Corporate insider trading: 
A literature review *

Negociación de títulos con información confidencial: una revisión de la literatura

Iain Clacher. University of Leeds and the Centre for Advanced Studies in Finance

David Hillier **. University of Leeds and the Centre for Advanced Studies in Finance

Sunthare Lhaopadchan. University of Amsterdam

ABSTRACT The last three decades have seen the issue of corporate insider trading come to the fore. With the emergence of corporate governance as a central concern to regulators and academics, the trading activity of corporate insiders neatly spans both governance and corporate finance policy areas. This review article synthesises the main ideas and the most important empirical research in corporate insider trading. Since regulation is the main backdrop to insider trading, the current law facing European corporations is also discussed. Finally, the review concludes by providing an insight into the future direction of research in corporate insider trading.

KEYWORDS Corporate insider trading.

INTRODUCTION

Corporate insider trading relates to the investment behaviour of corporate employees in the securities of their own company. The implications and effects of this activity span accounting, finance, law, management, human resources, and economics. In this review, we attempt to bring together the extant literature and provide a cogent overview of the topic with respect to salient theoretical and regulatory perspectives. Given that the regulatory environment necessarily impacts upon the prevalence and performance of corporate insider trading, a brief summary of the central legislative constraints will also be presented.

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** Corresponding Author: David Hillier, University of Leeds, UK. E-mail address:d.j.hillier@leeds.ac.uk.
The whole concept of corporate insider trading has long been a source of controversy in financial markets research, and two contrasting perspectives are common when it is discussed. The focus of the discussion centres on the effect of insider trading on the informational efficiency of the market and the ordinary investor.

Manne (1966) initiated the debate when he suggested that the agency problems facing managers and shareholders would be mitigated if corporate insiders were allowed to trade and benefit from their activities. This would lead to improved corporate decision making, resulting in an overall increase in the value of the firm [Jensen and Meckling (1976)]. In addition, it has also been argued that insider trading increases the informational efficiency of markets by contributing to the existing information set held by investors [Ross (1978); John and Mishra (1990); John and Lang (1991); Zhang (2001), and Chau and Vayanos (2008)]. Corporate insiders use their trades as signals to confirm or contradict the information in public corporate announcements. Investors view the dual signals as complimentary and act accordingly.

Another reason for allowing insider trading is provided by Carlton and Fischel (1983) who contend that if insider trading reduces the value of a firm, investors would demand more stringent regulation than is currently imposed. They also argue that there is no relationship between the value of a firm and the level of corporate insider trading activity in the firm. The trading of corporate insiders, it is argued, thus enhances the informational efficiency of the market. Empirical research is strongly supportive of this notion with consensus findings of significant price changes subsequent to insider trading, and in particular insider buying activity\(^{(1)}\).

An opposing view is the belief that corporate insider trading harms investor confidence, which leads to a fall in liquidity trading, thus resulting in a decrease in market efficiency [Fishman and Hagerty (1992)]. The fall in investor trading activity can be due to a number of factors. Insider trading deters outside investors from paying to acquire information from research and trading. Investors will hold their orders until they are sure they will not be *picked off* by other traders who are more informed than them. They may also place too much weight on the trades undertaken by corporate insiders. Even though the level of information is greater in aggregate, the overall quality of trading is lower because the presence of informed traders deters others from participating.

Another contributing factor to a loss of market efficiency comes from the distribution of information among traders. Corporate insider trading means that information will be concentrated around several few individuals, giving an informational advantage to some traders at the expense of others. Bhattacharya and Nicodano (2001) show that asymmetric information, by which this concept is known, has a detrimental effect on the enthusiasm of less informed investors, which leads to a drop in their trading.

Scott (1980) and Manove (1989) have argued that insider trading can also discourage corporate investment when self-serving managers are allowed to profit from a firm’s changing fortunes. Corporate insiders are more likely to choose riskier investments for their firm so as to benefit from both increases and decreases in share value, whichever state occurs. Shareholders who are cognisant of this would be less supportive of capital expenditure, causing firm level direct investment to fall below its economically optimal level.

The final argument relates to the effect of an insider trade on the counterparty, and the personal loss that is involved [Leland (1992)]. Even as share prices may change to reflect the information contained in an insider trade, the buyer of an insider sell decision and the seller to an insider buy decision would personally be affected by the trade. As the proportion of insiders increase in the market, the number of outside investors losing out will also increase, resulting in a drop in overall investor confidence. The aggregate efficiency of the market would fall because of the accumulation of individual sentiments resulting from bad experiences in the past.

Corporate insider trading may also reduce the importance of annual financial statements. Financial statements should be the prime source of reliable financial information regarding a company’s business activities. While the information resulting from corporate insider trading will not affect the reliability of financial statements, it will reduce their relevance and timeliness [Cho and Shaub (1991)].

The empirical evidence relating to the superior ability of corporate insiders to detect mispricing in their company’s shares strongly suggests that there are information asymmetries in the market and that corporate insiders benefit from their privileged position vis-à-vis the information flow. Unfortunately, it is difficult to generalise these findings to argue that the market is indeed less efficient as a result of insider trading, and accordingly, there is sparse empirical literature directly testing this hypothesis.

As yet, there is no consensus on whether corporate insider trading is beneficial to financial markets or whether it harms their viability. In practical terms, the two opposing views take positions founded on economic theory (i.e., information quality) or legal theory (i.e., the equity and fairness of markets). Clearly, this will influence the way in which the argument develops regarding the benefits and disadvantages of corporate insider trading.

In the next section, empirical research on corporate insider trading is reviewed and discussed according to salient research themes. Section 3 summarizes the development of regulations concerning insider trading in Europe. Our views about research and some directions for future research are presented in Section 4. Section 5 summarizes and concludes.

