Using Financial Incentives and Income Contingent Penalties to Detect and Punish Collusion and Insider Trading

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Collusion and insider trading, being white collar crimes, are often characterised as being victimless crimes. The absence of identifiable victims makes the detection of these crimes particularly difficult. This paper proposes that, in order to increase the flow of information about collusion and insider trading, parties engaged in these crimes should be offered financial incentives to provide evidence against their co-conspirators. In order to provide greater certainty that rewards will be paid, and also to increase the probability that any fines are paid, it is also proposed that an income-contingent fine collection mechanism be utilised. The paper presents two case studies to illustrate how the fine collection mechanism could be used.

Collusion and insider trading, being white collar crimes, are often characterised as victimless crimes. However, despite what the name suggests, such victimless crimes impose large costs on individuals and the economy. They are only victimless to the extent that those harmed by crimes such as collusion and insider trading are often unaware that they have been victimised. The absence of identifiable victims makes the detection of collusion and insider trading much more difficult. As the Australian Competition and Consumer Commission (ACCC) has stated, 'Collusion is extremely harmful to both businesses customers and consumers. The gains can be large and difficult to detect. The incentives for collusion are high in important areas of the modern economy' (ACCC, 2002, p.8). Similarly, the US Securities and Exchange Commission has stated that '[b]ecause insider trading undermines investor confidence in the fairness and integrity of the securities markets, the Commission has treated the detection and prosecution of insider-trading violations as one of its enforcement priorities' (USSEC, 2003).

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This paper outlines a new approach to both detecting and punishing the crimes of insider trading and collusion. The paper proposes that financial incentives be offered to individuals or firms participating in illegal activity in return for the provision of evidence against other participants. In order to ensure that large incentives can be offered, and large fines levied, it is also proposed that a revenue-contingent payment mechanism be utilised to extract both incentive payments and fines from firms and individuals convicted of these offences. The use of a revenue-contingent penalty payment increases the certainty of collecting penalties while reducing the incentive for recourse to bankruptcy.

The paper is structured as follows. Section 2 outlines the dimensions of the problems of collusion and insider trading. Sections 3 and 4 provide more detail on the nature of collusion and insider trading. Section 5 provides a discussion of the reform proposal and Section 6 provides a more detailed discussion of the income-contingent collection mechanism. Section 7 provides an overview of the role of incentives to report criminal conduct. Sections 8 and 9 provide worked examples of how the scheme might work in practice, while Section 10 provides some concluding remarks.

The Dimensions of the Problem

Collusion and insider trading impose a wide range of costs on both society and the economy. Both forms of criminal conduct deliver an inequitable distribution of gains and impose a range of negative externalities, such as reduced economic efficiency, reduced faith in the structure of markets and financial costs to governments.

For regulators, a major problem associated with collusion and insider trading is the lack of information available to investigators. Without evidence from participants, the tasks of detecting criminal activity and achieving successful prosecutions are made particularly difficult.

While it is difficult to determine accurately the extent of collusion and insider trading, some estimates are available. In recent years it has been argued that reductions in trade barriers and increased globalisation have resulted in increased collusive activity (ACCC, 2002), with the OECD estimating that the value of commerce affected by collusive conduct in 16 large cartel cases that had been examined was greater than $55 billion (OECD, 2002).

Recent examples of collusion include the following:

- Hoffman La-Roche was fined €462 million for participation in an international vitamin cartel in 2001.
- Lafarge was fined €250 million for participating in a cartel in the plasterboard industry in 2002.
- TNT, Mayne Nickless and Ansett Freight express were fined more than A$11 million for cartel behaviour in the Australian freight industry.
- Six UK drug companies engaged in price-fixing of antibiotics are estimated to have cost the public health system £400 million.

While there have been relatively few prosecutions for insider trading in Australia some researchers have suggested that between 5% and 10% of all trades involve insider infor-

mation (Richards, 2000). Similarly, a study of Australian executives found that 52% of respondents would be willing to buy shares before their own company made a favourable announcement (Richards, 2000). It would therefore appear that the detection and prosecution of insider trading lags well behind its prevalence.

