

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

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Abstract

This paper analyzes 47 reverse takeover (RTO) cases, in which privately held firms acquire public firms to obtain listing status in Singapore and Thailand between 2007-2015. Unlike U.S. RTO cases in prior studies, these transactions cannot be regarded as short-cuts to bypass listing rules since merged firms must meet the same minimum listing requirement as firms listing with IPOs. Rather, private firms treat RTOs as an opportunity to become public firms without immediate dilution by acquiring smaller firms at bargain price. By examining shareholder circulars and analysis of transaction characteristics, we find that co-parties tend to cite growth from business diversification as their motivation for RTOs. Distressed public firms more frequently emphasize the motivation to reorganize and revive from merging with financially solid private firms. Analysis of return and accounting performance show that the merged firms survive, generate positive wealth impact and experienced improved growth; thus, offering opportunity for incumbent shareholders of public firms to recover some of their investment value.

JEL Classification: G14, G34.

Keywords: Reverse takeovers, Back-door listings, Emerging markets, Bootstrapping.

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1. Introduction

Equity markets have both an allocation and monitoring role. The challenge for regulators is striking a delicate balance between overseeing transparency and fair rules governing listings for efficient allocation of resources and investor protection without delineating potential firms from entering organized exchanges. The dual paths to listing can be direct through an initial public offering (IPO) or indirect through a reverse takeover (RTO). An IPO is traditionally seen as a young company with full listing qualification coming of age and offering shares to the public. An RTO is the process whereby a private company acquires a controlling stake in a public company in order to obtain listing status. In doing so, RTOs allow private firms to list and seek out growth opportunities by merging with public firms and to seek listing without too much dilution and vulnerability to market conditions. However, anecdotal and some selected empirical evidence suggests a dark side to RTOs as they are often referred to as “back-door listings” with transactions associated with opaque firms wanting to bypass stringent listing rules or a method in which a holding company of the shell firm tries to get rid of non-performing assets by passing it along to the next uninformed investor. (Adjei, Cyree, and Walker 2005; Floros and Shastri 2009). Other authors argue that the drawbacks of RTOs are that their speed and cost saving benefits are often overestimated in particular with on-going trends towards more regulatory scrutiny pertaining RTOs in equity markets around the world (Sjostrom 2008; Vermeulen 2014). More recently, Dasilas Grose, and Talias (2017) study European firms that choose to go public through RTOs between 1992-2011 and document stronger positive reactions in markets with stronger governance. They also find that the short-term gains revert to substantial losses casting doubt on the ability the transactions can create value. Pavkov (2006) suggests that a complete analysis of benefits and costs of RTOs should include all stakeholders involved.

Two issues on RTOs are subject to debate. First, why should firms choose to list via RTOs instead of IPOs when there is potential loss of reputational capital? Second, should RTOs be allowed or should regulations be tightened? Using 47 RTOs cases in Singapore and Thailand between 2007-2015, this paper addresses the first question by discussing existing listing regulations on RTOs and analysis of transaction characteristics from shareholder circulars and financial advisors’ report. To answer the second question, we investigate short and long-term return and determinants of long-term returns of the merged firms. In particular, we compare distressed and non-distressed public firms participating in the transactions to evaluate how the merger may affect their return and post-merger performance differently. This study contributes to the scarcity of research on RTOs outside the U.S. where regulatory environment on RTO is different. In Singapore and Thailand regulators require the merged entity

from an RTO to file a reapplication and comply with the same minimum standards as IPO listings. Access to financial advisors' reports and shareholder circulars allows us to examine the motivations for the transaction and how deal specific characteristics affects post-merger returns.

The paper finds that given the existing regulatory screens and process imposed by Singapore and Thai exchanges, the length of time to complete RTOs is around three months up to 200 days counting from the day of transaction announcement or MOU date to the day of shareholder final approval in an EGM or completion date. From our sample, 30 of 47 case firms are financially distressed implying that private firms intending to takeover underperforming public firms must have a profitable track record and are larger not smaller than the public firms.² Furthermore, since the consolidated statements of the merged firms must meet reapplication requirement for general listing, it must be that the private firms must meet IPO listing requirements themselves. The analysis reveal that RTOs can be related to one firms' decision to exit as well as another firms' decision to access public capital market. Reviewing shareholders' circulars, the most cited reasons for the transactions for both co-parties are for growth and diversification. We also find public firms' transaction motivations are to provide existing public shareholders with improved business value and stock liquidity from business reorganization as well as connection with private firms with strong financial position. For private firms, their motivations are not explicitly cited but we can glean from circular information that the merger provides them with these potential benefits:- (i) become listed firms without immediate large dilution in ownership and still have the option to raise more funds later (20 out of 47 RTO cases have warrant issue plans contingent on successful restructuring plans post-merger); (ii) acquire the target public firms at bargain price since they are substantially smaller than the acquirers and are trading at very low volume weighted average price (VWAP); and (iii) obtain tax write-offs when merging with loss-making firms.

Next, we measure cumulative abnormal return (CAR) around announcement date. We find that the market regards the event as good news as the relative [-10,10] day CAR around the announcement date increased by 20%. CARs of distressed firm announcements is 28.8% compared to only 8.4% of non-distressed firms. After the merger, we compute the buy-and-hold returns (BHRs) at 3, 6, and 12 months. Event firms continue to outperform bootstrapped benchmark portfolios at 3, 6 months. At 12 months holding period, there is no significant difference. In cross-section multiple regressions, the 12-month BHR performance is increasing in the relative size of the private firms compared to listed firms, improvement in firms' accounting performance, and in transactions between a distressed firm with a co-party in a different industry. In sum, we do not find evidence that stock exchange approved

² This is a feature unlike RTOs in the U.S. where Gleason, Rosenthal, and Wiggins (2005) categorized private firms going public through reverse mergers are smaller than public vehicles they merge with.

RTO deals in Singapore and Thailand are pump-and-dump schemes. Rather, RTOs provide an alternative mode to list other than traditional IPOs. The transactions also improve merged firms' performance, especially financially distressed ones, providing opportunity for shareholders to recover some of their investment value.

There are altogether five sections in this paper. Section 2 provides background discussions on RTOs including deal structure, regulations, and related literature. Section 3 describes the sample data and key features of RTO transactions. Section 4 explains empirical methods and results. Finally, section 5 concludes.

