What is the Effect of Prohibiting the Target Termination Fees? Evidence from the Reform of the Takeover Code in the UK

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Abstract

The reform on the UK Takeover Code in 2011 prohibits the use of target termination fees in takeover agreements, which provides a natural environment to investigate the protection of target firms. To isolate the effect of inhibiting termination fees from other updated clauses in the reform, we identify takeovers that are highly likely to employ termination fees if no prohibition clause. The prohibition clause significantly reduces the possibility of deal completion, bid premiums, and deal announcement returns of target shareholders for takeovers with predicted target termination fees. These findings reversely support the efficiency hypothesis regarding to the role of termination fees. However, proscribing the use of termination fees does not rebound the deal competition level and being in an auction only moderately influences final bid premiums. Hence, we fail to evidence the managerial discretion hypothesis and doubt the efficiency of the reform regarding to the target firm protection.

Keywords: Takeovers; Target termination fees; the Takeover Code reform; Target firm protection; Efficiency hypothesis

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1. Introduction

Incorporating termination fees of target firms in acquisition agreements is one of the deal protection mechanisms to enhance the possibility of deal completion by locking up the target firms. With target termination fees, the bidder receives financial compensation from the target firm when a deal is not consummated due to the abrogation of the acquisition agreement from the target side. Previous financial studies investigating the effect of termination fees of target firms mainly focus on the discussion of two controversial hypotheses: the managerial discretion hypothesis and the efficiency hypothesis. However, by far, there are insufficient empirical studies analyzing the role of target termination fees and discussing which hypothesis is supported in the UK context. Moreover, the anti-takeover laws in the US lack of exogenous variation. Contrary to the US, a reform of the UK Takeover Code in September 2011 repealing the employment of target termination fees in the UK takeover agreements (Code Committee, 2012) provides a natural experimental environment for us to investigate the protection of targets. We design to isolate the effect of inhibiting the target termination fees from other new-added clauses in the regulatory change and explore whether this prohibition of target termination fees benefits or harms target shareholders.

In this paper, first, we examine whether target termination fees perform as deal protection devices and which hypothesis on the role of termination fees is supported in the pre-reform period. Then, we exploit how the reform contributes to the performance of takeovers in general. Following this, we create a proxy of target break fees by predicting the possibility of employing target break fees for each takeover and examine whether the clause of inhibiting target break fees in the reform successfully protects the benefits of target firms as anticipated.

The managerial discretion hypothesizes that target termination fees deter the post-announcement bidding competition. This deterrent effect inhibits the shareholders of targets to receive potentially higher bid price from superior bidders (e.g. Jennings and Mazzeo, 1993; Banerjee and Owers, 1992; Coates and Subramanian, 2000; Calcagno and Falconieri, 2014). The centrum of this hypothesis is the agency problem between managers and shareholders (Jensen, 1986). To secure a job in the post-takeover period, target managers may select an acquirer who is "friendly" to them by offering them job retention, although the offered price is low. By locking target termination fees in the agreement, shareholders of target firms may pass the current approach to avoid financial penalties. In contrast, research supporting the efficiency hypothesis suggests that target termination fees release bidder's concern of free-riding from other potential competitors (e.g. Berkovitch, Bradley, and Khanna, 1989). Hence, under the efficiency hypothesis, deal completion rate is higher and stock market response is more optimistic towards the deal announcement when target termination fees are employed in takeover contracts (e.g. Bates and Lemmon, 2003; Boone and Mulherin, 2007). In this paper, we tend to discuss the "puzzle" of target termination fees in the UK takeovers market from four aspects: deal completion rate, competition level, bid premiums and deal announcement returns.

In the UK takeovers market, the pre-emptive anti-takeover provisions are not allowed to implement, which potentially weakens the bargaining position of target firms from the beginning of the negotiation process (e.g. Armour and Skeel, 2006). Using target termination fees potentially takes more crucial effect on the protection of the target side compared with the US market. An anecdotal case of the hostile takeover between Kraft and Cadbury employed break fees of approximately 117.7 million pound sterling for Cadbury, and it took more than two years from the date of rumors of bidding until the date of deal announcement. This evidenced that it was too easy for the UK firms to be acquired successfully under the UK takeover regime (Moeller, 2012). To rebalance the bargaining positions of bidders and targets,

the Takeover Code had a reform in 2011. When empirically examining the target firm's protection, this nationally and exogenously regulatory change overcomes the limitation of setting based on the US takeovers market that has both federal law and different states laws and rare exogenous variation in anti-takeover laws[1].

Restrepo and Subramanian (2016) are the first to examine the effect of the reform on the Takeover Code in 2011 by comparing the performance of takeovers undertaken in the UK and other European Group countries. They mainly discuss their findings as a consequence of inhibiting the use of breakfees of targets in the updated Takeover Code, while they acknowledge that their results cannot explain "whether the prohibition of certain deal-protection devices has more of a deterrent effect than the prohibition of others". Our paper fills the gap by distinguishing the effect of prohibiting the target break fees from other new-added clauses.

We notice that in the version of the Takeover Code in 2011, four new features[2] are added. To identify the takeovers that would be highly likely to employ the target termination fees, we predict the probability of having target break fees for full sample based on the likelihood model generated by takeovers happened before the year of the reform. Through this way, we create a new proxy representing target termination fees if targets were free to choose the employment of termination fees as a deal protection device against the risk of breaking up or underlying

[1] In the US, the Williams Act and Amendments enacted in 1968 and 1970 respectively introduced the government intervention in protecting target shareholders by requiring more information disclosure during the offer process, and this Act increased the offer price and decreased the stock returns to acquirers (e.g. Jarrell and Bradley, 1980; Malatesta and Thompson, 1993). Irrespective to this federal law, most states in the US have their own state laws relevant to different aspects such as tender offer and antitakeover activities, which commonly regulates the takeover negotiation process and the firm's takeover protection (Jarrell and Bradley, 1980; Karpoff and Wittry, 2017 JoF). Hence, it is hard to split the Williams Act effect from other state laws effect when investigating the impact of the federal law.

[2] Four added terms in the revised Takeover Code decreed in 2011 are as following: general prohibition of the usage of inducement fees, potential bidder identification at the beginning of offer period, automatic 28-day Put-up Shut-up (PUSU) deadlines and enhanced disclosure in relevant offer documents (Clifford Chance, 2012).

competition. The created proxy also avoids the problem of lacking observable samples with target termination fees in the post-reform sample period. Simultaneously, this research setting differentiates the impact of prohibiting target termination fees from prohibition of other deal protection devices. Moreover, the new proxy of target break fees effectively controls for the potential endogeneity caused by the self-selection or the reverse causality when testing the effect of target break fees on the wealth gains of target shareholders.

Based on the UK takeovers market, we show that termination fees of targets facilitate the takeover's likelihood of being completed and improve bid premiums and deal announcement returns of target shareholders in the pre-reform period. Next, by using takeover sample undertaken across the timespan from 2006 until 2016, we examine the general effect of the reform on the protection of target firms. The regulatory change has moderate effects on all aspects that we measure target firm protection, which doubts the efficiency of the amendment of the Takeover Code (Restrepo and Subramanian, 2016).

Subsequently, we run the regressions to specifically explore the effect of the abrogation of target break fees by interacting the proxy of target termination fees with the dummy of post-reform period. We find that in the post-reform period, the possibility of being completed is significantly lower for takeovers that would be highly likely to employ target break fees if no ban on the application of target termination fees. Simultaneously, target shareholder returns through deal announcements and bid premiums are prominently lower for takeovers with hypothesized break fees in the post-reform period. These results imply that target termination fees perform as deal completion devices and protect the wealth effects of targets, which supports the efficiency hypothesis. However, the interaction only takes moderate effect on the target's possibility of being in an auction. We interpret that the inhibition of using termination fees does not facilitate other firm's bidding interests for post-reform takeovers. Associated with the insignificant relationship between the target termination fees and the likelihood of being in

an auction in the pre-reform period, we suggest that the target termination fees do not dominate the level of public competition in the UK takeovers market. Policy makers aiming at improving the bargaining position of target firms may consider how to stimulate the takeover competition. Our results are robust with several changes on models or variable measures.

This study contributes to the literature through several ways. First, we scrutinize the role of target termination fees and the efficiency of the regulatory change on the UK Takeover Code in 2011 in terms of the protection of target firms. Second, from the very top of our mind, this is the first study that focuses on investigating the effect of target termination fees in a natural experimental environment constructed by a regulatory change. Third, we are also the first constructing a proxy of termination fees to identify takeovers with hypothetical target termination fees and distinguish the effect of the proscription of using target termination fees from the effects of other updated clauses in the reform. As such, this method controls for the potential endogenous problem when testing the effect of termination fees. Although the reverse causality problem between bid premiums and inducement fees has been coped with in previous research (e.g. Officer, 2003; Jeon and Ligon, 2011), we broaden the endogeneity concern thoroughly for each deal. This research is also expected to have high political impact.

This paper continues as follows. Section 2 reviews literature. Section 3 presents data and research design. Sample and descriptive statistics are in Section 4. Section 5 shows our empirical analyses including a placebo test. Robustness tests are in Section 6. Section 7 concludes.