What is Collusion?

Collusion is defined as an agreement 'between different firms to cooperate by raising prices, dividing markets, or otherwise restraining competition' (Samuelson & Nordhaus, 1987, p. 900). Collusion imposes large, though difficult to quantify, costs on consumers and businesses not involved in the collusive conduct. The result is a mal-distribution of resources and income and a reduction in the allocative efficiency of the economy. Estimates of the impact of collusion on market prices range from 10% in the US (ACCC, 2002, p. 23) to between 15% and 50% (OECD, 2002a, p. 9). The OECD has referred to collusive practices as the most 'egregious violations of competition law' (OECD, 2002, p. 5).

While examples of successful prosecutions for cartel activity can be found it is widely considered that most collusion is undetected. The OECD has stated that:

> The challenge in attacking hard-core cartels is to penetrate their cloak of secrecy. To encourage a member of a cartel to confess and implicate its co-conspirators with first hand, direct, 'insider' evidence about their clandestine meetings and communications, an enforcement agency may promise a smaller fine, shorter sentence, less restrictive order, or complete amnesty (OECD, 2002b, p. 7).

Detection of collusion is made more difficult because of the absence of an apparent victim. This is further complicated by the difficulty of proving, without access to insider information, that firms suspected of colluding are doing so. In 2001–02 the ACCC received 442 complaints of cartel and price-fixing, of which 61 were investigated. On average, between three and five cases are taken to court each year (ACCC, 2002, p. 24).

The Chairman of the ACCC, Graeme Samuels, has recently described cartels as the 'very worst form of violation of corporation law' and plans to use a leniency policy to encourage executives to 'squeal on their fellow offenders' (cited in Dodd, 2003). The potential for the provision of financial incentives to remove the 'cloak of secrecy' that surrounds collusive conduct is discussed in below.

A Case Study in Collusion

In 1994 TNT Australia Pty Ltd, Ansett Transport Industries (Operations) Pty Ltd, and Mayne Nickless Ltd, as well as a number of individuals, admitted to contravening sections 45 and 45A[1] of the *Trade Practices Act 1974* (Cth). They were fined $4,100,000, $900,000 and $6,000,000 respectively.

In summarising the nature of the collusive conduct of the cartel, Justice Burchett stated:

> What was alleged, supported by voluminous evidence, and is now admitted, is that at five primary meetings attended by representatives of the three companies, which took place between 1987 and 1990, a series of agreements were reached, as follows:

1. That the companies would not 'poach' each other's customers, by which the admissions of Mayne Nickless Limited specified, and I understand the other respondents to have meant, that if one was requested to quote by a customer of another, it would either fail to do so or would submit a quotation above the price charged by the other company, the existing supplier, a practice described as 'giving cover';
2. That if one received the custom of customers of another, compensation would be made by returning customers of the same value by the process of up-rating them or driving them away by the provision of poor service;
3. That there would be a balancing of accounts of customers lost and gained and payment of compensation;
4. That no quotes would be given to customers of another firm over the telephone; and
5. That uniform prices would be charged for what were referred to as 'air satchels'.

Effect was given to these agreements by each of the companies on many occasions. A great number of instances was specified in documents filed in the proceedings.

As a result, between 1987 and mid-1991, the market shares of the companies were systematically protected from the effects of competition, and in particular their ability to set prices in the relevant market, the express freight market, was freed from the constraints of competition. Not only were the arrangements and their objects and consequences in flagrant breach of the obligations imposed on the companies, in the public interest, by law; the means for effecting the intended illegal results were themselves damaging to the public interest in a healthy economy, and were in direct conflict with the fundamental purposes of the *Trade Practices Act 1974* (Cth). From the point of view of those purposes, an arrangement to maintain a cartel by deliberately providing poor service in order to compel customers to turn to or return to a supplier with whom they might be dissatisfied must be particularly pernicious (Burchett J 1994).

Initially the firms and individuals in the cartel denied their involvement; however, they eventually admitted their involvement. In return '… the Commission and the parties in question had negotiated penalties which they regarded as appropriate, and they jointly submitted that these were the penalties the Court should fix' (Burchett J 1994).

