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Takeover Bid Rules and M&A Premiums: Who Pays the Price for Investor Protection?

Abstract

The mandatory bid rule (MBR) requires an acquirer in an M&A transaction to make a fair offer to the remaining shareholders when exceeding specific thresholds. This severe encroachment on contractual freedom, which is supposed to protect minority shareholders, should show an impact on the takeover premium. We analyze the influence of national MBR thresholds of 49 countries, including all OECD, G20, and Financial Stability Board members. We can show that exceeding specific MBR thresholds significantly negatively impacts the takeover premium. The results show that an MBR as investor protection is not associated with a price premium but with a discount at the expense of the remaining shareholders. We control for the influence of the acquirer's successive share acquisition and deal-, target- and acquirer-specific variables. We contribute evidence from a large-scale multinational empirical study on the impact of MBR on the takeover premium paid and its consequences for the remaining shareholders.

Keywords

mandatory bid rule | M&A | acquirer | capital market

JEL Codes

G10, G34, G38

1. Introduction

The mandatory bid rule (MBR) introduced in many OECD and G20 countries requires acquirers of company shares to make a fair offer to the remaining shareholders when certain conditions occur. This so-called mandatory bid is triggered when acquirers exceed certain control thresholds and thus gain control of a target company, or take control by transferring an old block position (Grant, Kirchmaier & Kirshner, 2009; Ferrarini & Miller, 2009; Eswar, 2019). The introduction of MBRs has two main objectives. First, it aims to deprive existing majority shareholders of the possibility to sell controlling rights in block positions

to an acquirer away from the public capital market. Secondly, the MBR protects minority shareholders in the context of the takeover by offering them an exit option if they do not want to be minority shareholders of a controlled company or disagree with the majority of shareholders (Ferrarini & Miller, 2009; Clerc et al., 2012).

Alcalde and Pérez-Soba (2016) analyze whether the introduction of the MBR has changed the level of the takeover premium. The results suggest that the takeover premium paid, is lower after the introduction of the MBR. The study is limited because it is restricted to corporate takeovers in Spain and thus does not allow for generalized findings in a global context, as

individual jurisdictions differ significantly in the design of MBRs. Eswar (2019) examines the impact of the introduction of MBR on the cumulative abnormal returns of target firms and analyses time-series and cross-sectional differences over the period from 1990 to 2009 using a sample of fifteen European countries. The author finds that the introduction of this kind of investor protection has a significant positive impact on acquirer cumulative abnormal returns, suggesting overpayment and hence higher takeover premia. Both of the above contributions do not consider the influence of successive share acquisitions, irrespective of the triggering of a takeover bid, on the premium paid. When referring to successive share acquisitions, the takeover premium is likely to depend on how many shares the acquirer already owns. The successively tightening of the market alone, but also the possibility for minority shareholders to effectively prevent the acquisition of further rights, will contribute to an increase in the offer price. Or in other words: The more control acquired or sought for, the higher the premium. The results of Pérez-Soba, Márquez-de-la-Cruz and Martínez-Cañete (2018) accordingly show that acquirers below the MBR threshold are willing to pay significantly higher premiums to gain some control in the company in the first place.

While many deal-, target- and acquirer-specific influencing factors are an integral part of quantitative-empirical capital market research and have been extensively researched, the influence of the regulatory determination of the MBR on the premium paid has not yet been sufficiently investigated. This and the limitations of the existing contributions, are the reason for our motivation in this large-scale empirical, multi-national study to gain insights for the first time into the influence of the MBR on the takeover premium actually paid, and what consequences this has for the remaining shareholders.

We hypothesize that exceeding the threshold that triggers a mandatory bid is associated with a significant change in the takeover premium. We assume that the threat of a compulsory bid has a deterrent effect on potential buyers, which is reflected in the prices and the takeover premium. In this analysis, we consider the impact of successive share acquisitions, following Pérez-Soba, Márquez-de-la-Cruz, and Martínez-Cañete (2018), irrespective of the triggering of a takeover bid, and assume an increasing takeover premium with increasing pre-acquisition shares. We define a normal takeover premium as a function of the pre-acquired share and a residual takeover premium as an abnormal takeover premium, as a function of

exceeding the specific MBR threshold. To test the central hypothesis, we run an OLS regression with cross-sectional data.

