



The Importance of Market Integrity

An Analysis of ASX Self-Regulation

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bridging thought and practice

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ABSTRACT

“Integrity is an essential ingredient in building liquidity and depth of the Australian market-place. We should all be in favour of that.”

Richard Humphry, CEO, Australian Stock Exchange, 2001

Maintaining market efficiency and integrity are central objectives of exchanges around the world. A large volume of academic research has assessed the success of exchanges in meeting the first of these objectives. However, to date there is little empirical research assessing exchange success in enhancing market integrity. Using a unique dataset, this paper redresses this issue. Market licence obligations require the Australian Stock Exchange (ASX) to maintain a fair, orderly and transparent market and to maintain adequate supervisory arrangements. Independent research assessing the effectiveness of ASX supervisory arrangements is largely absent. This paper redresses this issue by examining alleged market manipulation on the ASX during the period 1989 to 2002 using ASX Surveillance data. Evidence presented indicates that improved detection methods, enhancements to ASX Market Rules (MRs), education campaigns and other initiatives have improved broker behaviour and industry compliance over time. This has enhanced the integrity of the Australian equity market.

1 INTRODUCTION

Market efficiency and integrity are essential to the success of an exchange (see O'Hara 2001). Market efficiency refers to the ability of investors to transact easily at low cost. Market integrity refers to the ability of investors to transact in a fair and informed market where prices reflect information. As capital mobility is facilitated through technological advancement and economic reform, exchanges must compete for order flow based on their ability to meet these interrelated objectives. Given that the Australian Stock Exchange represents only 2.04 percent of world market capitalisation (Morgan Stanley Capital International Index, June 2004), maintaining market efficiency and integrity is critical to its future competitiveness.

Since Eugene Fama's seminal work in 1970 there has been a plethora of academic research examining market efficiency (Jensen, 1978; Bernard and Thomas, 1990; Fama, 1991; Fama, 1998; Shiller, 2003). Market automation has led to the creation of large market microstructure databases which have allowed academic researchers to examine in detail the impact of market design on market efficiency (Biais, Hillion and Spatt, 1999; Pagano and Freund, 2001; Ozenbas, Schwartz and Wood, 2002).

As a result of this research there are a number of well established measures of market efficiency. These measures include volatility of stock returns (French and Roll, 1986), market impact costs (Chan and Lakonishok, 1993), spreads (Glosten and Harris, 1988) and the speed of price adjustment to new information (Woodruff and Senchack, 1988).

A wide variety of academic research also exists examining the other exchange objective, market integrity. Much of this literature examines regulatory environments and market manipulation from a legal perspective (Fischel and Ross, 1991; Black, 1996; Andrews, 2003). Other theoretical literature attempts to model the possibility of profitable market manipulation (Allen and Gorton, 1992; Kose and Narayana, 1997).¹ However, little of this research empirically assesses market manipulation from a finance perspective.² The lack of empirical evidence is of concern given the significance of market integrity. A lack of market integrity can deprive honest investors of their capital, reduce investor confidence, increase the cost of capital and deter order flow. Reduced order flow will in turn reduce market efficiency. The economic implications of such outcomes for both an exchange and the wider economy are extensive and real. Given its significance, markets commit significant resources to maintaining high levels of integrity.

An exception to the lack of empirical integrity research is a study by Bhattacharya and Daouk (2002) who examine market integrity on 103 stock markets. They report that the enforcement of laws that prohibit insider trading lowers the cost of equity on these exchanges by five percent, on average. They also illustrate that it is the enforcement of insider trading prohibitions, rather than their existence, that results in a reduction in the cost of equity.

Another exception is a recent study by Aitken and Siow (2003). The objective of this study was to rank 21 major exchanges on the basis of efficiency and integrity. The authors measure integrity by examining price changes over the last 15 minutes of the trading day. If price changes in the last 15 minutes of trading are significantly larger

¹ A significant body of literature examines insider trading. In this study we only consider market manipulation and literature on this aspect of market integrity.

² One exception is Neagle & Tsykin (2001) who assess the effectiveness of the ASX continuous disclosure regime.

than at other times of the day, the authors argue that this indicates price manipulation at the close and hence a lack of integrity. However such general measures are subject to varied interpretation and do not control for other legitimate factors that may cause price changes at the close of the market. Price changes or volatility at the end of the day may be high for a number of reasons including trading to avoid overnight risk exposure, trading to complete orders or trading to receive the closing price or Volume Weighted Average Price (VWAP). Price volatility will also vary between exchanges. Differences in volatility may be caused by many factors including the design of the closing mechanism or the characteristics of stocks being examined. No attempt is made in their paper to examine or control for these confounding effects that lead to end of day price changes.

To control for these effects, this paper assesses changes in market integrity on one exchange across time rather than across exchanges. This eliminates issues associated with differences across markets. In addition, our unique data set identifies specific cases where market manipulation is alleged. Therefore events are excluded that are not perceived to relate to market manipulation.

This paper examines market integrity in the Australian context. After briefly considering the regulatory framework and the market integrity debate, evidence is presented demonstrating how a variety of ASX regulatory responses have influenced the incidence of alleged market manipulation over time.

The remainder of the paper is organised as follows. Section 2 examines the Australian regulatory environment. Section 3 analyses the market integrity debate. Section 4 explains the data source and Section 5 presents the results. Section 6 concludes.

2 THE AUSTRALIAN REGULATORY ENVIRONMENT

The following provides a brief explanation of the Australian regulatory framework and ASX supervisory arrangements designed to maintain and enhance market integrity.

The Corporations Act (the Act) defines a regulatory framework for the operation of the Australian securities industry. The ASX is required to operate within this framework. Regulatory control is divided between the relevant Commonwealth Minister (Minister), the Australian Securities and Investments Commission (ASIC) and a Market Licensee.

The ASX holds an Australian market licence to operate a financial market. An Australian market licence is granted by the Minister, subject to there being adequate arrangements and resources to supervise and operate the market. The ASX is required to fulfil a number of obligations as a market licensee and the Minister is able to direct the ASX to comply with these obligations if he/she considers it necessary.

In summary, ASX market licence obligations require that the ASX do everything possible, within reason, to ensure a fair, orderly and transparent market. To achieve this outcome, the Act states the ASX must establish and maintain adequate market supervision arrangements. This includes arrangements to manage conflict, arrangements to monitor the conduct of its participants and arrangements to enforce compliance with its market rules and listing rules. These supervisory arrangements may involve a self-regulatory structure (the current ASX model) or may be outsourced to an independent person or related entity. Sufficient resources must also be available to operate the market properly and to enable adequate supervision.³

The Act requires the ASX to produce an annual report on the extent of compliance with its statutory obligations. In addition, ASIC's Policy Statement 172, released on 6 March 2002, requires the ASX to assess and analyse its performance against its stated compliance standards/outcomes and explain ways to address concerns raised. ASIC is also required to assess ASX compliance on an annual basis.

To manage the risks associated with operating a financial market and to achieve compliance with its licence obligations, the ASX has developed a comprehensive regulatory structure. Operating units within this structure include ASX Surveillance, Investigations and Enforcement (I&E), Compliance Services, Risk Management Unit and ASX Companies (ASXC). The National Adjudicatory Tribunal (NAT)⁴, a disciplinary tribunal comprised of Market Participants, is also relevant. The ASX also imposes comprehensive operating rules on its Market Participants and listed entities⁵. Rules regulating broker behaviour are called Market Rules (MRs) and rules regulating the

³ In this paper we consider the activities of the Australian Stock Exchange Limited (ASX) and its supervisory obligations under the Act. ASX Settlement and Transfer Corporation Pty Limited (ASTC) and the Australian Clearing House Pty Limited (ACH) each hold a separate clearing and settlement facility licence and are subject to specific obligations. The supervisory arrangements in place for these other licensee's are not considered in this paper.

⁴ In 2004, the tribunal's name was changed to the Disciplinary Tribunal.

⁵ In the period covered by this research, 1989-2002, Market Participants were known as Participating Organisations. Trading Participants are those Market Participants permitted to submit trading messages to ASX's Trading Platforms. A Responsible Executive is an individual responsible for the supervision or control of all or part of a Market Participant.

behaviour of listed entities are called Listing Rules.⁶ Collectively, these operating units and rules aim to ensure a fair, orderly and transparent market.