Because the firms eventually agreed to admit their involvement in the cartel the firms received significantly reduced penalties:

> The penalties I have ordered to be paid here do not represent what I would have imposed as proper in such circumstances, since I have made substantial allowance for the admissions, both as indicative of a true resolve to comply with the law in future, and as involving a benefit to the community, belated though it was, that ought to be recognized in the fixing of penalties that are just in all the circumstances (Burchett J 1994).

It is therefore reasonable to assume that if an individual executive had opted to blow the whistle and provide the necessary evidence about the operation of the cartel the judge could have opted to impose a substantially larger penalty. At the time the offences were committed the maximum penalty was $250,000 per breach. Given that an estimated 50 meetings between senior executives took place, the penalty could have been in the order of $12.5 million. While the then Chairman of

the ACCC stated it was difficult to estimate the economic damage of the cartel ('Fels Warns', 1995), the costs were estimated to be $100 million by a firm harmed by the cartel ('Freight Cartel', 1996).

What is Insider Trading?

Insider trading is defined as 'profitable trading in securities by a person with material nonpublic information' (Freeman & Adams, 1999, p. 2). Insider trading is illegal under section 1002G(2) of the *Corporations Act 2001* (Cth). The use of insider information when buying or selling securities causes harm both to individuals and to the economy as a whole. If an individual purchases shares from another based on inside information that the share price is likely to rise, when the information becomes public the insider who purchased the shares realises a profit while the seller has lost out. At the macro level, if the public perceives that insider trading is common in the stock market then they will be less likely to invest their capital through the stock exchange. Such a loss of confidence would reduce the amount of capital available to firms seeking to raise capital to fund new investment.

As far back as 1974 the Rae Committee (Senate Select Committee on Securities and Exchange 1974) reported on large-scale insider trading in Australia. Similarly, the Griffiths Committee confirmed the earlier concerns of the Rae Committee, concluding that '[a]s the overwhelming evidence indicates that insider trading does occur, attention should be focussed on how best to deal with the problem' (House of Representatives Standing Committee on Legal and Constitutional Affairs, 1989, p. 16). A detailed discussion of these inquiries is provided in Tomasic (1991).

There is debate in the literature on the role of insider trading. On the one hand, it is seen as an abuse of information asymmetry which results in a theft from noninsiders (see, e.g., Senate Select Committee on Securities and Exchange [1974] and House of Representatives Standing Committee on Legal and Constitutional Affairs [1989]). On the other hand, some authors argue that insider trading facilitates the flow of information within the market and therefore increases efficiency (see Manne [1996]; and Jensen & Meckling [1976]).

In order to both increase the efficiency of the market and reduce insider trading listed companies are obliged to notify the stock exchange once they become aware of any information with the potential to have a material effect on the company's share price (ref *Corporations Act 2001* [Cth] section 1001A and ASX listing rule 3.1). These 'continuous disclosure' provisions require firms to make insider information public and serve to increase the efficiency of the market without individuals inside the firm profiting in the process.

The Australian regulator responsible for controlling insider trading is the Australian Securities and Investments Commission (ASIC). Despite the apparent widespread acceptance of the view that insider trading is common (see, e.g., Brown, 2003), and the recent publication of a discussion paper designed to increase awareness of the law in relation to insider trading (ASIC, 1999), there have been few prosecutions for such behaviour. While the case of Rene Rivkin attracted substantial media attention (ASIC, 2001a), only a small number of other cases have been pursued (see, e.g., ASIC, 2001b, 2002, 2003). Between 1990 and 2000 there were six prosecutions for insider trading (Richards, 2000).

Insider trading is an information crime. It relates to the transfer and/or use of information in order to create a private profit for the individuals involved. As with collusion, there is often no identifiable victim associated with the crime of insider trading. While regulatory authorities may attempt to identify unusual trading activity in order to prevent insider trading, such detection is both expensive and inaccurate. Statistical evidence of unusual behaviour may be sufficient to begin an investigation, but achieving convictions is difficult without testimony from a witness.

