

The Reputational Penalty for Illegal Insider Trading by Managers

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Abstract:

This article examines whether shareholders punish companies for illegal insider trading by their managers by examining news announcements of illegal insider trading practices reported in press in six European countries for the period 1995 until 2005. It shows that companies are penalized in financial markets for the illegal insider trading practices of their managers or board members. We observe a clear negative abnormal return on the day of the newspaper announcement of the illegal insider trading practice of -1.53 percent. The reputational penalty might reflect a private penalty which serves as a proxy for the poor public law enforcement of insider trading regulations in Europe or the market evaluation of a lower overall ethical climate by the breach of a critical ethical boundary.

Keywords: illegal insider trading, reputational penalty, private enforcement, ethical culture, breach of ethical boundary

JEL-code: G14, M14, K22, K42

1. Introduction

Responsible corporate behavior received a lot of attention during the last decade in the corporate social responsibility (CSR) literature (McWilliams and Siegel, 2001 and 2006). After the U.S. and the European financial markets being disturbed in the early 2000s by several major scandals, involving companies like Enron, WorldCom and Parmalat, financial ethics received a lot of attention by a much broader public as well. This paper examines the relationship between the discovery of unethical or illegal corporate behavior and the stock price of the involved company. Corporate misconduct can occur in different ways such as corruption, insider trading, market abuse, tax fraud, accounting fraud, discrimination, or the violation of human rights.

Do shareholders care about corporate maleficence and punish companies by driving down the stock price? Does the stock market exercises any disciplinary role for corporate misconduct? The answer to these questions is complementary to the CSR literature which examines the link between good business practices and firm performance (Pava and Krausz, 1996, McWilliams and Siegel, 2000, and Roberts and Dowling, 2002). A meta-analysis of 52 empirical studies by Orlitzky et al. (2003) finds a positive association between corporate social performance and financial performance. Examining stock market penalties for corporate misconduct is therefore the mirror image and looks into any negative relation between corporate misconduct and financial performance.

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This paper focuses on one specific type of corporate misconduct, being illegal insider trading. The article examines the impact of the public announcement of illegal insider trading in the period 1995 till 2005 in (financial) press in six European countries (Belgium, France, Germany, Luxembourg, the Netherlands, and UK). The paper examines if this misconduct exhibits any abnormal return behavior on the announcement date by means of an event study. If this is the case, financial markets discipline companies for illegal insider trading by managers.

Illegal insider trading is an interesting category of corporate maleficence since it contributes to the existing literature in four ways. First, it focuses on just one type of corporate maleficence avoiding aggregation problems over different types of corporate misconduct. Moreover, unlike other types of corporate misconduct, illegal insider trading usually does not occur at the company level, but at the individual level. For, the insiders are usually managers and board members that trade based on non-public information about a certain firm-specific event.¹ Therefore, any legal penalties for getting caught for illegal insider trading are attributed to those individuals and not to the company. Any financial market discipline at the company level by driving down the stock price is therefore not an anticipation of any expected penalties at the corporate level, but might serve as a reputational penalty. In this way, it adds to the literature on reputational penalties because it avoids the empirical difficulty to distinguish between the level of the legal penalty and the level of the reputational penalty. The current approach allows for an unbiased estimate of the reputational penalty and interpret the results more easily.

Second, if the public enforcement of illegal insider trading is inadequate, the financial market discipline might serve as a substitute for poor public enforcement by imposing a market-induced reputational penalty. This paper empirically examines whether financial markets impose such a reputational penalty on companies whose corporate insiders engage in illegal insider trading. It contributes to the literature on public versus other enforcement mechanisms.

Third, it examines the impact of the announcement of corporate misconduct by the first cross-country study of six European markets and complements the existing literature which is U.S. biased.

Fourth, if this empirical study shows that shareholders discipline corporate insiders (or alternatively not), it can contribute to the debate on insider trading both in the economics (Carlton and Fischel, 1983) and in the business ethics literature (Engelen and Van Liedekerke, 2007, Moore, 1990 and Werhane, 1989). If all shareholders would penalize corporate insiders for trading based on private information, it can be an (additional) argument for a ban on insider trading.

The article is organized as follows. Section two discusses the public law enforcement of insider trading in Europe. It will show the difficulties in public law enforcement of illegal insider trading in EU countries. Next, section three recalls the literature on market discipline for illegal business practices. Section four discusses the data and methodology, while section five presents the empirical results. Section six discusses the results and section seven concludes.

¹ Tippees are left out of consideration since the article focuses on firm-level reputational penalties for illegal business practices by their corporate insiders.

2. Enforcement of Illegal Insider Trading

The purpose of illegal insider trading regulations is to prevent trading based on non-public information about a certain firm-specific event that can influence the price of a security.² The seriousness of trading based on this privileged information is well-documented.

Empirical studies examining the profitability of reported legal insider trading clearly show that insiders earn abnormal returns (e.g. Givoly and Palmon, 1985, Seyhun, 1986, Lin and Howe, 1990, Seyhun, 2000, Atkas et al., 2008).³

Another line of the empirical literature focuses on examining illegal insider trading using detailed data on the illegal inside trades. Cornell and Sirri (1992) report an abnormal return of 5.4% during the month insiders were trading, while Meulbroek (1992) finds an abnormal return realized by insiders of about 3% on the day of the insider trade.

Finally, a third stand of literature examines insider trading around major corporate events, such as dividend announcements (John and Lang, 1991), earnings announcements (Sivakumar and Waymire, 1994; Hillier and Marshall, 2002), new issue announcements (Karpoff and Lee, 1991), stock repurchases (Lee, Mikkelsen and Partch, 1992), corporate sell-offs (Hirschey and Zaima, 1989), capital structure changes (Karpoff and Lee, 1987) and corporate control transactions (Keown and Pinkerton, 1981, Schwert, 1996, and Linciano, 2003).

In broad lines, those three stands of literature demonstrate that corporate insiders earn abnormal returns. World wide most countries established insider trading rules to curtail earning excess returns by trading on privileged information (Bhattacharya and Daouk, 2002). In the European Union (EU) insider trading regulations were introduced in 1989, and subsequently implemented in the national law of the member states.⁴

Although the European Commission considers the enforcement of insider trading rules of crucial importance to ensure the integrity of European financial markets⁵, EU countries have not been very successful in curtailing illegal insider trading. Especially problematic is the use of criminal prosecutions in illegal insider trading cases. This is due to the high burden of proof in criminal cases and the high degree of dismissal by the Public Prosecutor's Offices because of the heavy workload, the complicated character of the offence and the limited amounts involved (Engelen, 2007).

With respect to the UK, Naylor (1990) reports that in 75% of the cases the British Stock Exchange believed it had enough proof to meet the civil standard but not the criminal standards.