ASX Surveillance performs a pivotal role in the ASX supervisory framework. ASX Surveillance is responsible for the continuous monitoring of market activity in all listed securities. The focus of this paper is on the work of ASX Surveillance.

ASX Surveillance operates Surveillance of Market Activity (SOMA), a computer system that aids in the detection of unusual trading activity. SOMA continuously monitors the equity market in real time and generates alerts based on price, volume or unusual trading patterns. Information is also obtained from investors, brokers and the media. SOMA alerts and other information are examined by ASX Surveillance analysts. If the observed trading activity is unusual and is not explained by available market information, ASXC may be informed.⁷ In addition, activities that may indicate a breach of ASX Market Rules, suggest insider trading or suggest attempts to manipulate or interfere with the fair and orderly operation of the market, will be investigated further by ASX Surveillance. Depending on the nature of the unusual trading behaviour, this investigation may result in a detailed Referral to ASIC and/or I&E.⁸

Referrals from ASX Surveillance to ASIC, regarding alleged breaches of the Act, are investigated in accordance with the powers vested in ASIC under the Act.⁹ Andrews (2003) provides a detailed analysis of ASIC and the civil and criminal penalty regime.

Referrals from ASX Surveillance to I&E, regarding alleged breaches of ASX Market Rules, are further investigated by I&E¹⁰. If I&E conclude sufficient evidence exists to take action for breaches of ASX Market Rules, the matter is referred to the NAT. The NAT is a disciplinary panel that adjudicates matters concerning possible breaches of ASX Market Rules by Market Participants. The NAT has a variety of powers to impose penalties on parties found to have breached ASX Market Rules. These include

⁶ In the period covered by this research, 1989-2002, ASX operating rules regulating broker behaviour were called ASX Business Rules. In 2004 these rules were reviewed and are now called ASX Market Rules. The term Market Rules is used throughout the paper.

⁷ ASXC is responsible for ensuring compliance with ASX Listing Rules. ASX Surveillance may assist ASXC in this task. In FY2004, ASX Surveillance referred 203 matters to ASXC. ASXC may query a listed company to ascertain if information is available that should be disclosed to the market. In addition, ASX Listing rules are given regulatory backing under the Act and alleged breaches may be referred to ASIC by ASXC.

⁸ A Referral is a report documenting trading behaviour which prima facie meets certain criteria which might indicate a possible breach of ASX rules and/or the Act. The Referral sets out details of the parties involved, the type of trading activity, the individual trades and sections of the Act and/or ASX rules allegedly breached.

⁹ Insider trading is prohibited under section 1043 of the Act and market manipulation, the focus of this paper, is prohibited under section 1041 of the Act. Other suspected breaches of the Act may be referred to ASIC by ASX Surveillance.

¹⁰ Compliance Services may also refer a matter to I&E. Compliance Services is responsible for monitoring and encouraging compliance with ASX Market Rules and the Act. This monitoring role may result in the provision of education and training, assessment and advice on compliance with Market Rules or the suspension of trading rights.

suspension, censure, completion of an education program, fines of up to \$250,000 or expulsion from the market if the matter involves Prohibited Conduct.¹¹

A Memorandum of Understanding (MOU) between ASIC and ASX formally sets out arrangements to facilitate the effective and efficient execution of their statutory obligations. A regular meeting between ASIC and ASX is held to ensure effective communication, and appropriate and timely responses to alleged market misconduct.

In financial year 2004 there were 18,696,641 trades on the ASX and SOMA generated 76,121 alerts. In total, ASX Surveillance made 45 Referrals to ASIC and 18 Referrals to I&E. In addition, ASX Surveillance conducted 79 demonstrations of the surveillance process to brokers and 203 matters were passed to ASXC.¹²

¹¹ In 2004 the term Prohibited conduct changed to Unprofessional Conduct. Appeals may be made to the Appeal Tribunal chaired by a senior council of the NSW Bar.

¹² The Risk Management Unit, not discussed above, measures and monitors the financial strength of Market Participants to ensure compliance with the capital regime. The objective is to ensure financial strength of Market Participants and to detect financial weakness. Risk Management may refer an alleged matter of non-compliance with the capital regime to I&E.

3 THE MARKET INTEGRITY DEBATE

Given the economic significance of market integrity, exchanges, listed entities, governments and investors are concerned with its maintenance and enhancement. However, opinion and general discussion tends to focus on a small number of high profile cases and neglects many important elements in this multi-faceted debate. Therefore, it is important that the focus of this debate is widened and supported by independent research that may help to foster more informed and objective perceptions.

The market integrity debate, which to date has focused on ASX Listing Rules, corporate governance standards and recent corporate failures, fails to accurately acknowledge ASX regulatory responsibilities. For example, the ASX regulatory ambit does not extend beyond monitoring the conduct of Market Participants and listed entities to ensure compliance with its Market Rules and Listing Rules. It also fails to adequately deal with the perceived conflict that arises from being both market operator and regulator. Therefore, to advocate an end to all self-regulation based on incomplete arguments may not prove optimal for market integrity. The incentive of an exchange to regulate its own market needs to be further examined and a complete picture of self-regulation presented.

A central focus in the current market integrity debate is whether the ASX has the incentive to regulate the behaviour of its Market Participants and listed entities.¹³ Media coverage is extensive in commenting on and assessing the ASX on this issue. One perception is that the ASX does not have the incentive to self-regulate as it is a for profit entity. This has prompted some, including The Australian Financial Review (AFR), to call for an end to self-regulation.

“The Australian Financial Review has consistently argued that the ASX’s Surveillance and regulatory functions should be given to an independent body... It would be better to hand the entire market surveillance and listing rules supervision roles to ASIC...”
(The best way to restore faith, Australian Financial Review, 23 July 2002, p 62).

Two diverse schools of thought exist on whether for-profit exchanges should self-regulate. As stated, one argument proposes for-profit exchanges do not have the incentive to maintain fair, orderly and transparent markets given they generate their income from turnover. Proponents of this argument claim vigilance of supervision will not be maintained as this is in conflict with the objective of a for-profit exchange to maximise turnover.

In contrast, research exists providing strong arguments as to why a for-profit exchange will have the incentive to self-regulate effectively. Pritchard (2003) comprehensively reviews the reasons why an exchange will have strong incentives to effectively self-regulate its own market. He argues that insider trading and market manipulation will increase information asymmetry and will deter uninformed investors. This decrease in liquidity will increase trading costs, reduce market efficiency and reduce exchange income. In addition, in an increasingly competitive global equity market, liquidity will migrate to those markets where integrity and efficiency is high. Therefore, if integrity is poor, liquidity and exchange profits will suffer, and profits are a significant objective in the era of exchange demutualization. For these reasons, exchanges, especially for-profit exchanges, have strong incentives to maintain high levels of market integrity. This enhances exchange competitiveness and maximises turnover.

¹³ The ASX is not able to enter into contracts with individual investors. ASIC is responsible for the regulation of individual investors trading activities.

The regulatory framework adopted in Australia gives the ASX further incentive to regulate the market effectively. For example, ASIC must audit ASX supervisory activities. This motivates the ASX to ensure adequate supervisory performance. Richard Humphry, the soon to retire CEO of the ASX, asserts the ASX is serious about market integrity. His response to the AFR editorial column on 23 July 2002 (quoted on the previous page) states that the ASX is obliged under the Act to implement adequate supervisory arrangements and also has a strong commercial incentive to do so.¹⁴

The ASX responded to concerns over its role as a self-regulator by establishing the ASX Supervisory Review Pty Ltd (ASXSR). This independent body was established in addition to other statutory reporting requirements previously discussed. Its function is to monitor the adequacy of ASX supervisory arrangements and assess compliance with ASX licence obligations. It also specifically reviews discretionary supervisory decision making concerning potentially conflicted entities. ASXSR reports will also increase the transparency of ASX supervisory arrangements. Eakin (2002) argues that there is little value in such a body as it is a subsidiary of the ASX and therefore lacks independence. This assertion was challenged by ASXSR chairman David Hoare who claims the body is independent and operates under the most appropriate organisational structure. The ASXSR Annual Report 2003 concludes the ASX is complying with its licence obligations and is conducting supervisory activities both ethically and responsibly. ASXSR estimates total resources spent on market supervision during FY2003 was adequate at \$31.47 million (\$29.92 million in FY 2002).