2. Background on RTOs

2.1 Description of deal

In a typical RTO a private firm acquires a controlling stake in a public firm in order to obtain listing status by allowing the public firm to acquire its assets or equity and in return receive issued shares of the public firm. Since private firms involved in Singapore and Thai RTOs are larger than public firms; the transaction is completed through a rights issue by the public firm to raise additional funds which enables a standby buyer or the private firm to acquire control of the public firm.³ Shareholder circulars refer this rights offering price as a pre-consolidated stock price. Following the rights issue, the shares can be further consolidated at a predetermined swap ratio by the financial advisor to reduce the impact of dilution or to adhere to a minimum listed stock price rule. This final price is usually referred as a post-consolidated issue price.

³ Singapore and Thai firms can seek a waiver from the SEC from making a mandatory takeover offer if the transaction is achieved through a rights issue procedure.

2.2 Reverse takeover regulations and process

Both Singapore and Thailand apply bright line tests for two specific types of RTOs which are transactions involving a change in control of a listed issuer and a very substantial acquisition (VSA).⁴

Table 1 IPOs vs RTOs process

IPO	RTO
(1) Prelisting restructuring and due diligence of firm in order to comply to listing criteria and ready firm for public disclosure.	(1) Negotiation and due diligence between the public firm and the private firm leading to an MOU or sale and purchase agreement (SPA).
(2) Preparation of prospectus and application submission to SEC and SET. The prospectus contains disclosures required regarding business and firm.	(2) Preparation of circulars to shareholders and for stock exchange approval. Circulars contain description of the transactions, financial information of target group and merged group.
(3) Public exposure: Road shows and nomination of underwriter.	(3) Disposal of listed firm assets (if any), share placement exercise, and share swap.
(4) Final approval by the stock exchanges and share subscription begins.	(4) Extraordinary shareholder meeting (EGM) to acknowledge share placement completion.
(5) Trading on exchange commences.	(5) Trading of merged group begins.

Source: Rodyk and Davidson LLP, Singapore Exchange and Stock Exchange of Thailand Listing Guides.

Table 1 summarizes the IPO and RTO processes which bear some similarities. Both begins with detailed due diligence and preparation of prospectus or circular containing disclosures regarding the deal, compliance with the general listing criteria, and final approval from the exchanges. However, an RTO transaction can be complicated further with more parties involved requiring due diligence on both public and private firms potentially adding time and cost to the transaction. Once the terms and price are agreed, upon board approval, a memorandum of understanding (MOU) is signed. Following the MOU, the firm can hold more than one extraordinary shareholder meeting (EGMs) to obtain preliminary consent then to carry separate share placement exercise to meet capital needs or listing requirements on free float on condition that it receives approval from the stock exchange.⁵ The last known EGM date is treated as the beginning of the post-merger evaluation date. Thus, there are two important event dates in the process, the MOU date, and the last EGM date;-henceforth we refer to them as announcement date and post-merger (completion) date.

⁴ These are a listed issuer's acquisition (or series of acquisitions) of assets where any percentage ratio is 100% or above in terms of net tangible assets, net profit, total consideration, equity value, or proven and probable reserves. Details are available from SGX rulebook Chapter 10, Part VIII section 1015 and SET's listing rule 11-00.

⁵ A waiver for listing reapplication may be requested if the RTO involves same industry co-parties, maintains the same core business of the listed firm, and requires no change in board membership.

2.3 Related literature

RTOs have been used as an alternative means to list on an exchange for decades. Historically, no significant regulatory review was required resulting in a shorter timeframe for listing completion and substantial costs saved in terms of underwriting fees as the process requires neither a prospectus nor an underwriter. In addition, timing of RTOs are not subject to market conditions as in IPOs. New controlling owners of the firm generally suffer less share dilution, obtain the public firm at a relatively economic price as opposed to regular mergers as well as an option to raise funds in the future. At the same time, incumbent shareholders of the public firm gain from increased price and improved liquidity of an otherwise forgotten illiquid stock. Arellano-Ostoa and Brusco (2002) suggest a model of separating equilibrium where high type firms distinguished by high probability of obtaining positive NPV projects, choose to list with IPO and obtain funds immediately despite higher listing cost whereas low quality firm with low probability of positive NPV projects choose to list through an RTO which provides no immediate funding but at a lower listing cost. A separating equilibrium exists when the high type firm chooses to list with high cost IPO which is offset by sufficiently large expected NPV in the next period. The low type firm will not mimic if the immediate cost of IPO is greater than the cost of an RTO and that expected NPV generated cannot sufficiently recover listing costs. From their model, we can infer that when the costs of IPO and RTO are similar, then the high type firm may choose an RTO if potential NPV value produced from the merger is greater than its single firm NPV following an IPO.

Given a history of flexible regulatory environment, early research on RTOs tend to suggest a separating equilibrium where high quality firms choose listing via IPOs and low quality firms choose listing via RTOs. Empirical papers mainly based on U.S. evidence support a separating equilibrium in listing choice. Gleason et al. (2005) study 121 RTO cases on AMEX, NYSE, and NASDAQ between 1987-2001 and find that they tend to be speculative in nature and fail to generate long-term wealth gains. In their sample, only 46% RTO firms survived after first two years of listing. Using a slightly different period sample from the U.S. market between 1990-2002, Adjei, Cyree, and Walker (2005) document 42% of their RTO sample firms become delisted within first three years of listing. Floros and Shastri (2009) find that firms choosing to list by RTOs instead of regular IPOs tend to be smaller firms with relatively higher level of information asymmetry. The authors view that RTOs cannot be compared to regular IPOs but rather to penny stocks IPOs. Floros and Sapp (2011) focus on valuation of shell firms

traded on OTC or pink-sheets that go through RTOs. They find up to 48% in abnormal return in RTO announcements, but the long term performance erases the gains as surviving firms earn post-event annual return of -91%. The Canadian experience with RTOs is similar as Carpentier, Cumming, and Suret (2009) document lower quality firms opt for the less regulated RTOs to obtain public listing.