² Although the prohibition of insider trading can be debated on economic grounds, the question whether insider trading should be prohibited or not, will not be addressed in this article. See on this issue, Carlton and Fischel (1983) and Engelen (2005).

³ Legal insider trading refers to the transactions by corporate insiders that have to be reported to the market authority. Several countries, such as the Netherlands, Germany, the UK and the US use this system. For instance, in the U.S. 'officers', 'directors' and beneficial owners of more than ten percent of any class of stock are obliged to disclose their fraction of share ownership and their transactions in shares of their company (Section 16a-3 (a) Securities Exchange Act of 1934). This legal insider trading has to be distinguished from illegal insider trading prohibited by section 10(b) of the Securities and Exchange Act of 1934 and SEC rule 10b-5.

⁴ European Directive (89/592/EEC) of 13 November 1989 for the Coordination of the Regulations of Insider Trading, *O.J.*, L334/30, 18 November 1989.

⁵ European Commission, *Explanatory Memorandum*, Proposal for a Directive of the European Parliament and of the Council on Insider Dealing and Market Manipulation, 30 May 2001, COM(2001) 281 final.

Similar findings are reported by Pfeil (1996) for Germany. It is clear that the use of criminal prosecutions in the EU for curtailing insider trading has inherent serious limitations. Between 1980 and 1998 Newkirk and Robertson (1998) report only 17 prosecutions for insider trading in the UK, 12 of which were successful, while the Netherlands had only one successful conviction over the period 1989-1998. Engelen (2007) shows that less than 1% of the possible cases of insider trading in Belgium have been prosecuted in the period 1996-2000. Although all EU countries have similar insider trading rules in the books, the enforcement is lacking. EU law enforcement seems to be ineffective in deterring corporate insiders from exploiting their informational advantage.

The European Commission recognized those shortcomings and opted for a more radical change of the enforcement of insider trading rules by introducing the so-called Market Abuse Directive (MAD) in 2003.⁶ The MAD makes administrative sanctions mandatory, parallel to the current criminal sanctions. An administrative sanction is imposed directly by the country's Market Authority on the insider trader. When the latter does not oppose to this sanction within a certain term, the administrative sanction becomes final. If he opposes to the sanction, the case is brought before the court. The European Commission assumes administrative sanctions to improve the probability of conviction because it will lead to fewer dismissals compared to criminal prosecutions. It remains an open question whether the use of administrative sanctions will improve the public enforcement of illegal insider trading rules.

However, there is a third alternative for curtailing illegal insider trading by corporate insiders. Instead of a public enforcement mechanism, financial markets could arrange a market-induced enforcement mechanism by imposing a reputational penalty on companies whose agents trade on privileged information. This article will empirically examine whether such a reputational penalty can be observed for announcements of illegal insider trading in the EU. Such a market discipline might serve as a substitute for poor public enforcement in the EU in order to ban illegal insider trading.

3. Market Discipline of Illegal Business Practices

Although business ethics and CSR are becoming increasingly important in literature, the effect of the public announcement of unethical or illegal corporate activities received relatively little attention. Davidson and Worrell (1988) examine the daily returns of a sample of 131 announcements of illegal U.S. business practices during the period 1970-79. Their sample includes illegalities such as bribery, criminal fraud, tax evasion, illegal political contributions and criminal antitrust violations. They find a significant abnormal return of -0.87% on the day before the publication and of non-significant abnormal return of -0.21% on the publication date. They interpret the market to react negatively on the day the news reaches the market.

In a similar way, Reichert et al. (1996) examine a U.S. sample of 83 announcements of filing of formal indictments against companies for corporate illegalities at firm level during the period 1980-1990. The aggregate sample shows a decline on the announcement date (abnormal return of -1.38%). Again, the pooling of all types makes results difficult to interpret.

Rao and Hamilton (1996) examine a sample of 58 events from 1989 through 1993 in the U.S. on bribery, employee discrimination, environmental pollution, insider trading and business ethics. They find an abnormal return of -5.67% for the full sample on the announcement moment of the publication in financial press. Given the sample size, no subsample analysis was performed for

⁶ Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on Insider Dealing and market Manipulation (Market Abuse), *O.J.*, L96/16, 12 April 2003 [in short: the *MAD*].

each type of corporate misconduct. Between 1988 and 1992, Gunthorpe (1997) examines 69 U.S. cases of formal investigations into fraud, bribery, price fixing, breach of contract and alike. Again, the full sample shows a negative abnormal return of -1.33% on the announcement date.

However, pooling all types of corporate maleficence in one sample makes the results difficult to interpret. Markets might react differently to different types of corporate misconduct. For instance, financial markets might react negatively to tax fraud, but positively to bribery. Accounting fraud could be considered as bad business practice (decrease of cash flows), while bribery might be considered as good business practice to obtain important business contracts in certain countries (increase of cash flows). Moreover, financial markets might react more strongly to certain types of corporate misconduct than to others. Any aggregation across all types of maleficence could make the results difficult to interpret since the price impacts of different illegal categories might offset each other, and thus, a smaller overall abnormal return is observed.

While the above studies used an aggregate sample of a diverse range of corporate misconduct, the scope of Karpoff and Lott (1993) is more focused by examining different types of fraud. Over the period 1981-1987 they examine 132 U.S. cases of frauds of customers, suppliers, employees, government and investors and find that public announcements of corporate fraud in press lead to an average decline of 1.34% of the stock price. On a subsample of 15 companies they collected information on the level of the legal penalties. Since the stock market loss is in no relation to the expected penalties, they interpret the stock price decline as a reputational penalty imposed by the financial market. Karpoff, Lott and Wehrly (2005) examine U.S. environmental violations over the period 1980-2000 and find that the stock price decline only reflects legal penalties and clean-up costs and no reputational penalty.

In summary, past studies are U.S. focused and, with the exception of the two latter, aggregate all types of corporate misconduct in only one sample, making results difficult to interpret. The current study adds to the existing literature by focusing on just one type of corporate maleficence allowing us to measure the impact more clearly and interpret the results more easily. While Karpoff and Lott (1993) and Karpoff, Lott and Wehrly (2005) focused on corporate misconduct at the firm level, the current article focuses on misconduct at the individual level. Since there is no anticipation of expected legal penalties at the firm level, any stock price reaction should reflect reputational penalties only. Next, it examines the impact of the announcement of corporate misconduct in Europe by a cross-country study of six EU markets and complements the existing literature which is U.S. biased. It will offer additional insight whether shareholders in different countries (U.S. versus EU) react differently to corporate misconduct. Finally, it will examine whether market-induced penalties by the financial market can substitute weak public law enforcement.

4. Data and Methodology

This section first presents the data collection approach and describes the final sample. Next, it discusses the event study methodology to calculate the abnormal return(s) around the news announcements of illegal insider trading.