We can show that exceeding the MBR threshold is generally associated with significant discounts on the takeover premium. Important exceptions are the jurisdictions of Australia and Canada, where exceeding the MBR threshold leads to significant price premiums. The question arises as to whether national legislators, by introducing MBRs, miss the purpose of protecting minority shareholders if the related price discount is not proportionate to the intended protective effect. The contribution of this research work is to obtain reliable findings on the influence of exceeding MBR thresholds on the amount of the takeover premium in the takeover of listed target companies.

The paper is structured as follows: the Legal Framework, Literature Review, and Hypothesis Development in section two are followed by Methodology and Sample in section three. In section four there are the Empirical Results and Discussion sections. Section five concludes the paper.

2. Legal Framework, Literature Review, and Hypothesis Development

OECD (2021) allows an insight into the implementation and design of the MBR of a total of 49 countries, including all OECD, G20 and Financial Stability Board members. It shows that the level and implementation of the thresholds for triggering a mandatory offer differ significantly. While some countries set one or more single thresholds, others have combined a minimum threshold with other optional or additional triggers, where an increase in voting rights triggers a new takeover bid. Some countries link the threshold to the size of the target company. Furthermore, some countries do not have a threshold, so the trigger of a takeover bid is linked to other criteria. Table 1 provides an overview of the thresholds and alternative takeover bid triggers for the countries considered in the OECD (2021). Beyond the thresholds and triggers, a distinction can be made between the ex-post and ex-ante approaches in the application of MBRs. The ex-post approach obliges bidders to launch a mandatory bid after acquiring shares exceeding the threshold. This contrasts with the ex-ante approach, which requires bidders to make

a mandatory bid before acquiring shares exceeding the threshold. According to OECD (2021), most jurisdictions considered in connection with the MBR have established a mechanism for determining a minimum offer price, which is measured either by the highest price paid by the bidder, the average market price, or a combination of both. The jurisdictions of Israel, Japan, South Korea, Mexico, New Zealand, and South Africa do not have minimum bid price rules. A more comprehensive overview is provided in Annex 1, which also contains the minimum bid price rules according to OECD (2021).

The MBR is not found in all countries with a developed capital market. For example, the United States of America is an exception, as the Williams Act, introduced in 1968 to regulate corporate takeovers, does not require MBR (Kenyon-Slade, 2004). It is at the discretion of the bidder whether to approach

shareholders, either on an unsolicited basis without the target's prior consent or on the basis of a private agreement between the bidder and the target (OECD, 2021).

In the literature, Rossi and Volpin (2004) analyze a total of 49 countries in their paper and – among many other determinants — analyze the effect of a MBR and other more general national minority shareholder protection regulations on the takeover premium paid. The diametric results show that the introduction of the MBR has a significantly negative impact, and the general national measures to strengthen minority shareholder protection have a significantly positive impact on the takeover premium. The study is limited since it has a more general scope, it refers to the legal status of 1995, which is outdated from today's perspective, and successive share acquisitions were not controlled for. In their study, Alcalde and Pérez-Soba

Table 1. Target nations' thresholds and triggers for mandatory bids

Target nation	Takeover threshold	Trigger for mandatory offer
Argentina	50%	The acquirer alternatively controls the number of shares to determine the company's policy at regular shareholders' meetings or may appoint or revoke the appointment of most of the directors or members of the supervisory committee.
Australia	20%	The acquirer controls share from more than 20% to less than 90%.
Austria	30%	/
Belgium	30%	/
Brazil	No threshold	The acquirer controls the target.
Canada	20%	/
Chile	No threshold	The acquirer controls two-thirds of the voting rights.
China	30%	/
Colombia	25%	Each acquisition of 5% by a shareholder with 25% triggers a new mandatory offer.
Costa Rica	25%	/
Czech Republic	30%	The acquirer alternatively controls the board.
Denmark	33%	/
Estonia	50%	The acquirer alternatively controls the board.
Finland	30%, 50%	/
France	30%	/
Germany	30%	/
Greece	33%	Each acquisition of 3% by a shareholder with 33-50% within six months, triggers a new mandatory offer.
Hong Kong	30%	Each acquisition of 2% by a shareholder with 30-50% within a year, triggers a new mandatory offer.
Hungary	33%	A mandatory offer can already be triggered at 25% of the voting rights if no other shareholder holds more than 10%.