Wan-Hussin (2002) documents the case of a high profile RTO completed in 1995 in Malaysia⁶ that resulted in a backdoor listing of a private company, Jaya Tiasa Plywood, via listed Berjaya Textiles. The author finds increase wealth effects of both minority shareholders and former controlling shareholders. However, the work is limited to one particular case and only short-term wealth effects were documented.

Rapid growth in the number of Chinese RTOs listed on U.S. markets drew considerable media attention when a number of them were accused of accounting frauds around 2000 motivating the study of Lee, Li, and Zhang (2015). The authors examine the financial health and long-term performance of RTOs that became active on U.S. stock markets between 2001 and 2010, particularly those from China (around 85% of all foreign RTOs). Despite the negative publicity of Chinese RTOs, the work finds little evidence that Chinese RTOs are more problematic than the control firms. Nevertheless, increased reports of fraudulent RTO activities in late 2000s has prompted the U.S. SEC to apply more stringent listing rules to list publicly. These additional requirements include minimum share price maintenance, complying to filing requirements of financial reports, and a seasoning rule that requires the merged entity to trade on OTC prior to official listing. Following fraudulent cases of Chinese firms backdoor listing, the Hong Kong Exchange introduced Main Board RTO Rules in March 2004 which virtually eliminated the practice of injecting non-listed assets without a suitable track record for listing into a listed shell in conjunction with a change of control.⁷

Is the verdict out on RTOs? Pavkov (2006) notes that with no known database that tracks RTOs, regulators and practitioners are largely overshadowed by uncertainty as to the merits of the transactions. Vermulen (2014) notes that in recent years, there is increase in RTOs on ASEAN exchanges. Existing work on RTOs are primarily limited to the U.S. experience and cannot be comparable to the ASEAN context where demand-supply and regulatory environments are different. But even from U.S. perspectives, analysis of Singapore and Thai RTO cases is invaluable because it offer comparative studies on the issue which not only shows how regulators in other

⁶ The Kuala Lumpur Stock Exchange (KLSE), like SGX and SET requires firms listing through RTOs comply to the same listing standards as IPOs.

⁷ See Vermeulen (2014) and Charltons Solicitors, www.charltonslaw.com.

jurisdictions handle backdoor listings, but also highlights the costs, benefits and practicality of various different regulatory approaches.

Singapore and Thailand tightly regulate RTOs such that firms that undergo these transactions must complete a reapplication process to list on the exchange and must meet the same minimum listing requirement as IPO firms. Consequently, the listing speed advantage with RTOs is unlikely to be that great. Although the direct costs of underwriting fees present in regular IPOs is absent in RTOs, it re-emerges in form of merger advisory fees. Private firms engaging in such transactions also face numerous indirect costs. For example, the risk of overpaying for the “shell” or distressed firm. There is also cost of restructuring the public firm and the risk that synergy value of the merged entity does not materialize. Sjtrom (2008) argues that the costs of RTOs is underestimated, after factoring in indirect costs, he finds that actual costs of IPOs and RTOs are in fact not that much different.

3. Sample Data Analysis

Between 2007-2015, we identify RTO cases from stock exchange and SEC websites. A list of Singapore RTO cases can be found of SGX website under the “Catalogue” page where important firm disclosure information is publicized. Thai RTO cases can be tracked from the Thai SEC’s website where tender offers, material asset acquisitions and disposals of listed firms are reported.⁸ Details of individual RTO deals are gathered from a combination of financial advisor reports and minutes of shareholders meeting. Market trading data comes from Datastream and listed company accounting information from Worldscope. The sample includes firms listed on both the main and secondary boards which are the Singapore Exchange (SGX) and Catalist (CAT) for Singapore cases and Stock Exchange of Thailand (SET) and Market for Alternative Investment (MAI) for Thai cases.

Table 2 presents descriptive statistics for all RTO cases, including unsuccessful ones, by sample year. A total of 42 RTO cases in Singapore and 17 cases in Thailand are collected. Ten RTO transactions of the 42 in Singapore were aborted whereas two transactions of 17 were unsuccessful in Thailand. These aborted cases were either a consequence of unsuccessful deal negotiations or failure to meet reapplication requirements and were denied listing by the exchanges. The number of RTO cases in Singapore is highest in 2013 with 13 transactions whereas for Thailand it is highest in 2014 with six transactions.

⁸ <http://infopub.sgx.com> and <https://www.set.or.th/set> publishes Singaporean and Thai listed firms’ important announcements and circulars. MOU and EGMs dates appear here. If an MOU date is unavailable we use the date when first circular is publicly available from firms’ website or news sources.

Table 2 Distribution of RTO activities 2007-2015

Year	No of firms			% of sample	Market index		Market return	
	All	Singapore	Thailand		Singapore	Thailand	Singapore	Thailand
2007	1	0	1	2%	3,466	858	19%	26%
2008	1	1	0	2%	1,762	450	-49%	-48%
2009	3	1	2	5%	2,898	735	64%	63%
2010	10	8	2	17%	3,190	1,033	10%	41%
2011	6	5	1	10%	2,646	1,025	-17%	-1%
2012	10	8	2	17%	3,167	1,392	20%	36%
2013	16	13	3	27%	3,167	1,299	0%	-7%
2014	10	4	6	17%	3,365	1,498	6%	15%
2015	2	2	0	3%	2,883	1,288	-14%	-14%
Total	59	42	17	100%				

This table reports the number of all RTO cases (unsuccessful cases included) based on announcement date by year along side with SGX and SET year end index levels and annual returns. The cases include firms on main boards (SGX and SET) and secondary boards (CAT and MAI).

The last four columns of Table 2 provide end of year market index level and annual market return. There seems to be no association between market performance and intensity of RTO activities in Singapore. For example, in 2009, when the SGX annual market return surged by 64% only one RTO case is reported. In contrast, five RTOs cases were filed in 2011 when the SGX shed 17%. However, in Thailand, RTO cases appear more frequent when market performance improves. In 2014, when the SET gained 15%, six RTO cases were reported. In the following year, when the Thai market fell 14%, no RTO case was filed.

Table 3 reports successful deal firm statistics which are segmented by country of listing and then by distressed or non-distressed status. There are a total of 47 successful cases of which 32 are listings in Singapore and 15 in Thailand. Thirty firms which represents more than half of the entire sample firms are declared financially distressed by firms auditors.' However, sample cases are quite evenly split between main and secondary boards (51%: 49%) and between cases with co-parties within the same industry and different industries (47%: 53%).