1. CENTRAL RESEARCH THEMES

In the empirical Accounting and Finance literature, informational efficiency is the foundation from which almost all corporate insider trading research is based. Three main research themes exist: 1. The performance of corporate insider trading activity; 2. The timing behaviour of corporate insider trades, and 3. The information content of corporate insider trading. Furthermore, the role of regulation is typically highlighted in each of the
three research themes. Each branch of corporate insider trading research will now be reviewed in turn.

1.1. THE PERFORMANCE OF CORPORATE INSIDER TRADING

The initial research into corporate insider trading focused on the US and investigated the existence of abnormal trading performance. The first wave (Lorie and Neiderhoffer, 1968; Pratt and DeVeere, 1970; Jaffe, 1974a; Finnerty, 1976a) simply measured the total return or risk-adjusted return on insider trades for a period of several months (2). However, as a consequence of using different insider trade definitions, the results were mixed. Table 1 provides a summary of their findings.

### Table 1
**SUMMARY OF INSIDER TRADING PERFORMANCE**

This table presents a summary of insider trading abnormal performance estimates from early studies into the area. Unless otherwise stated, all studies in this table refer to insider trading in firms listed on NYSE.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Sample</th>
<th>Buy</th>
<th>Sell</th>
<th>Definition of buy/sell trades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pratt and DeVere (1970)</td>
<td>NYSE stocks</td>
<td>19.5% over 6 months (raw return)</td>
<td>8.4% over 6 months (raw return)</td>
<td>A month with 3 or more buy/sell trades</td>
</tr>
<tr>
<td>Jaffe (1974b)a</td>
<td>NYSE stocks</td>
<td>0.70% combined buy and sell transactions (excess return)</td>
<td>1.84% combined buy and sell transactions (excess return)</td>
<td>All trades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.94% combined buy and sell transactions (excess return)</td>
<td>4.64% combined buy and sell transactions (excess return)</td>
<td>All trades</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3 more buys(sells) than sells(buys) in same security</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 more buys(sells) than sells(buys) in same security</td>
</tr>
<tr>
<td>Jaffe (1974b)a</td>
<td></td>
<td></td>
<td></td>
<td>All trades</td>
</tr>
<tr>
<td>Finnerty (1976a)</td>
<td>NYSE stocks</td>
<td>8.61% over 11 months (excess return)</td>
<td>-4.72% over 11 months (excess return)</td>
<td>All trades</td>
</tr>
<tr>
<td>Baesel and Stein (1979)b</td>
<td>Canada stocks</td>
<td>7.2% over 12 months</td>
<td>Not measured</td>
<td>All insider buys</td>
</tr>
<tr>
<td>Bettis et al. (2001)c</td>
<td>Collar and equity swap</td>
<td>-2.74% over 120 days after hedging</td>
<td></td>
<td>Hedging transactions</td>
</tr>
<tr>
<td>Friederich et al. (2002)</td>
<td>UK</td>
<td>-0.89% from market model</td>
<td>-0.23% from market model</td>
<td>All trades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-3.08% from market adjusted model</td>
<td>1.26% from market adjusted model</td>
<td></td>
</tr>
</tbody>
</table>

(Continúa pág. sig.)

(2) The exception is Lorie and Neiderhoffer (1968) and Finnerty (1976b). Lorie and Neiderhoffer (1968) examined the relationship between large price jumps (defined as 8 percent or more per month) and the incidence of insider trading in the previous month. Their results provided evidence that a corporate insider trading during the month is a significant predictor of large price changes in the shares of that firm in the next month. Finnerty (1976b) carried out a multivariate study using factor analysis to determine the causes of insider trading activity. From a list of 39 variables, he found that firm size, earnings and dividend level have strong explanatory power in predicting insider trading.
Although the methodologies employed in earlier research are unsophisticated in comparison to similar, more recent work, much initial insight was provided into the performance of insider trading. Results from this earlier period strongly suggested that insiders can detect and exploit mispricing in their own company's securities. Furthermore, the pioneering work of early researchers into insider trading provided a springboard for later research in the 80s to re-examine the issue with more comprehensive data sets, better methodologies and enhanced computing power.

Empirical research has also reported significant abnormal returns from the performance of insider trading in other countries. In the UK, King and Roell (1989) examined a very limited sample of insider trades and found significant abnormal returns from buying. Similarly, with a larger sample over the same period, Pope et al. (1990) report positive, but much smaller, abnormal returns from buying, and negative abnormal returns from selling. Corporate insiders in Hong Kong are able to earn abnormal returns from both buying and selling (Cheuk et al., 2005). In Spain, while insiders have earned abnormal returns, outsiders who pursue a mimicking trading strategy are unable to capture any of the benefits accrued by insiders (Del Brio et al., 2002).

### Table 1 (cont.)

**Summary of Insider Trading Performance**

This table presents a summary of insider trading abnormal performance estimates from early studies into the area. Unless otherwise stated, all studies in this table refer to insider trading in firms listed on NYSE.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Hillier and Marshall (2002)</td>
<td>UK</td>
<td>-2.78% from thin trading adjusted model</td>
<td>1.24% from thin trading adjusted model</td>
<td>All trades</td>
</tr>
<tr>
<td>Brio et al. (2002)</td>
<td>Spanish stocks</td>
<td>-4.62% over the event period</td>
<td>-0.47 over the event period</td>
<td>All trades</td>
</tr>
<tr>
<td>Cheuk et al. (2005)</td>
<td>Hong Kong stocks</td>
<td>0.58% over 20 days after trading</td>
<td>-0.41% over 20 days after trading</td>
<td>All trades</td>
</tr>
<tr>
<td>Fidrmuc et al. (2006)</td>
<td>UK</td>
<td>-1.27% before trading 3.12% after trading</td>
<td>3.07% before trading -0.37% after trading Large trades (&gt;0.1%)</td>
<td>All trades</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2.01% before trading 1.16% after trading</td>
<td>2.29% before trading -0.26% after trading Small trades (&lt;0.1%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-2.18% before trading 0.79% after trading</td>
<td>1.84% before trading -0.25% after trading</td>
<td></td>
</tr>
<tr>
<td>Betzer and Theissen (2007)</td>
<td>German stocks</td>
<td>3.60% after trading 6.00% after trading 3.50% after trading</td>
<td>-3.05% after the trading -4.97% after trading 3.48% after trading</td>
<td>All trades Trades &gt; 0.1% of shares outstanding Reporting date</td>
</tr>
<tr>
<td>Cheng et al. (2007)</td>
<td>S&amp;P500</td>
<td>-0.15% over 100 days after trading</td>
<td>-0.43% over 100 days after trading</td>
<td>Delayed disclosure trades</td>
</tr>
</tbody>
</table>