Continued **Table 1.** Target nations' thresholds and triggers for mandatory bids

Target nation	Takeover threshold	Trigger for mandatory offer
Iceland	30%	/
India	25%	Each acquisition of 5% by a shareholder with 25% within a year, triggers a new mandatory offer.
Indonesia	50%	The acquirer alternatively controls the board.
Ireland	30%	Alternatively, a mandatory offer will be triggered upon the acquisition of 0.05% consolidating control.
Israel	25%, 45%, 90%	/
Italy	25%	Each acquisition of 5% by a shareholder with 30-50% within a year, triggers a new mandatory offer. The threshold for SMEs is 30%.
Japan	33%	A mandatory offer will be triggered if the acquirer alternatively controls 5% of the voting rights of 10 or more SHs within 61 days.
Korea	No threshold	A mandatory offer is triggered if the acquirer controls 5% of the voting rights of 10 or more SHs.
Latvia	30%	/
Lithuania	33%	/
Luxembourg	33%	/
Malaysia	33%	Each acquisition of 2% by a shareholder with 33-50% within six months triggers a new mandatory offer.
Mexico	30%	The acquirer alternatively controls the target.
Netherlands	30%	/
New Zealand	90%	/
Norway	33%, 40%, 50%	/
Peru	25%, 50%, 60%	/
Poland	33%, 66%	/
Portugal	33%, 66%	/
Russia	30%, 50%, 75%	/
Saudi Arabia	50%	/
Singapore	30%	Each acquisition of 1% by a shareholder with 30-50% within six months triggers a new mandatory offer.
Slovak Republic	30%	The acquirer alternatively controls the board.
Slovenia	33%	/
South Africa	35%	/
Spain	30%	The acquirer alternatively controls the board. The acquirer controls the number of shares alternatively to appoint several directors who represent more than one-half of the members of the management body of the company within 24 months.
Sweden	30%	/
Switzerland	33%	The threshold may be increased up to 49% of the voting rights or canceled by the Company.
Turkey	50%	/
United Kingdom	30%	Each acquisition by a shareholder with 30-50% triggers a mandatory offer.

(2016) use OLS regression to investigate whether the introduction of the MBR has significantly improved the protection of minority shareholders, measured by the number of takeovers and the offered premium, in Spain over time. The results suggest that the introduction of the MBR in Spain has not contributed to improve minority shareholder protection. Overall, a decrease in the number of takeover bids in the Spanish corporate control market was observed. On the other hand, the results show that the takeover premium paid is significantly lower after the implementation of the MBR than before.

The aforementioned results are in line with Clerc et al. (2012), who shows in an earlier study that the European market for corporate control has not become more open or competitive since the implementation of the MBR. The paper by Eswar (2019) uses the difference-in-differences approach to investigate whether the implementation of the MBR in European countries, affects the cumulative abnormal returns of target firms. The results suggest that the change in legislation leads to higher cumulative abnormal returns. The authors thus provide indications for an overpayment of the acquirer and a higher takeover premium. However, in principle, the higher cumulative abnormal returns of the target can also be attributed to influences other than the size of the takeover premium.

Based on the available evidence, we hypothesize that exceeding the threshold that triggers a mandatory offer is associated with a significant change in the takeover premium.

Pérez-Soba, Márquez-de-la-Cruz, and Martínez-Cañete (2018) investigate the characteristic features of a block M&A transaction below the MBR threshold and their impact on the takeover premium for the Spanish market. Even though the research was conducted below the mandatory bid threshold and only for the national market, their results show that acquirers are willing to pay significantly higher premiums to gain some control in the company. We, therefore, expect that successive share acquisitions, irrespective of the triggering of a takeover bid, will be associated with a significantly increasing takeover premium.

3. Methodology and Sample

Refinitiv Eikon registers 293,291 completed M&A transactions with a deal volume larger than or equal to 1 million USD in the period 01.01.2000 to 31.12.2021.

Transactions with a deal volume of less than 1 million USD are excluded from the analysis due to their economic irrelevance. In further data processing, all incomplete observations are removed, leaving 39,215 complete observations in the data set. In the next step, all transactions corresponding to the deal form “buyback” or “recapitalization” are removed from the sample since the “buyback” as a share buyback, and the “recapitalization” as an equity and debt restructuring measure does not represent an M&A transaction in the true sense. Furthermore, only transactions in which the target company is listed on the stock exchange and has “public” status are included.