Further support for self-regulation was recently provided by ASIC. A recent audit by ASIC concluded ASX supervisory arrangements are adequate and the Australian equity market is fair and transparent. Although this review found some inconsistencies in the ASX supervisory process and a need for improved complaints handling, the result provides significant evidence to suggest the ASX is in compliance with its licence obligations, is not conflicted and is effectively maintaining market integrity.¹⁵

Insufficient knowledge about ASX supervisory activities and especially supervisory outcomes may contribute to the narrow focus in the current market integrity debate and perceptions of a conflict of interest. Insufficient knowledge about ASX supervisory activities persists despite the fact that supervisory arrangements in place at the ASX are extensively documented and made transparent to the market.¹⁶ However, ASX supervisory outcomes are not always readily available. The operations and output of ASX Surveillance are necessarily confidential. To reveal detection methods would be counterproductive to the integrity of the market, for obvious reasons. In addition, maintaining trust and confidentiality with Market Participants is integral to supervisory

¹⁴ A selection of recent ASX press releases emphasising the role of market integrity in the ASX business model are available on the ASX website.

¹⁵ The report of the Senate Economics References Committee, "Inquiry into the Framework for the Market Supervision of Australia's Stock Exchanges", provides a comprehensive overview of the regulatory regime, its perceived strengths and weaknesses and a range of other issues. The conflict of interest perception is considered and the committee is unable to determine if it is a real problem, a perception of a potential problem or is an argument based on commercial self-interest of competitors. The report concludes that the current regulatory framework and ASX supervisory arrangements in place are effective and encourage a high level of integrity and market confidence.

¹⁶ The ASXSR Annual Report 2003 provides a comprehensive review of ASX supervisory arrangements.

success. This trust and confidentiality will encourage brokers, investors and listed entities to raise matters of concern with ASX Surveillance without fear of adverse exposure.

Given information is unavailable on the procedures and output of ASX Surveillance, criminal and civil proceedings initiated by ASIC or NAT disciplinary actions have been the sole objective source of information available to assess self-regulatory outcomes.¹⁷ Unfortunately this does not account for the scores of cases where no subsequent legal or disciplinary action is taken after the matter is detected and referred to the appropriate body.¹⁸ Therefore, publicly available information may not present a complete picture of ASX Surveillance activities and may lead to inaccurate perceptions. Durie (2002) suggests the ASX should provide more leadership and evidence to support their claim that self-regulation is effective and the perceived conflict of interest does not exist.

This paper will provide evidence on ASX Surveillance monitoring of market participants and listed entities, with a specific focus on alleged market manipulation. This evidence is presented in a way so as not to compromise industry trust and confidence in ASX Surveillance. This may foster more accurate perceptions and lead to a more informed and complete debate on self-regulation. All elements in the ASX self-regulatory structure and its performance need to be considered separately and addressed comprehensively before decisions are made that will alter the self-regulatory environment.

¹⁷ Recent high profile market manipulation cases include Australian Securities Commission v Nomura International PLC (1998) and Fame Decorator Agencies Pty Ltd v Jeffries Industries Ltd (1998). Andrews (2003) provides many examples of ASIC enforceable undertakings and civil action. Washington (2003) provides a summary of NAT rulings.

¹⁸ Black (1996) provides a detailed analysis of ss 997-999 of the Act (now s1041). He considers reasons for the sparsity of Australian case law in comparison to the wealth of US case law, suggesting a reluctance to prosecute by Australian regulators. This difference in case law persists despite similarities in our respective manipulation laws and similar problems faced in defining and interpreting market manipulation. On the issue of defining market manipulation, see Fischel and Ross (1991).

4 DATA

ASX Surveillance has been actively monitoring the Australian market for 14 years and a significant data source has developed over this time.

For the first time, the ASX has permitted the authors of this paper to access ASX Surveillance data. ASX Surveillance Referrals were examined over the period, July 1989 to December 2002, and the information they contain was entered into a database. The focus of this paper is to analyse all ASX Surveillance Referrals that allege market manipulation. A Referral is a report prepared by ASX Surveillance that documents trading behaviour which prima facie is in breach of exchange rules or the Act. This document is sent to ASIC and/or I&E depending on the alleged offence. Alleged trading behaviour documented in one Referral may involve an alleged breach of the Act and an ASX Market Rules. In this case, a copy of the same document is sent to both parties.

These Referrals are prepared in a reasonably consistent format and the database captures the relevant information in each Referral. The result is a rich dataset that captures a vast amount of high quality data on alleged market manipulation. This information is analysed and the results are presented in this paper.

5 INTERPRETATION OF RESULTS

A number of issues need to be considered when interpreting this data. First, the focus of ASX Surveillance changes throughout the market cycle. For example, in times of increased economic activity, monitoring of trading activity around takeovers is high. Market participants may also communicate concerns to ASX Surveillance and these concerns change as trading patterns change. This necessitates a dynamic surveillance process rather than a static process where rigid rules are applied at all times. Therefore peaks and troughs in the number of Referrals may reflect changing market conditions and changes in trading behaviour.

Second, detection and analysis methods have improved over time. The quality of data available to ASX Surveillance has also improved. These factors should enhance the quality of ASX Surveillance output. For example, improved methods and data may increase the accuracy of the defined relevant period in each Referral (the relevant period is the time frame identified in the Referral over which ASX Surveillance investigated the alleged manipulation) and may also result in more accurate identification of alleged manipulators. This implies ASX Surveillance Referrals in more recent years may more accurately detail alleged market manipulation activity.

Third, ASX Surveillance is not the only source of Referrals of alleged market manipulation to ASIC. Matters may also be self reported, ie a broker or aggrieved party may contact ASIC directly rather than contact ASX Surveillance or another ASX supervisory unit. Matters reported directly to ASIC are not reflected in the database.¹⁹

Fourth, ASX Surveillance monitors the market on a real time basis and in many cases is able to contact the relevant party directly, query behaviour and manage the prima facie breach of a particular rule without the need for a Referral to the relevant body. This is referred to as a 'soft' compliance outcome. This data only represents those instances where trading behaviour was of sufficient concern to refer the matter to ASIC or I&E.

Finally, this research analyses alleged market manipulation. This information was compiled from Referrals that allege inappropriate behaviour. It is then for ASIC and/or I&E to further investigate this alleged behaviour and either prosecute or discipline the parties involved. Analysis of the outcomes of these Referrals is left to future research.

¹⁹ Matters may also be referred to ASIC by ASXC. This paper does not consider Referrals to ASIC or I&E that originate within other ASX supervisory units.

6 ANALYSIS OF SURVEILLANCE REFERRALS

Figure 1 presents the number of alleged market manipulation Referrals sent to ASIC and I&E since July 1989. In total there were 193 Referrals sent to ASIC and 167 Referrals sent to I&E over the sample period concerning alleged market manipulation. On average this equates to around 28 Referrals per annum. This is a considerably larger number than those cases that are in the public domain. The peak in Referrals sent to I&E in 1997 reflects the enhancements to Market Rules 13.4.1 and its enforcement.²⁰ Over the sample period there is an increasing trend in the number of Referrals sent to either ASIC or I&E. The decrease in 2002 represents a greater degree of complexity in some of the alleged manipulation cases identified in that year. A longer time frame was needed to complete these particular Referrals, reducing the physical number of Referral documents sent to ASIC & I&E. The content of these particular Referrals is discussed below in relation to Figure 2.

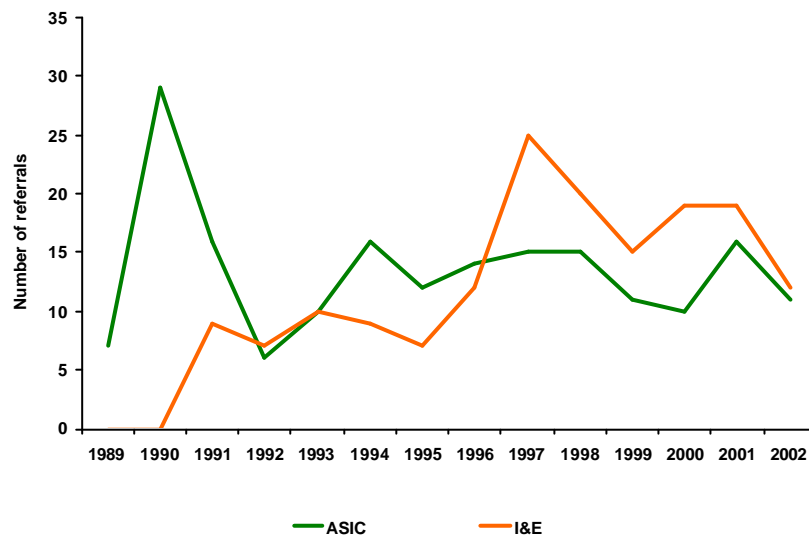


Figure 1. Referrals – Market Manipulation

Alleged breaches of ASX Market Rules are referred to I&E and alleged breaches of the Act are referred to ASIC. Figure 1 illustrates the number of Market Manipulation Referrals sent to ASIC and I&E by ASX Surveillance over the sample period, 1989-2002, by calendar year.

