Many countries have taken what appears to be a tough stance on insider trading, treating it as a criminal offence. While this approach is often very popular with the general public, there is little evidence that these laws are effective. In this paper, we assess the market impact of two consecutive changes in insider trading regulation in New Zealand in the past decade, discussing the findings of two recent studies and the way forward. An earlier version of this paper was presented to the 2012 Australian Centre for Financial Studies’ Melbourne Money and Finance Conference.

**Keywords:** insider trading, financial regulation, Securities Market Amendment Act, deterrent effect, criminal sanctions.

### NEW ZEALAND INSIDER TRADING REGULATION: A market assessment

BART FRIJNS SA Fin, AARON GILBERT and ALIREZA TOURANI-RAD F Fin, Department of Finance, Faculty of Business and Law, Auckland University of Technology and Auckland Centre for Financial Research, New Zealand

The enactment of financial regulation is often ‘the result of psychological biases on the part of political participants — voters, politicians, bureaucrats, and media commentators’ (Hirschleifer 2008, p. 856). These biases could lead to politically motivated outcomes that may result in less effective regulation when judged from an economic point of view. When developing legislation, policy makers need to consider two often conflicting issues that determine its ‘success’: the economic effectiveness of the law (i.e. whether it will produce better economic outcomes than in its absence); and the views and expectations of society. Laws that may be economically sound may not have public approval or, vice versa, laws that may carry public support may not be optimal from an economic point of view. For instance, the imposition of restrictions by countries on foreign ownership of their assets is often based on the nationalistic or xenophobic views of the general public about foreign ownership. From an economic viewpoint, such laws may often be detrimental to economic growth.

A similar argument may be made for the design of insider trading laws, which is the topic of this paper. Many countries have taken what appears to be a tough stance on insider trading (by insider trading we refer to illegal insider trading), treating it as a criminal offence. While such an apparently tough stance against insider trading is often very popular with the general public, there is little evidence that these laws are effective. It is well known that the deterrence of prohibited activities is a function not only of the severity of the punishment (sanctions) but also of the probability of detection and prosecution (enforcement) (Becker 1968). As insider trading allegations are often based on circumstantial evidence, proving the case to the criminal burden of proof makes the enforcement of such laws difficult. Hence, the effectiveness of the use of criminal sanctions to deter insider trading is ambiguous. To make matters worse, unenforceable laws may actually be harmful. Bhattacharya and Daouk (2009) point out that for insider trading laws to be effective they must be enforceable and, if they are not, a country may actually be better off with no laws at all.

In this study, we assess the market impact of two consecutive changes with regard to insider trading regulation in New Zealand, by summarising the findings of two studies, Frijns et al. (2008) and Frijns et al. (2012). The first change in regulation was enacted in 2002 and was designed to address widely perceived deficiencies in the then prevailing regime. Specifically, it tightened disclosure requirements for managers and directors, and replaced the private enforcement of insider trading regulation by assigning the New Zealand Securities Commission, a public watchdog, an enforcement role. The second change in insider trading regulation was enacted in 2008, when insider trading became a criminal offence. We assess the effectiveness of the two sets of regulations and discuss the way forward.

#### New Zealand insider trading regulation

In 1999 and the early 2000s, the New Zealand Government focused strongly on regulatory factors that were argued to have undermined the development of the local market. In particular, the relatively light-handed regulation in the past was believed to have resulted in a lack of investor confidence. One area that was highlighted was insider trading, which was governed by a private enforcement regime. Since the original insider trading regulation was explicitly included in the 1988 securities legislation, no insiders had been successfully prosecuted and, in several cases, relatively high-profile individuals avoided prosecution either through legal loopholes or by settling out of court without an admission of guilt. For example, Eric Watson, then CEO of the Blue Star Group, traded...
heavily prior to the announcement of an acquisition of McCollum Printer. Watson avoided prosecution due to a legal technicality and only surrendered his profit without additional penalties (New Zealand Securities Commission 1998). In another case, Kerry Hoggard, then Chairman of Fletcher Challenge, purchased heavily before a major restructuring announcement (New Zealand Herald 2000). This case was settled out of court with financial penalties but other penalties relating to his ability to serve as a director were not imposed. In 1999, the government argued that the failure to convict insiders, among other issues, had eroded investor confidence and proposed changes to the securities laws to address these flaws (for a discussion on this see the report by the Ministry of Economic Development 2002).