2. Literature Review

Previous literature has well investigated the effects of target break fees on bid success rate, post-announcement bidding competition and wealth effect of target shareholders. Bates and Lemmon (2003) and Officer (2003) commonly find that target termination fees significantly

improve the bid success rate. Jeon and Ligon (2011) for the first time clarify that the different values of termination fee take various effects on the performance of takeovers. Their results show that the bid completion rate improves when termination fees are at low (below the 33rd percentile) and median (between 33rd and 66th percentiles) levels, and only median-size termination fees significantly encourage the deal completion. In contrast, when termination fee is high (above the 66th percentile), it significantly deters the deal completion. Bates and Lemmon (2003) indicate that the cost of terminating the offer talk is heavy for target side, the limitation of the use of target inducement fees unloads target's burden of monetary penalties when they withdraw the offer talk. Hence, the prohibition of using termination fees tends to significantly decrease the deal completion rate.

Mixed results are shown by extant research in terms of the effect of termination fees on the competition in the public negotiation period. Officer (2003) demonstrates a weak evidence that takeovers with target termination fees have lower bid competition. A more recent paper from Nessler, Schneck, and Zimmermann (2014) also fails to evidence that target termination fee discourages the post-announcement bid competition. However, Jeon and Ligon (2011) suggest that the effect of target termination fees on bid competition also depends on the size of the termination fees of target. They empirically document that only high termination fees (above the 66th percentile) have detrimental effect on the competition from other potential bidders. In this paper, we are interested in exploring whether less competition from other potential bidders when the clause of no target termination is conducted.

The anticipated possibility of deal completion and deal competitiveness tend to promote the offer price so that offer premiums (Eckbo, 2009; Ahern and Sosyura, 2014). Bates and Lemmon (2003) employ both offer premiums and shareholder returns of target as measures of shareholder wealth gains. They evidence that incorporating target termination fees in the contract assists shareholders of target firms to argue for higher offer premiums and the stock

market of target firm also positively corresponds to the takeover announcement. The positive effect of target termination fee on the bid premiums is also found by Officer (2003) and Nessler et al. (2014). These findings evidence that incorporating target termination fees as a deal protection device in takeover contract are beneficial to the shareholders of target firms, which support the efficiency hypothesis to some extent. We may expect to observe that that without termination fees, the target side is hard to pursue relatively higher premiums. However we do not know that associated with other updated terms, what the effect of the reform on the competition is eventually.

Although both deal announcement returns and offer premiums are widely used as proxies of the wealth effect of shareholders, subtle difference exists between these two. Offer premiums are generated from bidder's pricing and represent the relatively bargaining position between targets and bidders (e.g. Bates and Lemmon, 2003; Gaspar, Massa, and Matos, 2005; Betton, Eckbo, and Thorburn, 2008), while abnormal stock returns capture more anticipated post-takeover synergies. With regard of the relationship between target termination fees and deal announcement returns of target shareholders, Jeon and Ligon (2011) suggest that only oversized termination fees (higher than 5 percent of offer value) harm the shareholder returns of the target side through deal announcements and large fees negatively contribute to the consummation of high-premium deals. They conclude that low-sized fees can be regarded as an efficient contractual device, while unreasonably high target termination fee implies high risk that it deters the competition of other potential bidders seriously.

In the UK, for a long time before the regulatory change in 2011, the target termination fees are strictly limited to no more than 1 percent of offer value. Hence, we have less concern on the various impacts of termination fees because of different sizes. We hypothesize that shareholders of takeovers with hypothetical termination fees can gain higher deal announcement returns in the UK takeovers market.

3. Data and Research Design

3.1. Data

We download the takeovers announced from 1st January, 2006 to 31st December, 2016 from the SDC Mergers and Acquisitions Database. All target firms should be UK publically traded, while acquirers are public firms, private firms or subsidiaries both inside and outside the UK. Deals with target companies assigned in finance and utility industries (ICBIC code: 7,000 and 8,000) are excluded from our samples. We also require that initial toehold plus shareholding sought by offeror should be higher than 50 percentage of total shareholding of target firm. For deals announced by multiple bidders before the resolution of the first bidder, they are identified as auctions. In this circumstance, only deals announced by the first bidders are included. Through these screening criteria, 990 deals are yielded in our deal sample set. 686 deals are announced by the end of the reform year, and 304 deals are announced after the reform year.

Other stock information and accounting information are collected from the Datastream database. If we request that takeovers need to have accounting information record in the Datastream, then 892 takeovers are remaining. In the Datastream, the flag of employing target termination fees is provided. However, this flag may not be precise and complete, and this problem also appears to the bid price record in the Datastream. The Perfect Information (PI) Navigator database records the full reports and documents of listed and non-listed firms in the UK. We manually collect the information of having or not having target termination fees and initial and final bid prices from the news and takeover agreements recorded in the PI Navigator for analysis.

3.2. Proxy of target termination fees and research design

We start from examining the general effect of the reform on the protection of target firms by looking at the deal completion rate and competition rate. The anticipated possibility of deal

completion and deal competitiveness tend to promote the offer price so that offer premiums (Eckbo, 2009; Ahern and Sosyura, 2014). Moreover, previous studies document that takeover protection enhances the bargaining position of potential target firms represented by receiving higher bid premiums (DeAngelo and Rice, 1983; Stulz, 1988). Hence, subsequently, we compare the bid premiums and deal announcement returns of target shareholders of takeovers with and without target termination fees in pre-reform and post-reform periods. The prohibition of using the termination fees in the updated Takeover Code in 2011 obstructs studies on the effect of target termination fees.[3] It is crucial to distinguish the prohibition effect from other updated clauses in the updated Takeover Code because they may separately contribute to the performance of post-reform takeovers in different ways so that the real effect of inhibiting target break fees may be covered.[4]

In order to overcome the problem of lacking observations in the post-reform period and concentrate on the impact of the clause of prohibiting target termination fees, we predict the probability of having target termination fees of each sample takeover. Sepcifically, we run the likelihood model using pre-reform takeovers in which firms are free to choose to incorporate target termination fees. Subsequently, the probability of post-reform takeovers employing target termination fees are predicted using the probit model drawn from the pre-reform takeovers. Takeovers in both pre-reform and post-reform periods are identified as with high likelihood of having termination fees if the predicted probability is no less than the mean value of the possibility of having termination fees of takeovers announced before the year of the reform.

[3] Theoretically, in the post-reform period, no UK takeover associated with target termination fees is observed. However, we identify that 31 exclusions which still incorporate target termination fees in the takeover agreement out of 384 post-reform takeovers. Our empirical results are robust if we exclude these 31 excusive cases (see Section 5 Robustness Tests).

[4] For example, Grossman and Hart (1980) and Jarrell and Bradley (1980) demonstrate that mandatory disclosure requirement leads to higher competition in the deal level.

Table 1 presents the estimates of the likelihood of having target termination fees in the pre-reform period. The dependent variable is assigned to one if break fees of targets are incorporated in the takeover agreements; otherwise, it is assigned to zero. In Model 1 of Table 1, the independent variables are deal-specific characteristics that are largely consistent with the research from Bates and Lemmon (2003) and Officer (2003). We do not control for the hostile offer because only 24 deals in our sample are hostile according to the definition in Datastream, which represents insufficient variation.

In Model 2, we additionally control for target-firm-specific characteristics on top of Model 1. As the predicted probability eventually helps us to construct the proxy of target break fees and this proxy is employed in all regressions for further analysis, in Model 3 of Table 1, we add two exclusive restrictions based on Model 2 to validate the prediction. One exclusive restriction is the bidder-target industry complementarity (COMPLEMENTARITY)[5]; the other is the last-year industry average intensity of termination fees (LAST_TF_INTENSITY)[6]. These two variables are expected to have direct effects on the likelihood of employing the target termination fees in the agreements, rather than other takeover performance such as deal announcement returns and bid premiums.

Higher industry complementarity between target and bidder signals higher post-takeover synergies. Harrison, Hitt, Hoskisson, and Ireland (1991; 2001) find that the integration of complementary resources rather than the combination of similar resources generates the post-takeover synergies. The anticipation of takeover synergies may lead to different takeover

[5] To calculate the industry complementarity, we follow the measure initiated by Fan and Lang (2000) using commodity flow data from input-output (IO) tables. The Bureau of Economic Analysis provide the IO tables in the US market which is used by industry complementarity studies (e.g. Fan and Lang, 2000; Eckbo, Makaew, and Thorburn, 2017). For the UK market, the "Supply and Use Tables" are available from the National Statistics (NS) website. We calculate the proxy of industry complementarity using the data from the NS website. Detailed calculation is explained in Appendix A.

[6] It is calculated by the number of takeovers with target termination fees in last year scaled by the number of takeovers in last year with target firms in the same industry of the current target firm. Detailed calculation is explained in Appendix A.

behaviors. Eckbo, Makaew, and Thorburn (2017) for the first time interpret the industry complementarity between target and bidder as a proxy of information quality between both sides.[7] In spite of higher anticipation of synergies or more reliable information quality, takeovers negotiated between firms with higher bidder-target industry complementarity may be less necessary to employ target termination fees for takeover protection. On the other hand, following the efficiency hypothesis, target termination fees in the contract may further encourage high-quality communication of takeover information between bidders and targets that belong to highly complementary industries. In terms of the last-year industry average intensity of termination fees, it potentially and directly influences the firm's choice of having target termination fees over takeovers in current year.