* Jaffe combined insider buy and sell trades by pre-multiplying the returns on all insider sell transactions by -1.
The second generation of empirical research into the performance of insider trading is characterised by much larger amounts of data and more focussed testing. Seyhun (1986a) examined the performance of different categories of insiders and found that directors were more informed about a firm’s prospects than other insiders. In addition, his results indicated, for the first time, that firm size and insider returns were negatively related. Jenter (2005) showed that top managers have contrarian views on firm value and their personal trading and corporate decision-making jointly reflect this perspective. Potentially undervalued firms experience net insider buying and have capital structures that reflect such undervaluation.

Rozeff and Zaman (1988) decomposed the performance of insider trading into information held by corporate insiders and the characteristics of securities in which they traded. After controlling for the size effect and earnings yield, they found that, once transaction costs were taken into account, insiders were unable to earn abnormal profits. Rozeff and Zaman (1988) confirmed the propensity of small firm insiders to buy and large firm insiders to sell.

Taking into account the concentration of insider trading performance in smaller firms, the abnormal returns relative to a size-adjusted benchmark disappear (Gregory et al., 1994). Gregory et al. (1997) revisited this issue with a consistent definition of an insider trading signal and a more homogenous sample and found that firm size has a substantial impact in UK insider trading. Consistent with Barclay and Warner’s (1993) stealth trading hypothesis, Friederich et al. (2002) report that medium size insider trades are more informative over a short term.

Garfinkel and Nimalendran (2003) extend Barclay and Warner’s (1993) stealth trading analysis to examine the impact of trader anonymity. Insider trading activity is more transparent on the NYSE specialist system compared to the NASDAQ dealer system. They found that abnormal returns after insider trading are positively related to bid-ask spreads, which suggests that insider profits may be absorbed by lower liquidity and transaction costs (Lin and Howe, 1990; Fishe and Robe, 2004; Cheng et al., 2006).

Staying with the market microstructure theme, Chung and Charoenwong (1998) report that market makers typically set bigger spreads for large insider transactions. However, Dolgopolov (2004) argued that the empirical relationship between bid-ask spread and the risk of insider trading is inconsistent and unreliable. Taking corporate governance structures into account, Fidrmuc et al. (2006) found that the level of insider shareholdings has a significant impact on insider abnormal returns. Finally, Zhang et al. (2005) report a negative relationship between insider trading and pay-performance sensitivity.

Most research in corporate insider trading has centred on equity trading. When other routes to trade exist, such as options and futures, insiders may exploit this avenue instead. In derivative markets, Acharya and Johnson (2007) find that insider trading in credit default swaps does not affect prices or liquidity in either equity or credit markets. Bettis et al. (2001) claimed that insiders generally use derivatives (collar and swaps in their case) as

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(3) Gregory, Matatko, Tonks and Purkis (1994) have argued that this finding may be a result of the size effect.
hedging instruments for risk reduction, resulting in an improved alignment of incentives between managers and shareholders.

1.2. Methodological Issues

Some researchers have considered the role of empirical methodology in detecting insider trading performance. For example, the choice of insider trading event window differs across most empirical studies. A long event window of several months is likely to reflect information from subsequent events, and so a shorter event window is preferable (Lakonishok and Lee, 2001; Seyhun, 1986b).

In a study similar to Lorie and Neiderhoffer (1968), Seyhun (1986b) examined the relationship between insider trading activity and the market return in the subsequent two months. He found a significant and positive relationship between the two measures. To test whether this information would lead to profitable trading, Seyhun (1986b) carried out a switching strategy between the market portfolio and government treasury bills respectively for each month that an insider bought or sold. However, even ignoring transaction costs it was found that such a trading strategy was unprofitable.

Chowdhury et al. (1993) extended the analysis of Seyhun (1986b) by re-examining the issue using a vector autoregressive regression model. Their findings contradict the earlier paper by showing that market movements actually influence the direction of insider trading instead of the other way around as hypothesised by Seyhun (1986b). Moreover, their findings suggest that insider trading cannot predict future market movements and that outsiders cannot use aggregate insider trading information to predict future market returns over the subsequent eight weeks.

Pope et al. (1990), who examined UK insider trading profitability across three sub-periods, report that the sampling process and sample periods have a significant impact on the observed profitability of UK insider trading. Lin and Howe (1990) analysed the performance of insider trading in firms traded on the OTC/NASDAQ market. Using three different measures of abnormal performance, they report conflicting evidence on abnormal returns accruing to insiders after they trade. They also confirm the results of Seyhun (1986a) that insiders closer to the firm appear to earn greater profits from their trades. That is, corporate directors earn significantly more from their trades than other insiders in the firm.

In a seminal article and one which has some closest to testing the strong form of the efficient markets hypothesis, Meulbroek (1992) examined the performance of illegal insider trades. She found that on the day of an illegal insider trade, insiders earned an abnormal return of 3 percent and almost half of the price run-up occurring before takeovers was on insider trading days.