Distressed firms tend to choose co-parties in a different industry (20 out of 30) whereas non-distressed firms prefer to look for same industry partnerships (12 out of 17). The pattern is suggestive that non-distressed

public firms tend to search for private co-parties that operate in the same or complementary industry and synergies are often the reason for the transactions. Cross-industry cases occurring more often in distressed firms indicates that public shareholders look for co-parties to merge as an exit strategy and before moving into new businesses. Forty four percent of the deals (14 out of 32) in Singapore occur in the engineering technology and electronics industry and more than half of the deals in this sector occur with co-parties in different industries often property developers and healthcare. In the Thai sample, more than half the RTOs (8 out of 15) occur in an assortment of industries classified as others: - from furniture production, stationary retailing to medical equipment distribution. Most of these firms find partnership with outsiders who are property developers who are primarily interested in acquiring land.

Table 3 Characteristics of RTOs

Characteristics:	Singapore			Thailand		
	All	Distress	Non-distress	All	Distress	Non-distress
Main board	14	9	5	10	6	4
Secondary	18	13	5	5	2	3
Same industry	14	7	7	8	3	5
Different industry	18	15	3	7	5	2
Engineering & electronics	14	9	5	None	None	None
Media & services	2	1	1	4	2	2
Property & construction	7	5	2	3	1	2
Others	1	1	1	8	5	3
Deal value (LCY mn)	279	324	151	2,701	1,185	4,349
Relative size	12.17	14.6	5.61	7.36	7.98	5.48
Premium	34.2%	35.7%	9.3%	12.9%	13.8%	-15.5%
VWAP (LCY)	0.12	0.08	0.19	7.86	3.69	9.66
Days from announcement to complete	248	260	222	73	79	65
%EPS growth 3 year pre-announcement	-111%	-153.1%	-83.6%	-176%	-237.3%	-154.3%
%Rev growth 3 year pre-announcement	-7.4%	-11.6%	1.2%	-33.1%	-46.5%	-16.2%
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%

This table summarizes the characteristics of successful RTOs. Deal value is in millions of local currency (LCY). Relative deal size is computed from deal value divided by listed firms' assets in pre-announcement year. Premium is pre-consolidation issue price relative to 3-month pre-announcement volume weighted average closing price (VWAP) of listed firm. A firm is categorized as financially distressed if the listed firms' auditors report indicates. Co-party firms are categorized as being in the same industry if the merged firm trades in the same industry as the listed firm before the merger, and different otherwise.

Deal value in millions of local currency is the aggregate purchase consideration or the value of equity securities to be issued by the listed firm for the acquisition as reported in shareholder circulars. The average deal value in Singapore and Thailand SGD 279 mn and THB 2,701 mn, respectively. We also report relative deal size computed from deal value divided by listed firms' assets in pre-announcement year to as measure of bargaining power in favor of incoming private firm. This ratio is notably larger in distressed cases;- 14.6 in Singapore and 7.98 in Thailand. In non-distressed cases, this ratio is less than six times. We also compute price premiums, which are the percentage difference between pre-consolidation issue price and 3-month pre-announcement volume weighted average price (VWAP). Since distressed firms tend to have very depressed share prices (SGD 0.08 per share and THB 3.69), the premiums associated with their transactions are notably higher than non-distressed cases. Premiums on distressed firms are 35.7% for Singapore and 13.8% for Thailand. Non-distressed Thai firms are offered an average of 15% discount their historical VWAP. It is not a straightforward task to interpret these premiums as being solely in favor for the public firms in all cases. For example, St. James Holdings, a night club listed on the CAT was offered a tender price approximately the same value as current trading price by private firm Perrenial China Trust. However, based on value of property appraisal, the value of the offer is worth 52% discount to appraised NAV of St. James.

Turning to financial performance, sample public firms experience deteriorating performance both in revenue generation or profitability. Distressed firms have substantially lower average 3-year pre-announcement EPS growth rates as well as considerably lower average 3-year pre-announcement revenue growth than non-distressed firms. In Singapore, the distressed group 3-year pre-announcement EPS growth is -153% while revenue growth is -11.6%. In Thailand, their growth performance looks more bleak, with EPS declining at a rate of 237.3% and revenue growth declining at 46.5%.

To measure the length of time for transaction completion, we count the number of days between MOU date to EGM date described in section 2.2. Overall, it takes on average a little over six months or over 200 days for Singapore cases but around three months for Thai cases. Distressed cases take a little longer as the Stock exchange in both markets require a complete reapplication; waivers can be requested for intra-industry transactions.

Looking at the method of payment, most Singaporean RTOs involve stock swaps whereas Thai transactions tend to use combination of stock swaps, cash, and warrants. The use of solely share exchange makes the terms of the exchange contingent on the target and potential synergy value and both public and private shareholders both

shares gains and losses from the deal (Hansen, 1987). In the Thai case, mixed mode payment suggests that the private firm is unsure of merged value which is typical in a merger problem (De La Bruslerie, 2013). Thus, it is likely that the cash component and share swap structure indicates the private firms' need to retain immediate value. The warrant issue component helps alleviate the impact of immediate dilution, and provides a delayed option to raise capital in the future if things go well. Besides, the option to delay fund raising allows time for the merged firm to find an established market price: an idea similar to the model proposed in Hsieh, Lyandres, and Zhdanov (2011) that link's a firm's decision to go public with subsequent takeover strategy. According to the authors, completing an IPO reduces valuation uncertainty leading to a more efficient acquisition strategy as listing reduces valuation uncertainty.

Table 4 Reasons cited for RTO

	Distressed	%Diss	Non-Distressed	%Non-diss	Total	%Tot
Acquisition of land or property	5	8%	8	18%	13	12%
Complementary business	2	3%	10	22%	12	11%
Diversification	11	18%	7	16%	18	17%
Economies of scale	1	2%	1	2%	2	2%
Enhance firm profile	6	10%	4	9%	10	9%
Growth	15	24%	10	22%	25	23%
Solid financial position of outsider	12	19%	3	7%	15	14%
Reorganization	10	16%	2	4%	12	11%
Total	62	100%	45	100%	107	100%

This table presents a summary of reasons cited in financial advisors' reports or shareholders circulars from 47 RTO cases by financial status between 2007-2015.