From Model 3 of Table 1, we find that higher industry complementarity is significantly and positively correlated to the likelihood of having break fees of target, while the last-year termination fees application from peers is significantly and negatively correlated to the likelihood of having break fees of targets. As we can see from Models 2 and 3 in Table 1, more mature target firms with relatively higher debt ratio (LEVERAGE) are less likely to agree with the use of target termination fees. Bidders have lower shareholding of targets before bid announcement (TOEHOLD) have more difficulties in persuading the targets to agree with the term of target termination fees. Moreover, domestic takeovers are more likely to employ target termination fees but takeovers between public firms are less likely to use target termination fees in the agreement.

The univariate analysis of the predicted probability of having termination fees is present in Table B1 of the Appendix B. The mean value of the predicted probability of takeovers

[7] They demonstrate that higher industry complementarity between target and bidder motivates higher proportion of stock payment of a deal, which is contrary to previous theory stating that stock-payment bidders are opportunistic.

announced in the pre-reform and post-reform periods are 0.2560 and 0.2746 respectively, which is statistically insignificant. This implies that there is less likely to have external shock that influences the appropriateness of predicting the likelihood of having target termination fees for post-reform takeovers based on the model generated from pre-reform deals.

363 out of 686 takeovers in the pre-reform period have predicted probability that is higher than the mean value (0.2560), and 159 out of 304 takeovers in the post-reform period reach this criterion. These 522 takeovers are defined as those with hypothetical target termination fees. Other 468 takeovers are defined as those without hypothetical target termination fees. The created proxy of target break fees (PROXY _TF) is interacted with the dummy of post-reform period to construct difference-in-difference (DiD)-alike regressions. In the DiD-alike models, the first difference is the prediction of having or not having target termination fees; the second difference is takeovers undertaken before the year of the reform or not. Following this, we re-examine the target firm protection from the four aspects in which we examine the effect of the exogenous reform previously to analyse the effect of inhibiting target break fees. All regressions in this paper controls for the industry fixed-effect based on the Industry Classification Benchmark (ICB) super-sectors and year fixed-effect. Standard errors are heteroscedasticity-consistent.

4. Sample and Descriptive Statistics

In this section, we demonstrate the sample distribution and the univariate analysis of variables applied in main regressions. We firstly compare the application rate of target termination fees in the UK and in the US over the sample period. This gives us an initial impression that the regulatory change on the Takeover Code is an exogenous shock particularly on the UK takeovers market.

4.1. Yearly takeover distribution in the UK vs. in the US

Table 2 presents the yearly distribution of full sample of takeovers and sub-sample of takeovers with target termination fees in the UK and in the US respectively. We observe that before the year of the reform, the total number of takeovers are significantly higher than that of after the year of reform including the reform year irrespective of in the UK or in the US. The intensity of applying the target termination fees is calculated by the total number of deals employing the termination fees scaled by the total number of takeovers undertaken in the corresponding year. The average takeover intensity of employing the termination fees in the UK (US) is roughly 0.2434 (0.4528) before 2011. Since the year of 2011, although theoretically termination fees are not allowed in the UK, both sides of the takeovers can pursue an exclusions from the Takeover Panel to incorporate the termination fees in the agreements. The average takeover intensity of employing the termination fees in the UK in post-reform period is around 0.0559. However, in the US, the intensity almost keeps the same before and after the year of 2011. Therefore, we demonstrate that the regulatory change relevant to takeover protection devices in 2011 in the UK constructs a special natural experimental environment.

4.2. Descriptive Statistics

Table 3 presents the descriptive statistics of firm-specific and deal-specific characteristics for full sample and sub-samples with (treated group) and without (control group) hypothetical target termination fees. The significance tests of the differences of mean and median values between these two groups of takeovers are noted in the columns showing the mean and median values of variables for takeovers without hypothetical target termination fees. The completion rate of takeovers with hypothetical termination fees are significantly higher than that of recognized takeovers without hypothetical termination fees. The competition in the public negotiation period has no prominent difference between the treated and the control groups.

The first (final) bid premiums are calculated by the difference between the bid price and the target stock price at 41 days prior to the deal announcement date scaled by the target stock price at 41 days prior to the deal announcement date (Betton, Eckbo, and Thoburn, 2008; 2009). We use two proxies to measure deal announcement returns. One is the three-day estimated cumulative abnormal returns (CARs) around the date of deal announcement. The estimation window is from 242 days prior to the event date until 42 days prior to the event date. The other one is the CARs from 42-day prior to the deal announcement until 2 days after the event date. This measurement covers the runup period heading to a deal announcement and two days after the announcement, which efficiently captures the price runups and abnormal returns around the date of deal announcement. The estimation window is from 379 days prior to the event date until 127 days prior to the event date. From Table 3, we observe that the average first (final) bid premiums are 0.3350 (0.3697). On average, premiums of takeovers that are predicted to have target termination fees are significantly higher than those of takeovers without predicted target termination fees irrespective of initial or final premiums. The three-day CARs of target firms of takeovers with predicted termination fees (0.2028) are also significantly higher than those of takeovers without predicted termination fees (0.1462).

In addition, roughly 30.71 percentage of takeovers are undertaken after the year of reform. 30.46 percentage of takeovers recognized as takeovers with target termination fees are announced in the post-reform period, while 30.98 percentage of recognized takeovers without termination fees of targets are announced in the post-reform period.

5. Empirical Analyses

In this section, we investigate the role of target termination fees in the pre-reform period from four aspects: the possibility of deal completion, the possibility of being in the auction, the bid premiums and the deal announcement returns. Because the reform in 2011 precisely

inhibited the use of target termination fees, we are interested in discovering the effects of this clause on the performance of takeovers. First, the general effects of the reform are explored, which could be dominated by the request of not using target break fees. Subsequently, we employ DiD-alike models to distinguish the effect of inhibiting the break fees from other updated clauses in the revised Takeover Code in 2011 so that the direct effect of the prohibition is observed.

5.1. The role of target termination fees

Before the reform in 2011, the use of target termination fees is determined by the discussion of the both sides of a transaction. We directly employ the indicator of having target termination fees (TARGET_TF) in all regressions when exploiting the effects of termination fees of target before the reform.

Table 4 presents the effects of termination fees on target firm protection. From Models 1 to 6, the dependent variables are the indicator of deal completion, the indicator of competition at deal level, the first and final bid premiums, the three-day CARs around deal announcement and CARs from 42 days prior to the deal announcement until 2 days after the deal announcement. The main independent variables, TARGET_TF, is assigned to one if target termination fees are employed in takeover agreements; otherwise, it is assigned to zero. We observe that in the pre-reform period, target termination fee is significantly and positively correlated to the likelihood of deal completion. Moreover, it helps target firm's shareholders to negotiate for higher bid premiums and gain higher deal announcement returns. All these findings in terms of the function of target break fees are largely consistent with previous literature suggesting that target termination fees as a device of deal protection do not harm the benefits of target firms. In Model 2, the results show that having target termination fees does not discourage the competition from other raiders. Hence, we fail to evidence the managerial

discretion hypothesis, which anticipates a significant and reverse relationship between target termination fees and public competition at deal level (e.g. Coates and Subramanian, 2000).

5.2. The general effect of the reform of the Takeover Code

Based on full sample, Table 5 presents the effect of the regulatory change in 2011 on target firm protection. From Models 1 to 6, the dependent variables are the indicator of deal completion, the indicator of competition at deal level, the first and final bid premiums, the three-day CARs around deal announcement and CARs from 42 days prior to the deal announcement until 2 days after the deal announcement. The main independent variable is the dummy variable representing the post-reform period (POST_REFORM). We surprisingly find that the reform does not make significant changes in the deal completion and competition. With regard to the wealth effects of target firms, the reform has a positive and insignificant effect on both offer premiums and CARs irrespective of the different measures. Our results are in line with the work from Restrepo and Subramanian (2016) doubting the efficiency of the Takeover Code reform in 2011. We also cannot find countervailing benefits to target shareholders in any form that we examine here.

5.3. The effect of prohibiting target termination fees

We cannot simply attribute the inefficiency of the reform to the abrogation of target break fees in the reform in 2011 as other updated clauses commonly contribute to the function of the reform on takeover performance. In this sub-section, we differentiate the effect of prohibiting target termination fees from other updated clauses. By employing the DiD-alike models, our results provide a more precise interpretation of the prohibition of target termination fees on the performance of takeovers.

5.3.1. The likelihood of deal completion

Table 6 presents the estimation results of the probit models investigating the likelihood of deal completion. All three models in Table 6 contain the new proxy of target termination fees (PROXY_TF), the post-reform dummy, and the interactions of these two variables. Other control variables in Model 1 are largely consistent with the models from the studies of Bates and Lemmon (2003) and Officer (2003). Compared with Model 1, Model 2 sufficiently controls for firm-specific and deal-specific characteristics. We demonstrate a consistent effect of the interaction on the probability of deal completion.

Specifically, in Model 2 of Table 6, we show a positive and insignificant coefficient of PROXY_TF, which demonstrates that takeovers that have high likelihood of using target termination fees have slightly higher probability of being completed by roughly 7.05 percentage points than others. When shedding lights on the interaction between the proxy of target termination fees and the dummy variable representing the post-reform period, Model 2 presents a significant and negative coefficient of the interaction. It means that when target termination fees are banned to use, takeovers with high probability of using target break fees if they were free to choose are less likely to be completed. In economic term, the possibility of completion of takeovers with hypothetical target termination fees is 10.63 percentage points lower than others when target termination fees are banned to apply. Compared with the mean value of the completion rate for our sample, this effect is also economically significant.