In a second step, all transactions are excluded where the target nation does not correspond to the countries under consideration, according to OECD (2021) (see Table 1). The target nations Brazil, Chile, Korea, and the United States of America were also removed from the dataset. These countries do not have a codified MBR threshold, according to OECD (2021). This leaves 22,187 transactions to be considered for further analysis. Appendix 2 shows that Japan is the target nation with the most transactions (4,552), followed by China (2,893) and Canada (2,893).¹ The three target sectors with the most transactions are “Consumer Cyclical” (4,186), “Industrials” (3,715), and “Basic Materials” (3,242), as shown in Appendix 3. The years 2007 (1,444), 2008 (1,258), and 2009 (1,327) account for the most transactions (see Appendix 4).

The explained variable is the 1-week takeover premium (PREM1WEEK) in percent, which is calculated from the closing share price on the announcement day minus the closing share price one week before the announcement, divided by the closing share price one week before the announcement. The explained deal variables 4-week and 1-day takeover premium (PREM4WEEK, PREM1DAY) are also introduced for subsequent robustness tests.

To operationalize the impact of the MBR on the takeover premium in appropriate explanatory variables, dummy coded MBR threshold variables (MBR.20, MBR.25, MBR.30, MBR.33, and MBR.Larger.33) are created for target nations with one or more individual thresholds. These contain the value “1” if the transaction exceeds the corresponding national threshold and “0” in all other cases. For target nations with a minimum threshold and additional triggers or conditions, the MBR threshold variables are created for the minimum threshold only. For target

1 The appendix to this article is available online at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5553443

nations where the threshold is linked to company size, the lowest threshold is coded. Finally, 12 thresholds were identified, with the first four (MBR.20, MBR.25, MBR.30, and MBR.33) applied in 39 of the 57 target nation restrictions. In the analysis, the remaining eight thresholds (35%, 40%, 45%, 50%, 60%, 66%, 75%, and 90%) were coded, but the individual effects were combined into one variable (MBR. Larger.33) for the regression.

Referring to the findings of Pérez-Soba, Márquez-de-la-Cruz, and Martínez-Cañete (2018) that acquirers pay a significantly higher takeover premium with an increasing degree of control, we control for the impact of this successive share acquisition in the form of dummy-coded share interval variables. The variable *CI.XtoY* is a dummy-coded variable that always takes the value “1” if the acquirer holds less than or equal to *Y*% of the target before the transaction and more than or equal to *X*% after the transaction. Accordingly, if, for example, an acquirer already holds 7% before the transaction and 17% after, the variables, *CL.5to10*, *CL10to15*, and *CL15to20* will be set to “1”.

In quantitative empirical capital market research, numerous deal-, target- and acquirer-specific determinants of the takeover premium are well known. Table 2 below provides an overview of the control variables used.

To deal with outliers, the deal variables 4-week, 1-week, and 1-day takeover premium (*PREM4WEEK*, *PREM1WEEK*, *PREM1DAY*), as well as the target variables leverage ratio (*LEVERAGE*), return on capital employed (*ROCE*) and book-to-market ratio (*B2MR*), are winsorized to the 1% and 99% percentile. The deal variable Deal Value in USD million (*DEALVAL*) is logarithmized with the natural logarithm.

We control for possible self-selection bias in the sample using the two-step Heckman approach. In the initial stage, we estimate the probability that a given M&A transaction will proceed to completion. This is a prerequisite for observing an acquisition premium. The relative size of the target to the acquirer is utilized as the exclusion restriction for identification purposes. This variable is motivated by prior M&A research (e.g., Moeller et al., 2004), which demonstrates that deals involving relatively larger targets are more likely to fail due to financing constraints, integration complexities, or regulatory concerns. Consequently, the target-to-acquirer size ratio emerges as a robust predictor of deal completion. However, it is unlikely to exert a direct influence on the premium paid

in completed transactions, thereby satisfying the requirement for a valid exclusion restriction.

While this instrument possesses empirical precedent and theoretical plausibility, it must be acknowledged that it may not be entirely free from endogeneity if unobserved characteristics—such as synergistic potential or strategic fit—affect both deal size and pricing. To address these concerns, we employ robustness checks using alternative model specifications and clustering techniques. Nevertheless, we interpret the results of the Heckman correction with appropriate caution and present them as one part of a broader empirical strategy.