4.1. Data Collection and Data Description

Data was collected on news announcements of illegal insider trading practices reported in press in six European countries for the period 1995 until 2005. These countries include the U.K., Germany, France, Belgium, the Netherlands, and Luxembourg. The sample is constructed by searching in electronic full-text newspaper databases for each country and by reading through

press articles in English, French, German or Dutch language. Relevant announcements include articles on illegal insider trading allegations, news items on formal police or judicial investigations into illegal insider trading practices, and press coverage of court cases and convictions for insider trading. To be included in the sample the firm must be listed on the country's stock exchange and the defendant must be the firm's CEO, a management or a board member.

Information regarding illegal insider trading was identified using the keywords 'insider trading' and 'insider dealing' for the U.K., 'délit d'initi ' and 'op rations d'initi (s)' for France, Belgium and Luxembourg, 'Insiderhandel' and 'Insidergesch ft' for Germany, and 'handel met voorkennis', 'misbruik van voorkennis' and 'misbruik van voorwetenschap' for Belgium and the Netherlands. We searched the following newspapers: *Financial Times* for the U.K., *NRC Handelsblad*, *Het Financieele Dablad* and *De Volkskrant* for the Netherlands, *De Tijd* and *De Standaard* for Belgium, *L'Echo* for Belgium and Luxembourg, *B rsen Zeitung*, *Handelsblatt*, *Frankfurter Zeitung* and *Die Welt* for Germany, and *Le Monde*, *Le Figaro*, *Lib ration*, *Le Journal des Finances* and *Boursier.com* for France.

We collected 116 cases of illegal insider trading practices for the six European countries between 1995 and 2005. Some events needed to be eliminated because of missing data (2 events), overlapping estimation and/or event windows making the benchmark normal return estimations and test statistics unreliable (6 events), and potential confounding effects (7 events). The latter refers to other major corporate announcements which coincide with the news about illegal insider trading in the event window, such as e.g. a restructuring announcement or an announcement about other illegal practices such as tax or accounting fraud. Including those events in the sample might distort the results. These criteria resulted in a final sample of 101 events. Stock prices data was collected from *Thomson Datastream*.

<Insert Table 1 here>

The sample consists of twenty allegations of illegal insider trading (press rumors), fifty eight news paper articles reporting on formal police or judicial investigations into an illegal insider trading case and twenty three articles covering a court case or a conviction for committing illegal insider trading (see panel A of Table 1). The news announcements are rather equally spread over time, with a bit more cases after 2000 (see panel B of Table 1). Geographically, the news announcements of this form of corporate maleficence are allocated for 32% in Germany, 19% in the U.K., 18% in France and 32% in the Benelux countries (see panel C of Table 1). The sample covers 83 first time news announcements, 11 second time announcements and 7 three or more time announcements (panel D of Table 1).

4.2. Measuring Abnormal Returns

To evaluate whether financial markets discipline the corporate maleficent behavior of corporate insiders, an event-time study is used. An event study examines if the average abnormal return on the event day (announcement of illegal insider trading in press) is equal to zero (null hypothesis) versus an alternative hypothesis of a non-zero abnormal return:

$$\begin{cases} H_0 : AAR_E = 0 \\ H_1 : AAR_E \neq 0 \end{cases} \quad [1]$$

The average abnormal return (AAR_E) on the event day is the aggregation of the individual stock abnormal returns aligned in event time:

$$AAR_E = \frac{1}{N} \sum_{i=1}^N AR_{i,E} \quad [2]$$

On the event day and on two trading days before and after the announcement, resulting in a 5-day event window, abnormal returns are being calculated to examine returns behavior around the announcement of illegal insider trading. Individual stock abnormal returns ($AR_{i,t}$) are measured as the difference between the realized or actual return on the event day ($R_{i,t}$) and the expected return $E[R_{i,t}]$, which is the benchmark normal return in the absence of the event:

$$AR_{i,t} = R_{i,t} - E[R_{i,t}] \quad [3]$$

This study uses the market-adjusted model and the market model to estimate the expected return of the stocks. The benchmark expected return for each individual stock depends on the model used: $E[R_{i,t}] = R_{m,t}$, for the market-adjusted model, and $E[R_{i,t}] = \hat{a}_i + \hat{b}_i \cdot R_{m,t}$, for the market model.⁷

The expected return of a stock in the market-adjusted model is the current market index return. The market-adjusted abnormal return is thus equal to:

$$AR_{i,t} = R_{i,t} - R_{m,t} \quad [4]$$

with $R_{i,t}$ = the return of stock i in period t ; $R_{m,t}$ = the market index return in period t . This model uses no information from outside the event window to calculate abnormal returns during the event period.

Market model abnormal returns are calculated as:

$$AR_{i,t} = R_{i,t} - (\hat{a}_i + \hat{b}_i \cdot R_{m,t}) \quad [5]$$

where $\hat{\cdot}$ denotes the OLS-estimates from the market model:

$$R_{i,t} = a_i + b_i \cdot R_{m,t} + e_{i,t} \quad [6]$$

with $R_{i,t}$ = the return of stock i in period t ; $R_{m,t}$ = the market index return in period t ; a_i , b_i = intercept and slope coefficient of the market model (stock- i -specific and time-independent parameters); $e_{i,t}$ = random disturbance term of the market model for stock i in period t . In order to calculate market model abnormal returns information from outside the event window is used. The parameters of the market model are estimated over a period from -140 to -21 trading days before the event day.

The significance of mean abnormal returns is first tested using the standard Brown and Warner (1985) test statistic assuming cross-sectional independence, which standardizes abnormal returns for each stock by its standard deviation calculated from the estimation period:

$$t - test = \frac{\sum_{i=1}^N SAR_{i,E}}{\sqrt{N}} \sim t(N-1) \quad [7]$$

with

$$SAR_{i,E} = \frac{AR_{i,E}}{\hat{s}_i} \quad [8]$$

⁷ Prior research shows that significant empirical results are largely independent from the used benchmark models (Engelen and Kabir, 2006). Therefore no effort is made to include additional benchmark models.

The main disadvantage of parametric tests is that they are based on assumptions about the probability distribution of returns. Non-parametric tests do not depend on the assumption of normality. Therefore we also test for significance using the sign test:

$$Z = \frac{(p - 0.50)}{\sqrt{\frac{p(1-p)}{N}}} \quad [9]$$

with p the proportion of positive abnormal returns in the sample and N the sample size.

5. Empirical Results

The abnormal return analysis presented in Table 2 shows that the market model abnormal return on the day of the newspaper announcement of the illegal insider trading practice amounts to -1.53 percent (significant at the 0.1% level). In the two trading days up to the announcement, abnormal returns are also negative, although insignificant at the conventional levels. The abnormal returns remain negative after the news announcement, with the abnormal return on day +2 to be significant at the 5% level (although only a small -0.14%).