In Model 3, we also add the final offer premiums (FINAL_PREMIUM). We may expect that higher bid premiums may stimulate deal completion (e.g. Officer, 2003). However, our results show that bid premiums do not strongly influence the deal completion rate. The estimation on the effect of prohibiting the target termination fees is consistent with these in Models 1 and 2 of Table 6.

5.3.2. The likelihood of being in an auction

In Table 6, when looking at the deal completion rate, we control for the competition form from other competitor(s)[8]. The result shows a significant and detrimental contribution of the public competition on the possibility of deal completion. Subsequently, in Table 7, we investigate the impact of banning the use of target termination fees on the likelihood of competing by another bidder when current bid is in pending status. All three models in Table 7 contain the new proxy of target termination fees (PROXY_TF), the post-reform dummy, and the interactions of these two variables. Model 1 are largely consistent with the models from the studies of Bates and Lemmon (2003) and Officer (2003). Compared with Model 1, Model 2 sufficiently controls for firm-specific and deal-specific characteristics.

The moderate and positive coefficients of PROXY_TF in both Models 1 and 2 of Table 7 indicate that target termination fees do not significantly influence the target's probability of being in an auction. This is in line with what we observe in Table 4 for pre-reform takeovers. Models 1 and 2 of Table 7 also consistently show an insignificant and positive coefficient of the interaction between takeovers with hypothetical target break fees and post-reform duration. This explicates that prohibiting the employment of target termination fees only has moderate impact on the public competition of takeovers that are highly anticipated to use target break fees if no restriction. Compared with the reverse effect of the reform on the possibility of being in an auction shown in Table 5, we suggest that the prominently less deal competition after the decree of the reform is not because of the clause of inhibiting the use of target termination fees.

5.3.3. Bid premiums

To further examine the role of termination fees, we shed light on bid premiums in this sub-section. Table 8 presents the estimation results of the DiD-alike regressions of bid premiums. In Panels A and B, the dependent variables are first and final bid premiums respectively. All

[8] The indicator of auction is equal to 1 if a third party launches an offer for the target while this original bid is pending (see definition in Appendix A).

three models in Table 8 contain the new proxy of target termination fees (PROXY_TF), the post-reform dummy, and the interactions of these two variables. The incorporation of control variables in Model 1 of Panel A in Table 8 largely refers to the papers from Bates and Lemmon (2003) and Officers (2003). Compared with Model 1, Model 2 sufficiently controls for firm-specific and deal-specific characteristics.

Model 1 of Panel A shows a significant and positive effect of PROXY_TF on initial offer premiums. It demonstrates that over the whole sample period, target firms of takeovers that are anticipated to have target break fees receive prominently higher price premiums. We find that in Model 1 of Panel A, the interaction capturing the impact of the proscription of break fees is significantly and negatively correlated to the first offer premiums. We interpret that for takeovers that are highly likely to use target termination fees in takeovers, the reform improves the initial pricing of target firms from offerors by specifically inhibiting the target termination fees. The effect of the interaction keeps the same in Model 2 of Panel A. From Model 2 of Panel A, we observe that the group of takeovers that are directly restricted by the prohibition clause has higher first premiums by roughly 18.65 percentage points compared with other takeovers.

In Panel B of Table 8, Models 1 and 2 are corresponding to Models 1 and 2 in Panel A of Table 8. Because the final offer price that target firms receive are price after public competition where applicable, we add the indicator of being in an auction in both models in Panel B. Our estimation results on the interaction show that the effect of prohibiting termination fees for takeovers that are originally predicted to employ termination fees on final bid premiums consists with what we observe from Panel A of Table 8 both statistically and economically. These findings are also consistent with what we observe from Table 4 when examining the role of termination fees in the pre-reform period. We support the effect of termination fees on improving the offer premiums irrespective of initial or final premiums.

5.3.4. Deal announcement returns

Table 9 presents the DiD-alike regressions for deal announcement returns of target shareholders. In Panels A and B, the dependent variables are the three-day CARs around the date of deal announcement and the CARs from 42 days before the date of deal announcement until 2 days after the date of deal announcement. All models in Table 9 contain the new proxy of target termination fees (PROXY_TF), the post-reform dummy, and the interactions of these two variables. In Model 1 of Panel A, we sufficient control for firm-specific and deal-specific characteristics. We observe that takeovers that have high likelihood of employing target termination fees help target shareholders gain higher deal announcement returns. The significant and negative coefficient before the interaction specifies that targets of takeovers that are predicted to have termination fees if the market had no limitation of using termination fees generate lower CARs by roughly 6.31 percentage points in the post-reform period. It suggests that stock market does not incrementally and optimistically response to deal announcements after banning the application of target break fees. This result reversely supports the efficiency hypothesis (e.g. Bates and Lemmon, 2003; Boone and Mulherin, 2007) in terms of the function of target termination fees in takeover agreements.

On top of Model 1 of Panel A in Table 9, Model 2 additionally control for the initial offer premiums (FIRST_PREMIUM) that potentially influence the market response towards the takeover announcements. We find that higher offer premiums trigger more optimistic market response during days around the deal announcement. Moreover, we still observe a material and positive correlation between the interaction and CARs, although the magnitude of the coefficient of the interaction is even higher compared with that in Model 1.

In Panel B of Table 9, we examine the effect of proscribing the termination fees on the shareholder abnormal returns since the price runup period. The dependent variables in Models

1 and 2 in Panel B are consistent with Models 1 and 2 in Panel A of Table 9. The estimation results in Panel B are largely in line with what we demonstrate in Panel A, although the negative effect of the interaction is more significant both statistically and economically. In Model 2 of Panel B in Table 9, we notice that the initial offer premiums also significantly contribute to the shareholder abnormal returns through relatively longer event window. Economically, one percentage point increase in the offer premiums leads to an increase in the shareholder abnormal returns by 0.3278 percentage points.

5.4. Placebo Test

The Takeover Code updates its version in regular intervals. Over our sample period, the Takeover Code has been revised in 2009 before the year of 2011 in which we address the clause of inhibiting target break fees. The updated version in 2009 does not specifically regulate the application of target termination fees. However, we need to take account of the possibility that the examined effects of the prohibition of the termination fees in the 2011 reform may be influenced by the earlier revised Takeover Code in 2009. To verify that the observable effects of the updating Takeover Code in 2011 are authentic, we conduct a placebo test in this section.

We shed light on the performance of takeovers undertaken before the year of 2011 to investigate whether the regulatory change in 2009 incrementally contributes to the effects of having target termination fees. To examine this, we create a dummy variable representing the years of 2009 and 2010. We interact this year dummy variable with the proxy of target termination fees and incorporate this interaction in all models with sufficient control of firm-specific and deal-specific characteristics. Table B2 of the Appendix B presents the results of the first placebo test. From Models 1 to 5, the dependent variables are deal completion rate, competition probability, first and final bid premiums, and deal announcement returns respectively. We list the effects of prohibiting target termination fees captured by the

interaction of the indicator of takeovers that are predicted to use termination fee and the dummy of the post-reform period. Table B2 presents that all interactions are insignificant, which suggests that the revised Takeover Code in 2009 does not incrementally affect the contribution of target termination fees on performance of takeovers. Therefore, we can exclude the possibility that our estimation results on the effects of the clause of prohibiting target termination fees in 2011 reform are biased by an earlier revision on the Takeover Code in 2009.

6. Robustness Tests

Our results are robust when models are subject to several alternatives. First, we change the breakpoint of identifying takeovers with high possibility of target termination fees to the mean value of the predicted probability of having termination fees for full sample rather than for pre-reform sample. The results are robust (unreported). Second, we use the target termination fees record in the SDC to check the robustness. The estimation results are largely in line with what we have shown in Section 4 (unreported). Third, as we can see from Table 8, after the year of reform, there are still 17 takeovers employing target termination fees in their takeover agreements. We do not know why both sides of these deals persuade the Takeover Panel to keep the employment of target break fees. In order to avoid the potential chaos from these exclusions on our empirical analyses, we exclude these 17 takeovers and re-run all DiD-alike regressions. We document that our results are robust when excluding the takeovers with real target break fees in the post-reform period (unreported).

Finally, to take account of the sample selection, we employ two-stage sample selection models. Inverse mill ratios (IMRs) are drawn from the unconditional probit model looking at the likelihood of being a target and we incorporate the IMRs in each regression examining the effect of prohibiting the termination fees. We find that all coefficients before the IMRs are

insignificant and results are largely consistent with our previous findings (unreported). We conclude that our estimates are not biased by the sample selection.

7. Conclusion

In the natural experimental environment constructed by the Takeover Code reform in 2011, we investigate the effects of the prohibition of the target termination fees on the takeover protection and wealth effect of target shareholders in the post-reform period. We create a new proxy to exogenously represent the target break fees, which avoids potential endogenous problems and allows us to specifically examine the clause of banning the use of target break fees. The regulatory change in general slacks down the interests of bidding from other potential competitor, but does not influence the deal completion rate, the offer premiums and the abnormal returns through deal announcement.