The first change in the laws, introduced in 2001 and enacted in 2002, replaced the private enforcement regime and tasked a local watchdog, the New Zealand Securities Commission, with the prosecution of insider trading. Soon after the enactment, the Commission attempted prosecution of a number of insiders in Transrail, a local railroad company, who sold heavily prior to the announcement of poor financial performance and collectively avoided $47 million in losses. The prosecution wound up settling out of court, resulting in insiders repaying $27 million without an admission of guilt. While not completely successful, this demonstrated a willingness to prosecute insiders.

In earlier discussions on the 2002 laws, the introduction of criminal sanctions was mooted as a way of increasing deterrence and was introduced in a second round of amendments in 2006. These amendments, which came into effect in February 2008, added criminal sanctions of a maximum of five years in jail and/or a $300,000 fine to the existing civil sanctions available. Since its enactment in 2008, no attempts have been made by the public regulator to bring a prosecution against insiders.

The market impact of the insider trading regulations

Evaluating the effectiveness of insider trading laws is not straightforward because of the opaque nature of insider trading. As a result, studies examining the efficacy of insider trading laws have relied on indirect measures. For example, Bhattacharya and Daouk (2002, 2009) use changes in the country-level cost of capital; Beny (2005) looks at price synchronicity, the concentration of shareholdings and liquidity; while Bries (2005) examines price run-ups and abnormal trading prior to takeover announcements. Gilbert et al. (2007) consider the impact of the 2002 law in New Zealand on the volatility and liquidity of firms.

An alternative approach to studying the market impact of insider trading laws is to examine the effect of the introduction of the law on the cost of trading in the market. In particular, the modern market microstructure literature has developed models that allow the cost of trading, i.e. the bid-ask spread, to be decomposed into several components. Bid-ask spreads consist of two key components: the operational costs faced by liquidity providers, the so-called order-processing and inventory holding costs; and the information asymmetry costs. The latter component is considered as a compensation for liquidity providers who risk trading against a better-informed counterparty such as insiders. As a consequence, the amount of compensation demanded gives a strong indication of the market’s expectations about the prevalence and profitability of informed trading and therefore also provides an indication of the amount of insider trading. For this reason, we use several measures of transaction costs and information asymmetry to assess the impact of the introduction of two subsequent insider trading law changes in New Zealand. If the introduction of these new pieces of legislation were successful (and insiders are deterred from trading on non-public information), then the information asymmetry and bid-ask spreads should decrease, indicating an improvement in market quality.

The Securities Market Amendment Act 2002

The first study we conducted (Frijns et al. 2008) examined the changes in trading costs as a result of the 2002 law amendment in New Zealand. This amendment replaced the existing private enforcement regime with a public system whereby the financial market’s regulator (New Zealand Securities Commission) was tasked with prosecuting insiders. We argued that this would increase the probability of prosecution for insiders and so should be viewed by the market as a positive development. As such, we hypothesised that spreads would decrease, both in total and the specific component related to the cost of information asymmetry. To measure the information asymmetry component, we employed the Madhavan et al. (1997) bid-ask spread decomposition model, measured as

$$\Delta p = \theta(x_t - x_{t-1}) + \phi(x_t - x_{t-1}) + u_t,$$

where $x_t$ is a trade indicator denoting whether a trade is buyer or seller initiated, $\theta$ is the compensation for information asymmetry, $p$ is the autocorrelation of the order flow, and $\phi$ is the compensation for order-processing and inventory holding costs. We estimate this model using generalised methods of moments. We examine the 70 most active firms due to the liquidity requirements of this model and examine an 18-month period before and after the introduction of the law.

The empirical findings supported the hypothesis that a public watchdog would be perceived as more...
effective by the market. We noticed a significant decrease in both the percentage spread and the total spread, by 0.14 per cent and 0.69 cents per share, respectively. In addition, the proportion of the spread composed of information asymmetry costs \((\theta/(\theta+\phi))\) reduced by 3.74 per cent. These findings demonstrate that the legislative changes resulted in lower transaction costs, primarily driven by a reduction in the perceived likelihood of encountering an informed counterparty in the market.

