

## Disclosure Regulation, Unlawful Disclosure and the Origin of Rumors

In this paper, we examine if rumors about potential equity deals originate from target or acquirer companies. Specifically, we investigate whether an exogenous increase in the costs for spreading a rumor leads to a decrease in the amount of rumors for deals with at least one affected company. Rumors are unconfirmed news events regarding potential equity deals between two parties. Regulators view rumors as unlawful, if they either constitute a strategic market manipulation, or if they constitute information leakages (unlawful disclosures) that question the quality of firms' disclosure policies. The economic significance of rumors arises as they trigger a significant target stock price run-up [Betton et al. (2014), Ahern and Sosyura (2015)], affect merger negotiations [Ahern and Sosyura (2015)] and are associated with a decreased likelihood of a successful deal [Alperovych et al. (2016)].

So far, we could not find any evidence regarding the explicit source of rumors. Some newspapers vaguely specify their sources as e.g. multiple people with direct knowledge of a deal in the works. However, based on the information content of the publication itself, no inference regarding the company affiliation of those sources is possible. Therefore, we initially contacted several major newspapers covering rumors in order to receive more detailed information regarding the company affiliation of their sources. Overall, the information which was provided to us by newspapers was limited, as they want to keep their sources anonymous. This behavior is in line with the assumption that newspapers are at risk of losing access to new information if their existing sources do not remain confidential.

Our setting exploits the staggered introduction of the Market Abuse Directive (MAD) as an exogenous shock for the costs of spreading a rumor. The MAD is a European securities regulation aimed at improving firms' compliance with disclosure regulations. Each member state has to implement the directive within a certain time frame. Therefore, the regulation was adopted at different points in time across member states. The countries implemented the directive into national law between 2004 and 2006.<sup>1</sup> The variation in the adoption date is plausibly exogenous for the treated companies due to differences in national legislative systems. The staggered implementation of the MAD mitigates concerns regarding other confounding events, as they have to be in line with the implementation dates of 27 countries [Christensen et al. (2016)]. Furthermore, we exploit within country variation in additional tests, as the regulation only affected companies with instruments admitted to trading on a regulated market or in respect of which a request for admission to trading had been made. Therefore, our study exploits cross-sectional variation between countries as well as within country variation using private companies as the control group.

We hypothesize that rumors could be originated from both companies involved in a potential equity deal. However, we assume that the incentives to spread rumors are considerably higher for the management of target companies due to the following reason. A potential takeover can force shirking managers to perform a high effort and at the same time impose the threat of being fired [Fama and Jensen (1983); Scharfstein (1988)]. Franks and Mayer (1996) show, that in the case of successful hostile takeovers 90% of all target managers resign from their position, while less than 40% resign in the case of unsuccessful hostile takeovers. Thereby, the market for corporate control acts as a disciplining force to reduce the principal-agency problem. Managers could implement anti-takeover protections to lower the probability of a successful takeover (*management entrenchment hypothesis*), which at the same time lead to a higher offer for current shareholders if the deal takes place (*shareholder interest hypothesis*). However, most potent pre-bid protections are only possible with shareholder support. As previously discussed, rumors are associated with a target stock price run-up and a reduced likelihood of a successful deal. Therefore, target managers could employ a rumor without shareholder support as a substitute for anti-takeover protections. In contrast, acquirer managers have incentives to prevent a rumor as the probability of a successful deal decreases. Besides managers, employees of both companies with knowledge of the deal could also spread rumors to newspapers if they act altruistically or fear losing their jobs. Overall, we recognize considerable incentives for target companies to spread rumors, while incentives for acquirer companies are less pronounced.

To empirically test our hypothesis, we obtained rumors and additional deal level data from Bureau Van Dijk (BvD) Zephyr, financial data from BvD Orbis, and historical listing status from BvD Orbis Historical. We downloaded data for all deals between 2002 and 2008, providing us with observations from at least two years before and after the introduction of the Market Abuse Directive for all countries. Financial data and the public status are measured at the end of the last financial year before the announcement of a rumor or a deal.