²⁰ ASX Market Rule 13.4.1 codifies manipulative trading behaviour. This Market Rule was introduced in October 1997 as Business Rule 2.2.4, and was an enhancement to Business Rule 2.8. This Market Rule is a regulatory response by the ASX in its attempt to influence the incidence of market manipulation. Specifically, a trading participant must not intentionally, or otherwise, make a bid or offer or deal in securities as principal or agent, if that bid or offer or dealing has or is likely to have the effect of creating a false or misleading appearance with respect to the market or price in any security or of active trading. This rule places the onus on Market Participants to prevent manipulators from gaining access to the market. In addition, Trading Practices Guidance Notes allow the ASX to respond to issues as they arise. These are regularly used to clarify concerns over trading practices and interpretations of ASX Market Rules and have been used to guide brokers on matters such as active trading.

Figure 2 presents the average relevant period per Referral. The results are averaged by calendar year. In each Referral there is a ‘relevant period’. This is the time period, trading days, over which ASX Surveillance investigated the alleged manipulation.

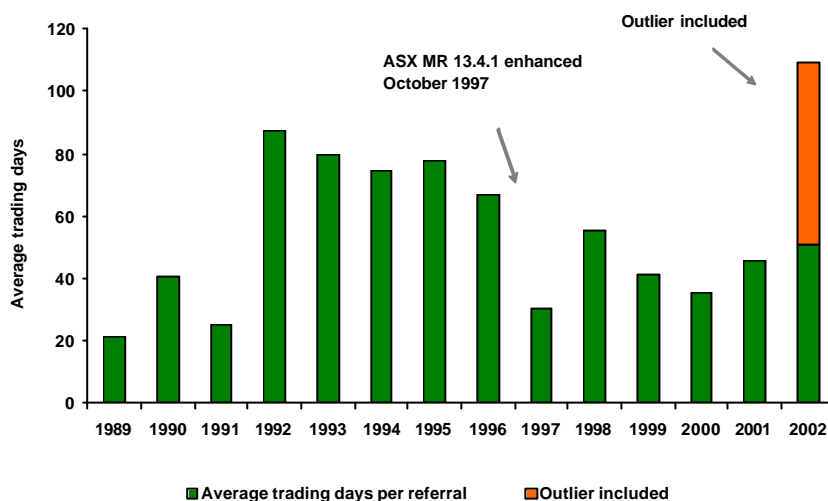


Figure 2. Market Manipulation – Average Trading Days per Referral

Referrals contain a defined period over which the alleged market manipulation is suspected to have occurred and is investigated. This is referred to as the relevant period. Figure 2 presents the number of days in the relevant period, averaged across Referrals, by calendar year. The outlier in 2002 represents an uncharacteristic Referral.

Referrals alleging market manipulation may involve short or more extended relevant periods. Alleged market manipulation can be divided into two broad types. The first of these involves short term alleged manipulation. This type of alleged market manipulation is easily detected and is usually a one off occurrence.²¹ The majority of Referrals in early years, 1989-1991, reflect this type of manipulation and shorter relevant periods are observed as a result. Examples include one-off price increases, matched orders and wash sales.²²

The second type of market manipulation involves trading over a longer period. The trading methods used to achieve this type of alleged manipulation vary and it is harder to detect and control. Examples include persistent price increases in a stock or persistent trading to support the price of an otherwise declining stock. The most frequently used methods are described later in Figure 4. This type of market

²¹ However, this type of alleged market manipulation is more difficult to prosecute as no consistent pattern of trading is present that suggests an intention to manipulate the market.

²² A matched order is where the buyer and seller collude to buy and sell to each other. A wash sale is where the same person buys and sells to themselves with no change in beneficial ownership.

manipulation is a major focus of ASX Surveillance and explains the large increase in the average relevant period between 1991 and 1992.²³

Figure 2 illustrates a downward trend in the average relevant period between 1992 and 2000. As stated, Referrals over this period largely involve alleged longer term manipulation. There are a number of explanations for this downward trend. Improvements over time in ASX Surveillance procedures and techniques may have reduced detection and analysis times and stopped the alleged price support or other trading activity earlier. Improved information databases have also enhanced the quality of evidence available over this period. These factors may influence the relevant period chosen by ASX Surveillance.²⁴ In addition, there appears to be a vastly improved compliance culture within Market Participants. Enhancements to Market Rules 13.4.1 in 1997 and other Market Rules such as 4.10.1 (adequate order records) and 13.3.1 (adequate filters on automated order processing systems) allow the ASX to discipline and penalise manipulative behaviour. Therefore, the ability of the ASX to codify market manipulation prohibitions and enforce these Market Rules has placed the compliance onus on Market Participants.²⁵ This has had a significant impact on broker behaviour. Education initiatives have also affected broker behaviour. The joint ASX/ASIC Behaviour, Education and Surveillance Task (BEST) campaign and frequent demonstrations of the Surveillance process to Market Participants, 79 in FY2004, has further enhanced the compliance culture of traditional Market Participants that provide full client service. The combination of these factors is reflected in the downward trend in the average relevant period.

Figure 2 illustrates an increase in the average relevant period in 2001 and 2002. An outlier is highlighted in 2002. This case is uncharacteristic and the relevant period extremely long. Excluding the outlier, the observed increases in 2001 and 2002 are caused by a minority of Referrals with longer relevant periods and increased complexity. These cases relate to alleged breaches of ASX Market Rules 4.10.1 and ASX Market Rules 13.3.1. Therefore, this increase in the relevant period reflects the more recent focus of ASX Surveillance.

This recent focus on ASX Market Rules 4.10.1 is warranted. A Market Participant may be contacted regarding alleged manipulative trading behaviour. However many claim

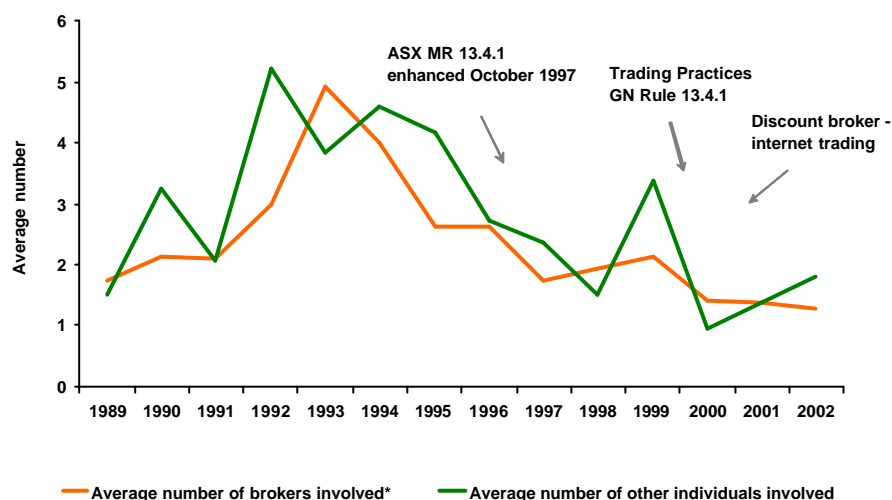
²³ These two types of market manipulation can be categorised as trade-based manipulation. They are the most common types of alleged manipulation and dominate the observations in Figure 2. Other categories include action-based manipulation where actions change asset values. For example, management actions may depress the stock price. Management then buy the stock at depressed prices, reverse their previous actions, and sell their stock at increased market values. Information-based manipulation is also possible where false information is spread to influence the stock price. A Referral may involve more than one category of manipulation. For example, both trade based and information based manipulation. See Allen and Gale (1992) for further explanation of these categories of market manipulation.