To gain insight into the motivations behind RTOs, we examine financial advisors' reports or shareholders circulars for explicit statements about rationale of the transactions. Table 4 provides a summary of the reasons placed into eight categories. Most announcements cited multiple reasons for the transaction in shareholder circulars. The most cited reasons are growth (23%) and diversification (17%). Distressed firms tend to emphasize motivation to reorganize and revive by merging with outsiders with strong financial position. In contrast, co-parties in non-distressed cases more frequently cite the interest to acquire land or property and gain synergy from complementary businesses. The motivation either comes from the public firms' wish to merge with a well-known business group or private firms' preference to list on a recognized exchange. For example, the Chaswood Group, a large Food & Beverage holding company listed on Bursa Malaysia completed an RTO with Singapore's Asia Silk Group.

Chaswood's rationale to list via RTO on CAT among others is to help increase its international profile in Asian markets. Another example is India's leading architectural services firm, RSP Architects Planners transaction with Rowsley opens the door to listing on SGX.

4. Research methods and results

4.1 Announcement reactions and short-term performance

This section applies standard event study method (Mackinlay, 1997) to calculate abnormal return (AR), and cumulative abnormal return (CAR) from short-term reactions to event announcements.

Figure 1 Cumulative market model abnormal return around RTO announcements

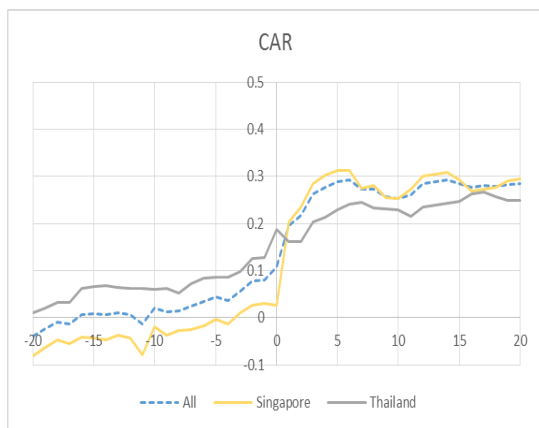


Figure 1 a All event firms and by market

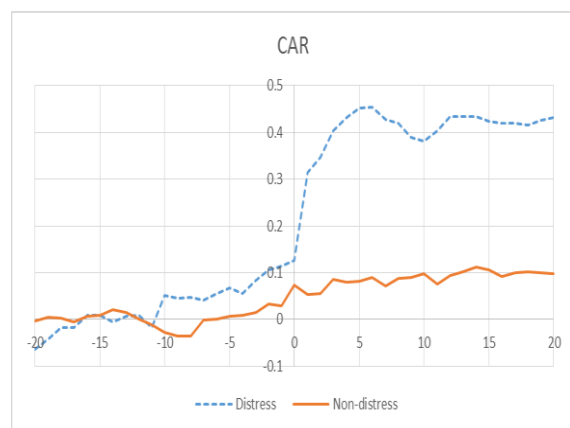


Figure 1 b Distressed vs non-distressed

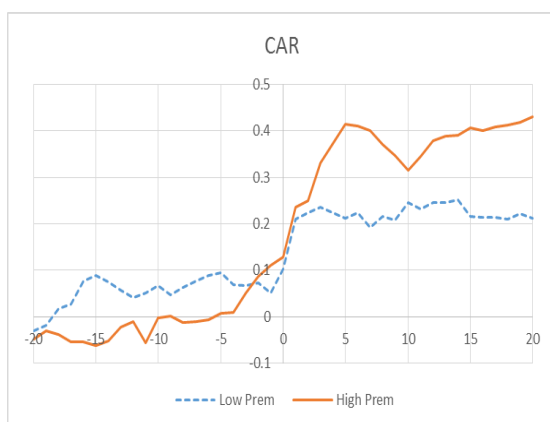


Figure 1 c Low vs high premium

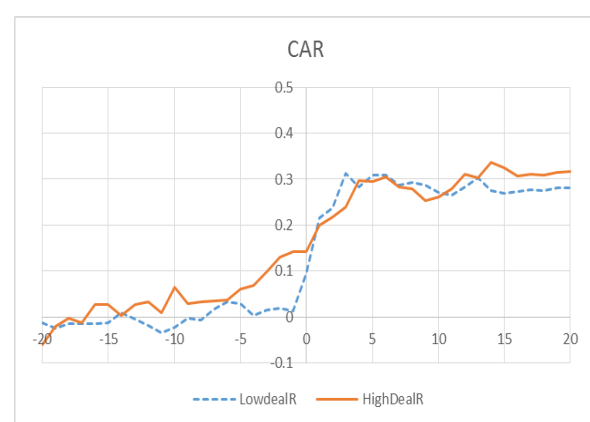


Figure 1 d Low vs high relative deal size

This figure plots equal weighted cumulative market model abnormal return around RTO announcements (MOU date) by country and deal characteristics. Define abnormal return as $AR_{it} = R_{it} - E(R_{it} | \Omega_t)$ where AR_{it} , R_{it}

, and $E(R_{it} | \Omega_t)$ are abnormal, actual, and expected returns respectively. The conditioning information, Ω_t is the market return. Low (high) premium and relative deal size are equal weighted CARs of event firms with premium and relative deal size below (above) median. In each figure, the Y-axis is CAR, the X-axis is the relative day around announcement day ($t=0$).

Figure 1a plots equal weighted CARs for all RTO cases and separated by country 20 days before and after the announcement date which is centered at day zero. The plot shows that the market gradually learns about the forthcoming announcement and CAR drifts up to 28.5% by the 20th day after announcement date. The announcement appears to be quite unexpected in Singapore with marginal price movement of less than 5% prior to MOU date. In contrast, investors anticipated the Thai announcements as their CARs moved up to almost 19% 20 days ahead. Figures 1b), 1c), and 1d) illustrate CARs of firms separated by key deal characteristics featured in Table 3 namely;-distress status, premium level, and relative deal size level. The labels low (high) premium and relative deal size are equal weighted CARs of event firms with premium and relative deal size below (above) median. We find that the difference between distress and non-distressed CARs are the largest among other deal characteristics. Twenty days after announcements, average CAR of distressed firms rise to 43% or four times above non-distress firms with CAR edging up only to 10%. The CAR of low premiums firms is 21% about half the level of high premium firms which is 43% suggesting that investors treat high premiums as a signal of higher consolidated valuation. From eyeballing, the differences in CARs are not so noticeable when high and low relative deal size portfolios are formed. We conduct more formal statistical tests next.