We build a probit model mainly with the same variables than our regression model and determine the inverse Mills ratio (λ) for all observations. We insert the λ into the OLS model (1) in the second step.

$$\begin{aligned} PREM1WEEK_i = & \\ & const + \sum_x \beta_x MBR_x + \sum_y \beta_y CI_y + \beta_1 \ln DEALVAL_i + \beta_2 PAYMENT_i + \beta_3 ATTITUDE_i \\ & + \beta_4 SECTOR.RELATED_i + \beta_5 PUBLIC.ACQ_i + \beta_6 LEVERAGE_i + \beta_7 ROCE_i + \beta_8 B2MR_i \\ & + \beta_7 ROCE_i + \sum_a \beta_a YEAR_a + \sum_b \beta_b SECTOR.ACQ_b + \sum_c \beta_c SECTOR.TARGET_c \\ & + \sum_d \beta_d NATION.ACQ_d + \sum_e \beta_e NATION.TARGET_e + \lambda_i + \varepsilon_i \end{aligned} \quad (1)$$

To ensure the robustness of the regression results, we include robust standard errors against heteroskedasticity to avoid the risk of bias in the standard errors.

4. Empirical Results and Discussion

Of the 22,187 M&A transactions considered in the survey, a total of 20,099 deals were financed with cash and 2,088 deals with equity swaps. Most of the takeover behavior was friendly (20,093), while 94 transactions were categorized as hostile. A total of 5,721 cross-border transactions were recorded where the target nation was not the same as the acquirer nation. In the vast majority of transactions (13,603), there is no match between the economic sector of the target and the acquirer. 15,162 of the acquirers have the status “public” and 7,025 are classified as “private”. Table 3 shows all metric variables. Despite the winsorisation, the deal variables 4-week, 1-week and 1-day acquisition premium show considerable

Table 2. Table of variables

Variable	Previous findings from the literature
Deal Value in USD million (DEALVAL)	According to Alexandridis et al. (2013), the size of the target firm is negatively related to the takeover premium level. Furthermore, large businesses frequently have a low ownership concentration of managers (Demsetz & Lehn, 1985), which leads to managers accepting a lower takeover premium (Bauguess et al. , 2009). On the other hand, Zhu and Jog (2009) claim that the takeover premium is proportional to the deal size. According to Moeller, Schlingemann, and Stulz (2004), large corporations also have much larger takeover premiums.
Consideration Structure (PAYMENT)	Various empirical studies have found that takeover premiums for cash-based deals are much higher than for equity-based transactions. According to Wansley, Lane, and Yang (1987), lower premiums are paid for stock-based transactions since the stock swap creates unrealized profits for the target company's owners. According to Davidson and Cheng (1997), the premium amount in cash-based acquisitions is due to compensation of the target company's shareholders' tax burden. However, Goergen and Renneboog (2004) claim that cash payment relates to an undervaluation of the acquiring company.
Deal Attitude (ATTITUDE)	Franks and Mayer (1996) and Jensen (1988) indicate that premiums paid in hostile takeovers are larger than in friendly takeovers.
Crossborder Transaction (CROSSBORDER)	According to Swenson (1993) and Rossi and Volpin (2004), cross-border transactions have a significantly larger premium than domestic transactions. Zhu and Jog (2009) analyzed emerging markets and showed that foreign-acquiring companies pay substantially higher premiums than domestic-acquiring companies.
Sector Relatedness (SECTOR.RELATED)	In their analysis, Gaspar, Massa, and Matos (2005) claim that target companies receive a higher premium in intra-industry transfers. According to Zhu and Jog (2009), cross-border intra-industry transactions have a larger average takeover premium than domestic transactions.
Public Status of the Acquiror (PUBLIC.ACQ)	Bargeron et al. (2008) and Zhu and Jog (2009) differentiate between private and public listed acquirers and show that private acquirers pay a lower premium than public acquirers.
Book-to-Market Ratio (B2MR)	The book-to-market ratio as a price-determining factor implies how expensive an acquisition is (Bargeron et al. , 2008; Alexandridis et al. , 2013).
Leverage of the Target (LEVERAGE)	According to Covrig, McConaughy, and Travers (2015), higher takeover premia are related to higher leverage levels, suggesting that more leveraged targets may receive higher takeover premia. The more leverage a target firm has, the fewer cash or shares an acquirer will need to control it.
Return on Capital Employed (ROCE)	The return on capital employed, reflects the profitability of a target company and is a value-driving factor (Pérez-Soba, Márquez-de-la-Cruz & Martínez-Cañete, 2018).
Year / Timing / Merger Waves (YEAR)	Many studies show that the development of the M&A market takes on a wave-like course concerning the takeover premium paid. These so-called M&A waves are influenced by macroeconomic factors (Meier, Boysen-Hogrefe & Spoida, 2016). In expansion phases, Lambrecht (2004) shows that the timing of acquisitions is linked to economies of scale. M&A waves, according to Shleifer and Vishny (2003), Rhodes-Kropf, Robinson, and Vishwanathan (2005), and Cai and Vijn (2007), are caused by the stock market overvaluation of acquiring corporations.
Industry / Sector (SECTOR.TARGET, SECTOR.ACQ)	Several authors suggest that the takeover premium depends on the acquirer's industry and target (Dutz, 1989; Cakici, Hessel & Tandon, 1991; Meschi, 1997), while others find no relationship between the premium paid and the industry (Alexandridis et al., 2013).
Nation (NATION.TARGET, NATION.ACQ)	The acquirer and the target nation can impact the premium paid in an M&A deal. Investor protection also increases M&A activity, according to La Porta et al. (1997). According to Jackson and Miyajima (2007), decreased premiums in the coordinated market economy are accompanied with stakeholder protection. According to Edwards & Fischer (1994) and Levine (2002), the premium paid is influenced by the economy's capital market or bank orientation.