We test our hypothesis using a panel dataset and estimate the following model:

$$Rumor = \beta_0 + \beta_1 * Listed_A * MAD_A + \beta_2 * Listed_T * MAD_T + \beta_3 * Listed_T * TPD + \sum \beta_j Controls_j + \sum \beta_i FE_i + \varepsilon$$

The binary dependent variable *Rumor* takes the value 1 if a rumor occurs before the official announcement, and 0 otherwise.  $MAD_A$  and  $MAD_T$  are binary indicators coded as 1 beginning in the quarter when the Market Abuse Directive comes into force in either the acquirer or target country.  $Listed_A$  and  $Listed_T$  are binary indicators coded as 1 for companies which are publicly

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<sup>1</sup> Excluding Romania and Bulgaria, which both joined the EU in 2007.

traded. The coefficients of interest  $\beta_1$  and  $\beta_2$  measure the percentage point change in rumors for listed companies after the introduction of the directive in both the acquirer and the target country. In addition, the binary variable TPD is coded as 1 beginning in the quarter in which the transparency directive was implemented in the target country.<sup>2</sup> Our controls include assets, profit ratio and sales for both companies involved, as well as the deal value. Furthermore, we include an interaction effect capturing the additional change in the amount of rumors if both companies are public and affected by the regulation. Fixed Effects include interacted country\*industry\*public fixed effects for acquirer and target countries, quarter fixed effects and deal type fixed effects<sup>3</sup> in our main specification. In our within country specification, we include interacted quarter\*country fixed effects for acquirer and target countries to compare the change in rumors of public companies with private companies in the same country. Standard errors are two-way clustered by acquirer and target countries.

In our main specification (Table 1, Column 1) we employ the full sample of firms and find a significant reduction in rumors (-12.8 percentage points) in deals with treated target companies, while we observe no change for treated acquirer companies. Column 2 of Table 1 reports our within country estimation, where we include separate calendar quarter fixed effects for all acquirer and target countries. Those additional fixed effects help to absorb local concurrent shocks in a given country around the adoption date of the directive. The coefficient for the treated acquirer is insignificant, while the coefficient for the treated target company is significant and quite similar in magnitude to the previous result (-9.9 percentage points). To further assess the robustness of our results we employ several model specifications. First, to investigate if our results are driven by the sample construction, we a) restrict our sample to deals with publicly traded target firms only, restrict our sample to deals where b) at least one company is headquartered in the European Union, and c) enlarge our sample by excluding firm level controls of the acquirer company. The results are robust to those specification changes and are listed in Table 2, Column 1. The coefficient for the treated acquirer is insignificant, while the coefficient of the treated target company remains significantly negative with a value of -0.11. Second, to further tighten the identification strategy we include in our previous robustness test an a) interaction effect between treated target and treated acquirer, and b) introduce separate quarter-fixed effects interacted with listed firms for both, target and acquirer countries. The results (Table 2, Column 2) are robust to those specification changes, as the coefficient for treated targets is significant with a value of -0.14 and the coefficient for treated acquirers is insignificant. Overall, the negative significant coefficient on treated target companies ranges between 10 and 14 percentage points.

We contribute to the literature by providing first archival evidence on potential sources of equity deal rumors. Our results show a significant reduction in the amount of rumors after target companies are affected by the regulation, while no effect is visible for affected acquirer companies. Thus, our findings are in line with the notion, that insiders of target companies use rumors as a strategic tool to affect equity deal negotiations. Furthermore, we provide additional evidence on the effect of regulatory attempts to reduce the amount of unlawful disclosure. Our results suggest that the Market Abuse Directive has positively affected target firms' compliance with regulations on inside information.