Using market-adjusted returns as the benchmark model, the analysis confirms those results. A highly negative abnormal return (-1.68%) on day 0, negative abnormal returns over the full event window [-2, +2], with a significant abnormal return on day +2. Besides the traditional t-test, we perform the non-parametric sign test, which confirms the results for both the market-adjusted and the market model abnormal return models (significant at the 5% level on day 0 and day +2). Although it is difficult to compare abnormal returns across countries, across time and across different types of misconduct, Gunthorpe (1997) reports a return of -1.33% on the announcement date, Reichert et al. (1996) -1.38% and Karpoff and Lott (1993) -2.09%.

<Insert Table 2 here>

A few firms in the sample have more than one announcement, for instance first an article about insider trading rumors, next an article about a formal investigation into those rumors and finally a news story about the court phase. To further check for robustness, we excluded all multiple announcements from the sample and recalculated the abnormal returns in Table 3. This sample includes 83 first announcements and shows a market model abnormal return of -1.94% on the announcement day and a market-adjusted return of -2.15%. The analysis shows that the results are not influenced by including multiple announcements in the sample.

<Insert Table 3 here>

Overall, the empirical results show that financial markets discipline firms for the corporate maleficent behavior of their managers by driving down stock prices when the illegal insider trading is revealed to the public through a press article. The highly significant abnormal return on the announcement date demonstrates that corporate misconduct of managers is costly for firms.

Table 4 furthermore examines the cumulative abnormal returns (CAARs) for different event windows. The CAAR analysis confirms the individual abnormal return analysis. Between day -1 and day +1 the cumulative abnormal return amounts to -2.39% (market model) and -2.52% (market-adjusted), both highly significant at the 0.1% level. This CAAR is of similar magnitude as Reichert et al. (1996) who report a cumulative abnormal return of -3.10% for a sample of 83 diverse illegal business practices. The CAAR over the event window [-2,+2] is also significant,

although at a lower level. Outside the latter event window, the CAARs are not significantly different from zero. Neither over the event window $[-5,-1]$, neither over $[+1, +5]$, neither over $[-5,+5]$ the CAAR is statistically significant. The cumulative abnormal return analysis around the announcement date reinforces the conclusion that financial markets discipline illegal insider trading by managers.

<Insert Table 4 here>

Next, we examine whether the price reaction on the stock exchange varies depending on the announcement type or phase. We examine whether any difference exists between allegation announcements, press reports on formal investigations and press articles on court cases and convictions. Table 5 differentiates the abnormal return calculations between those three categories. The heaviest price reaction is found for news announcements on formal police or judicial investigations. The market model abnormal return for investigation announcements is equal to -3.49% (significant at the 0.1% level). The abnormal return for allegation announcements amounts to -2.19% (market model; significant at 1% level). News on court cases of illegal insider trading is not significantly different from zero. These results are similar to Karpoff, Lott and Wehrly (2005) who report significant heavy price reactions for allegations and investigations, but insignificant price reactions for the outcome and settlement of environmental violation cases. They suggest it not to be unlikely that this information reached the market through different channels earlier, even when an article on an illegal insider trading case is the first press appearance. The cumulative abnormal return analysis presented in Table 6 confirms this image for the three categories.

<Insert Table 5 here>

<Insert Table 6 here>

6. Discussion of the results

The market-induced penalties companies bear for the misconduct of their managers by committing illegal insider trading are a unique case for measuring reputational penalties. In an efficient stock market, any stock price decline reflects the expected legal and reputational penalties the firm will incur. Legal penalties include fines, damage payments and compliance costs, while reputational penalties might include lower company's profits due to lost socially conscious customers (lower purchases, consumer boycotts) (Posnikoff, 1997), suppliers (higher cost price) or labor force (job satisfaction, absenteeism, job performance, job turnover) (Viswesvaran et al., 1998; Vitell and Davis, 1990). Fombrun (1996) and Roberts and Dowling (2002) stress the key impact of reputation on corporate social performance. Orlitzky et al. (2003) show that reputation is the most important mediator between social performance and financial performance of companies. A negative relation between corporate misconduct and financial performance, as measured by share price depreciation, would imply that bad corporate social performance, in this case illegal insider trading, is clearly punished by the market. Since reputation is one of the main levers through which companies can benefit financially from better corporate social behavior, the market-induced reputational penalty for illegal insider trading is therefore important.

Karpoff and Lott (1993) argue the case that reputational penalties and legal penalties can be substitutes to deter illegal behavior. This is consistent with the theory of the economics of crime that argues that the expected penalty for a crime should be equal to the crime's social cost

(Becker, 1968). As the expected penalties consist of legal penalties and reputational penalties, low legal penalties can be compensated by a reputational penalty. The magnitude of the legal penalty depends on the severity of punishment and the probability of punishment. Since the probability for a conviction of illegal insider trading in the EU is very low (see section 2), the level of the expected legal penalty is very low. In such a poor public enforcement environment, financial market discipline might serve as a substitute by imposing a market-induced reputational penalty.

The empirical difficulty is to distinguish the level of the legal penalty and the level of the reputational penalty, since the stock price decline on the announcement date of the illegal practice reflects both. Assumptions need to be made to assign part of the stock price decline to the effect of the legal penalty and part to the effect of the reputational penalty. Karpoff, Lott and Wehrly (2005) assume that the imposed legal penalty is an unbiased estimate of the size of the expected legal penalty at the announcement moment in press. If the lost market value on this date exceeds the value of the legal penalty, they attribute the difference to the reputational penalty.

Illegal insider trading offers a unique opportunity to measure the reputational effect. Any legal penalty is attributed to the individual level, being the manager which is caught for illegal insider trading. Legal penalties are normally not imposed at the company level. The stock price therefore does not anticipate any legal penalty paid by the company and, by definition, any stock price reaction should reflect lost reputation only. The above empirical study shows that financial markets impose a reputational penalty of about one and a half percent on companies whose managers engage in illegal insider trading. While the expected public penalties for illegal insider trading are low in the EU, this private penalty is a serious cost for companies. The reputational penalty might induce them to curtail illegal insider trading by their managers. This private penalty might therefore serve as a substitute for poor public law enforcement of illegal insider trading. This is an important finding since a recent global survey of more than 5,500 companies about their experience with economic crimes showed that only 28% of the managers had trust in law enforcement agencies and only 30% of the detected perpetrators were actually sentenced (Bussmann and Werle, 2006). Moreover, in most of the cases companies themselves detected the perpetrators, while only in 4% of the cases they were detected by law enforcement agencies. The study showed a clear preference to settle cases internally in case the company was victimized through economic crime by their managers.