In order to successively prosecute those engaged in insider trading and in turn deter potential criminal conduct, regulators need increased additional information. The following sections discuss mechanisms to encourage individuals with information about insider trading to come forward.

A Case Study of Insider Trading

On April 24, 2001, Mr Rene Rivkin purchased 50,000 Qantas shares in the name of Rivkin Investments Pty Ltd. Mr Rivkin was the sole director of this company.[2] Following an investigation by ASIC into the circumstances surrounding trading in Qantas shares in the lead-up to the announcement by Qantas that it would purchase Impulse Airlines, Mr Rivkin was charged with insider trading.

At the same time that Qantas was negotiating a possible purchase of Impulse Airlines, Mr Rivkin was negotiating with the Executive Chairman of Impulse, Gerry McGowan, over the possible sale of Mr Rivkin's $8 million harbour-front property in Sydney. Mr McGowan said that he could not commit to purchase Mr Rivkin's property unless the ACCC approved the deal between Qantas and Impulse. The court was told that Mr Rivkin was a person who would understand that this was very good news for Qantas. The court was also told that during the course of his conversation with Mr McGowan, Mr Rivkin was cautioned not to trade in Qantas shares on the strength of the information.

Three and a half hours later Mr Rivkin instructed his broker to purchase 50,000 shares in Qantas on behalf of Rivkin Investments Pty Ltd.

On April 30, 2003, Mr Rivkin was found guilty by jury on one count of insider trading in breach of Section 1002G(2) of the *Corporations Act 2001* (Cth). On May 29 Mr Rivkin was sentenced to nine months imprisonment, to be served by way of periodic detention, and was fined $30,000. Mr Rivkin has announced his intention to appeal.

The Reform Proposal in Brief

The essential idea being proposed in this paper is to replace current corporate offence penalties with an improved fine mechanism, involving the future capacity to pay of a company or individual. The instrument can be designed in such a way as to increase significantly the likelihood of offences being reported and verified. It would work as follows with respect to collusion.

Under the scheme individuals or a company found guilty of collusion would be fined as is currently the case, but with the penalty to be paid as a percentage of future income, collected through the tax system. The arrangement might be known as the Repayment of Gains Unlawfully Earned (ROGUE) scheme. The level of the fine would reflect the severity of the offence and the size of the reward.

The payment parameters would be designed to address a basic trade-off: the percentage of profits collected would be low enough to limit moral hazard associated with avoidance, but high enough to ensure that payment occurs in a relatively short period. Section 8 clarifies these issues through the presentation of a detailed example of collusion.

An insider-trading variant of the arrangement would differ because, as explained above, this offence typically involves individuals rather than corporations. Accordingly, with ROGUE, an insider-trading offence would involve the imposition of fines to be repaid depending on individual incomes, again through the Australian Tax Office. A detailed example is offered in Section 9.

An important aspect of ROGUE involves a financial mechanism designed to encourage whistleblowing. That is, the government would set up a fund allowing financial rewards to be paid to informants for the supply of information leading to collusion or insider-trading convictions. The reward, set at a minimum of $10,000 or 10% of the fine, whichever was greater, would be delivered to the informant at the time of sentencing. While the government would need to provide the initial financial resources, eventually the fund would be self-financing, paid for through the profit or income-related contributions of offenders.

There are several clear advantages of such a system compared to current arrangements. First, if fines are to be paid contingent on future economic circumstances, they can be set without concern for the possibility that penalties would lead to corporate or individual bankruptcy; thus fines can be levied to reflect the true social costs of these types of illegal activity. This aspect of the default protection advantages of income-related loans is explained fully in the following section.

Second, and closely related to the above, if fines are collected in a default-protected way the probability that the courts will receive payments in full is increased, compared to the current situation in which some offenders are able to avoid payments through bankruptcy or evasion. However, there is still a potential for a poorly designed ROGUE system to encourage avoidance of payment through other means, and this is further considered below.