In a related paper, Petit and Venkatesh (1995) investigated whether insiders traded on long term private information in order to avoid detection by exchange authorities. They found a significant positive relationship between insider trading and the direction of returns one

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(4) Illegal insider trades were defined as those trades investigated by the Securities and Exchange Commission and subsequently cited in legal proceedings.
and two years into the future. They also report that subsequent to abnormal returns, insiders tend to reverse their trades, which is indicative of both a long-term anticipatory and a reactive component in insider trading. Seyhun (1998) re-examines Seyhun (1992) with all available insider trading information in the US and concludes that not only insider trading, but also mimicking outsider strategies are profitable, even after concerning reporting delays and transaction costs.

Finally, Eckbo and Smith (1998) have reignited the insider trading debate by carrying out an analysis of insider trading on the Oslo Stock Exchange using a methodology that is drawn from the investment fund performance measurement literature. They find zero or negative abnormal performance for their sample, shedding doubt on the veracity of earlier research findings.

A branch of work examining a variation of the hypothesis, «Do insiders earn abnormal returns from their investment decisions?» analyses the effect of regulation changes on the performance of insider trading. Jaffe (1974b) carried out the first comprehensive study of regulatory changes in the US by analysing the effect of three such changes on the profitability and volume of insider trading. He found that there were no significant changes in any insider trading characteristic (abnormal returns and volume) as a result of the new regulation. Seyhun (1992) extended the work of Jaffe (1974b) by investigating the impact of new regulation in the US during the 1980s. Similar to Jaffe (1974b), Seyhun (1992) found that regulation had no effect on the volume or profitability of insider trading. In fact, the volume of insider trades in the US quadrupled during the period. Therefore, although the enactment of insider trading regulations does not significantly deter insider trading, it does affect insider trading behaviour.

In the non-US case, Kabir and Vermaelen (1996) investigate the effect of the introduction of insider trading restrictions in 1987 on the Amsterdam Stock Exchange. Their results indicate that securities became less liquid (as measured by trading volume) during those periods when insiders were banned from trading. A subsidiary finding is that the efficiency of the market was impaired because the price adjustment of shares to positive earnings figures took longer than before the regulation.

1.3. The Timing of Insider Trading

The second major theme in insider trading research is concerned with an analysis of insider trading behaviour around firm specific information events and the interaction between insider trades and the announcement. Financial signalling theory proposes that informed trading prior to the disclosure of price sensitive news informs the market of mispricing, and as such the market will react correspondingly. Examples of price-sensitive news events include merger announcements, earnings surprises and dividend changes. The literature on this branch of research is summarised in Table 2. The central approach is to investigate

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(5) The new regulations were The Cady-Roberts decision in 1961, the Texas Gulf Sulphur indictment in 1965 and the Texas Gulf Sulphur decision in 1966.

(6) The two main regulatory changes were brought about by the Chiarella case in 1980 and the Insider Trading Sanctions Act (ITSA) of 1984.
insider trading behaviour and the corresponding abnormal returns in a window surrounding the price-sensitive event. Overall, the findings from this body of research are mixed with no consistent insight being provided.

**Table 2**

**Summary of the Timing of Insider Trading Studies**

This table presents a summary of research into the trading behaviour of insiders around firm specific information events. Unless otherwise stated, all studies in this table refer to insider trading in firms listed on NYSE.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Information Event</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keown and Pinkerton (1981)</td>
<td>Merger Announcements</td>
<td>Information leakage prior to announcement. No insider trading data so can only infer that insiders may be trading in this period</td>
</tr>
<tr>
<td>Penman (1982)</td>
<td>Earnings Forecasts</td>
<td>Insiders buy (sell) before good (bad) forecasts</td>
</tr>
<tr>
<td>Elliott, Morse and Richardson (1984)</td>
<td>Earnings changes; dividend changes; bond rating changes; merger announcements; bankruptcy announcements.</td>
<td>No significant relationship between timing of insider trading and information announcements</td>
</tr>
<tr>
<td>Givoly and Palmon (1985)</td>
<td>Earnings; dividends; earnings forecasts; acquisitions; new products; contract of awards; project cancellations; labour disputes; stock splits and repurchases; litigation; layoffs.</td>
<td>No relationship between timing of insider trading and subsequent announcements</td>
</tr>
<tr>
<td>Gupta and Misra (1988)</td>
<td>Takeovers</td>
<td>No relationship between insider trading and price run-ups prior to takeover announcements</td>
</tr>
<tr>
<td>Loderer and Sheehan (1989)</td>
<td>Bankruptcy</td>
<td>Insiders do not sell before bankruptcy</td>
</tr>
<tr>
<td>Netter and Mitchell (1989)</td>
<td>Stock-Repurchases</td>
<td>Insiders buy after fall in prices and sell after price increases. Firms repurchase shares after fall in prices</td>
</tr>
<tr>
<td>Hirschey and Zaima (1989)</td>
<td>Sell-offs</td>
<td>Insider buying accompanied by corporate sell-offs result in very large positive abnormal returns</td>
</tr>
<tr>
<td>Hirschey, Slovin and Zaima (1990)</td>
<td>Sell-offs</td>
<td>Insider buying accompanied by corporate sell-offs and bank debt result in very large abnormal returns</td>
</tr>
<tr>
<td>John and Lang (1991)</td>
<td>Dividend Announcements</td>
<td>Insider trading and dividend announcements act as joint signals</td>
</tr>
<tr>
<td>Gosnell, Keown and Pinkerton (1992)</td>
<td>Bankruptcy (NYSE and NASDAQ)</td>
<td>Insiders sell before bankruptcy in OTC firms but not NYSE firms</td>
</tr>
<tr>
<td>Lee, Mikkelsen and Partch (1992)</td>
<td>Stock Repurchases</td>
<td>Insiders buy before stock repurchases</td>
</tr>
<tr>
<td>Sivakumar and Waymire (1994)</td>
<td>Quarterly Earnings Announcements</td>
<td>No relationship between insider trading and quarterly earnings announcements</td>
</tr>
<tr>
<td>Allen and Ramanan (1995)</td>
<td>Earnings Announcements</td>
<td>Relationship between prior insider buying (selling) and positive (negative) earnings surprises</td>
</tr>
</tbody>
</table>