In terms of the effect of the clause of the prohibition, our results demonstrate that that clause significantly decreases the deal completion rate and the abnormal wealth gains of takeovers that are predicted to employ target break fees if they were allowed to freely employ break fees. These affirm the role of target break fees as deal-protection devices and support the efficiency hypothesis. However, we fail to evidence the managerial discretion hypothesis because our results show that the abolition of break fees of targets does not affect the target's possibility of being in an auction and bid premiums. Policy makers aim at encouraging deal competition so that improving bid premiums that target firms can receive may pay more attention to further revising other updated clauses in 2011 reform such as the 28-day PUSU.

Overall, we doubt the efficiency of the regulatory change on the Takeover Code in 2011 in terms of the protection on target firms. However, we cannot simply attribute the general effects of the reform on the protection of target firms to the clause of inhibiting target break fees.

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Tables

Table 1 Prediction of incorporating termination fees of target

This table presents the probit model investigating the likelihood of using termination fees of target firms in the pre-reform period. The dependent variable is the indicator of having termination fees or not in takeover agreements. It is assigned to 1 if takeovers employ target termination fees, otherwise it is assigned to 0. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects and Wald Chi-square tests at the one-, five-, and ten- percent levels respectively.

	Model 1		Model 2		Model 3	
Panel A: Probit Model	Marginal effect	Std. err.	Marginal effect	Std. err.	Marginal effect	Std. err.
TARGET_SIZE	-0.0120	0.0082	0.0027	0.0089	0.0041	0.0089
AGE			-0.0054***	0.0017	-0.0054***	0.0017
Q_RATIO			-0.0071	0.0167	-0.0048	0.0168
LIQUIDITY			-0.0274	0.1023	-0.0279	0.1002
LEVERAGE			-0.1932*	0.0990	-0.1796*	0.0976
TOEHOLD	-0.0045**	0.0018	-0.0043**	0.0017	-0.0044**	0.0018
DOMESTIC	0.1292***	0.0348	0.1305***	0.0342	0.1252***	0.0340
SHARE_DEAL	0.0944	0.0584	0.0861	0.0576	0.0813	0.0574
PUB_PUB	-0.0545	0.0371	-0.0557	0.0372	-0.0819**	0.0380
LAST_TF_INTENSITY					-0.2283*	0.1376
COMPLEMENTARITY					0.0683*	0.0356
Constant	0.2557***	0.0169	0.2562***	0.0168	0.2562***	0.0167
Industry fixed-effect	Yes		Yes		Yes	
Year fixed-effect	Yes		Yes		Yes	
Pseudo R-squared	0.0861		0.1044		0.1129	
Wald Chi-square	58.42***		70.76***		76.95***	
Observations	598		597		597	

Table 2 Yearly distribution of takeovers in the UK vs. in the US

This table presents the yearly distribution of takeovers in the UK and the US during the period 2006-2016. The percentage of takeovers having target termination fees is calculated by number of takeovers with target termination fees divided by the total number of takeovers. The average percentages of takeover having termination fees in the UK and the US and in pre-reform and post-reform periods are presented respectively.

	UK			US		
Year	All takeovers	Takeovers with TF	% of takeovers having TF	All takeovers	Takeovers with TF	% of takeovers having TF
2006	140	30	0.2143	366	176	0.4809
2007	129	38	0.2946	389	204	0.5244
2008	145	35	0.2414	331	144	0.4350
2009	93	23	0.2473	409	121	0.2958
2010	99	27	0.2727	316	152	0.4810
2011	80	14	0.1750	232	128	0.5517
Total (Pre-reform)	686	167	0.2434	2043	925	0.4528
2012	68	4	0.0588	239	125	0.5230
2013	41	3	0.0732	184	90	0.4891
2014	62	3	0.0484	225	108	0.4800
2015	63	7	0.1111	250	101	0.4040
2016	70	0	0.0000	227	109	0.4802
Total (Post-reform)	304	17	0.0559	1,125	533	0.4738

Table 3 Descriptive statistics of variables

This table presents descriptive statistics for firm-specific, deal-specific, and industry specific characteristics for takeovers undertaken during the period 2006-2016. Characteristics are defined in Appendix A. *, **, and *** indicate statistical significance of mean (median) differences in characteristics between recognized takeovers with and without termination fees of target at the one-, five- and ten- percent levels respectively.

	Full samples				Takeovers with hypothetical TF				Takeovers without hypothetical TF			
Variables	Mean	Median	Std. Dev.	Obs.	Mean	Median	Std. Dev.	Obs.	Mean	Median	Std. Dev.	Obs.
COMPLETION	0.5626	1.0000	0.4963	990	0.6613	1.0000	0.4737	555	0.4368***	0.0000	0.4966	435
AUCTION	0.0646	0.0000	0.2460	990	0.0631	0.0000	0.2433	555	0.0667	0.0000	0.2497	435
FIRST_PREMIUM	0.3350	0.2893	0.8086	712	0.3876	0.3095	0.8507	430	0.2546**	0.2527	0.7343	282
FINAL_PREMIUM	0.3697	0.3049	0.8748	712	0.4216	0.3176	0.9269	430	0.2905**	0.2744	0.7867	282
3-day CARs	0.1676	0.0904	0.3523	950	0.1897	0.1069	0.2806	430	0.1394**	0.0689***	0.2446	416
CARs	0.2542	0.1884	0.4608	946	0.2951	0.2241	0.4807	530	0.2021**	0.1536***	0.4291	416
POST_REFORM	0.3071	0.0000	0.4615	990	0.2937	0.0000	0.4559	555	0.3241	0.0000	0.4686	435
TARGET_SIZE	6.1095	5.9168	2.0949	877	5.4728	5.2644	1.7548	442	6.7563***	6.6615***	2.2128	435
LEVERAGE	0.1895	0.1491	0.1900	889	0.1316	0.0699	0.1605	454	0.2499***	0.2288***	0.1995	435
LIQUIDITY	0.1675	0.0971	0.1900	891	0.1962	0.1236	0.2125	456	0.1374***	0.0854***	0.1579	435
Q_RATIO	2.1396	1.7756	1.2310	877	2.2000	1.8833	1.1563	442	2.0783	1.6969	1.3009	435
ROA	0.0108	0.0768	0.2787	878	0.0035	0.0753	0.2790	451	0.0185***	0.0791***	0.2784	427
ROA_SD	0.1133	0.0544	0.1903	905	0.1152	0.0577	0.1819	477	0.1112	0.0520	0.1995	428
TANGIBILITY	0.2468	0.1292	0.2676	885	0.1781	0.0696	0.2381	452	0.3185***	0.2550***	0.2779	433
TOEHOLD	4.3450	0.0000	11.1452	990	1.6336	0.0000	6.5578	555	7.8043***	0.0000***	14.3796	435
CASH_DEAL	0.5111	1.0000	0.5001	990	0.5477	1.0000	0.4982	555	0.4644**	0.0000	0.4993	435
SHARE_DEAL	0.1051	0.0000	0.3068	990	0.1423	0.0000	0.3497	555	0.0575***	0.0000	0.2330	435
PUB_PUB	0.4172	0.0000	0.4933	990	0.3892	0.0000	0.4880	555	0.4529*	0.0000	0.4983	435
PRIV_PUB	0.2899	0.0000	0.4539	990	0.2721	0.0000	0.4454	555	0.3126*	0.0000	0.4641	435
DOMESTIC	0.4889	0.0000	0.5001	990	0.6468	1.0000	0.4784	555	0.2874***	0.0000	0.4531	435
SICMATCH	0.3818	0.0000	0.4861	990	0.4288	0.0000	0.4954	555	0.3218*	0.0000	0.4677	435

Table 3 (con'd)

LAST_TF_INTENSITY	0.2011	0.1818	0.1647	989	0.2110	0.1818	0.1684	554	0.1885**	0.1749	0.1591	435
COMPLEMENTARITY	0.4424	0.0000	0.4969	990	0.5297	1.0000	0.4996	555	0.3310***	0.0000	0.4711	435

Table 4 Effects of termination fees

This table presents the effects of target termination fees on the likelihood of deal completion, the possibility of being in the auction, bid premiums, and target cumulative abnormal returns (CARs) for takeovers before 2011. From Models 1 to 5, the dependent variables are the indicator of deal completion, the indicator of being in the auction, the first bid premiums, the final bid premiums and CARs of target firms. Both dependent and independent variables are defined in Appendix A. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects (coefficients) and Wald Chi-square tests (F tests) at the one-, five-, and ten- percent levels respectively.