Table 5 Cumulative market model abnormal return around event windows

	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**
Distressed	[-10, 10]	0.288	2.99***	1.796	1.98*
Non distressed	[-10, 10]	0.084	1.81*	0.796	2.11*
Distressed-Non-distressed	[-10, 10]	0.204		1.00	
Diff p-value		<i>0.0673</i>		<i>0.3194</i>	
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		<i>0.5604</i>		<i>0.5918</i>	
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		<i>0.1798</i>		<i>0.2369</i>	

The sample consists of 47 firms on Singapore and Thai exchanges. The table reports cumulative market model abnormal returns around RTO announcements date ($t=0$). Define abnormal return as $AR_{it} = R_{it} - E(R_{it} | \Omega_t)$ where AR_{it} , R_{it} , and $E(R_{it} | \Omega_t)$ are the abnormal, actual, and expected returns respectively. The conditioning information, Ω_t is the market return. Cumulative abnormal return relative to announcement from days τ_1 and τ_2 , denoted $[\tau_1, \tau_2]$ is derived from $CAR_i(\tau_1, \tau_2) = \sum_{t=\tau_1}^{\tau_2} AR_{it}$. The standard cumulative abnormal return is defined

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

from tests of group differences (Distressed vs Non-Distressed) in mean are in italics. ***, **, * denotes the 1%, 5%, and 10% statistical significance levels (two-tailed), respectively.

Table 5 formally tests the significance of CAR and the standardized cumulative abnormal return (SCAR) over different windows from 20 days before and after announcement. Since SCAR is derived from CAR divided by the variance of CAR over the event window, extreme observations are given less weight and hence provide robustness check for CAR. In general, we find that RTO announcements are good news. Despite evidence of anticipated announcements as CAR and SCAR over the [-10, 0] window shows positive significance, the post-announcement impact over the review windows of [0, 10] and [0, 20] are slightly larger in size and remain both

statistically significant as well. As the window period $[-10, 10]$ exhibits the most pronounced value of CAR and SCAR, the remainder of Table 5 focus on reporting this interval and provide tests of differences in CAR and SCAR for cases separated by distress status, and high-low levels of relative deal size, and premium. Distressed firms' CAR and SCAR (28.8% and 1.79) are significantly higher than those of non-distressed firms (8.4% and 0.79). High premiums firms also exhibit higher CAR and SCAR than that of low premium firms though the statistical significance is weak. Lastly, firms with high or low relative deal size produce similar levels of abnormal return responses as do other deal features which are not included in Table 5 ie. same or different industry co-parties and whether the deal involves warrants or not. In sum, separating event firms by financial distress status seem to generate the strongest information content reflected in short-term prices.

4.2 Long term performances of RTO firms

4.2.1 Buy-and-hold return performance

Buy-and-hold abnormal returns have become the standard for measuring long-term abnormal performances of corporate announcements (Barber and Lyon 1997; Kothari and Warner ; 2006). In this section, we start by measuring the average multi-period return from a strategy of investing in firms that are affected by an event which can be compared to investment in benchmark portfolios consisting of a controlled group of non-event firms. We select control firms by screening for those with size and stock price that better match the features of post-merger firms. To be included in the benchmark portfolio, for each event year sort, firms in the top third market capitalization of the Singapore and Thai exchanges are eliminated to screen for control firms with size more closely matching the event firms. In an independent sort, we drop firms with price range above the top third price range of the exchange. The choice of control group is preferred over a benchmark based on the entire market return which is influenced by performance of large firms. With sample size of 47 firms spread out over nine years, we assume that event firm abnormal returns are independent and that the chance returns will be overly-stated due to positive cross correlations from overlapping event periods should be small as Mitchell and Stafford (2000) and Brav (2000) point out.

With relatively smaller number of event firms, but a substantially larger set of controls; 501 firms for Singapore, and 398 for Thailand, we adopt the bootstrapping approach for statistical inference for BHRs used in Ikenberry, Lakonishok, and Vermaelen (1995); Michell and Stafford (2000); and Chou (2004). To do so, we generate an empirical distribution of BHRs by randomly selecting with replacement a firm from the control group stratified by country for each RTO completion date. This means drawing control samples from each country bin of control firms

corresponding to each country event sample size. In each round of matching process, a pseudo sample consisting of 47 firms is created: 32 draws from Singapore control set and 15 from Thai control set. The process is repeated 1,000 times, providing a distribution of BHRs under the null model. The bootstrap p-value is the fraction of random BHRs from the pseudo samples in larger magnitude than the event firm sample mean.

Table 6 reports the monthly mean and the compounded BHRs of an equal weighted portfolio of event firms and non-event firms. The event firm monthly mean returns in the first 3, 6, and 12 months are 30.86%, 63.42%, and 85.31% which is 29.16%, 62.47%, and 84.7% more than the mean of the pseudo benchmark portfolios. The p-value associated with monthly mean abnormal return is less than 5% when evaluated at 3, and 6 months and 5.6% evaluated at 12 months. The compounded holding period return also show positive differences between event and benchmark portfolios, though smaller in magnitude. With compounded holding periods, the p-value shows that the probability that the benchmark portfolio will perform just as well as that of the event firm portfolio is 4.1%, 5.1%, and 14.1% for 3, 6, and 12 months. In any case, both measures point to gradual increase in event firm stock price performance over the course of 12 months confirming that the price increase is lasting.

Separating the event sample into distressed and non-distressed firms compared to the same draw of bootstrapped benchmark portfolios, we find distressed firm BHRs is superior to that of non-distressed firms in all evaluation periods and that the difference is more distinct with average monthly returns than compounded returns. Focusing on the more stable BHRs, over the course of 12 months, the compounded average BHRs of distressed firms are 46.8%, which is almost twice as high as non-distressed compounded average BHR of 24%. Within the six month holding period, the probability that return from a random sample benchmark portfolio will be higher than the distressed firm portfolio is less than 5%, but higher than 10% when compared against non-distressed portfolio performance.