If companies bear a reputational penalty for corporate misconduct by their managers, shareholders could shift the private penalty to the managers by an adequately designed employment contract (Fama, 1980). Such ex-post settling up can be a lower compensation or the loss of part of the compensation package upon the discovery of illegal insider trading. In this scenario managers are penalized by proxy. Financial markets first penalize the company, which in turn shifts the penalty to the managers. In a similar way, Gerety and Lehn (1997) find a decline in the number of board functions for managers engaged in accounting fraud and attribute this to a reduction in reputation on the managerial labor market.

An alternative explanation why shareholders impose a reputational penalty on companies whose managers engage in illegal insider trading is the general decline of the ethical corporate culture. The illegal insider trading practice signals the lower level of ethical climate in a company and causes the stock price decline. This is in line with the business ethics literature which assumes that senior management and board members determine the overall ethical culture of a company (Chen et al., 1997, Sims, 1992 and Stead et al., 1990). Top management is a role model for lower

level employees in the company (Schein, 1985).⁸ Analyzing the bond trading scandal at Salomon Brother Sims and Brinkman (2002, p.330-2) argue that ‘the development of an ethical corporate culture depends on the tone set at the top’ and ‘leadership can contribute to a corporate culture that encourages unethical practices’. Especially, since corporate ethical values are positively related to organizational commitment and person-organization fit (Valentine et al., 2002) and to higher job satisfaction and lower job turnover intention (Valentine et al., 2006).

By observing top management’s behavior, other employees determine what is appropriate corporate behavior and what is valued in the company (Hegarty and Sims, 1978, Zey-Ferrell et al., 1982, Wimbush and Shepard, 1994, Kaptein and Van Dalen, 2000). Organizational culture is thus an important aspect of institutionalizing ethical principles within organizations (Sims, 1991).⁹ Credibility by consistency between word and deed is crucial to build a positive reputation (Worden, 2003). Top management not only has to communicate clearly about the importance of high ethical standards, their actions should be consistent with their words. If top management does not lead by personal example, this is detrimental for the whole ethical climate in a company (Sims, 1992). Top management engaging in illegal insider trading signals to the rest of the company that legal or ethical behavior is not important. This, in turn, might result in unethical or illegal corporate behavior of other employees throughout the whole company, because once ethical boundaries are breached, the company gets on a slippery slope. It makes it easier for thresholds of more severe unethical behavior to become lower. Sims and Brinkman (2003, p.253) argue that “bad top management morality can be a sufficient condition for creating a self-destructive ethical climate and that a well-defined CSR and business ethics toolbox can neither stop nor compensate for such processes.” If investors value high ethical standards in a company, then they might penalize those companies for the lost reputation of ethical culture by driving down stock prices. If news on managers involved in illegal insider trading cases is perceived as a reflection of breaking an ethical boundary, then this might explain the above observed stock price depreciation over the event window.

7. Conclusions

This article examines whether shareholders punish companies for illegal insider trading by their managers. It examines the news announcements of illegal insider trading practices reported in press in six European countries (U.K., Germany, France, the Netherlands, Belgium and Luxembourg) for the period 1995 until 2005. The study analyzes any abnormal return behavior around the announcement date of the corporate maleficence and measures the magnitude of any disciplinary role for this type of corporate misconduct.

⁸ Next to role modeling, Schein (1985) distinguishes four other mechanisms to develop an organization’s culture, such as attention, reaction to crises, the allocation of rewards and selection and dismissal policy.

⁹ Other ways include the use of codes of ethics, the implementation of ethics training programs, the use of monitoring committees or ethics officers. Sims and Brinkman (2003, p.243) argue that “business ethics is a question of organizational ‘deep’ culture rather than of cultural artifacts like ethics codes, ethics officers and the like.” They illustrate this by a case-study of Enron, which had all business ethics tools in place, but had the wrong ethical culture. The mere existence of a code of ethics does not seem to contribute to the ethical climate, but it might serve as an additional role for managers depending on its perceived usefulness (Wotruba et al., 2001). Examining cases of Enron, WorldCom, HealthSouth, CPA firms and the impact of Sarbanes-Oxley, Rockness and Rockness (2005) find that ethical behavior is very difficult to regulate and that a strong ethical culture is more important than codes of conduct. For a further analysis of codes of ethics, see e.g. Cassell et al. (1997), Cleek and Leonard (1998) and Graafland (2004).

By focusing on just one type of corporate maleficence this study avoids aggregation problems over different types of corporate misconduct which characterized many earlier studies. It thus allows to measure the reputational impact more clearly and interpret the results more easily. Moreover, this is the first cross-country study of six European markets and therefore complements the existing literature which is U.S. biased. Finally, this study examines whether a company can be disciplined by the market for misconduct at the individual level. It shows that companies are penalized in financial markets for the illegal insider trading practices of their managers or board members.

We observe a direct and negative financial impact on stock prices on the day of the newspaper announcement of the illegal insider trading practice of a -1.53 percent abnormal return. Overall, the empirical results show that financial markets discipline firms for the corporate maleficent behavior of their managers by driving down stock prices when the illegal insider trading is revealed to the public through a press article. The highly significant abnormal return on the announcement date demonstrates that corporate misconduct of managers is costly for firms.

This empirical study is the mirror image of the CSR literature which claims a positive link between corporate social and financial performance. The results of this study confirm this finding. Bad corporate social performance, in this case illegal insider trading, is clearly punished by the market. A negative relation between corporate misconduct and financial performance, as measured by the share price depreciation, is observed. Since reputation is one of the main levers through which companies can benefit financially from better corporate behavior, the market-induced reputational penalty for illegal insider trading is severe.

The reputational penalty companies bear for the illegal insider trading of their managers can be interpreted in two ways. First, the reputational penalty can be seen as a private penalty imposed by the financial market as a substitute for weak public law enforcement of insider trading regulations in Europe. Second, shareholders might impose a reputational penalty on companies whose managers engage in illegal insider trading because this is the breach of a critical ethical boundary which reflects the general decline of the company's ethical corporate culture. If investors value high ethical standards in a company, then they might penalize those companies for the lost reputation of ethical culture.

References

Aktas et al. (2008)

Becker, G. (1968), "Crime and Punishment: An Economic Approach", *Journal of Political Economy*, 76(2), 169-217.

Bhattacharya, U. and H. Daouk (2002), "The world price of insider trading", *Journal of Finance*, vol.57, 75-108.

Brown, S. and J. Warner (1985), "Using daily stock returns. The case of event studies", *Journal of Financial Economics*, vol.14, 3-31.

Bussmann, K.D. and M.M. Werle (2006), "Addressing Crime in Companies", *British Journal of Criminology*, vol. 46, 1128-1144.

Carlton, D.W. and D.R. Fischel (1983), "The Regulation of Insider Trading", *Stanford Law Review*, vol.35, 857-895.

Cassell, C., P. Johnson and K. Smith (1997), "Opening the Black Box: Corporate Codes of Ethics in Their Organizational Context", *Journal of Business Ethics*, vol.16, 1077-1093.