	Model 1: Completion		Model 2: Competition		Model 3: First premiums		Model 4: Final premiums		Model 5: 3-day CARs		Model 5: CARs	
Pre-reform takeovers	Marg. effect	Std. err.	Marg. effect	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.
TARGET_TF	0.2487***	0.0394	0.0285	0.0239	0.2421**	0.0969	0.2285**	0.0989	0.0642**	0.0296	0.1522***	0.0488
TARGET_SIZE	-0.0380***	0.0092	0.0199***	0.0058	0.0170	0.0290	0.0387	0.0296	-0.0054	0.0062	-0.0098	0.0101
Q_RATIO	-0.0023	0.0159	-0.0164	0.0116	-0.1189***	0.0391	-0.0491*	0.0267	-0.0235**	0.0103	-0.0566***	0.0194
LEVERAGE	-0.0624	0.0977	-0.0055	0.0628	0.3060	0.3285	0.2771	0.3300	0.0339	0.0720	0.1129	0.1344
LIQUIDITY	-0.2268**	0.1049	-0.1440**	0.0692	0.1428	0.2351	-0.0623	0.2291	0.1319	0.0888	0.1817	0.1537
ROA	-0.0242	0.0670	0.0632	0.0718	0.1762	0.1582	0.2425	0.1653	0.0010	0.0674	0.0447	0.1279
ROA_SD	-0.0486	0.1058	0.0265	0.0775	0.0982	0.2331	0.2317	0.2606	-0.0561	0.0902	-0.0889	0.1734
TANGIBILITY	-0.0425	0.0725	-0.0350	0.0445	-0.2481	0.1647	-0.2306	0.1663	-0.0711*	0.0411	-0.1925**	0.0821
TOEHOLD	0.0023*	0.0014	-0.0004	0.0010	-0.0060**	0.0026	-0.0067**	0.0027	-0.0010	0.0009	-0.0031*	0.0017
CASH_DEAL	0.1827***	0.0366	0.0709**	0.0279	0.1497*	0.0877	0.1830**	0.0905	0.1014***	0.0252	0.1437***	0.0481
SHARE_DEAL	0.1187**	0.0553	0.0644*	0.0391	0.1214	0.2400	0.1790	0.2423	-0.0194	0.0325	0.0032	0.0716
DOMESTIC	0.1227***	0.0337	-0.0187	0.0225	0.0583	0.0805	0.0636	0.0815	-0.0238	0.0241	0.0046	0.0444
PUB_PUB	-0.0994**	0.0438	0.0078	0.0260	0.1041	0.0960	0.0836	0.0978	-0.0662*	0.0338	-0.0792	0.0592
PRIV_PUB	-0.1899***	0.0447	0.0129	0.0314	-0.2315**	0.0959	-0.1951**	0.0979	-0.0930***	0.0322	-0.2198***	0.0566
AUCTION	-0.2151***	0.0532					-0.1634	0.1029				
SICMATCH	0.0301	0.0359	0.0322	0.0205	-0.2180**	0.0902	-0.1840**	0.0895	-0.0122	0.0262	-0.0709	0.0452
Constant	0.5414***	0.0154	0.0726***	0.0104	0.2183	0.2634	-0.0467	0.2745	0.2560***	0.0822	0.4660***	0.1444

Table 4 (con'd)

Industry fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R-squared	0.3605	0.1283	0.1169	0.1102	0.1908	0.2026
(Wald Chi-squared) F-stats	167.01***	60.43***	2.31***	2.27***	4.19***	5.32***
P-value	0.00	0.00	0.00	0.00	0.00	0.00
Observations	579	579	412	412	554	551

Table 5 Effect of the reform of the Takeover Code

This table presents the effects of the 2011 Takeover Code reform on the likelihood of deal completion, the possibility of being in the auction, bid premiums, and target cumulative abnormal returns (CARs) for takeovers. From Models 1 to 5, the dependent variables are the indicator of deal completion, the indicator of being in the auction, the first bid premiums, the final bid premiums and CARs of target firms. Both dependent and independent variables are defined in Appendix A. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects (coefficients) and Wald Chi-square tests (F tests) at the one-, five-, and ten- percent levels respectively.

	Model 1: Completion		Model 2: Competition		Model 3: First premiums		Model 4: Final premiums		Model 5: 3-day CARs		Model 6: CARs	
	Marg. effect	Std. err.	Marg. effect	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.	Coeff.	Std. err.
POST_REFORM	0.0146	0.0746	0.0130	0.0372	0.0490	0.1068	0.0725	0.1158	0.0179	0.0439	0.0168	0.0702
TARGET_SIZE	-0.0275***	0.0088	0.0176***	0.0046	0.0046	0.0180	0.0219	0.0193	-0.0101	0.0057	-0.0122	0.0088
Q_RATIO	-0.0122	0.0147	-0.0208*	0.0107	-0.0467	0.0321	-0.0570*	0.0328	-0.0136*	0.0089	-0.0366**	0.0163
LEVERAGE	0.0102	0.0907	-0.0192	0.0543	0.2248	0.2550	0.1715	0.2632	0.0094	0.0641	0.0309	0.1148
LIQUIDITY	-0.0078	0.0997	-0.0856	0.0551	0.0225	0.1937	0.0456	0.1901	0.0813	0.0825	0.0464	0.1223
ROA	0.0136	0.0682	0.0406	0.0658	0.0513	0.1441	0.0417	0.1453	0.0113	0.0627	0.0739	0.1083
ROA_SD	0.0484	0.1007	-0.0359	0.0617	0.1942	0.1564	0.1959	0.1558	-0.0781	0.0693	-0.0121	0.1268
TANGIBILITY	-0.0459	0.0660	-0.0096	0.0363	-0.2126*	0.1221	-0.1762	0.1229	-0.0646*	0.0387	-0.1050	0.0710
TOEHOLD	0.0013	0.0014	-0.0016*	0.0009	-0.0061***	0.0020	-0.0069***	0.0021	-0.0018**	0.0008	-0.0036***	0.0013
CASH_DEAL	0.2421***	0.0336	0.0647***	0.0223	0.2104***	0.0693	0.2299***	0.0698	0.1334***	0.0236	0.1949***	0.0391
SHARE_DEAL	0.2163***	0.0504	0.0695**	0.0316	0.0282	0.1219	0.0755	0.1321	-0.0280	0.0263	-0.0198	0.0595
DOMESTIC	0.1360***	0.0304	-0.0099	0.0178	0.0341	0.0587	0.0341	0.0601	-0.0310	0.0214	-0.0116	0.0344
PUB_PUB	-0.1192***	0.0409	-0.0048	0.0209	0.0891	0.0711	0.0690	0.0739	-0.0466	0.0295	-0.0455	0.0459
PRIV_PUB	-0.2483***	0.0408	0.0047	0.0257	-0.1564**	0.0745	-0.1534*	0.0757	-0.0907***	0.0299	-0.1793***	0.0464
AUCTION	-0.1127*	0.0616					0.0118	0.0847				
SICMATCH	0.0302	0.0333	0.0351**	0.0176	-0.1402**	0.0580	-0.1412**	0.0616	-0.0024	0.0221	-0.0346	0.0354
Constant	0.5546	0.0143	0.0701***	0.0085	0.1100	0.2212	0.0319	0.2262	0.3166***	0.0747	0.4426***	0.1234

Table 5 (cont'd)

Industry fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
(Pseudo) R-squared	0.2273	0.1208	0.0958	0.0915	0.1679	0.1499
(Wald Chi-squared) F-stats	199.51***	78.51***	2.01***	2.06***	5.86***	5.12***
P-value	0.00	0.00	0.00	0.00	0.00	0.00
Observations	843	843	583	583	813	810

Table 6 The likelihood of completing

This table presents probit model investigating the likelihood of deal completion. The dependent variable is assigned to 1 if takeovers are completed, otherwise it is assigned to 0. The main independent variable representing the prohibition of target termination fees equals the interaction of the indicator of takeovers that are highly likely to use target termination fees hypothetically and the dummy variable of post-reform period. Model 1 presents the effect of inhibiting target termination fees after controlling for some firm-specific and deal-specific characteristics referring to previous literature. Model 2 sufficiently control for firm-specific and deal-specific characteristics. Based on Model 2, Model 3 additionally control for final bid premiums of each deal. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects and Wald Chi-square tests at the one-, five-, and ten- percent levels respectively.

	Model 1		Model 2		Model 3	
Variables	Marginal effect	Std. err.	Marginal effect	Std. err.	Marginal effect	Std. err.
PROXY_TF	0.1387***	0.0468	0.0705	0.0468	0.1151**	0.0522
POST_REFORM	0.0384	0.0774	0.0319	0.0766	-0.0696	0.0782
PROXY_TF* POST_REFORM	-0.1095*	0.0660	-0.1063*	0.0627	-0.1506**	0.0678
TARGET_SIZE	-0.0422***	0.0079	-0.0234***	0.0086	-0.0027	0.0109
Q_RATIO	-0.0093	0.0110	-0.0112	0.0146	0.0093	0.0173
LEVERAGE	0.0275	0.0420	0.0241	0.0933	-0.0912	0.1087
LIQUIDITY	0.0265	0.1018	-0.0361	0.0981	-0.1019	0.1135
ROA			0.0176	0.0678	0.0145	0.0835
ROA_SD			0.0624	0.1019	0.0694	0.1189
TANGIBILITY	0.0377	0.0668	-0.0478	0.0650	-0.0684	0.0703
TOEHOLD	0.0042***	0.0014	0.0017	0.0014	0.0008	0.0014
CASH_DEAL			0.2462***	0.0327	0.0908**	0.0449
SHARE_DEAL	0.0008	0.0504	0.1929***	0.0502	0.0535	0.0599
DOMESTIC	0.1313***	0.0348	0.1234***	0.0343	0.0809**	0.0385
PUB_PUB			-0.0949**	0.0410	-0.0567	0.0447
PRIV_PUB	-0.2630***	0.0325	-0.2261***	0.0405	-0.1778***	0.0472
AUCTION	-0.0805	0.0630	-0.2337***	0.0473	-0.3005***	0.0465
SICMATCH			0.0267	0.0329	0.0064	0.0368
FINAL_PREMIUM					0.0165	0.0245
Constant	0.5498***	0.0150	0.5554***	0.0140	0.7129***	0.0161
Industry fixed-effect	Yes		Yes		Yes	
Year fixed-effect	Yes		Yes		Yes	
Pseudo R-squared	0.1627		0.2503		0.1804	
Wald Chi-squared	165.33***		215.72***		115.27***	
P-value of Wald-stat.	0.00		0.00		0.00	
Observations	866		843		617	

Table 7 The likelihood of being in an auction

This table presents probit model investigating the likelihood of being in an auction. The dependent variable is assigned to 1 if other competitor(s) bid(s) the same target firm when the target firm of a takeover is on a status of pending, otherwise it is assigned to 0. The main independent variable representing the prohibition of target termination fees equals the interaction of the indicator of takeovers that are highly likely to use target termination fees hypothetically and the dummy variable of post-reform period. Model 1 presents the effect of inhibiting target termination fees after controlling for some firm-specific and deal-specific characteristics referring to previous literature. Model 2 sufficiently control for firm-specific and deal-specific characteristics. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects and Wald Chi-square tests at the one-, five-, and ten- percent levels respectively.