Table 6 Monthly buy-and-hold returns following completion of RTO

	Month avg return				Compounded holding period return			
	RTO firms (1)	Benchmark (2)	Diff. (3)	p-value (4)	RTO firms (5)	Benchmark (6)	Diff. (7)	p-value (8)
All								
3 month	0.3086	0.0170	0.2916	0.041	0.226	0.049	0.177	0.041
6 month	0.6342	0.0096	0.6247	0.034	0.317	0.089	0.228	0.054
12 month	0.8531	0.0057	0.8473	0.056	0.365	0.132	0.232	0.141
Distress								
Month avg return								
3 month	0.4660	0.0170	0.4491	0.018	0.298	0.049	0.249	0.023
6 month	0.9289	0.0096	0.9193	0.022	0.302	0.089	0.213	0.031
12 month	1.2807	0.0057	1.2750	0.029	0.468	0.132	0.336	0.156
Non-distress								
Month avg return								
3 month	0.1196	0.0170	0.1026	0.11	0.139	0.049	0.091	0.117
6 month	0.0777	0.0096	0.0681	0.181	0.334	0.089	0.152	0.118
12 month	0.2829	0.0057	0.2772	0.119	0.240	0.132	0.202	0.13

This table reports mean monthly and compounded buy-and-hold returns ($BHR_{i(T_1, T_2)} = \prod_{t=T_1}^{T_2} (1 + R_{it}) - 1$) of event firms and benchmark portfolios. The benchmark portfolio is formed by eliminating firms in the top third market capitalization on both exchanges. In a separate sort we drop firms with price range above the top third price range of the market. Diff. is the buy-and-hold abnormal return (BHAR) or the difference between equal weighted portfolio returns of event firms and the portfolio returns of 1,000 simulated benchmark pseudo samples. The bootstrap p-value the fraction of random BHRs from the pseudo samples in larger magnitude than the event firm sample mean.

4.2.2 What explains differences in BHRs?

How much is the post-merger 12 month BHR explained by deal specific characteristics and by improved earnings? We regress the BHRs on deal specific arrangements and selected accounting performance controlling for firm size post-merger. In Table 7, models 1 and 2 differ by one explanatory variable;- model 1 includes price premium or percentage difference between pre-consolidation issue price and the 3-month pre-announcement VWAP whereas model 2 includes one year percentage change in ROE post-merger as measure of profitability. Models 3 to 6 differ only by a dummy variable to capture pre-event financial distress status or industry categorization.

Table 7 Multiple regressions of 12 month buy-and-hold returns

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Relative deal size	-0.0168 (-1.82)*	-0.0364 (-1.56)	-0.0431 (-1.44)	-0.0093 (-0.37)	-0.0246 (-1.09)	-0.0106 (-0.5)
Premium	0.1454 (0.97)					
% Chg ROE		0.0544 1.76*	0.0492 1.43	0.0322 1.38	0.0715 2.01**	0.0453 1.44
Log of firm size	0.1540 1.90*	0.1751 2.47**	0.1831 2.14**	0.1141 1.31	0.1918 2.37**	0.1433 1.97*
Dummy =1 if distressed	0.4199 1.16	0.2764 0.68				
Distress dummy * Deal size			0.0592 1.48			
Dummy =1 if in different industry				-0.343 -0.69		
Dummy =1 if distressed and in different industry					0.8494 2.02**	
Dummy=1 if not distressed and in different industry						-0.8660 (-2.46)**
Adj Rsq	0.1574	0.2083	0.1928	0.165	0.1642	0.2271
F-stat	1.46	2.38*	1.61	1.38	2.18*	2.76**
No. of observations	47	47	47	47	47	47

This table reports the coefficients from six OLS models with t-statistics in parentheses. The dependent variable is 12 month post-merger BHRs of 47 RTO sample firms from Singapore and Thai exchanges. Relative deal size is computed from deal value divided by listed firms' assets in pre-announcement year. Premium is pre-consolidation issue price relative to 3-month pre-announcement volume weighted average closing price (VWAP) of listed firm. Percentage changes in return on equity is change over one year post-merger. ***,**,* denotes the 1%, 5%, and 10% statistical significance levels (two-tailed), respectively.

From Table 7, all models show that BHR declines in relative deal size, but the association is weak in all models except the first one. Transaction premium which seems to generate strong short-term response captured by CAR do not explain longer term performance. Rather, the improvement in ROE is significantly related to returns in two out of five models where it is present. Substituting change in ROE to other measures of profitability such as change in earnings per share and net income also gives similar results. Returns are higher when the public firm is distressed and engage in transaction with a firm in different industry, but lower when the transaction involves non-distressed firms in a different industry. Both the size of the coefficients and t-statistics are highest on the dummy variables of models 5 and 6 indicating that cross-industry transactions with distressed firms have the strongest positive effect on long-term stock price. Judging from the size of the coefficients, when the transaction includes a

distressed firms, BHR is 41.9% higher than non-distressed; and when the firm is both distressed and in a different industry, the BHR is about 84.9% or twice as high.