(Continúa pág. sig.)
### Table 2 (cont.)
#### SUMMARY OF THE TIMING OF INSIDER TRADING STUDIES

This table presents a summary of research into the trading behaviour of insiders around firm specific information events. Unless otherwise stated, all studies in this table refer to insider trading in firms listed on NYSE.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Information Event</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radd and Wu (1995)</td>
<td>Stock Repurchases</td>
<td>Insider buying causes abnormal returns to be greater at stock repurchase announcements</td>
</tr>
<tr>
<td>Pettit, Ma and He (1996)</td>
<td>Stock Repurchases</td>
<td>Below normal level of insider sales before event</td>
</tr>
<tr>
<td>Park, Jang and Loeb (1996)</td>
<td>Earnings Announcements</td>
<td>Evidence of insider selling after good news</td>
</tr>
<tr>
<td>Udpa (1996)</td>
<td>Earnings Announcements</td>
<td>Earnings announcements less informative when insiders trade beforehand</td>
</tr>
<tr>
<td>Chakravarty and McConnell (1997)</td>
<td>Nestle S.A takeover of Carnation Company</td>
<td>Positive relation between Ivan Boesky’s trading and share price changes. No change in spreads</td>
</tr>
<tr>
<td>Seyhun and Bradley (1997)</td>
<td>Bankruptcy</td>
<td>Selling by insiders before bankruptcy petitions</td>
</tr>
<tr>
<td>Gombola, Lee, and Liu (1997)</td>
<td>Seasoned Equity Offerings</td>
<td>Insider selling month after issue</td>
</tr>
<tr>
<td>Meulbroek and Hart (1997)</td>
<td>Takeover</td>
<td>Illegal insider trading causes increases in takeover premia</td>
</tr>
<tr>
<td>Harlow and Howe (1998)</td>
<td>Leverage Buyouts</td>
<td>Increased trading before leveraged buyouts</td>
</tr>
<tr>
<td>Jabbour et al. (2000)</td>
<td>Takeover announcement (Canada)</td>
<td>Abnormal stock price performance at an early stage before the acquisition announcement is due to actual trading by corporate insiders</td>
</tr>
<tr>
<td>Kahle (2000)</td>
<td>New security issues (equity and convertible debt)</td>
<td>Insider sales increase and purchases decrease prior to the issues. Firms with abnormal insider selling underperform in the long run, whereas those with abnormal buying do not</td>
</tr>
<tr>
<td>Lee (2000)</td>
<td>Seasoned equity offering (NYSE, AMES, Nasdaq)</td>
<td>There is no relationship between pre-issue insider trading and the post-issue long-run performance of primary seasoned equity issuing firms after controlling for exogenous consumption shocks</td>
</tr>
<tr>
<td>Clarke et al. (2001)</td>
<td>Seasoned equity offering announcements</td>
<td>Insiders selling increases prior to completed and canceled seasoned equity offering, but declines afterward only for canceled offering</td>
</tr>
<tr>
<td>Hauser et al. (2003)</td>
<td>Seasoned equity offerings</td>
<td>Majority owned insiders buy shares before the offering in order to preserve or increase their control</td>
</tr>
</tbody>
</table>

(Continúa pág. sig.)
### Table 2 (cont.)

#### SUMMARY OF THE TIMING OF INSIDER TRADING STUDIES

This table presents a summary of research into the trading behaviour of insiders around firm specific information events. Unless otherwise stated, all studies in this table refer to insider trading in firms listed on NYSE.

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<tbody>
<tr>
<td>Fuller (2003)</td>
<td>Dividend</td>
<td>The announcement day returns for a dividend increase are inversely related to measures of informed trading and decreasing in the level of buy demand relative to sell demand</td>
</tr>
<tr>
<td>Brav and Gompers (2003)</td>
<td>Lockups</td>
<td>Lockups support serve as only a commitment device to moral hazard problems</td>
</tr>
<tr>
<td>Madison et al. (2004)</td>
<td>Bank mergers</td>
<td>The target bank insiders significantly decrease both share purchases and share sales before merger announcements. These findings suggest the effectiveness of law</td>
</tr>
<tr>
<td>Cao et al. (2004)</td>
<td>Lockups</td>
<td>While lockup expirations are associated with insider trading, they have little effect on effective spreads</td>
</tr>
<tr>
<td>Darrough and Rangan (2005)</td>
<td>Initial public offering</td>
<td>Change in R&amp;D spending in the IPO year is negatively related to managerial selling. Managers believe that investors place more emphasis on current earnings and less on R&amp;D</td>
</tr>
<tr>
<td>Brau et al. (2005)</td>
<td>Lockups</td>
<td>Lockups can sort out both a moral hazard problem and adverse selection problem</td>
</tr>
<tr>
<td>Cheng and Lo (2006)</td>
<td>Voluntary disclosures</td>
<td>Insiders strategically choose disclosure policies and the timing of their stock trades</td>
</tr>
<tr>
<td>Ching et al. (2006)</td>
<td>Seasoned equity offering announcements</td>
<td>The announcements are associated with positive abnormal returns</td>
</tr>
<tr>
<td>Jaggi and Tsui (2007)</td>
<td>Earnings announcements (Hong Kong)</td>
<td>The executives managed reported earnings to maximize their private benefits from insider selling. However, a higher proportion of independent directors can moderate the positive association between insider selling and earnings</td>
</tr>
<tr>
<td>Huddart et al. (2007)</td>
<td>Earnings announcements</td>
<td>Insiders avoid profitable trades before quarterly earnings are announced and sell (buy) after good (bad) news earnings announcements</td>
</tr>
<tr>
<td>Gu and Li (2007)</td>
<td>Voluntary disclosure</td>
<td>Investors view the disclosure as good news and the disclosure is associated with more positive stock price reaction when it is preceded by insider purchases, especially for firms with higher degree of information asymmetry</td>
</tr>
</tbody>
</table>