Table 3. Descriptive statistics of the metric variables

	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
PREM1DAY	12.493	42.146	-81.368	-6.440	5.170	25.565	239.202
PREM1WEEK	14.656	43.419	-81.030	-5.185	7.140	28.925	245.138
PREM4WEEK	17.365	46.330	-81.192	-4.850	10.000	33.125	268.779
lnDEALVAL	3.677	2.024	0.001	2.145	3.554	5.023	11.890
LEVERAGE	0.521	0.337	0.008	0.304	0.505	0.695	2.954
ROCE	-0.015	0.240	-2.105	-0.023	0.026	0.069	0.550
B2MR	0.923	1.084	-1.899	0.313	0.638	1.190	6.728

skewness in the distribution due to a deviation of the median from the arithmetic mean.

The regression results of Model 2 in Table 4 show: While exceeding the 20% MBR threshold shows a significant positive impact, the 25%, 30%, and greater than 33% MBR thresholds show substantial negative results. The 20% MBR threshold group includes the jurisdictions of Australia and Canada, with 3,789 transactions exceeding the threshold (17.078%). We find a particularly strong MBR effect in the jurisdiction of Canada. In contrast, the MBR threshold groups 25%, 30% and greater than 33% show a significant negative MBR effect on the takeover premium. We find particularly strong MBR effects in the 25% MBR threshold group in India and in the 30% MBR threshold group in China, Hong Kong, Latvia, Mexico, Singapore and Spain. The 25% MBR threshold group has 524 (2.362%) and the 30% MBR threshold group has 3,441 (15.510%) cross-threshold transactions. The larger than 33% MBR threshold group is an exception as it combines various overlapping individual thresholds and their individual regression effects and coefficients into one regressor. Estonia particularly drives the negative effect at 50%, Indonesia at 50%, Peru at 60%, Israel at 90%, and New Zealand at 90%. In total, 710 above-threshold transactions (3.200%) fall into the greater than 33% MBR threshold group. We cannot find a statistically significant result for the 33% threshold group (MBR.33), which includes 2,078 above-threshold transactions (9.366%).

Within the scope of the study, we controlled for the effect of successive share acquisition in the form of the share interval variable to isolate it from the effect of MBR on the takeover premium. Single significant results can be detected: The control interval 5-10% has a significant negative, and the control intervals 50-55%, 75-80%, and 95-100% have a significantly positive

effect on takeover premiums paid. We interpret the significant regression result in the control interval of 5-10% as a reverse squeeze-out effect. We interpret the positive effect in the control interval of 50-55% as a price premium for the acquisition of most rights in the target company and related obligations, such as the obligation to fully consolidate the target company as a subsidiary in the consolidated financial statements. We interpret the positive effect in the 75-80% control interval as a price premium because the acquirer deprives the minority shareholders of the possibility to prevent resolutions by a qualified majority so that the remaining shareholders can no longer form a blocking minority. Furthermore, we interpret the positive effect in the 95-100% control interval as a price premium in the context of an initiated squeeze-out procedure and the associated compensation for the exclusion of minority shareholders.