Table 8 Post-merger performance

	Mean				Median			
	Distressed	Non distressed	Difference	p-value	Distressed	Non distressed	Difference	Wilcoxon p-value
Panel A: 2Y post-merger								
% Revenue gr	59.23%	51.81%	7.42%	0.9028	24.02%	27.10%	-3.08%	0.037
% Book Equity gr	91.31%	30.17%	61.13%	0.3615	25.61%	22.62%	2.99%	0.3659
% NI gr	129.92%	107.48%	22.44%	0.8417	28.61%	68.36%	-39.75%	0.1219
% EPS gr	110.89%	89.80%	21.09%	0.8445	28.70%	55.92%	-27.22%	0.2657
% ROE gr	17.33%	37.51%	-20.18%	0.4831	5.44%	31.52%	-26.08%	0.1014
% Chg. Cash ratio	18.92%	-9.01%	27.93%	0.2739	12.82%	-22.23%	36.04%	0.0111
% Chg. Debt ratio	25.66%	12.52%	13.14%	0.7105	7.39%	17.29%	-9.90%	.01826
% Chg. Market cap	20.26%	5.67%	14.59%	0.4839	-0.09%	2.66%	-2.75%	0.919
Panel B: 2Y-1Y post-merger								
% Revenue gr	38.30%	57.20%	-18.90%	0.0820	-1.22%	22.0%	-23.32%	0.0384
% Book equity gr	23.95%	31.83%	-7.88%	0.8250	6.99%	16.85%	-9.86%	0.0748
% NI gr	16.67%	17.14%	-0.47%	0.3840	-3.80%	20.66%	-24.46%	0.2682
% EPS gr	-5.40%	-24.70%	19.30%	0.2847	-34.40%	-10.37%	-24.03%	0.1896
% ROE gr	7.00%	-11.22%	18.22%	0.3050	-21.00%	-14.20%	-6.80%	0.9151
% Chg. Cash ratio	5.15%	-9.95%	15.10%	0.3455	-24.60%	-16.05%	-8.55%	0.3047
% Chg. Debt ratio	16.23%	3.76%	19.99%	0.5123	15.20%	18.83%	-3.63%	0.7224
% Chg. Market cap	15.32%	-9.58%	24.90%	0.2690	-1.97%	-7.46%	5.49%	0.7394

This table reports the 2-year mean and median compounded annual growth rate of selected accounting performance post-merger of distressed and non-distressed case firms. Cash ratio and debt ratio are computed from cash divided by total assets and total debt divided by total assets, respectively. P-values from tests of group mean and median differences are provided.

Extending the evaluation of merged firm performance even further, Table 8 compares the accounting performance of distressed firms and non-distressed firms 2 years post-merger in Panel A, and differences in their performances between years 1 and 2 post-merger in Panel B. Unlike the findings of Gleason et al. (2005) that find only around half the RTO firms in their sample survived after two years, we find that all our sample RTO cases survive through the second year post-merger. As a whole post-merger performance measured by revenue, net income, EPS, and ROE improved markedly, a finding that departs from Dasilas et al. (2017) in their study of European reverse takeovers which the authors find negligible improvement in financial performance. In Panel A,

Table 8, mean profitability performance of distressed firms are in general higher than non-distressed firms in all measures except for ROE, but the reverse is true when median growth performance shows non-distressed perform better, indicating that distressed firm performance is more right-skewed. Nevertheless, neither the mean nor the median differences are statistically significant. We can also see that the mean book value of equity of distressed firms is raised around three times as much compared to that of non-distressed ie. 91.31% compared to 30.17%, which mostly likely lead to relatively lower percentage change in ROE. Looking at financials, rising cash holding (18.92%) and debt obligations (25.66%) evident from cash and debt ratios in distressed firms suggest rising revenue and equity base must have a positive impact on liquidity and general working capital conditions. There is overall increase in market average capitalization value but little change in median values.

It may be argued that the jumps in financial performance 2 years into the merger can be driven largely by consolidation of financial reports of the two merged firms, and hence over presenting the benefits to the public firm. If so, comparing performance difference between years 1 and 2 post-merger allows us to gauge the impact on the private firm after it becomes a merged entity. From Panel B of Table 8, the mean earnings performance measured by revenue and net income also rise, but at lower rate rates. The median profitability of non-distressed mergers clearly outperforms that of distressed ones. Median revenue and net income growth of non-distressed mergers are around 20%, whereas for those distressed drop to -1.22% and -3.80%. Furthermore, ROE growths become smaller or even negative over this period as expansion of equity base outpace net income growth unlike results in Panel A which include the immediate boost effect of consolidation recognized when the entire 2 year post-merger period is evaluated. Taken together, the results in both panels do point to relatively larger benefit gained by the public firm, particularly those in distressed. There is weaker growth in market capitalization value, which suggests that while book value of equity expands, there must be some stock price reversion. The most relevant takeaway from Table 8 is that the merged firms survive and experienced improved growth in earnings and equity base.

Conclusion

We analyze 47 RTO cases in Singapore and Thailand to understand the motivation for the deal as well as examine wealth and accounting performance impact to help answer the standing debate on the merits of these transactions and how they should be regulated. Should regulators loosen requirements on RTOs? Even when the same listing requirements as IPOs are applied, RTOs are often treated by the popular press as suspicious transactions where opportunistic private firms create speculative hype on small caps. This is because RTOs can be predicted to

cause huge percentage-wise increases in the stock price of a public firm upon the release of news as we might find in any merger news. In particular for small cap stocks with very low trading price, even if its stock price rise from virtually zero to only a few cents, the gain could be enormous. As the study sample shows, the public firms were trading at average VWAPs of SGD 0.12 and THB 7.36 (both values less than 25 U.S. cents) before RTO announcement. Without investor savvy and adequate enforcement, the combination of potentially huge gains and relatively unsophisticated players is a recipe for market abuse. In the end, a totally unobtrusive approach towards RTOs is likely to attract opportunistic Machiavellian behavior.

Why should private firms want to list this way, if they are already of caliber to list through IPO with their own profile? Our review of financial advisors' report and shareholder circulars suggest that RTOs is not considered as a means to list *per se* but a corporate transaction strategy mainly cited for growth and diversification. Other less explicit goals are to become a public company without immediate large dilution in ownership and still have an option to raise more funds later, obtain a target public firm at a bargain price especially those with valuable property, and gain tax write-offs benefits. For public firms, the transaction is an opportunity for synergy or continued survival. The empirical results in this paper suggests that theoretical analysis of factors determining firms' choice to engage in RTOs can be related to exit choice and corporate merger strategy rather than a model of firms using listing mode to signal its type. Taken together, RTOs provide a valuable listing alternative to traditional IPOs.

Can we regard private firms as White Knights? Our analysis of return performance indicates that the market perceives RTOs as good news in the short-term. The wealth impact is not reversed as the 12 month post-merger BHR produces compounded return of 36.5%. Confirming that these transactions do not destroy value, we find that these firms survive two years after the merger and experienced improved growth in earnings as well as a stronger equity base. Our study provides evidence that RTOs can help mitigate financial distressed costs of underperforming public firms and can allow shareholders a chance to liquidate and recover some of their investment value.

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