(Continúa pág. sig.)
Corporate insider trading: A literature review

Authors Information Event Main Findings
Brio and Miguel (2008) Dividends (Spain) Investors are more sensitive to insider trading signals than to signaled changes in existing dividends
Agrawal and Cooper (2008) Accounting Scandals Top managers of restating firms sell substantially more stock during the misstated period

A major focus of research concerns insider trading activity around merger announcements. Keown and Pinkerton (1981) examined insider trading prior to merger announcements and found significant information leakage in the run-up to the event. Elliot et al. (1984) extended the work of Keown and Pinkerton (1981) and found that insiders bought more shares and sold less, twelve months prior to a merger. Seyhun (1990) also confirmed that insiders in bidder firms traded more prior to the announcement of a takeover bid. Furthermore, insiders’ trades were found to be significantly correlated with the acquisition effect on bidding firm value.

In a case study analysis of the Nestle, S.A. takeover of Carnation, Chakravarty and McConnell (1997) examined the individual trades of Ivan Boesky in Carnation equity (7). They reported a significant relationship between Ivan Boesky’s transactions in Carnation and changes in its share price. Their work has been extended by Meulbroek and Hart (1997) who report that takeover premiums on target securities are on average 10 percentage points higher when illegal insider trading has take place. It thus appears that illegal insider trading has a significant impact on the prices of securities around mergers and acquisitions; however this does not seem to be the case where legal corporate insider trading occurs. One reason for this is that corporate directors wish to avoid possible investigation by the exchange authorities and therefore trade in periods when there are no important corporate events. Clearly, illegal insider trading ignores this threat.

Insider trading activity around earnings announcements have also attracted a significant amount of academic interest. Penman (1982) found that insiders purchased shares before good management earnings forecasts and sold prior to bad forecasts. However, Elliot et al. (1984), Givoly and Palmon (1985) and Park et al. (1995), report that insiders do not time their trades around earnings announcements. In contrast, Allen and Ramanan (1990), Sivakumar and Waymire (1994), Lustgarten and Mande (1995) Udpa (1996), Ke et al. (2003), Huddart et al. (2007) and Cheng and Leung (2008) find that insider trading activity and earnings surprises are strongly related.

John and Lang (1991) noted the relationship between insider trading and dividend changes, rather than earning announcements. Dividend increases accompanied by unusual in-

(7) Ivan Boesky was later charged with illegal insider trading in Carnation by the SEC.
Corporate insider trading: A literature review

Iain Clacher, David Hillier and Suntharee Lhaopadchan

sider buying signal good news, resulting in positive abnormal returns. The converse is also true. Fuller (2003) extends John and Lang (1991) to consider the impact of various investors’ trading behaviour. Informed trading moves share prices closer to their intrinsic value. Therefore, the price reaction to a dividend increase is lower when more informed trading takes place. Del Brio and Miguel (2008) employed Hillier and Marshall’s (2002b) methodology to classify informed and uninformned Spanish insider trading. The information effect of the dividend announcement is found to be explained by the signal from insider trading activity around the announcement, rather than the cash flow signal.

Recently, Betzer and Theissen (2007) analysed both the profitability of insider trading and trading patterns around German earnings announcements. They report that trading prior to earning announcements have a larger impact on prices. Further, ownership structure and accounting standards appear to impact upon the magnitude of insider profits.

In the accounting literature, a number of studies consider the relationship between accounting policy changes and insider trading. The cases in point are Larcker et al. (1983) for FASB n.° 19; King and O’Keefe (1986) for lobbying with FASB; and Odaiyappa and Nainar (1992) for SFAS No.33. Net insider selling is prevalent in the period preceding the pronouncement of changing accounting policies.

In contrast to these studies, Cheng and Lo (2006) demonstrate evidence that insiders exploit voluntary disclosure opportunities for their personal gains in case of insider purchases. They find that managers increase the number of bad news forecasts when they plan to purchase shares.

A number of studies also consider insider trading activity before accounting frauds were revealed. Accounting frauds are usually accompanied by large falls in stock prices, top-management turnover, and bankruptcy filings (Agrawal and Cooper, 2007 and 2008; Desai et al., 2006; Agrawal and Chadha, 2005; Palmrose et al., 2004). There is also evidence of significant abnormal insider selling during the period prior to frauds being exposed. These results suggest that managers wished to offload their stock at inflated prices (Agrawal and Cooper, 2008).

More recent insider trading and accounting information papers have examined the relationship between corporate decisions and insider trading behaviour. Darrough and Rangan (2005) find that reductions in R&D expenditures around IPOs are negatively related to insider selling. The reduction in R&D expenditure increases current earnings and so insiders sell to take advantage of the temporary inflation of current earnings.

Within the literature, insider buys and sells are found to have differential information signals. Insider sales have been consistently shown to have little information about future firm performance for large firms (Lakonishok and Lee, 2001; Jeng et al., 2003 and Jenter, 2005). Lakonishok and Lee (2001) explained that insider selling, motivated by private information, is dominated by personal portfolio rebalancing for diversification purposes.

Cheng et al. (2007) argue that the non-informative sale transactions are a result of poor corporate governance. Insiders in the US can report private transactions between executives and their firms after the end of the fiscal year via a route called Form 5. Insider sales
reported through Form 5 were found to signal negative future returns and lower future earnings relative to analyst forecasts. Marin and Olivier (2008) meanwhile argue that selling by insiders prior to market crashes occurs heavily prior to the crash in the far past, and that the level of insider selling close to the crash is much lower.

