-value	
Relative deal size	-0.0239	-2.63**	-0.0203	-2.65***	-0.0209	-2.94***	
Premium	-0.0387	-0.64	-0.0352	-0.52	0.0159	0.22	
%Chg. Book Equity	-0.0049	-6.03***	-0.0048	-3.47***	-0.0037	-2.49**	
%Chg. ROA			-0.0242	-0.27	-0.1001	-0.91	
%Chg. NPM			-0.0326	-0.29	0.0928	0.51	
InTurnover					0.1283	2.06**	
Distress					0.0706	0.31	
AdjRsq	0.1892		0.1429		0.2452		
Pr > F	0.0376		0.1203		0.0598		

Note: \*\*, and \*\*\* denotes statistical significance at 5% and 1% confidence.



### Empirical results: Liquidity of RTO firms

Table 8 Liquidity of RTO firms by exchange

This table reports liquidity measures of RTO sample firms. Percentage day- end bid-ask spreads computed from (ask-bid)/closing price 12 months worth of daily averages and median (in parentheses) before MOU and 12 months after MOU. Turnover is defined as percentage daily average number of shares traded divided by total number of shares outstanding. Daily outlier observations at 1% and 99% are removed. Parametric p-values and non-parametric p-values (in parentheses) are provided.

	All		Singap	ore	Thail	and
Measure	Liquidity	p-value	Liquidity	p-value	Liquidity	p-value
% Bid-ask spread						
12 months before	10.67%		13.99%		1.39%	
	(5.00%)		(8.33%)		(1.09%)	
12 months after	9.84%	0.0378	8.68%	(0.0937)	0.95%	< .0001
	(2.94%)	(< .0001)	(5.47%)	(< .0001)	(0.75%)	(< .0001)
% Turnover						
12 months before	0.82%		0.40%		1.58%	
	(0.08%)		(0.03%)		(0.38%)	
12 months after	1.10%	(<.0001)	0.85%	< .0001	2.59%	0.0002
	(0.10%)	(< .0001)	(0.03%)	(< .0001)	(0.65%)	(< .0001)



# Findings: Financial performance of RTOs (46 of 47 sample firms)

- Non-distressed firms in general are in better shape than distressed firms all the way through.
- Both distressed and non-distressed firms see improvement in EPS and net profit margin post MOU.
- However, only ROA and ROE of distressed firms improvements are statistically significant.



## Empirical results: Key financial ratios

	Distressed	Non- distressed	Difference	t-stat	p-value
EPS					
Before	0.017	0.202	-0.186	0.83	0.4193
3 years after	0.067	0.193	-0.125	-0.81	0.4398
Paired mean diff	0.018	-0.251			
t-stat (p-value)	0.75 (0.473)	-0.9 (0.399)			
Net profit margin					
Before	-0.196	-0.026	-0.170	-1.96	0.061
3 years after	0.001	-0.007	0.008	0.12	0.9031
Paired difference	0.204	0.054			
t-stat (p-value)	1.55 (0.181)	0.69 (0.519)			
Return on assets					
Before	-0.152	0.055	-0.207	-2.61	0.0129
3 years after	-0.004	0.061	-0.066	-1.94	0.0068
Paired difference	0.234	0.005			
t-stat	2.52 (0.026)	0.16 (0.881)			
Return on equity					
Before	-0.128	0.138	-0.266	-3.37	0.0022
3 years after	0.014	0.154	-0.139	-1.86	0.0784
Paired difference	0.207	0.006			
t-stat (p-value)	1.94 (0.094)	0.09 (0.934)			



## Conclusion and Policy discussion

### Conclusion

- No evidence that firms use RTOs as a shortcut to listings after review of regulation, analysis of characteristics, and readings of motivations to conduct RTOs in circulars.
- Short-term positive CAR and improved liquidity suggesting incumbent shareholders can exit on more favorable terms.
- Mixed payment terms are used with warrant issues pending are used suggesting incoming firms also carry valuation risk.
- Management conduct RTO not as a means to list but merger strategy to obtain short-cut to synergy, diversification opportunities, and international listings.

### Thoughts for policy

- Given regulatory screens, firms choosing to list via RTOs should not be view as low type firms.
- In the case of these successful RTOs there
  is no evidence that incoming firms engage in
  pump and dump schemes.
- RTO announcement provides exit opportunity for incumbent shareholders.
- Banning RTOs or raising regulatory barrier not necessary.
- Improved communications to investors and media to avoid misunderstanding