The impact of deal value (lnDEALVAL) is significantly positive, consistent with the findings of Zhu and Jog (2009) and Moeller, Schlingemann, and Stulz (2004). The choice of cash financing (PAYMENTCash), as opposed to equity swaps, is significantly positive, consistent with the findings of Wansley, Lane, and Yang (1987) and Davidson and Cheng (1997). The results show that hostile takeover behavior, as opposed to peaceful, also significantly impacts the takeover premium. Like Swenson (1993) and Rossi and Volpin (2004), we can also show that cross-border transactions (CROSSBORDER) lead to significantly higher takeover premia. Like Alexandridis et al. (2013), we do not find a significant directional relationship when the economic sectors of the target and the acquirer match (SECTOR.RELATED)—on average, publicly listed acquirers (PUBLIC.ACQPublic) pay significantly higher premiums. We thus support the findings of Bargerion et al. (2008) and Zhu & Jog (2009), who conclude that

Table 4. Regression results

	Model 0	Model 1	Model 2
<i>Dependent Variable</i>	PREM1WEEK	PREM1WEEK	PREM1WEEK
	<i>coeff.</i>	<i>coeff.</i>	<i>coeff.</i>
<i>Independent Variable</i>	<i>t-value</i>	<i>t-value</i>	<i>t-value</i>
MBR.20			5.336**
			-2.080
MBR.25			-4.556*
			-2.691
MBR.30			-3.110*
			-1.734
MBR.33			-0.927
			-1.623
MBR.Larger.33			-5.400***
			-2.092
InDEALVAL	3.679***	2.348***	2.354***
	0.164	(0.185)	(0.185)
PAYMENTCash	4.270***	12.726***	12.857***
	-1.217	-1.304	-1.306
ATTITUDEHostile	8.214**	8.701**	8.164**
	-3.505	-3.636	-3.652
CROSSBORDER	2.558***	4.244***	4.281***
	(0.988)	(0.982)	(0.982)
SECTOR.RELATED	0.295	-0.594	-0.618
	-1.022	-1.014	-1.013
PUBLIC.ACQPublic	3.252***	2.603***	2.652***
	(0.668)	(0.658)	(0.657)
LEVERAGE	3.046**	2.406*	2.278
	-1.426	-1.420	-1.421
ROCE	-10.345***	-11.485***	-11.709***
	-2.153	-2.138	-2.132
B2MR	10.587***	9.905***	9.871***
	(0.473)	(0.473)	(0.473)
Control Intervals		✓	✓
Industry Acquiror	✓	✓	✓
Industry Target	✓	✓	✓
Nation Target	✓	✓	✓
Nation Acquiror	✓	✓	✓
Year	✓	✓	✓

Continued **Table 4.** Regression results

	Model 0	Model 1	Model 2
λ	1.180	2.070	2.076
	-1.999	-1.955	-1.951
Constant	-21.894***	-27.934***	-27.104***
	-3.044	-3.083	-3.113
Observations	22,187	22,187	22,187
R2	0.184	0.206	0.207
Adjusted R2	0.176	0.198	0.199
Residual Std. Error (df = 21956)	39.413	38.882	38.854
F Statistic (df = 230; 21956)	24.352***	25.576***	25.212***
Note:	*p<0.1; **p<0.05; ***p<0.01		

private acquirers pay lower premiums than public acquirers. We find a significant, positive influence of the leverage ratio (LEVERAGE) on the takeover premium. Furthermore, we find a negative impact of the target variable Return on Capital Employed (ROCE) on the takeover premium and a positive impact of the variable Book-to-Market Ratio (B2MR) on the premiums. The fixed year, target sector, acquirer sector, target nation, and acquirer nation effects were added to the models.

We checked our results for robustness by introducing the 1-month takeover premium and the 1-day takeover premium as explained variables in the models. The robustness checks carried out generally confirm the results obtained (see Appendix 5). This work is not without limitations. On the one hand, we acknowledge that in the dataset, after adjustment, there is an overweighting of countries such as China or Japan relative to the distribution of M&A transactions across the selected countries. Second, we could only operationalize the effect of MBR through thresholds. Since, in many countries, there are additional triggers for a mandatory offer besides the fixed thresholds, pure threshold variables in the OLS regression cannot fully capture the effect (see Table 1).

Furthermore, this study does not differentiate between mandatory and voluntary takeover rules. The binding nature of a takeover rule may influence its effect. Again, not all the target nations considered have a minimum bid price rule, so the effectiveness of the MBR in these jurisdictions is questionable.