Given the possibility that insiders trade with superior information, regulators have imposed restrictions on insiders to prevent them from trading during firm specific announcement periods. A number of studies examine the affect of trading bans on insiders’ strategic trading behaviour. Garfinkel (1997) examines the impact of the Insider Trading and Securities Fraud Enforcement Act (ITSFEA) of 1988. The timing of insider trades was affected by the imposition of the new law. Insiders in the US now tend to postpone their trades as a result of the new regulation until after earnings announcements to avoid investigation by the SEC.

Insider trading is also suppressed by company prohibitions in the same ways as by the SEC. Bettis et al. (2000) found that insider trading corporate policies are widespread in the US, with 78 percent of their sample having explicit blackout periods. Roulston (2003) found that those firms which restrict insider trading offer their insiders more incentive based compensation.

In the UK, Hillier and Marshall (2002b) examined the effect of the London Stock Exchange Model Code, which bans directors from trading two months prior to their firm’s earning announcement. Insiders were found to decide their level of stock trading based on the degree of mispricing in the period immediately after the end of the trading ban. Specifically, insiders buy after abnormally bad earnings news and sell after good news.

The remainder of the literature into the timing of insider trading is mixed in its conclusions. For example, with IPO lockup periods, research considers the level of insider sales subsequent to the IPO. Firms signal their quality to the market through lockup agreements in order to achieve a higher IPO or seasoned offering price. Brav and Gompers (2003) found that the lockup agreement does not signal the true value of the firm and insiders do not use the length of lockup to signal higher firm quality. In contrast, Cao et al. (2004) document high levels of insider trading after lockup expiration.

With seasoned equity offerings, Karpoff and Lee (1991), Eyssell and Reburn (1993), Kahle (2000) and Clarke et al. (2001) reported abnormal increases in insider sales prior to the announcement. Insiders may therefore exploit this window of opportunity to issue over-valued equity. Furthermore, the long-run performance of seasoned offerings is significantly related to the level of abnormal insider trading after seasoned equity offerings.

In contrast, Lee (1997) found long-run stock returns for seasoned equity offerings where insiders sell shares prior to the announcement are not significantly different from those where insiders buy shares Hauser et al. (2003) hypothesized that the insider trading pattern around seasoned equity offerings depends on the firm’s ownership structure. Insiders with a concentrated stake take a long-term view and buy shares prior to the announcement to preserve their control over the firm.
Finally, evidence relating to insider trading and bankruptcy is mixed. Gosnell et al. (1992) found that insiders sell prior to bankruptcy while Loderer and Sheehan (1989) did not find any evidence of selling. The discrepancies between these results are indicative of sample differences that may be related to institutional or time specific factors.

1.4. INSIDER TRADING REGULATION

Regulators have implemented country specific codes of best practice on insider trading through mandatory public regulations or voluntary corporate policies. Insider trading regulations and laws have been enacted to control or reduce the possibility of insiders trading on price sensitive private information. With this, the definition of an insider has become clearer whereby insiders may be corporate employees or any person who has privileged access to a firm’s non-public information. This latter group may include large shareholders, financial consultants, bankers, auditors, lawyers and other related parties.

A number of researchers (Hebner and Kato, 1997; Goshen and Parchomovsky, 2001; Roulstone, 2003) suggest that security analysts should be allowed to trade on inside information, since such activity will inevitably create more liquidity and competition in securities markets. However, numerous papers advocate the implementation of insider trading regulations because ordinary investors are disadvantaged when trading with market professionals (See Haddock and Macey, 1987 and Bushman et al., 2005).

In the US, the Securities and Exchange Commission (SEC) has prohibited fraud and market manipulation as well as insider trading since 1934. According to the SEC Act section 10(b), insiders are corporate insiders, or anyone who obtains material, non-public information from a corporate insider or the issuer, or who steals the information from another source. The main responsibility of the SEC is to enforce insider trading regulations. Against a defendant, the SEC may bring civil charges, refer the case to the Justice Department for criminal prosecution, or suspend the professional license.

Subsequent Acts have made the penalties for insider trading stronger. The 1984 Insider Trading Sanctions Act (ITSA) covers derivatives trading and allows for both civil and criminal charges; the 1988 Insider Trading and Securities Fraud Enforcement Act (ITSFEA) increased the criminal fines and the maximum jail term to both the firm and its employees; the 1990 Securities Enforcement Remedies Act and the 2000 Financial Disclosure Regulation Act ban selective disclosure of corporate information to large shareholders and analysts.

Many other countries have similar regulations to that of the US. However, different governments and regulators apply their own definition of insider trading. One clear distinction that occurs is the definition of what constitutes inside information. For most countries\(^{(8)}\), the relevant definition of insider information is materiality and the potential impact of the information on security prices.

\(^{(8)}\) These countries include those in the European Union, Australia, Canada, and Mexico.
In the UK, for example, insider trading regulation defines materiality in that if a specific piece of information is made public, it would be likely to have a significant effect on the price of a security. German law meanwhile defines inside information as, «the knowledge of a fact not publicly known relating to one or more issuers of insider securities and which fact is capable of substantially influencing the price of the insider securities in the event of it becoming publicly known».

Further, the definition of an insider is broader and more general in many countries. Non-US countries do not follow the US fiduciary relation to define illegal insider trading and stock tipping. UK statute specifies that an insider may be anyone who possesses non-public information from any source, whereas in the US the insider must have some formal or informal connection to the company. As a result, the UK definition is argued to be superior in form to that defined by US law (Tridimas, 1991; Watson, 1995). Nevertheless, the vast majority of all empirical research in the UK and the US has dealt with corporate insiders who are employed by a firm and who may or may not have fiduciary responsibilities to the shareholders of the firm. Prior to the introduction of the Insider Trading Directive in 2003 by the European Community, insider trading was regulated by country specific mandate by each member state.