²⁴ Factors such as the availability of evidence and the quality of analysis tools available may influence the relevant period selected. Therefore the relevant period is not the definitive period over which the alleged manipulation occurred. It is simply the period of time over which ASX Surveillance chose to investigate based on their analysis and the availability of evidence. As the quality of information and techniques have changed over time, this will influence the relevant period chosen and may explain some of the variation in the results from 1992 onwards.

²⁵ A Market Participant may be a private client broker, an institutional broker or an internet broker.

no order records exist concerning the trading in question. This increases the difficulty for ASX Surveillance when attempting to build a case of alleged manipulation. The focus on ASX Market Rules 13.3.1 is reflective of a changing industry structure where automated straight through order processing is becoming an attractive and accessible alternative to a full service Market Participant. This trading option is providing a new avenue for would be manipulators. ASX Market Rules 13.3.1 is discussed below.

Figure 3 presents the average number of people (parties) involved in each Referral. 'Brokers' refers to all people involved that are employed by a Market Participant. 'Others' refers to all other people involved in the alleged manipulation that were mentioned in the Referral. In total this includes more than 1,000 people involved in alleged stock manipulation.



*Broker includes all parties associated with the Market Participant, includes client advisor, trader, analyst, director

Figure 3. Market Manipulation – Average Number of Brokers and Other People Involved per Referral

Referrals document the names of people alleged to have contravened ASX Market Rules and/or the Act. Figure 3 illustrates the average number of people involved in each Referral, by calendar year. 'Brokers' refers to all people mentioned in a Referral employed by a Market Participant. 'Others' refers to all other people mentioned in the Referral.

On average, there is a decreasing trend from approximately 10 people involved per Referral in the early 1990s, to approximately 4 people involved per Referral today. Again, this decrease may be attributed to information availability, various industry oriented education initiatives and ASX Market Rules enhancements that have impacted Market Participant culture and improved compliance. In addition, manipulators who may now find it increasingly difficult to access the market through traditional Market Participants due to enhanced internal compliance standards, have recently found new access points through internet brokers offering straight through order processing with no human involvement. This has also contributed to the continued downward trend in brokers involved in recent years, as illustrated in Figure 3.

As previously mentioned, information availability may assist ASX Surveillance to more accurately identify parties involved. More comprehensive databases allowing accurate identification of connections and associations between individuals can assist in writing Referrals. This allows ASX Surveillance to concentrate on those individuals most likely to be involved in the alleged manipulation. This may also contribute to the observed downward trend. Alternatively, alleged manipulators may be acting in smaller groups or individually rather than organising a run on a stock as was common in earlier years. An organised run involves many individuals and is observed and further explained in Figure 7.

If a person is alleged to have misled or deceived the market with respect to the price or volume of a security they generally use one or more of the following three trading methods to achieve this deception, price increases/support, active trading or price decreases. Figure 4 indicates the number of Referrals where a particular method of manipulation is alleged to have been used. For example, in 1997 there were 19 Referrals where price increases/support is alleged.

The peaks in the Figure 4 represent increased ASX Surveillance focus in 1997 and 2001. These were times of general market declines and as a result, greater incentives existed to artificially support or increase stock prices. Active trading, this includes wash sales and trading for volume, is also evident over the sample period. There is a decline in active trading in more recent years, arguably due to increased ASX Surveillance action on this issue.

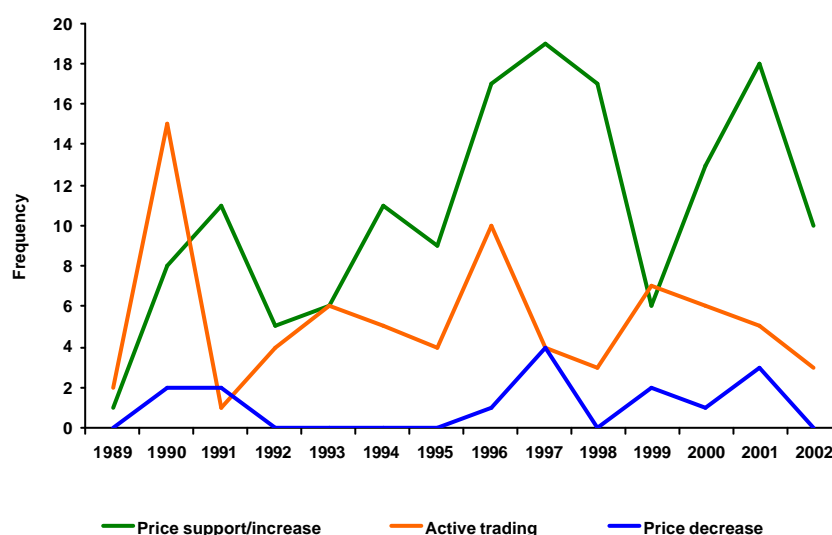
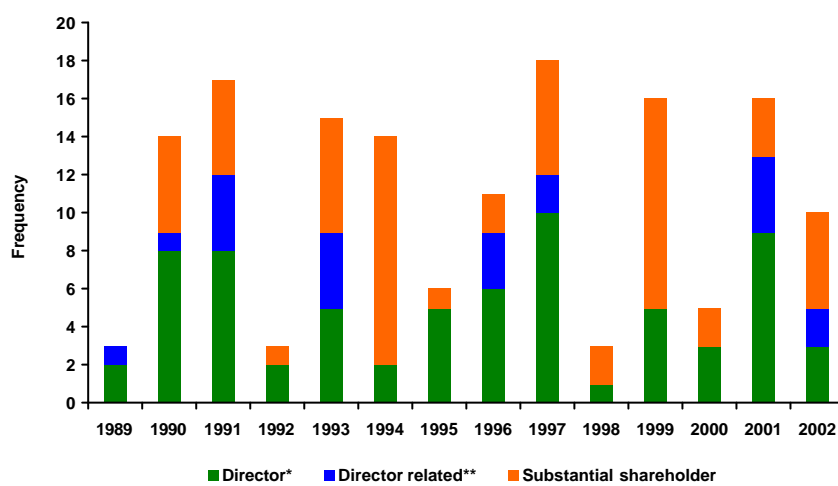


Figure 4. Market Manipulation – Types of Manipulation

Referrals document the type of manipulation allegedly conducted. Figure 4 presents the top three types of alleged market manipulation, allegedly conducted with the purpose of intentionally create a false or misleading appearance with respect to the price or volume of a security, by calendar year.

Each market manipulation Referral relates to alleged manipulation of a specific stock. Usually, persons directly involved with the particular stock are also involved with allegedly manipulating its price. Figure 5 indicates company Directors, parties related to Directors and substantial shareholders are the main parties involved in alleged manipulation. These three parties account for over 80 percent of all persons identified in Referrals who are related to the stock in some way.



*Director includes; director, former director, CEO or MD, director of related company.

**Director related includes; associate of director, family of director, family of CEO/MD or associate of CEO/MD

Figure 5. Market Manipulation – People Related to the Company the Subject of the Referral

People mentioned in a Referral are grouped according to their relationships. Figure 5 indicates the most frequency mentioned people who are related to the company the subject of the Referral, ie related to the company whose stock is allegedly being manipulated, by calendar year. The most frequently occurring people are company Directors, persons related to the Director and substantial shareholders.

The apparent trend concerning Directors and substantial shareholders continues. The specific reasons for alleged manipulation by these parties are diverse and relate to individual circumstances that are documented in the Referral. Some examples include alleged long run price support in a declining market, alleged manipulation prior to a capital structure event such as a placement or a takeover or alleged price support to mask impending insolvency. Alleged false and misleading statements or failure to lodge Substantial Shareholder Notices (SSN) or Directors Interest Notices (DIN) are also common. These techniques are usually designed to misinform the market and/or disguise trading that is intended to influence the price of the stock.²⁶

²⁶ Analysis of ASX Surveillance Referrals indicates that alleged manipulation is not always motivated by potential profits. As stated, motives for alleged manipulation are diverse. Most alleged manipulators expend significant resources and usually incur losses, especially when longer term price support is involved. This is in contrast to Fischel and Ross (1991) who argue manipulation in securities markets is only likely to occur if it is profitable for the manipulator.