Chen, A., R. Sawyers and P. Williams (1997), "Reinforcing Ethical Decision Making Through Corporate Culture", *Journal of Business Ethics*, vol.16, 855-865.

Cleek, M. and S. Leonard (1998), "Can Corporate Codes of Ethics Influence Behavior?", *Journal of Business Ethics*, vol.17, 619-630.

Cornell, B. and E. Sirri (1992), "The reaction of investors and stock prices to insider trading", *Journal of Finance*, vol.47, 1031-1059.

Davidson, W.N. and D.L. Worrell (1988). "The Impact of Announcements of Corporate Illegality on Shareholder Returns", *Academy of Management Journal*, vol.31, no.1, 195-200.

Engelen, P.J. (2005), *Remedies to Informational Asymmetries in Stock Markets*, Intersentia Law Publishers, Antwerpen-Oxford, 217 p.

Engelen, P.J. (2006), "Difficulties in the Criminal Prosecution of Insider Trading – A Clinical Study of the Bekaert Case", *European Journal of Law & Economics*, vol.22, no.2, 121-141.

Engelen, P.J. (2007), "Structural Problems in the Design of Market Abuse Regulations in the EU", *Journal of Interdisciplinary Economics*, vol.19, 57-82.

Engelen, P.J. and R. Kabir (2006), "Empirical Evidence on the Role of Trading Suspensions in Disseminating New Information to the Capital Market", *Journal of Business, Finance and Accounting*, vol.33, 1142-1167.

Engelen, P.J. and L. Van Liedekerke (2007), "The Ethics of Insider Trading Revisited", *Journal of Business Ethics*, vol.74, no.4, 497-507.

Fombrun, C. (1996), *Reputation: Realizing Value from the Corporate Image*, Boston, MA, Harvard Business School Press.

Givoly, D. and D.Palmon (1985), "Insider Trading and the Exploitation of Inside Information: Some Empirical Evidence", *Journal of Business*, 69-87.

Graafland, J. (2004), "Collusion, Reputation Damage and Interest in Codes of Conduct: The Case of a Dutch Construction Company", *Business Ethics: A European Review*, vol.13, 127-142.

Gunthorpe, D.L. (1997), "Business Ethics: A Quantitative Analysis of the Impact of Unethical Behavior by Publicly Traded Corporations", *Journal of Business Ethics*, vol.16, 537-543.

Hegarty, W. and H. Sims (1978), "Some Determinants of Unethical Decision Behavior: An Experiment", *Journal of Applied Behavior*, vol.63, 451-457.

Hillier, D. and A. Marshall (2002), "Are Trading Bans Effective? Exchange Regulation And Corporate Insider Trading Transactions Around Earnings Announcements", *Journal of Corporate Finance*, vol.8, 393-410.

John, K. and L. Lang (1991), "Insider Trading around Dividend Announcements: Theory and Evidence", *Journal of Finance*, vol.46, 1361-1389.

Kaptein, M. and J. Van Dalen (2000), "The Empirical Assessment of Corporate Ethics: A Case Study", *Journal of Business Ethics*, vol.24, 95-114.

Karpoff, J. and D. Lee (1987), "Insider Trading around Announcement of Capital Structure Changes: Evidence on Information Signaling", Working Paper, University of Washington.

Karpoff, J. and D. Lee (1991), "Insider Trading Before New Issue Announcements", *Financial Management*, vol.20, no.1.

Karpoff, J.M. and J.R. Lott, jr. (1993), "The Reputational Penalty Firms Bear from Committing Criminal Fraud", *Journal of Law and Economics*, vol. 26, 757-802.

Karpoff, J.M., J.R. Lott, jr. and E.W. Wehrly (2005), "The Reputational Penalties for Environmental Violations: Empirical Evidence", *Journal of Law and Economics*, vol. 48, 653-675.

Keown and Pinkerton (1981), "Merger Announcements and Insider Trading Activity: An Empirical Investigation", *Journal of Finance*, 855.

Lee, D., W. Mikkelsen and M. Partch (1992), "Managers' Trading around Stock Repurchases", *Journal of Finance*, vol.47, 1947-1961.

Lin, J. and J. Howe (1990), "Insider trading in the OTC market", *Journal of Finance*, vol.45, 1273-1284.

Linciano, N. (2003), "The Effectiveness of Insider Trading Regulation in Italy. Evidence from Stock-Price Run-Ups Around Announcements of Corporate Control Transactions", *European Journal of Law and Economics*, vol.16, 199-218.

- McWilliams, A. and D. Siegel (2000), "Corporate Social Responsibility and Financial Performance: Correlation or Misspecification?", *Strategic Management Journal*, vol.21, no.5, 603-609.
- McWilliams, A. and D. Siegel (2001), "Corporate Social Responsibility: A Theory of the Firm Perspective", *Academy of Management Review*, vol.26, no. 1, 117-127.
- McWilliams, A. and D. Siegel (2006), "Corporate Social Responsibility: Strategic Implications", *Journal of Management Studies*, vol.43, no.1, 1-18.
- Meulbroek, L. (1992), "An empirical analysis of illegal insider trading", *Journal of Finance*, 1661-1699.
- Moore, J. (1990), "What is really unethical about insider trading?", *Journal of Business Ethics*, vol.9, 171-182.
- Naylor, J.M. (1990), "The Use of Criminal Sanctions By UK And US Authorities For Insider Trading: How Can the Two Systems Learn From Each Other?", *The Company Lawyer*, vol.11, 53-61 (part 1) and 83-91 (part 2).
- Newkirk, T. and M. Robertson (1998), "Insider Trading – A US Perspective", Speech at 16th International Symposium on Economic Crime, Jesus College, Cambridge, UK, 19 September 1998, online at www.sec.gov/news/speech/speecharchive/1998/spch221.htm, consulted on 30 June 2007.
- Orlitzky, M., F.L. Schmidt and S.L. Rynes (2003), "Corporate Social and Financial Performance: A Meta-Analysis", *Organization Studies*, vol.24(3), 403-441.
- Pava, M. and J. Krausz (1996), "The Association Between Corporate Social Responsibility and Financial Performance: The Paradox of Social Cost", *Journal of Business Ethics*, vol.15, 321-357.
- Pfeil, U. (1996), "Finanzplatz Deutschland: Germany Enacts Insider Trading Legislation", *Am. U. J. Int'l L. & Pol'y*, vol.11, 137-193.
- Posnikoff, J. (1997), "Disinvestment from South Africa: They Did Well by Doing Good", *Contemporary Economic Policy*, vol.15, 76-86.
- Rao, S.M. and J.B. Hamilton III (1996), "The Effect of Published Reports of Unethical Conduct on Stock Prices", *Journal of Business Ethics*, vol.15, 1321-1330.
- Reichert, A.K., M. Lockett and R.P. Rao (1996), "The Impact of Illegal Business Practice on Shareholder Returns", *The Financial Review*, vol.31, no.1, 67-85.
- Roberts, P. and G. Dowling (2002), "Corporate Reputation and Sustained Superior Financial Performance", *Strategic Management Journal*, vol.23, 1077-1093.
- Rockness, H. and J. Rockness (2005), "Legislated Ethics: From Enron to Sarbanes-Oxley, the Impact on Corporate America", *Journal of Business Ethics*, vol.57, 31-54.
- Schein, E. (1985), *Organizational Culture and Leadership*, Jossey-Bass, San Francisco.