5. Conclusion

5.1. Summary of the Findings

We conduct a quantitative-statistical cross-sectional analysis of the effect of exceeding takeover bid trigger thresholds in M&A transactions in a large sample study for 49 countries, including all OECD, G20, and Financial Stability Board members for the period 2000 to 2021. Our research results show that exceeding the 25%, 30%, and greater than 33% thresholds have a negative impact on the takeover premium, such that MBR as investor protection is associated with a price discount at the expense of the remaining shareholders. The results indicate that the national legislators fail to effectively protect minority shareholders by introducing the MBR if the price discount is not proportionate to the intended protective effect. We find an exception when the 20% threshold is exceeded, as exceeding the threshold is associated with a price premium. We find no significant effect at the 33% threshold. In this study, we control for the effect of successive share purchases, and many control variables are confirmed in the literature on the takeover premium.

While this result may seem counterintuitive at first, it is consistent with the strategic effects that such regulation introduces into the transaction process. By mandating a uniform offer to all minority shareholders once a control threshold is exceeded, the MBR has the potential to reduce the bargaining leverage of minority

investors and may discourage rival bids, particularly in jurisdictions with strong enforcement. Acquirers may find greater certainty in consolidating control beneficial, as it could allow them to offer lower premia without compromising deal success. These results add to existing theoretical perspectives that emphasize the trade-offs between formal legal protection and actual bargaining dynamics in takeover markets. Rather than enhancing minority shareholder outcomes in purely financial terms, it appears that the MBR may shift the negotiation environment in favor of the acquirer, thereby affecting the premium structure in predictable ways.

5.2. Limitations and Prospects for Future Research

While this study provides valuable insights into the relationship between the Mandatory Bid Rule (MBR) and M&A premiums across different legal contexts, it is important to note that the study is subject to certain limitations, particularly concerning the modeling of institutional heterogeneity.

We include country fixed effects to absorb unobserved, time-variant differences across jurisdictions, and we define MBR exposure at the country level to reflect actual implementation. However, our analysis does not incorporate more granular institutional variables such as the legal definition of minority shareholders, jurisdiction-specific control thresholds for triggering MBR provisions, or the degree of minority shareholder participation in governance. While these features are relevant in theory, operationalizing them in a cross-country empirical setting can be challenging due to the limited availability of structured, comparable data and the complexity of legal variation.

Despite the implementation of a Heckman two-step model to address selection bias in observed premiums, concerns regarding endogeneity persist. In particular, jurisdictions with MBRs may differ systematically from those without. Acquirers may self-select into deals based on unobservable factors correlated with premiums. Due to the limitations of the available legal and temporal data, it is not possible to implement a difference-in-differences approach based on staggered MBR introductions or threshold rule changes. Nevertheless, we recognize this as a significant avenue for future research.

It is not possible to control for pre-bid stock run-ups or reference price effects in all transactions due to data gaps. These data gaps are particularly problematic in the case of private targets or less transparent jurisdictions. These factors have the potential to influence offer premiums, as suggested in recent behavioral finance literature. To address this, we include year fixed effects and region-level clustering to capture market-wide trends.

Furthermore, it is important to acknowledge that legal thresholds and interpretations of shareholder rights are subject to change over time and can vary within countries depending on regulatory practices, court rulings, or listing segments. Incorporating such detail would require a comprehensive comparative legal coding effort, which lies beyond the scope of this study.

Nevertheless, these institutional differences represent important avenues for future research. In the future, we may have the opportunity to build upon our framework by integrating country-level indicators of shareholder protection, governance engagement, or enforcement strength. It is possible that mixed-method approaches, which combine legal analysis with quantitative modeling, could be particularly well-suited to disentangling the mechanisms through which the MBR influences transaction outcomes in different institutional environments.

5.3. Practical and Academic Implications

The findings of this study offer both theoretical and practical ramifications. From an academic perspective, the proposal suggests that mandatory post-acquisition bid rules may potentially modify the bargaining dynamics between acquirers and minority shareholders, resulting in the adoption of more conservative valuation strategies. This contributes to the extant literature on corporate governance by highlighting a mechanism through which legal protection does not necessarily translate into monetary advantage for minority investors.

The findings imply that regulators should carefully consider the trade-offs embedded in MBR provisions. While the primary intention behind the establishment of MBRs was to safeguard the interests of minority shareholders, it is important to note that they may also have the unintended consequence

of reducing competitive pressures in the bidding process or disincentivizing the imposition of high offer premiums by formalizing exit options. For corporate practitioners and advisors, understanding the strategic implications of MBR presence is critical when structuring cross-border transactions or engaging with minority stakeholders.

Subsequent research endeavors may investigate these ramifications in greater depth by integrating legal analysis with transaction-level data or evaluating behavioral responses to MBR enforcement across different legal jurisdictions.

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