The introduction of ASX Listing Rule 3.19A and 3.19B in January 2002 is expected to deter senior company officers from manipulating their own company's stock. This Listing Rule requires a company to disclose information in relation to directors' interests and holdings - this is in addition to any requirements to issue DINs/SSNs as prescribed under the Act. This rule places the onus on the company, as the company must have arrangements with each director to ensure provision of the necessary information to enable the company to comply with the rule. This will make Directors trading activities more transparent and open to scrutiny. However given the significant periods of time it takes to change a culture within an industry, permanent improvements are expected to take time.

Figure 6 further illustrates the significance of substantial shareholders in alleged stock price manipulation.

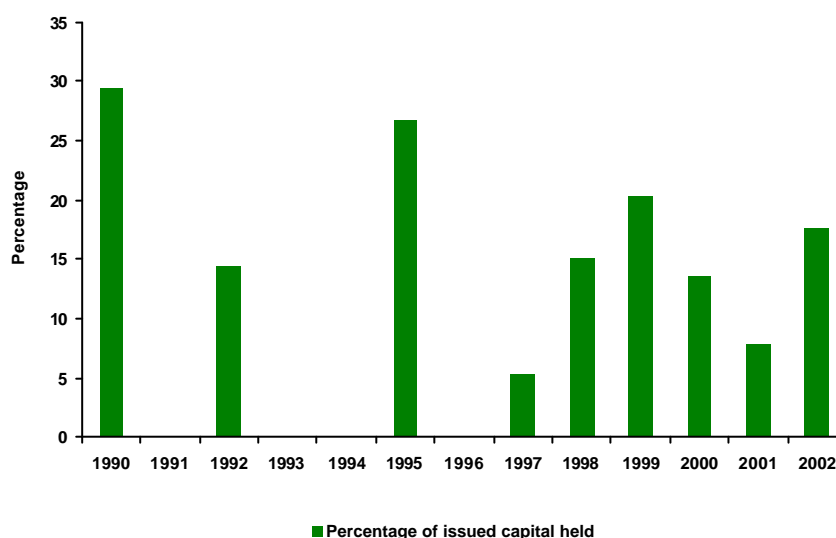


Figure 6. Market Manipulation – Percentage of Issued Capital Held by People Involved

Figure 6 indicates the percentage of issued capital held by the people involved in the alleged market manipulation. If a person was allegedly manipulating the stock and they held a substantial shareholding, this was noted in the Referral. The percentage of issued capital held is averaged by calendar year. Data is unavailable in some years when substantial shareholdings were not indicated in Referrals.

Figure 6 illustrates the proportion of issued capital held by substantial shareholders allegedly involved in manipulation of their own stock. Data was not available in some years when substantial shareholdings were not indicated in Referrals documenting alleged manipulation. This analysis indicates that people of influence, with the greatest incentives to manipulate, are alleged to be doing so.

Stock manipulation can only occur if access to the market is provided through a Market Participant. ASX Referrals indicate that the people (parties) involved at the Market Participant are usually aware of the alleged manipulation or may be directly responsible for it. Figure 7 indicates the number of these people mentioned in Referrals, grouped by type of Market Participant where they are employed.

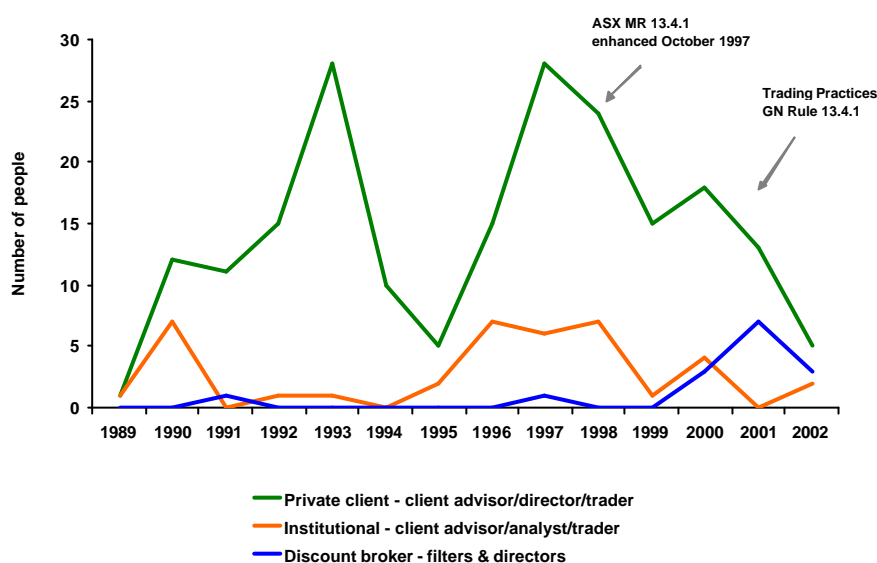


Figure 7. Market Manipulation – People at Market Participant Involved.

People mentioned in a Referral are grouped according to their relationships. Figure 7 indicates the frequency of people who are related to the Market Participant involved in the Referral, by calendar year. There are three types of Market Participants, private client, institutional and discount brokers. These people are alleged to be directly involved in manipulation, ie they are a party to the planned activity. The most frequently occurring people in Referrals are employees of private client Market Participants .

The people represented in Figure 7 were alleged to be directly involved in manipulative activities. The spike in 1993 is caused by one Referral where 16 traders were alleged to have acted together to increase the price of a stock. Since the enhancement to Market Rules 13.4.1 in 1997 there has been a significant decline in the number of people at private client firms alleged to be manipulating the market. This reflects an improved compliance culture at these firms. ASX Surveillance will target a Market Participant that demonstrates alleged systematic non-compliance with ASX Market Rules. ASX Surveillance will also assist the Market Participant to enhance its compliance standards to acceptable levels.

In recent years, as compliance within private client Market Participants has improved, discount brokers have presented a new avenue for manipulators. This has attracted ASX Surveillance attention. The category, ‘filters’ in Figure 7 refers to alleged breaches of Market Rules 13.3.1 where alleged manipulation has occurred through an internet broker as a result of inadequate automated order processing filters.

Price increases are widely used when attempting to mislead the market with respect to the price of a stock. Figure 8 presents late price increases - price increases in the last 20 minutes or so of the trading day prior to 16:00.

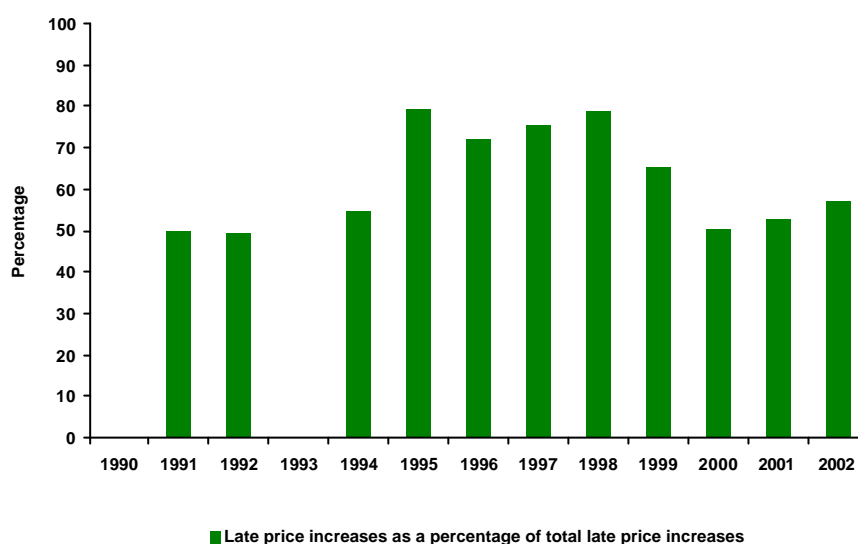


Figure 8. Market Manipulation – Late Price Increases

ASX data identifies trades that generate price increases. These price increases are examined and an alleged manipulator is usually responsible for a significant proportion. Figure 8 presents late price increases related to the alleged manipulation, as a percentage of total late price increases for a stock, averaged by calendar year. A late price increase is an increase in price in the last 20 minutes of trading prior to 16:00. Of all late price increases in our sample stocks, more than 50 percent relate to alleged manipulation of the stock price.