- Schwert, W. (1996), "Markup pricing in mergers and acquisitions", *Journal of Financial Economics*, vol.41, 153-192.
- Seyhun, H.N. (1986), "Insiders' profits, costs of trading, and market efficiency", *Journal of Financial Economics*, 189-212.
- Seyhun, F.N. (2000), *Investment intelligence from insider trading*, The MIT Press, Cambridge, Massachusetts, 402 p.
- Sims, R. (1991), "The Institutionalization of Organizational Ethics", *Journal of Business Ethics*, vol.10, 493-506.
- Sims, R. (1992), "The Challenge of Ethical Behavior in Organizations", *Journal of Business Ethics*, vol.11, 505-513.
- Sims, R. and J. Brinkman (2002), "Leaders as Moral Role Models: The Case of John Gutfreund at Salomon Brother", *Journal of Business Ethics*, vol.35, 327-339.
- Sims, R. and J. Brinkman (2003), "Enron Ethics (Or: Culture Matters More than Codes)", *Journal of Business Ethics*, vol.45, 243-256.
- Sivakumar, K. and G. Waymire (1994), "Insider Trading Following Material News Events: Evidence from Earnings", *Financial Management*, Spring, 23-32.
- Stead, W., D. Worrell, J. Stead (1990), "An Integrative Model For Understanding and Managing Ethical Behavior in Business Organizations", *Journal of Business Ethics*, vol. 9, 233-242.
- Szockyj, E. and G. Geis (2002), "Insider Trading. Patterns and Analysis", *Journal of Criminal Justice*, vol.30, 273-286.
- Valentine, S., L. Godkin and M. Lucero (2002), "Ethical Context, Organizational Commitment, and Person-Organization Fit", *Journal of Business Ethics*, vol.41, 349-360.
- Valentine, S., M. Greller and S. Richtermeyer (2006), "Employee Job Response as a Function of Ethical Context and Perceived Organizational Support", *Journal of Business Research*, vol.59, 582-588.
- Viswesvaran, C., S. Deshpande and J. Joseph (1998), "Job Satisfaction as a Function of Top Management Support for Ethical Behavior", *Journal of Business Ethics*, vol.17, 365-371.
- Vitell, S. and D. Davis (1990), "The Relationship Between Ethics and Job Satisfaction", *Journal of Business Ethics*, vol.9, 489-494.
- Werhane, P.H. (1989), "The ethics of insider trading", *Journal of Business Ethics*, vol.8, 841-845.
- Wimbush, J. and J. Shepard (1994), "Towards an Understanding of Ethical Climate: Its Relationship to Ethical Behavior and Supervisory Influence", *Journal of Business Ethics*, vol.13, 637-647.

Worden, S. (2003), "The Role of Integrity as a Mediator in Strategic Leadership: A Recipe for Reputational Capital", *Journal of Business Ethics*, vol.46, 31-44.

Wotruba, T., L. Chonko and T. Loe (2001), "The Impact of Ethics Coe Familiarity on Manager Behavior", *Journal of Business Ethics*, vol.33, 59-69.

Zey-Ferrell, M. and O. Ferrell (1982), "Role-set Configuration and Opportunity as Predictors of Unethical Behavior in Organizations", *Human Relations*, vol.35, 587-604.

Table 1. Sample statistics

<i>Panel A. Overview of the types of news announcements</i>			
Type	Number	Percentage	
Allegation announcement	20	19.8%	
Formal investigation	58	57.4%	
Court phase or conviction	23	22.8%	
<i>Panel B. Distribution of announcements through time</i>			
Year	Number	Year	Number
1995	3	2001	14
1996	4	2002	14
1997	7	2003	11
1998	7	2004	15
1999	7	2005	11
2000	8		
<i>Panel C. Geographical distribution of news announcements</i>			
Country	Number	Percentage	
Germany	32	31.7%	
U.K.	19	18.8%	
France	18	17.8%	
Benelux	32	31.7%	
<i>Panel D. Distribution across companies</i>			
First time announcement	83		
Second time announcements	11		
Third or more announcements	7		

Legend: The Table provides descriptive statistics for the final sample of 101 news announcements of illegal insider trading in the press of six European countries during the period 1995-2005. Allegation announcements consists of press rumours on potential illegal insider trading. Formal investigation consists of news articles reporting on formal police or judicial investigations into an illegal insider trading. Court phase or conviction consists of articles covering court cases and convictions of illegal insider trading. The Benelux countries include Belgium, the Netherlands and Luxembourg. Single announcements consists of companies that received just one article on the illegal insider trading practice. Multiple announcements consists of firms that received several articles on illegal insider trading practices. Percentages might not add up to 100% due to rounding.

Tabel 2. Abnormal return behavior around the news of illegal insider trading

days	Market-adjusted mean abnormal returns						Market model mean abnormal returns					
	AAR	t-test	signif.	# positive	Z-value	signif.	AAR	t-test	signif.	# positive	Z-value	signif.
-2	-0,0062	-0,488		41	1,891		-0,0028	0,830		43	1,675	
-1	-0,0057	-0,790		46	0,896		-0,0095	-1,499		44	1,478	
0	-0,0168	-9,197	***	40	2,090	+	-0,0153	-9,531	***	41	2,069	+
1	-0,0027	-1,523		46	0,896		-0,0009	-0,378		46	1,084	
2	-0,0041	-2,285	*	38	2,488	+	-0,0014	-2,175	*	39	2,463	+

Legend: The table reports daily mean market-adjusted abnormal returns and daily mean market model abnormal returns for a five day event window [-2,+2] for a sample of 101 announcements of illegal insider trading reported in financial press in six European countries during the period 1995-2005. These countries include the U.K., Germany, France, the Netherlands, Belgium and Luxembourg. The significance of the mean abnormal returns is tested using the standard parametric test statistic assuming cross-sectional independence. As such, *** denotes statistical significance at the 0.1% level for a one-tailed test, ** denotes statistical significance at the 1% level for a one-tailed test, * denotes statistical significance at the 5% level for a one-tailed test. # positive indicates the number of positive abnormal returns for a given event day. The non-parametric sign test is used to calculate the significance of the mean abnormal returns as well. Z-values are reported. As such, +++ denotes statistical significance at the 0.1% level for the sign test, ++ denotes statistical significance at the 1% level for the sign test, + denotes statistical significance at the 5% level for the sign test.