	Model 1		Model 2	
Variables	Marginal effect	Std. err.	Marginal effect	Std. err.
PROXY_TF	0.0293	0.0258	0.0159	0.0267
POST_REFORM	0.0167	0.0368	0.0096	0.0384
PROXY_TF*POST_REFORM	0.0058	0.0351	0.0160	0.0363
TARGET_SIZE	0.0163***	0.0039	0.0181***	0.0046
Q_RATIO	-0.0236**	0.0101	-0.0217**	0.0107
LEVERAGE	-0.0221	0.0505	-0.0110	0.0540
LIQUIDITY	-0.0678	0.0502	-0.0847	0.0548
ROA			0.0388	0.0662
ROA_SD			-0.0409	0.0622
TANGIBILITY	0.0004	0.0354	-0.0075	0.0364
TOEHOLD	-0.0009	0.0009	-0.0014	0.0009
CASH_DEAL			0.0642***	0.0224
SHARE_DEAL	0.0177	0.0265	0.0653**	0.0324
DOMESTIC	-0.0247	0.0194	-0.0172	0.0188
PUB_PUB			-0.0020	0.0217
PRIV_PUB	-0.0185	0.0199	0.0037	0.0254
SICMATCH			0.0323*	0.0174
Constant	0.0693***	0.0084	0.0700***	0.0085
Industry fixed-effect	Yes		Yes	
Year fixed-effect	Yes		Yes	
Pseudo R-squared	0.0970		0.1229	
Wald Chi-squared	65.29***		83.36***	
P-value of Wald-stat.	0.00		0.00	
Observations	866		843	

Table 8 Regressions for first and final bid premiums

This table presents difference-in-difference- (DiD-) alike regressions for bid premiums for takeovers undertaken during the period 2006-2016. The dependent variables in Panels A and B are first bid premiums and final bid premiums. First (final) bid premiums are calculated by the difference between first (final) bid price and stock price of target firm at 42 days prior to deal announcement divided by stock price at 42 days prior to deal announcement. The main independent variable representing the prohibition of target termination fees equals the interaction of the indicator of takeovers that are highly likely to use target termination fees hypothetically and the dummy variable of post-reform period. Model 1 presents the effect of inhibiting target termination fees after controlling for some firm-specific and deal-specific characteristics referring to previous literature. Model 2 sufficiently control for firm-specific and deal-specific characteristics. In Panel B, auction in public negotiation period is also controlled in all regressions. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of coefficients and F-statistics tests at the one-, five-, and ten- percent levels respectively.

	Model 1		Model 2	
Panel A: First premiums	Coef.	Std. err.	Coef.	Std. err.
PROXY_TF	0.2397***	0.0799	0.2405***	0.0800
POST_REFORM	0.1025	0.1060	0.0931	0.1114
PROXY_TF*POST_REFORM	-0.2171**	0.1053	-0.1865*	0.1057
TARGET_SIZE	-0.0006	0.0152	0.0044	0.0172
Q_RATIO	-0.0154	0.0167	-0.0246	0.0160
LEVERAGE	0.0669	0.1083	0.0368	0.1016
LIQUIDITY	-0.0822	0.1859	-0.1017	0.1800
ROA			0.0235	0.1478
ROA_SD			0.2192	0.1634
TANGIBILITY	-0.1806*	0.1052	-0.1690	0.1101
TOEHOLD	-0.0043**	0.0020	-0.0049**	0.0020
CASH_DEAL			0.1892***	0.0702
SHARE_DEAL	-0.1806	0.1052	-0.0017	0.1218
DOMESTIC	0.0324	0.0586	0.0164	0.0597
PUB_PUB			0.1071	0.0701
PRIV_PUB	-0.1667***	0.0648	-0.1296*	0.0703
SICMATCH			-0.1471**	0.0582
Constant	0.1321	0.1827	0.0423	0.2137
Industry fixed-effect	Yes		Yes	
Year fixed-effect	Yes		Yes	
R-squared	0.0887		0.1091	
F-stat.	2.11***		2.08***	
P-value of F-stat.	0.00		0.00	
Observations	598		583	

Table 8 (cont'd)

	Model 1		Model 2	
Panel B: Final premiums	Coef.	Std. err.	Coef.	Std. err.
PROXY_TF	0.2423**	0.0853	0.2371***	0.0853
POST_REFORM	0.1236	0.1150	0.1138	0.1213
PROXY_TF*POST_REFORM	-0.2158**	0.1075	-0.1790*	0.1076
TARGET_SIZE	0.0140	0.0164	0.0204	0.0187
Q_RATIO	-0.0200	0.0176	-0.0296*	0.0169
LEVERAGE	0.0558	0.1040	0.0237	0.0966
LIQUIDITY	-0.0592	0.1835	-0.0789	0.1767
ROA			0.0196	0.1488
ROA_SD			0.2263	0.1641
TANGIBILITY	-0.1466	0.1051	-0.1349	0.1096
TOEHOLD	-0.0049**	0.0021	-0.0056***	0.0021
CASH_DEAL			0.2088***	0.0708
SHARE_DEAL	-0.0938	0.1176	0.0455	0.1328
DOMESTIC	0.0357	0.0607	0.0164	0.0613
PUB_PUB			0.0860	0.0724
PRIV_PUB	-0.1590**	0.0653	-0.1278*	0.0715
AUCTION	0.0181	0.0814	0.0185	0.0812
SICMATCH			-0.1476**	0.0615
Constant	0.0523	0.1899	-0.0471	0.2190
Industry fixed-effect	Yes		Yes	
Year fixed-effect	Yes		Yes	
R-squared	0.0829		0.1031	
F-stat.	2.03***		2.04***	
P-value of F-stat.	0.00		0.00	
Observations	598		583	

Table 9 Regressions for target cumulative abnormal returns

This table presents difference-in-difference- (DiD-) alike regressions for target cumulative abnormal returns (CARs) for takeovers undertaken during the period 2006-2016. The dependent variables in Panels A and B are three-day CARs and CARs from 42 days prior to the offer date to the date of delisting (or 126 days after the offer date if delisting date is later than 126 days after announcing a takeover). The main independent variable representing the prohibition of target termination fees equals the interaction of the indicator of takeovers that are highly likely to use target termination fees hypothetically and the dummy variable of post-reform period. Model 1 presents the effect of inhibiting target termination fees after sufficiently controlling for firm-specific and deal-specific characteristics. Based on Model 1, Model 2 additionally control for initial bid premiums of each deal. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of coefficients and F-statistics tests at the one-, five-, and ten- percent levels respectively.

	Model 1		Model 2	
Panel A: 3-day CARs	Coef.	Std. err.	Coef.	Std. err.
PROXY_TF	0.0387	0.0269	0.0849***	0.0326
POST_REFORM	0.0537	0.0421	0.0873	0.0453
PROXY_TF*POST_REFORM	-0.0631*	0.0373	-0.1010**	0.0429
TARGET_SIZE	-0.0095*	0.0056	-0.0043	0.0074
Q_RATIO	-0.0105	0.0080	-0.0075	0.0106
LEVERAGE	-0.0015	0.0586	-0.0802	0.0658
LIQUIDITY	0.0363	0.0702	0.0484	0.0789
ROA	0.0034	0.0547	-0.0562	0.0667
ROA_SD	-0.0715	0.0633	-0.0954	0.0595
TANGIBILITY	-0.0601	0.0375	-0.0640	0.0393
TOEHOLD	-0.0015	0.0008	-0.0005	0.0008
CASH_DEAL	0.1298***	0.0224	0.1204***	0.0275
SHARE_DEAL	-0.0391	0.0262	-0.0566	0.0345
DOMESTIC	-0.0327	0.0214	-0.0478*	0.0261
PUB_PUB	-0.0385	0.0276	-0.0372	0.0301
PRIV_PUB	-0.0794***	0.0274	-0.0547	0.0337
SICMATCH	-0.0026	0.0208	-0.0006	0.0239
FIRST_PREMIUM			0.1187***	0.0285
Constant	0.2809***	0.0674	0.1828**	0.0802
Industry fixed-effect	Yes		Yes	
Year fixed-effect	Yes		Yes	
R-squared	0.1798		0.2634	
F-stat.	5.66***		5.56***	
P-value of F-stat.	0.00		0.00	
Observations	813		583	