In stocks which are the subject of Referrals, around 50 to 80 percent of all late price increases in the market for that stock are identified as being initiated by the party allegedly manipulating the price of that stock. For example, in 2000, if there were a total of 100 late price increases identified in a stock the subject of a Referral, on average, 50 percent of these late price increases relate to the alleged manipulation. As a large proportion of daily trading volumes are executed in the last 30 minutes of trading, alleged manipulators appear to be attempting to hide during periods of high trading activity to avoid detection.

However, as the end of the trading day approaches trading is increasingly transparent in the sense that increased numbers of traders are watching their SEATS screens and are active in the market. If a manipulator attempts to increase the price of a stock near the close this will be exploited by traders who will observe the artificial increase in price and trade against it. This should deter manipulators who will be unsuccessful in increasing the price.

It is difficult to build a successful case of alleged manipulation from a one-off price increase near the close. However if the stock is less active and there is significant information asymmetry, price increases initiated by an alleged uninformed manipulator

may be confused for informed trading. As a result, the alleged manipulator may be able to influence prices. This may explain why the results indicate alleged manipulators persist in manipulating prices near the close. They are achieving this in less active stocks subject to large information asymmetries. This is a topic for further research.

Further analysis presented in Figure 9 enables identification of the types of Market Participants allegedly involved in market manipulation.

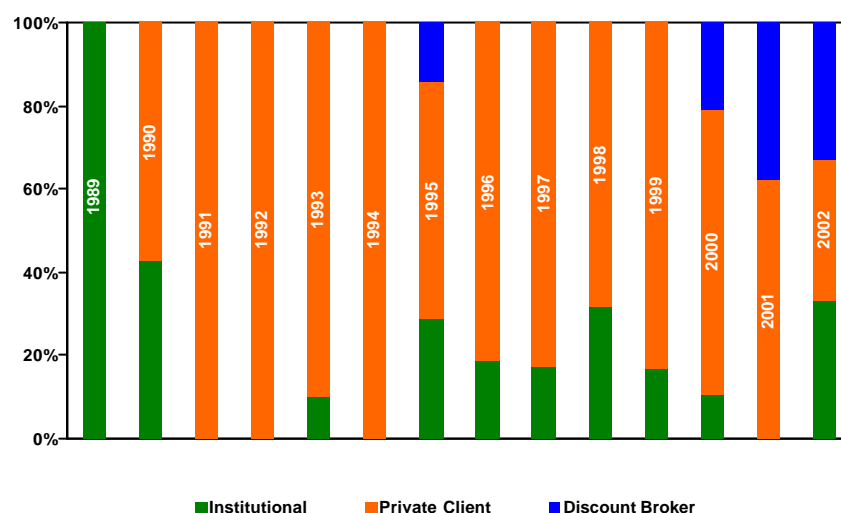


Figure 9. Market Participant Profile

The name of each Market Participant is indicated in a Referral. Figure 9 illustrates Market Participant profile as a percentage of all Market Participants included in alleged market manipulation Referrals, by calendar year. A Market Participant is either a private client firm, an institutional broker or a discount/internet broker.

Figure 9 indicates private client firms, the target of education campaigns and other initiatives have remained a major focus over the sample period. This is also the case if absolute numbers are considered. This analysis is consistent with Figure 7. A decline in private client firms in 2002 is evident as discount brokers now attract increased attention. A renewed focus on institutional brokers is also evident in 2002. This concerns matters relating to trading for volume.²⁷

²⁷ Trading for volume refers to trading that creates a false or misleading appearance of active trading in a stock and is prohibited in ASX Market Rule 13.4.1. It involves unnecessary trades that increase trading volumes in a stock. It may involve trades as principal on a house account or may involve wash sales and matched orders.

Figure 10 presents the number of times an ASX Market Rules was referred to I&E per calendar year.

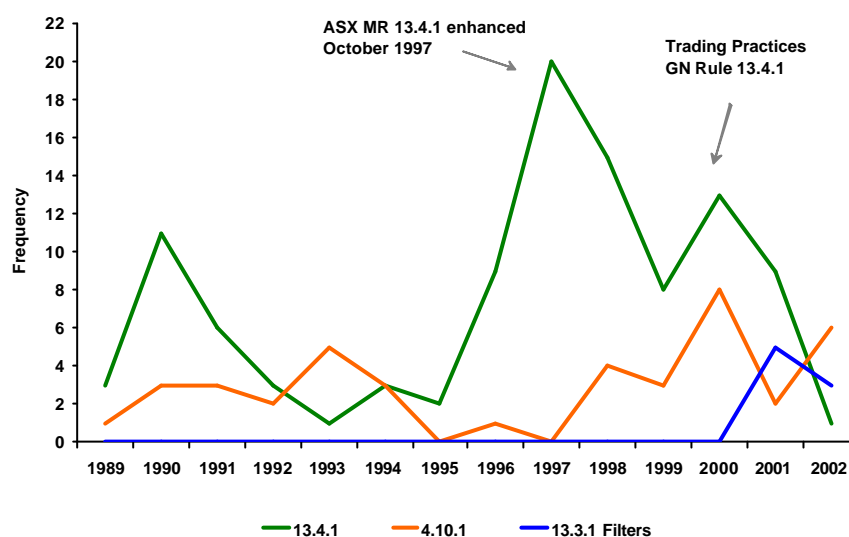


Figure 10. ASX Market Rules Referred

Manipulation prohibitions are codified in ASX Market Rules 13.4.1. Other Market Rules are also relevant such as 4.10.1 as brokers may attempt to hide order records that would indicate alleged manipulative behaviour. Figure 10 indicates the number of times a Market Rules is referred to I&E, by calendar year. For example, in 1997, Market Rules 13.4.1 was referred 20 times to I&E.

Enhancements to ASX Market Rules 13.4.1 and its subsequent rigorous enforcement is reflected in the large spike in 1997. However, improved broker culture, improved compliance and increased education may be responsible for the decline observed from 1997. In contrast, Market Rules 13.3.1, relating to order filters on automated order processing systems, is being referred more frequently in recent years due to the emergence of alleged market manipulation through internet brokers.

7 CONCLUSIONS

ASX licence obligations require the ASX to monitor the conduct of its market participants and ensure compliance with its Market Rules and Listing Rules. Adequate supervisory arrangements appear to be in place to satisfy this requirement and the evidence presented indicates market integrity has been enhanced as a result.

The evidence indicates that the ASX has actively scrutinised equity trading over the past 14 years. There is no evidence of a change in the intensity of this supervision post October 1998, the date the ASX demutualised and became a listed entity. Increased media and political interest in market integrity since demutualisation has arguably increased ASX efforts to regulate effectively. As the ASX has the ability to codify manipulative trading prohibitions in its Market Rules and the mandate and incentive to enforce those rules, it appears to have made an impact in one area of market integrity by effectively limiting market access to would be manipulators.

The results presented reflect a process of rule enhancement and enforcement, improved detection and information availability, broker education and various other initiatives that have encouraged improved compliance within Market Participants, especially private client Market Participants. Specifically, fewer brokers are directly involved in allegedly manipulating stocks and the time an alleged manipulator is in the market has significantly decreased. However, the research indicates that influencing industry culture to enhance market integrity is a long term process. It has also required significant resources. Figure 2 indicates it has taken the best part of 10 years to significantly reduce the time an alleged manipulator is in the market and to influence the culture within private client Market Participants.

The evidence does not appear to indicate an improvement over time in the behaviour of company Directors and other persons related to Directors or the company. ASX Listing Rule 3.19A and 3.19B will now provide a means to more effectively address inappropriate trading behaviour by company Directors with some improvements noted in 2002. Again, permanent improvements may take time.

ASX Surveillance, I&E and other compliance bodies within the ASX have applied pressure to the industry and continue to apply this pressure where they are able. As new problems emerge, ASX Surveillance appears to respond in a timely manner. One example of this is their response to alleged trading for volume and manipulation conducted through internet brokers. During 2002 concerns were raised by brokers that their competitors had been engaging in unnecessary principal trading to increase market share in particular stocks. This trading was alleged to have been undertaken with the view to securing new client orders and corporate advisory work. This was especially apparent in the trading of Telstra Limited shares. Maiden (2002) claims brokers were trading to boost market share in Telstra as they believe this will influence Government decisions regarding the handling of any future sale. In response, ASX Surveillance met with Market Participant representatives to clarify the issue and continues to monitor the situation.