Tabel 3. Abnormal return behavior around first news announcements of illegal insider trading

days	Market-adjusted mean abnormal returns						Market model mean abnormal returns					
	AAR	t-test	signif.	# positive	Z-value	signif.	AAR	t-test	signif.	# positive	Z-value	signif.
-2	-0,0116	-1,834	*	30	2,236	+	-0,0082	-0,977		35	1,427	
-1	-0,0066	-0,597		37	0,671		-0,0108	-1,234		36	1,207	
0	-0,0215	-10,303	***	30	2,236	+	-0,0194	-10,698	***	32	2,086	+
1	-0,0027	-1,504		37	0,671		0,0021	0,346		38	0,768	
2	-0,0051	-2,605	**	29	2,460	+	-0,0020	-2,203	*	34	1,646	

Legend: The table reports daily mean market-adjusted abnormal returns and daily mean market model abnormal returns for a five day event window [-2,+2] for a sample of 83 first news announcements of illegal insider trading reported in financial press in six European countries during the period 1995-2005. These countries include the U.K., Germany, France, the Netherlands, Belgium and Luxembourg. The significance of the mean abnormal returns is tested using the standard parametric test statistic assuming cross-sectional independence. As such, *** denotes statistical significance at the 0.1% level for a one-tailed test, ** denotes statistical significance at the 1% level for a one-tailed test, * denotes statistical significance at the 5% level for a one-tailed test. # positive indicates the number of positive abnormal returns for a given event day. The non-parametric sign test is used to calculate the significance of the mean abnormal returns as well. Z-values are reported. As such, +++ denotes statistical significance at the 0.1% level for the sign test, ++ denotes statistical significance at the 1% level for the sign test, + denotes statistical significance at the 5% level for the sign test.

Table 4. Cumulative abnormal returns for different event windows around the news of illegal insider trading

Event windows	Market-adjusted mean abnormal returns			Market model mean abnormal returns		
	CAARs	t-test	signif.	CAARs	t-test	signif.
[-5,-1]	-0,0163	-0,241		-0,0089	0,353	
[-2,+2]	-0,0356	-2,857	**	-0,0280	-2,551	*
[-1,+1]	-0,0252	-3,837	***	-0,0239	-3,803	***
[+1,+5]	-0,0057	-0,921		0,0059	-0,441	
[-5,+5]	-0,0388	-1,364		-0,0184	-0,906	

Legend: The table reports daily mean market-adjusted cumulative abnormal returns and daily mean market model cumulative abnormal returns for several event windows for a sample of 101 announcements of illegal insider trading reported in financial press in six European countries during the period 1995-2005. These countries include the U.K., Germany, France, the Netherlands, Belgium and Luxembourg. The significance of the mean abnormal returns is tested using the standard parametric test statistic assuming cross-sectional independence. As such, *** denotes statistical significance at the 0.1% level for a one-tailed test, ** denotes statistical significance at the 1% level for a one-tailed test, * denotes statistical significance at the 5% level for a one-tailed test.

Table 5. Abnormal return behavior depending on the announcement type of illegal insider trading

	Market-adjusted mean abnormal returns						Market model mean abnormal returns					
	Allegation		Investigation		Court		Allegation		Investigation		Court	
days	AAR	signif.	AAR	signif.	AAR	signif.	AAR	signif.	AAR	signif.	AAR	signif.
-2	0,0059		-0,0111	*	-0,0063		-0,0057		-0,0067		-0,0053	
-1	-0,0102	*	-0,0085		-0,0053		-0,0100	*	-0,0131	*	-0,0005	
0	-0,0262	**	-0,0363	***	0,0007		-0,0219	**	-0,0349	***	0,0019	
1	-0,0080	*	-0,0013		-0,0045		-0,0125	**	0,0067	*	-0,0040	
2	-0,0083	*	-0,0031		-0,0070		-0,0044		0,0021		-0,0061	

Legend: The table reports daily mean market-adjusted abnormal returns and daily mean market model abnormal returns for a five day event window [-2,+2] for three subsamples announcements of illegal insider trading reported in financial press in six European countries during the period 1995-2005. These countries include the U.K., Germany, France, the Netherlands, Belgium and Luxembourg. Allegation refers to the subsample containing 20 allegation announcements of illegal insider trading in press. Investigation refers to the subsample containing 58 announcements of formal investigations into illegal insider trading. Court refers to the subsample containing 23 announcements of the court phase of the conviction phase of illegal insider trading. The significance of the mean abnormal returns is tested using the standard parametric test statistic assuming cross-sectional independence. As such, *** denotes statistical significance at the 0.1% level for a one-tailed test, ** denotes statistical significance at the 1% level for a one-tailed test, * denotes statistical significance at the 5% level for a one-tailed test.

Table 6. Cumulative abnormal returns for different event windows around the news of illegal insider trading depending on the announcement type

Event windows	Market-adjusted mean abnormal returns						Market model mean abnormal returns					
	Allegation		Investigation		Court		Allegation		Investigation		Court	
	CAAR	signif.	CAAR	signif.	CAAR	signif.	CAAR	signif.	CAAR	signif.	CAAR	signif.
[-5,-1]	-0,0025		-0,0262		-0,0181		-0,0194		-0,0151		-0,0089	
[-2,+2]	-0,0468		-0,0603	**	-0,0224		-0,0544	*	-0,0458	**	-0,0140	
[-1,+1]	-0,0444	**	-0,0461	***	-0,0091		-0,0444	***	-0,0412	***	-0,0026	
[+1,+5]	-0,0059		-0,0051		-0,0241		0,0090		0,0031		-0,0067	
[-5,+5]	-0,0346		-0,0676		-0,0415		-0,0323		-0,0468		-0,0138	

Legend: The table reports daily mean market-adjusted abnormal returns and daily mean market model abnormal returns for a five day event window [-2,+2] for three subsamples announcements of illegal insider trading reported in financial press in six European countries during the period 1995-2005. These countries include the U.K., Germany, France, the Netherlands, Belgium and Luxembourg. Allegation refers to the subsample containing 20 allegation announcements of illegal insider trading in press. Investigation refers to the subsample containing 60 announcements of formal investigations into illegal insider trading. Court refers to the subsample containing 23 announcements of the court phase of the conviction phase of illegal insider trading. The significance of the mean abnormal returns is tested using the standard parametric test statistic assuming cross-sectional independence. As such, *** denotes statistical significance at the 0.1% level for a one-tailed test, ** denotes statistical significance at the 1% level for a one-tailed test, * denotes statistical significance at the 5% level for a one-tailed test.