Third, ROGUE actively encourages the supply of information, and in more positive ways than is feasible under current alternatives. While leniency policies rely on the principle of incentive, the incentive being offered is not very attractive, especially if conspirators are of the opinion that the probability of being caught is low. Furthermore, leniency policies do not provide an incentive for people who have knowledge of criminal conduct, but who are not directly involved, to come forward. The most important advantage of the system to the informant is that there would be a guarantee of financial reward independent of the circumstances of the offending individuals or corporations. This aspect of the policy would therefore have significant potential to reduce these forms of criminal activity, given the near-impossibility of establishing collusion or insider trading without such benefits to those with the requisite information.

ROGUE would use insider information against insider traders and those engaged in collusive conduct. The provision of substantial rewards introduces an important new dynamic into the decision-making process of those engaged in stable cartels and insider-trading networks. The provision of a reward to an individual who provides evidence against their conspirators serves to disconnect the relationship

between the optimal decision for the group (maintain silence) and the optimal decision for an individual (be the first to provide evidence).

The Collection Mechanism: Income-Related Loans

The suggested reform scheme requires the collection through the tax system of income-related debts. This is a recent public sector financial innovation now applied in two Australian policy arrangements, the payment of noncustodial child support and with respect to university charges, with the Higher Education Contribution Scheme (HECS). Other suggested applications include:

- for financial assistance related to drought relief (Botterill & Chapman, 2002)
- for the payment of low-level criminal fines (Chapman, Freiberg, Quiggin, & Tait, 2003)
- with respect to the financing of elite athletes (Denniss, 2003)
- for the provision of a housing lifeline for low-income renters (Gans & King, 2003).

With respect to ROGUE it is important to understand schemes of this type, and their background and rationale are now considered.

Income-related financial instruments are operated using the tax-welfare system as follows. In certain circumstances an individual is able, or required, to incur a debt, such as with respect to the payment of a university charge. The debt is recorded with the taxation authorities and is repaid in the future, with the extent and structure of repayments depending on the level of the individual's income. Because interest rates are subsidised, debtors with low future income pay back less to discharge a given debt, in present value terms, than do those with high future incomes. In addition, the total amount to be repaid may be varied according to the individual's income.

The essential benefit of income-related financial schemes derives from the fact that, so long as they are designed properly, they offer a form of insurance against the risks associated with agents not being able to finance payment obligations. That is, implicit in an income-related payment system there is default-protection. With respect to ROGUE this aspect of the scheme increases the probability of full payment of a fine for collusion of insider trading.

The two living Australian examples of income-related instruments are now considered. They are HECS and the Child Support Scheme (CSS). In 1989 the Australian government introduced HECS as an alternative to proposals for the reintroduction of university fees, then under consideration as a response to the rising costs of financing higher education (Chapman, 1997; Edwards 2001). The scheme requires all Australian undergraduates to pay a charge for each course undertaken. No payment is required until the former student is in receipt of an income above a particular level, which is currently around $24,500 per annum.

Since 1989, similar schemes have been instituted in several other countries, including New Zealand, South Africa, Chile, the United States and the United Kingdom. In the 2003–04 Australian budget statement, the Australian Government announced its intention to extend HECS-type loans to full-fee paying domestic

students and some private higher education institutions. For analysis of worldwide higher education financial reforms along HECS-type lines, see Chapman (2003).

A second instance of income-related payment obligations, more relevant in some ways to the prospects for income-related repayment of fines, is the child support scheme operated in Australia by the Child Support Agency of the Department of Family and Community Services. The scheme began in 1988 and facilitates the collection of child maintenance payments from noncustodial parents.

The CSS scheme differs from HECS in that there is no fixed obligation to be discharged. Rather the noncustodial parent's obligation is to make a contribution to the support of children aged under 18, and this is determined on the basis of an assessment of both parents' means.

The administrative requirements for the efficient collection of HECS and CSS are straightforward and are best understood through an explanation of the processes involved in the recording and collection of the debt. There are important lessons for the administration of an income-related fines system for collusion or insider trading from the arrangements involved in existing income-related loans schemes.