Insider dealing (that is, trading on private, specific, and precise information that is likely to have a material impact on prices) is illegal throughout European countries. The European Community posits that insider dealing undermines investor confidence, leading to suboptimal security markets. Supervisory authorities in European countries have also strengthened their existing insider trading regulations (e.g. Denmark, Greece, France, Luxembourg, Portugal, the Netherlands, Spain and the United Kingdom) or initiated new insider trading rules (e.g. Belgium, Germany, Ireland and Italy) in order to protect investors from insider dealing and to help with the internationalisation of their securities markets.

In the European Union, supervisory authorities coordinate their efforts between national regulators as a result of the European Economic Community Directive (EECD) on Insider Trading and the Council of Europe’s Convention on Insider Trading. The Directive, based on the Single European Act Article 100a, was designed on the French and English insider trading regulations.

The EECD imposed the first community prohibition of insider trading, through the 1989 Directive 154, which has subsequently been replaced by Directive 155 in 2003. Directive 155 requires all member states to develop and enforce national laws on insider trading. In addition to Directive 155, the EECD also imposed the definition of and the prohibition from market manipulation in Directive 156 and Directive 157, respectively (9). Moreover, inside information is clearly specified in both the 1989 (10) and 2003 (11) Directives, unlike in the

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(9) Market manipulation is defined as trading or disseminating information in order to give false or misleading signals to the market.

(10) Inside information is «information which is unknown to the public of a specific nature and relating to one or more issuers of transferable securities, or to one or more transferable securities, which, if it were published, would be likely to have a material effect on the price of the transferable security or transferable securities in question».

(11) «Inside information shall mean information of a precise nature which has not been made public, relating, directly or indirectly, to one or more issuers of financial instruments or to one or more financial instruments and which, if it were
US regulations. In defining insider dealing, the EECO Directives applies the possession of non-public information, whereas the US law is concerned with breaches in fiduciary duty. In the same way as US law, Directive 161-Directive 167 justifies the rationale for the prohibition of insider trading to ensure investor confidence and to maintain market efficiency. However, unlike the US, all of Member States did not classify insider dealing as a criminal offence at the time of adoption of Directive. Directive 168 prohibits insider dealing more widely to include not only persons who acquired inside information due to their position as a director, manager, employee or majority shareholder, but also those who acquired the information illegally.

As markets become ever more integrated, insider trading can cross national borders and international cooperation is necessary for successful investigations and prosecutions to take place. To this end, the US has agreements (the Mutual Legal Assistance Treaties in Criminal Matters and Memoranda of Understanding) with other countries to share information and cooperate in the investigation and prosecution of security law violations through. Likewise, the EU Directive 156 requires members to cooperate whenever necessary for the purpose of implementing the Directive.

In general, the definitions of insider trading are much broader in the EU Directive than in the US laws where the focus is on the narrower breach of fiduciary duty definition. However, unlike US law, the Directive does not propose specific penalties for violating insider trading laws. Government and regulators in each country decide on the appropriate penalties for violating the Directive based on their own legal regime. Penalties and enforcement are therefore dependent, not only on the will of regulators, but also upon country specific factors such as culture and the legal environment.

This approach leads to very different legal consequences for insider trading. In the UK for example, The Financial Services Authority (FSA) states that there are unlimited civil fines for insider trading, whereas the Dutch regulatory authority, Autoriteit Financiële Markten (AFM), has only imposed criminal penalties for insider dealing.

The findings of empirical studies on the effectiveness of insider dealing prohibition and enforcement are mixed. In most countries, researchers have found that regulation is generally weak in preventing insider dealing (Bhattacharya and Daouk, 2002; Bris, 2005). Moreover, the stricter enforcement of insider trading regulations does not directly lead to more participants in capital markets. As such this casts doubt on the premise that fairer markets will have higher market participation and also raises questions about the value of insider trading law.

In contrast, a number of studies find evidence of a positive relation between capital markets and insider trading law enforcement. Bushman et al. (2004) find a positive relationship between insider trading enforcement, corporate disclosure, institutional investment, and media penetration. In a later study Bushman et al. (2005) also document increased levels of analyst coverage after the initial enforcement of insider trading law.

made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of related derivative financial instruments».
1.5. Future research

Although insider trading has been an area of significant research for more than thirty years, it remains as one of the most important areas of research in law, economics, accounting and finance. Despite the extensive research that has taken place already there are several issues which future research can seek to better understand.

First, empirical research into insider trading in non-US countries, and especially developing countries, has lagged considerably behind corresponding US work. Firms in an individual national authority are governed by the specific legislation or regulations of the country where they are listed. A systematic analysis of insider trading in non-US countries would contribute significantly to the existing body of knowledge in this area. Such research may yield unique insights for academics and market regulators on the implementation of insider trading law and its impact on investors.

Second, to revisit existing research questions with more sophisticated research methodologies, and multi-discipline approaches to research design may provide better insights. In looking at insider trading performance, this can be empirically explained by both micro and macro factors. Research in finance has focused on the market reaction and financial signal of insider trades from a market perspective. Accounting research, meanwhile, has concentrated on the issue of voluntary disclosure to solve problems of informational asymmetry and earnings manipulation. The development of a research methodology that jointly addresses the issues raised in both disciplines may therefore create a better framework for understanding the broader implications of insider trading.

Third, a number of studies have conducted international comparisons of insider trading under different legal regimes. However, the accounting systems and corporate governance systems are also known to have an impact on the disclosure of information and insider trading patterns across firms and countries. One interesting area for future research would be to examine how these different factors interact with insider trading.

2. Conclusions

This literature survey has reviewed the current empirical research into insider trading based on major research themes in both accounting and finance. The review has addressed three main themes, namely the performance of insider trading, the timing of insider trading and the regulation of insider trading. The central message is that insiders are able to detect mispricing of their own companies’ shares and utilise this information for their personal benefit.

References