Table 9 (cont'd)

	Model 1		Model 2	
Panel B: CARs	Coef.	Std. err.	Coef.	Std. err.
PROXY_TF	0.0922**	0.0452	0.1495***	0.0480
POST_REFORM	0.0788	0.0732	0.0637	0.0734
PROXY_TF*POST_REFORM	-0.1437**	0.0621	-0.1479***	0.0571
TARGET_SIZE	-0.0115	0.0090	-0.0109	0.0094
Q_RATIO	-0.0347**	0.0163	-0.0091	0.0160
LEVERAGE	0.0437	0.1145	0.0583	0.1008
LIQUIDITY	0.0329	0.1220	0.0781	0.1174
ROA	0.0832	0.1079	0.0154	0.1048
ROA_SD	-0.0045	0.1283	-0.0284	0.0905
TANGIBILITY	-0.1033	0.0705	-0.0752	0.0624
TOEHOLD	-0.0032**	0.0013	-0.0005	0.0011
CASH_DEAL	0.1928***	0.0392	0.0727	0.0457
SHARE_DEAL	-0.0385	0.0608	-0.1039	0.0677
DOMESTIC	-0.0279	0.0359	-0.0935**	0.0372
PUB_PUB	-0.0342	0.0463	-0.0444	0.0438
PRIV_PUB	-0.1724***	0.0460	-0.0936*	0.0489
SICMATCH	-0.0414	0.0358	-0.0207	0.0339
FIRST_PREMIUM			0.3278***	0.0610
Constant	0.3988***	0.1260	0.2657**	0.1314
Industry fixed-effect	Yes		Yes	
Year fixed-effect	Yes		Yes	
R-squared	0.1560		0.3817	
F-stat.	4.90***		7.01***	
P-value of F-stat.	0.00		0.00	
Observations	810		582	

Appendix A. Variable definitions

Variable	Definition
COMPLETION	Completed deal. Binary variable for a completed takeover from the SDC Platinum database.
AUCTION	Deal in contest. Binary variable for a takeover with competitor when the status of the takeover is pending from the SDC Platinum database.
FIRST_PREMIUM	First offer premium. The difference between the first offer price to each share of the target and the target share price 41 day prior to the identified offer announcement date divided by the target share price 41 days prior to the identified offer date.
FINAL_PREMIUM	Final offer premium. The difference between the final offer price to each share of the target and the target share price 41 day prior to the identified offer announcement date divided by the target share price 41 days prior to the identified offer date.
CAR_3DAY	3-day cumulative abnormal returns (CARs). 3-day CARs around the identified offer announcement date. Abnormal returns are calculated based on the market model. The estimation window is over the period of 242 to 43 trading days prior to the identified takeover announcement date.
POST_REFORM	Post-reform period. Binary variable for a takeover announced after the reform of the City Code in 2011 from the SDC Platinum database.
TARGET_TF	Deal with target termination fees. Binary variables for a takeover with target termination fees in the pre-reform period.
PROXY_TARGET_TF	Proxy of target termination fees. It is assigned to 1 if the predicted probability of having target termination fees of a takeover is higher than the mean value of the predicted probability of takeovers undertaken in the pre-reform period; otherwise, it is assigned to 0.
ACQUIRER_TF	Deal with reverse termination fees. Binary variables for a takeover with reverse termination fees in the pre-reform period.
TARGET_SIZE	Target firm size. Market value of equity minus book value of equity plus book value of total assets in nominal terms. For the reporting period end before the (latent) acquisition announcement year from the Datastream database. In million dollar units and real (2016) terms.
TANGIBILITY	Ratio of fixed assets. Total book value of property, plant and equipment (PPE) divided by firm size in book value in nominal terms. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
LEVERAGE	Leverage ratio. Book value of total debt divided by firm size in book value in nominal terms. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
LIQUIDITY	Liquidity ratio. Cash and marketable securities divided by firm size in book value in nominal terms. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
Q_RATIO	Market to book ratio. Firm size in market value divided by from size in book value. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.

ROA	Return on assets. Operating incomes plus depreciation (annualized) divided by firm size in book value in nominal terms. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
ROA_SD	Volatility of return on assets. Standard deviation of ROA for a maximum of three and a minimum of two reporting period ends before the (latent) acquisition announcement year.
HHI	Herfindahl index. Industry listed firm concentration. Herfindahl index for the shares of sales (annualized and in decimal units) for the Industry Classification Benchmark industry. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
TOEHOLD	Percentage of shareholdings that the offeror owns in the target firm prior to the takeover announcement.
CASH_DEAL	Cash deal. Binary variable for a takeover paid for all in cash from the SDC Platinum database.
SHARE_DEAL	Stock deal. Binary variable for a takeover paid for all in stock from the SDC Platinum database.
PUB_PUB	Public deal. Binary variable for a takeover offered by a public firm from the SDC Platinum database.
PRI_PUB	Private deal. Binary variable for a takeover offered by a private firm from the SDC Platinum database.
DOMESTIC	Domestic deal. Binary variable for a takeover offered by a firm from the same country as the target from the SDC Platinum database.
SICMATCH	Binary variable for a takeover with bidder and target belonging to the same Industry Classification System (SIC) super-sector.
RATE_SPREAD	Loan rate spread. The spread between major bank prime lending rate and The London Inter-bank Offered Rate (LIBOR) at each year end. For the reporting period end before the (latent) acquisition announcement year from the Datastream database.
LAST_TF_INTENSITY	Industry takeover intensity with target termination fees in the year before the year of a takeover. The number of takeovers with target termination fees divided by the number of takeovers in the industry with the same SIC super-sector code as the target firm in the last year of the year of the current takeover.
TAKEOVER_INTENSITY	Takeover intensity in the year before the year of a takeover. The number of takeovers divided by the number of public firms in the last year of the year of the current takeveor.
COMPLEMENTARITY	Deal with bidder and target from high complementary industries (Fan and Lang, 2000). Input and output information across industries are collected from National Statistics (NS) website where the "Supply and Use Tables" from 1997 to 2014 are accessible. For each NS industry i, the percentage bik (vik) of its output (input) supplied to (purchased from) each intermediate NS industry k. For each pair of industries i and j that target and bidder belong to, we calculate the simple correlation coefficient between bik and bjk (vik and vjk) across all NS industries excluding i and j. Subsequently, we compute the average input and output correlation coefficients as the proxy of complementarity for each pair of firms. 4-digit ICB codes of targets and bidders are mapped into the NS industries. For deals happened in 2016 where

the complementarity of 2015 is used, we extend the IO matrix in 2014 to 2015 to calculate the complementarity of 2015.[9]

[9] Fan and Lang (2000) introduce that the Bureau of Economic Analysis (USA) renews the "Use Table" every 5 years. By referring to this, we believe that in the UK market, we can employ the "Use Table" in 2014 for the measure in 2015 to replace the missing information.

Appendix B. Placebo Tests and Robustness Tests

Table B1

This table presents the descriptive statistics of predicted probability of having target termination fees in takeover agreements from Model 3 of Table 1. The significance tests of the differences of mean (median) values for two groups of takeovers undertaken before and after the reform are noted in the row showing the predicted probability for post-reform takeovers. PROXY_TARGET_TF is the proxy for target termination fees defined in Appendix A.

	Mean	Median	Std. dev.	Observations
Predicted Probability (Pre-reform)	0.2560	0.2300	0.1525	597
Predicted Probability (Post-reform)	0.2746	0.2403	0.1677	276
Predicted Probability (full sample)	0.2619	0.2346	0.1576	873
PROXY_TF	0.5273	1.0000	0.4995	990

Table B2 Placebo tests

This table presents the estimation results of placebo tests. From Models 1 to 5, the dependent variables are the indicator of deal completion, the indicator of being in the auction, the first bid premiums, the final bid premiums and CARs of target firms. Panels A and B presents the estimation results of two different placebo tests. Only takeovers undertaken before 2011 are employed. The indicator of takeovers that are highly likely to use target termination fees hypothetically are interacted with an indicator of years 2009 and 2010 as main independent variable. Both dependent and independent variables are defined in Appendix A. Heteroskedasticity-consistent standard errors are presented. Industry fixed-effect and year fixed-effect are controlled in each model. Industries are classified based on the Industry Classification Benchmark (ICB) super-sectors. *, **, and *** indicate the statistical significance of average marginal effects (coefficients) and Wald Chi-square tests (F tests) at the one-, five-, and ten- percent levels respectively.

	Model 1 (Deal completion)		Model 2 (Auction)		Model 3 (first premiums)		Model 4 (final premiums)		Model 5 (CARs)	
Variables	Marginal effect	Std. err.	Marginal effect	Std. err.	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
PROXY_TF*YEAR2009_2010	-0.0881	0.0704	-0.0025	0.0575	0.0448	0.1315	0.0933	0.1351	0.0085	0.0492
Other control variables	Yes		Yes		Yes		Yes		Yes	
(Pseudo) R-squared	0.3065		0.0957		0.0934		0.1064		0.1836	
(Wald Chi-squared) F-stat.	147.39***		51.32***		1.76**		1.96***		3.88***	
P-value	0.00		0.00		0.01		0.00		0.00	
Observations	510		510		369		369		490	