Internet/Discount Brokers have also come under ASX Surveillance scrutiny being the subject of numerous ASX Surveillance Referrals. These mostly regard alleged breaches of ASX Market Rules 13.3.1 and 13.4.1.²⁸ ASX Surveillance Referrals have alleged manipulative orders passed through internet brokers systems. As a consequence, ASX Surveillance has vigorously enforced rule 2.2.2 requiring internet brokers to apply adequate trade filters. An Internet/Discount broker was recently fined \$101,000 by the NAT for failing to prevent a series of orders that artificially increased the closing price of its own stock.²⁹

The evidence clearly indicates that the task of deterring and detecting alleged market manipulation is ongoing. Future ASX Surveillance focus will depend on current issues, Market Participant behaviour and changing industry conditions. The past focus on traditional full service private client Market Participants appears to have had a significant impact on industry culture. Improved compliance standards in these firms make it increasingly difficult for manipulators to operate through a traditional broker. However, the structure of the broking industry is changing and as previously explained this change presents new avenues for manipulation. The ASX has responded with Market Rules 13.3.1. The ASX advises that there is active communication between internet brokers and ASX Surveillance. Where ASX Surveillance identifies possible shortcomings in trade filters, these shortcomings are addressed and improvements implemented by the internet broker. However, automated trade filters are not always a perfect substitute for human judgment and it is possible to circumvent filter rules. In addition, filter rules that are too strict may prohibit genuine orders. These factors may limit the effectiveness of trade filters.

Given trade filters may not prove adequate, a new regulatory response is required to deter alleged market manipulation conducted through automated order processing systems. However it is unclear where the responsibility for this response lies. While the ASX can regulate Market Participants and certain activities of its listed entities, it can not regulate individual investors who place orders through internet brokers. This is the role of an external regulatory body. Further consideration needs to be given to this issue.

Despite structural changes in the industry and the need for a new external regulatory response, improved techniques and procedures, continued education and initiatives to enhance Market Participant compliance should remain a central focus of ASX Surveillance and other ASX supervisory units.

Active supervision of the market by ASX Surveillance analysts skilled in its intricacies is the most effective method to ensure market integrity is maintained and enhanced into the future. As the ASX appears to have and should have the incentive to regulate its own market, continued self-regulation will ensure this outcome. Effective regulatory

²⁸ ASX Market Rule 13.3.1 requires internet brokers to apply adequate filters to their automated order processing systems to ensure orders are consistent with ASX Market Rules, especially Market Rule 13.4.1. These filters replace human judgement. They may reject an order, forward the order to a DTR for review, execute the order but mark it for further analysis or execute the order unconditionally. It is expected the filter should provide a similar level of protection as would a DTR manually considering an order for execution.

²⁹ For further details see ASX Participant Circular 658/02. Available at www.asxonline.com.

support from statutory bodies also charged with ensuring market integrity will further strengthen market integrity; particularly in areas where ASX is not required to supervise.

The current market integrity debate, while important, is limited in perspective. Market supervision is multi-faceted and a more complete picture needs to be articulated. Evidence presented in this paper may help sharpen perceptions on market integrity and improve breadth and accuracy of comment. The integrity of the market is at stake and the economic consequences of suboptimal regulatory decisions are significant in today's increasingly competitive and global equity markets.

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The Importance of Market Integrity

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Paper Summary

Abstract

Maintaining market efficiency and integrity are central objectives of exchanges around the world. A large volume of academic research has assessed the success of exchanges in meeting the first of these objectives. However, to date there is little empirical research assessing exchange success in enhancing market integrity. Using a unique dataset, this paper redresses this issue. Market licence obligations require the Australian Stock Exchange (ASX) to maintain a fair, orderly and transparent market and to maintain adequate supervisory arrangements. Independent research assessing the effectiveness of ASX supervisory arrangements is largely absent. This paper redresses this issue by examining alleged market manipulation on the ASX during the period 1989 to 2002 using ASX Surveillance data. Evidence presented indicates that improved detection methods, enhancements to ASX Market Rules (MR), education campaigns and other initiatives have improved broker behaviour and industry compliance over time. This has enhanced the integrity of the Australian equity market.

The Australian Regulatory Framework

ASX market licence obligations require that the ASX do everything possible, within reason, to ensure a fair, orderly and transparent market. To manage the risks associated with operating a financial market and to achieve compliance with its licence obligations, the ASX has developed a comprehensive regulatory structure. ASX Surveillance performs a pivotal role in ASX market supervision through continuous monitoring of market activity in all listed securities. ASX Surveillance refers matters alleging breaches of ASX Market Rules to Investigations and Enforcement (I&E) and breaches of the Corporations Act to the Australian Securities and Investments Commission (ASIC), for further action.

Self-regulation of Exchanges

Despite conflicting views on the most appropriate model of exchange regulation, an exchange should have significant incentives to self-regulate its listed entities and participants. Pritchard (2002) indicates that poor market integrity deters uninformed

liquidity, increasing trading costs and decreasing market efficiency. This further reduces liquidity. As exchanges generate their income from turnover, an exchange will ensure market integrity as this maximises turnover. In addition, in an increasingly competitive global equity market, liquidity will migrate to those markets where integrity and efficiency is high. Therefore, if integrity is poor, liquidity and exchange profits will suffer, and profits are a significant objective in the era of exchange demutualisation.

Limited independent evidence exists on the effectiveness of ASX self-regulation of its listed entities and participants. This may lead to inaccurate perceptions and arguments concerning the most effective regulatory model to ensure market integrity.

This paper provides independent evidence on the effectiveness and extent of ASX market supervision over time. This analysis will highlight strengths and weaknesses in the current regulatory structure and examine the rigour with which the ASX has enforced its Market and Listing Rules over time.

Data and Results

ASX Surveillance Referrals were examined over the period, July 1989 to December 2002, and the information they contain was entered into a database. The focus of this paper is to analyse all ASX Surveillance Referrals that allege market manipulation.

An analysis of these Referrals reveals the following:

- There is no evidence of significant variations in the number of ASX Surveillance Referrals produced over time.
- There is a decrease in the length of time an alleged manipulator is operating in the market.
- There is a decrease in the number of Trading Participants involved in alleged market manipulation.
- Fewer Market Rules are being Referred to I&E as a result of improved broker compliance.

Opportunities for improvement are also evident. Little improvement is observed over time in alleged market manipulation by Directors, substantial shareholders and Director related parties. However, ASX has recently responded with Listing Rule 3.19A and 3.19B. These Listing Rules require companies to disclose information in relation to directors' interests and holdings. Therefore, the results also indicate that the process of maintaining and enhancing market integrity must continue.

The results indicate that Market Rule enhancement and enforcement, demonstrations of the surveillance process to brokers and education campaigns have improved

industry compliance over time. In addition, the results reveal that market supervision is a dynamic process. ASX Surveillance focus changes depending on the market cycle, broker behaviour and current market concerns. One example is internet broking. This presents a new avenue for manipulators. The ASX has responded with Market Rule 13.3.1 which requires internet brokers to apply order filters on their automated order processing systems. However, the ASX is unable to regulate individuals placing orders through automated order processing systems. Regulating the conduct of individuals is the responsibility of an external regulatory body.

Conclusion

This paper extends the limited evidence available on the outcomes of self-regulation in the Australian equity market. The ASX has the ability to codify manipulative trading activities in its Market Rules and the mandate and incentive to enforce those rules. As a result, it appears to have made an impact in one area of market integrity by effectively limiting market access to manipulators. Specifically, ASX Surveillance efforts have reduced the number of brokers involved in alleged market manipulation. The time alleged manipulators are in the market has also decreased and individuals now find it increasingly difficult to find a broker willing to execute their manipulative trades.

Market integrity appears to be an essential element in ASX's business model. Significant resources are committed to ensuring market integrity and the integrity of the market has been enhanced as a result. In addition, there is no evidence of a change in the intensity of this supervision post October 1998, the date the ASX demutualised and became a listed entity. This indicates that the ASX is not conflicted in its role as both market operator and regulator. Increased media and political interest in market integrity since demutualisation has arguably increased ASX efforts to regulate effectively.

The current market integrity debate, while important, is limited in perspective. Market supervision is multi-faceted and a more complete picture needs to be articulated. Evidence presented in the paper may help sharpen perceptions on market integrity and improve breadth and accuracy of comment. The integrity of the market is at stake and the economic consequences of suboptimal regulatory decisions are significant in today's increasingly competitive and global equity markets.