Our findings are subject to several caveats. First, our identification approach does not consider other parties involved in potential deals. While we do not observe an effect for the acquirer company, other parties with knowledge of the deal, e.g. deal advisors, lawyers, competitors, could also be sources of rumors. A decrease in rumors by those parties may be captured in our coefficients of interest. However, we doubt that our results are driven by a reduction in rumors from related parties due to two reasons: a) related parties have financial incentives to close and advice deals and rumors might scare potential future clients, b) the quality of related parties' disclosure and confidentiality policy is not considered by the Market Abuse Directive. We feel reinforced in our assumption, as the coefficient for treated acquirer companies is insignificant and thus indicates no absorbed effect from related parties located in the acquirer country. Second, our results could reflect a decreasing demand for rumors by newspapers instead of a decreasing supply of rumors by companies. However, the decrease in demand would have to be correlated with the staggered introduction of the directive and should only arise for newspapers that only systematically follow firms of treated countries, which we view as unlikely.

## References:

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<sup>2</sup> For the TPD, we expect to find a mechanical increase in the number of rumors discussed in the media due to a tightening of disclosure of major shareholdings if the target is affected by the regulation.

<sup>3</sup> Deal type fixed effects include fixed effects for each combination of deals (Public-Public, Public-Private, Private-Public and Private-Private deals)

**Table 1**

VARIABLES	Full Sample (1)		Within Country (2)	
	Coefficient	T-Value	Coefficient	T-Value
Acquirer_Listed*Target_Listed	-0.192***	(-5.846)	-0.246***	(-13.82)
Acquirer_Listed*MAD_Acquirer	0.0328	(1.035)	-0.0288	(-1.686)
Target_Listed*MAD_Target	-0.128**	(-2.448)	-0.0987***	(-3.186)
Target_Listed*TPD	0.0341	(1.272)	0.00249	(0.113)
log(Acquirer_Assets)	-0.0209***	(-3.154)	-0.0201***	(-3.305)
Acquirer_Profitratio	0.000388*	(1.738)	0.000334	(1.141)
log(Acquirer_Sales)	0.000994	(0.207)	0.000984	(0.125)
log(Target_Assets)	0.0172***	(2.923)	0.0168**	(2.321)
Target_Profitratio	0.000	(1.406)	0.000	(0.887)
log(Target_Sales)	0.000658	(0.124)	0.000837	(0.100)
log(DealValue)	0.00739**	(2.038)	0.00583*	(1.923)
Acquirer_Listed*MAD_A*Target_Listed_After*MAD_T	0.0258	(0.600)	0.0665**	(2.074)
Observations	4,751		4,433	
R-squared	0.421		0.537	
Public x Industry x Country FE (A/T)	Yes		Yes	
Quarter x Country FE (A/T)	-		Yes	
Quarter FE	Yes		-	

**Table 2**

VARIABLES	Public Targets only (1)		Public Targets only (2)	
	Coefficient	T-Value	Coefficient	T-Value
Acquirer_Listed	0.0118	(0.667)	Dropped (Included in FE)	
Acquirer_Listed*MAD_Acquirer	-0.0247	(-0.680)	0.106	(1.487)
MAD_Target	-0.112***	(-3.083)	-0.141*	(-2.016)
TPD	0.0589**	(2.674)	0.0674*	(1.989)
log(Target_Assets)	-0.0254***	(-4.783)	-0.0242***	(-4.115)
Target_Profitratio	0.0148**	(2.462)	0.0125	(1.586)
log(Target_Sales)	0.00735***	(3.463)	0.00737**	(2.424)
log(DealValue)	0.00862***	(3.536)	0.00806**	(2.604)
Acquirer_Listed*MAD_A*Target_Listed_After*MAD_T			-0.0327	(-0.507)
Observations	3,551		3,551	
R-squared	0.482		0.493	
Industry x Country FE (A/T)	Yes		Yes	
Quarter x Country FE	-		-	
Quarter FE	Yes		Yes	
Quarter x Public FE (A/T)	-		Yes	