The Securities Market Amendment Act 2008
The SMAA 2008 amendment introduced criminal sanctions for breaches of insider trading laws, on the basis that these sanctions represent a much stronger deterrent due to the harshness of the penalty which, in the case of New Zealand, is up to five years in jail. In Frijns et al. (2012) we point out that the actual deterrent effect is an empirical issue, as criminal sanctions increase the severity of the penalty but also reduce the likelihood of prosecution. This is due to the fact that criminal sanctions involve a considerably higher burden of proof, beyond a reasonable doubt, as opposed to on the balance of probabilities.\(^6\) If criminal sanctions do increase the deterrent effect of insider trading laws, then as with the 2002 amendment, we would expect to see the market react by lowering the spreads and reducing the compensation for information asymmetry. However, Bris (2005) and Bhattacharya and Daouk (2009) have shown that unenforceable laws can have a detrimental effect on the market or, as Bhattacharya and Daouk put it, ‘no law is better than a good law’.\(^7\) Therefore, if enforceability has decreased due to the introduction of criminal sanctions, then we expect the quality of the market to deteriorate.

We examined the efficacy of the 2008 amendments using measures similar to those in the 2002 study.\(^8\) Our findings on the impact of the 2008 SMAA showed that spreads and associated measures actually worsened by a statistically significant margin. For the 12- and six-month windows before and after the enactment of the new regulation, we found significant increases in the average level of all our measures. In our analysis, we controlled for differences in other variables that may affect spreads such as market value, market-to-book value ratio, trades per day, and volatility, and our results remained robust. These results are consistent with the evidence and arguments of Bris (2005) and Bhattacharya and Daouk (2009).

Due to the timing of the introduction of the new law, we needed to control for the potential confounding effects from the global financial crisis. We did this by following a technique known as the difference-in-difference analysis. This method compares the change in the spread measures of New Zealand firms with those of a control group (in our case a sample of Australian firms selected for their similarity to our New Zealand firms based on industry, size, market-to-book value ratio and price). Our findings were consistent with those mentioned earlier, i.e. the introduction of criminal sanctions led to a worsening of the various spread measures.

Moving forward
In this study, we assessed the introduction of two pieces of insider trading regulation in New Zealand. In the first piece of legislation, the government introduced a tighter disclosure regime and gave the enforcement authority to a public regulator, the New Zealand Securities Commission. In the second piece of legislation, the government went a step further and introduced criminal sanctions. The results of our two studies illustrate the point made by Hirschleifer (2008) that some financial regulation is driven by psychological biases and may not be optimal from an economic viewpoint. The 2002 amendment was driven by a clear view of the failings of the previous insider trading regime, namely the inability of private parties to successfully prosecute insiders. Part of that review floated the idea of criminal sanctions for insider trading, but there was little support for them at that time. Between the time that the 2002 amendments were fully enacted in 2004 and when the proposal to criminalise insider trading was re-proposed in 2006 there was little opportunity to assess the efficacy of the 2002 changes. What appears to have driven the introduction of criminal sanctions is the belief that tough sanctions would deter insiders.

In early 2011, the new Financial Markets Authority (FMA) was established, replacing the New Zealand Securities Commission. The FMA was tasked with stronger enforcement of the existing legislation and, since its establishment, several cases of non-disclosure/wrongful disclosure have been brought to court. It will be interesting to see whether the FMA will be able to successfully prosecute insider trading activity in a criminal court. Such a successful prosecution would send a strong signal to the market and, according to Bhattacharya and Daouk (2009), should significantly improve market quality. ■
Notes
1. This point was stressed by the then Chairman of the Australian Securities and Investments Commission who noted that despite recent successful criminal prosecutions, the burden of proof and the evidence required remained problematic (D’Aloisio 2010).
2. Specific measures we considered were quoted and percentage spread, information asymmetry and volatility. For more details see Frijns et al. (2008).
3. We determine buyer-initiated trades as those that occur at or above the ask price, seller initiated as those that occur at or below the bid price and assign a 0 to those that occur within the spreads.
4. This is the probability that a buy is followed by a buy, or a sell by a sell.
5. Specific details of the orthogonality conditions can be found in Frijns et al. (2008).
6. On the balance of probabilities means that if it is more likely that a person committed the offence than not then guilt is established.
7. Bhattacharya and Daouk (2009) argue and show empirically that unenforceable laws will scare away those insiders who follow the rules, but do nothing to deter those who do not follow the rules. The outcome will be that those who do not follow the law will exploit their information advantage with greater intensity, increasing the overall harm from insider trading.
8. We considered percentage and effective spread, price impact and information asymmetry. More details on the analysis can be found in Frijns et al. (2012).

References