

# Mergers and Acquisitions: The influence of competition on target company evaluation.

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#### Introduction

#### Goal

Analyze the determinants of the premiums in bilateral negotiations during the period from 2007 to 2015.

The literature on this subject is mostly theoretical (as Fishman (1988), Ruback (1983), Shleifer e Vishny (2003), Dodonova e Khoroshilov (2014)) or are based on experiments (as Dimopoulos e Sacchetto (2014), Dai et al. (2013)). Thus, to back the theory up it is of extreme importance to have an empirical study using contemporaneous data.



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- Because of that, Latency of competition and Preemptive bidding take place.
- In this sense, Fishman (1988), Ruback (1983) argues that the engine of the corporate control market is mainly based on the presence of competition.



However, in a dispute like that, not only the real competitor matters.

#### Potential Competition

This refers to the threat that other firms may pose to the negotiation between the acquirer and the target company, and it was found that in it's presence the winning offer will be higher.



#### Threat of an auction

- Acquirers also analyze internal aspects of the target company when disputing.
- For example:
  - Organizing an auction takes time when shareholders are under pressure to sell, they are more biased to accept the initial bid.
  - ② The delay in the sale procedure of the target firm generates costs that a company with a high level of indebtedness prefers to avoid.
- This way, negotiations initiated by the target firm, reveal a clear signal to the market about their rush to liquidate.



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- Trades initiated by the target firm itself;
- Debt of the target.



#### Data

The sample used contains 590 observations provided by the Thomson Reuters Eikon database. The time horizon of the data is from January 1, 2007 to September 30, 2015.



#### Method

This research was performed through a multivariate analysis.



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#### Measures

- Bid premium over the closing share price 4 weeks before the announcement date.
- ② Premium offered in relation to the closing price of the share 42 days prior to the announcement date  $(P_{42})$

$$P_{42} = \frac{(DV_i) * 100}{VM_{(t-42)}} - 1 \tag{1}$$



## Results for the 4-week bid premium

Variables	1	2	3	4	5	6	7
Intercent	16.2	42.091	49.635	44.035	18.654	48.618	45.382
Intercept.	(0.455)	(0.000***)	(0.052*)	(0.154)	(0.374)	(0.000***)	(0.061*)
Line Indian	0.011	0.080	, ,	, ,	, ,	,	0.059
Liq. Index.	(0.845)	(0.305)					(0.314)
Davis Datasta Davis		, ,	-2169.2	325.71			-0.002
Ratio Private Buyo	ut Funa.		(0.007***)	(0.871)			(0.003***)
Recession.					18.738	18.478	10.178
Recession.					(0.127)	(0.131)	(0.397)
Towns Date Date	69.833		65.406		66.703	, ,	65.082
Target Debt Ratio.	(0.000***)		(0.000***)		(0.000***)		(0.001***)
Towns to be a delicated	,	-0.721	,	1.015	,	-2.965	8.047
Target Initiated.		(0.947)		(0.919)		(0.786)	(0.626)
Nº Obs.	76	181	76	181	76	181	76
$\mathbb{R}^2$ adjusted	0.502	-0.012	0.528	-0.020	0.514	-0.014	0.519
F-statistic	8.585	0.769	9.409	0.631	8.933	0.743	7.238

Source: Data from the research.



#### Results for the 4-week bid premium

- The index of corporate transactions had little significance in the presented models.
- The target company's indebtedness presented a regular behavior among all the models, having significance and positively impacting the premium estimation.



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Variables	8	9	10	11	12	13	14
Intercept.	0.532 (0.000***)	0.448 (0.000***)	0.64 (0.000***)	0.568 (0.000***)	0.481 (0.000***)	0.474 (0.000***)	0.638 (0.000***)
Liq. Index.	0.000 (0.326)	0.000 (0.31)					0.000 (0.583)
Ratio Private Buyout Fund.	, ,	, ,	-8.748	-6.646			-8.892
Buyout Tuna.			(0.292)	(0.330)			(0.300)
Recession.					-0.066 (0.514)	-0.019 (0.752)	-0.088 (0.351)
Target Debt Ratio.	0.258 (0.113)		0.233 (0.134)		0.268 (0.077*)	(0.1.02)	0.269 (0.084*)
Target Initiated.		-0.117 (0.228)		-0.129 (0.198)		-0.124 (0.217)	-0.268 (0.009***)
Nº Obs.	72	176	72	176	72	176	72
$R^2$ adjusted F-statistic	-0.007 0.945	-0.009 0.841	-0.003 0.974	-0.009 0.831	-0.010 0.925	-0.014 0.747	-0.020 0.891

Source: Data from the research.



- The variable indicative of negotiations initiated by the target firm had significance in the estimation of the premium in only one of the models
- The coefficients of the variable in the regressions of 8 to 14 had a negative influence on the dependent variable
- The dependent variable decreases in case the target company initiates the procedures to be sold.



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#### Models predictions

- Models with Premium offered 4 weeks before the announcement:
  - Best predictive condition was model 7.
  - This model combines all the independent and control variables.
- Models with Premium offered 42 days before the announcement
  - Model 19 had the lower DQ
  - This model combines only the independent variables of interest to explain the dependent variable.
  - It has the lowest AIC criterion, revealing the high quality of the information indicated in the regression result.



## Models predictions

The models chosen for the two cases combine the variables of latent competition and costs of organizing an auction.



#### Conclusion

- Results showed that measures related to latent competition are generally not highly significant.
- On the other hand, the target company's indebtedness presented a regular behavior in all models studied.
- Model chosen combines all the independent and control variables.
- The main contribution is to offer an empirical perspective on the process.



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## Thank you!



- DAI, Y. et al. Similar bidders in takeover contests. *Games and Economic Behavior*, Elsevier BV, v. 82, p. 544–561, Nov 2013. ISSN 0899-8256. Disponível em: <a href="http://dx.doi.org/10.1016/j.geb.2013.08.010">http://dx.doi.org/10.1016/j.geb.2013.08.010</a>.
- DIMOPOULOS, T.; SACCHETTO, S. Preemptive bidding, target resistance, and takeover premiums. *Journal of Financial Economics*, Elsevier BV, v. 114, n. 3, p. 444–470, Dec 2014. ISSN 0304-405X. Disponível em: <a href="http://dx.doi.org/10.1016/j.jfineco.2014.07.013">http://dx.doi.org/10.1016/j.jfineco.2014.07.013</a>.
- DODONOVA, A.; KHOROSHILOV, Y. Can preemptive bidding in takeover auctions be socially optimal? Yes it can. *The North American Journal of Economics and Finance*, Elsevier BV, v. 27, p. 34–47, Jan 2014. ISSN 1062-9408. Disponível em: <a href="http://dx.doi.org/10.1016/j.najef.2013.11.001">http://dx.doi.org/10.1016/j.najef.2013.11.001</a>.
- FISHMAN, M. J. A theory of preemptive takeover bidding. *The Rand Journal of Economics*, JSTOR, -, n. 670, p. 88–101, Dec. 1988.



RUBACK, R. S. Assessing competition in the market for corporate acquisitions. *Journal of Financial Economics*, Elsevier, v. 11, n. 1, p. 141–153, Nov 1983.

SCHLINGEMANN, F. P.; STULZ, R. M.; WALKLING, R. A. Divestitures and the liquidity of the market for corporate assets. *Journal of Financial Economics*, Elsevier, v. 64, n. 1, p. 117–144, 2002.

SHLEIFER, A.; VISHNY, R. W. Stock market driven acquisitions. *Journal of financial Economics*, Elsevier, v. 70, n. 3, p. 295–311, 2003.