Consider HECS first. When students enrol in university courses, they are offered a choice with respect to the payment of tuition charges. One option is to pay the charge up-front and receive a 25% discount. The second option is for the student to agree to repay the charge out of future personal taxable income. In this case the debt is recorded against a student's unique tax file number and registered with the Australian Tax Office. When the student's yearly income exceeds a threshold of about $24,500 the repayment obligation is deducted from income and the debt is reduced accordingly. Repayments are set as a percentage of annual income, starting at 3%, and increasing progressively up to 6% for annual incomes above $36,000. It takes about 10 and 13 years for typical male and female graduates respectively to repay an average HECS debt (Chapman & Salvage, 2002).

The HECS scheme costs very little to administer and collect. That is, it was estimated in the early 1990s that the cost of HECS to the Australian Tax Office was around $20 million per year, or less than 4% of annual receipts (Chapman, 1997).

The CSS collects a larger proportion of income from a more diverse range of payers, of whom there are currently around 700,000. The median taxable income of CSS payers was $28,038 in 2000–01, whereas the average starting salary for graduates was about $35,000. Moreover, graduates typically experience rising incomes over the period during which they repay their HECS liability, so that the difference between the two groups is greater than this comparison indicates.

The amount of child support collected for a single child is 18% of adjusted income, up to a maximum of about $18,000 each year. Payments increase with the number of children, up to a maximum of 36% of adjusted income, calculated to provide an implicit living allowance for the payer. Maintenance payments may be collected from pension and benefit payments at a maximum of $10 per fortnight. A similar maximum applies to payers with a taxable income below about $15,000.

Not surprisingly, these characteristics are reflected in higher collection costs and default rates for CSS. Estimates of default rates vary widely and are the subject of politically charged debate.

ROGUE could be applied in much the same way as is HECS and the CSS. These schemes all have in common the arguably distinct advantage of default-protection with respect to the payment of debt.

The Use of Detection Incentives

As discussed above, access to information is the primary barrier to both the detection and successful prosecution of white-collar crimes such as collusion and insider trading. The provision of financial incentives to those supplying evidence is likely to increase the number of people coming forward for a number of reasons:

- Given that financial gain is likely to be a major motivation of those engaging in collusion or insider trading the provision of large financial rewards (relative to the profits being made from illegal conduct) is considered to be an effective incentive to come forward.
- Individuals already engaged in illegal conduct are less likely to trust each other when the opportunity exists for one party to profit from reporting the actions of fellow conspirators. Despite individual conspirators possessing a preference to maintain the status quo, individuals involved in illegal conduct must estimate the probability that their co-conspirators will be the first to profit from revealing information to regulators.
- The existence of a financial incentive for reporting corporate crime significantly alters the profit-maximising decision-making process for an individual approached for the first time to participate in new illegal conduct. In addition to increasing the risk of detection, a financial incentive to report illegal conduct provides an individual who has been approached to participate in a crime with a 100% certain way to profit without risk of prosecution.
- The reward scheme can still operate in tandem with any leniency program offered by regulators, resulting in an improved likelihood that those who are motivated by the desire to avoid criminal sanction will come forward.

Existing Incentive Schemes

This section provides an overview of some of the existing incentive schemes that operate both in Australia and internationally. It is apparent that the use of incentives, while not widespread, is not uncommon in corporate regulation. Its extension in the manner proposed in this paper can therefore be seen as an extension of existing practice rather than a radical innovation. An important precondition for the success of an incentives-based system is the perception of certainty of the reward payment by the informant. The existence of the ROGUE scheme, backed up with initial establishment funding provided by the Australian Government, serves to increase such certainty.

The ACCC currently has in place a policy of leniency whereby firms volunteered information concerning collusive conduct may expect some leniency in terms of either prosecution or sentencing. ACCC states:

> The ACCC is of the view that a leniency policy that provides clear and certain incentives to potential applicants is a valuable tool in fighting illegal cartel conduct.

> When the extent of the leniency to be provided is certain, persons are more likely to take advantage of such policy and disclose potentially illegal and harmful conduct (ACCC, 2002b, p. 2).

In describing the likely effectiveness of leniency programs, the Chairman of the ACCC recently stated that:

> Invariably in a hard-core cartel there will be a weak link. There will be someone that's nervous. There might be someone that isn't actually benefiting out of the cartel in the way they expected to. But more importantly, they'll be nervous about the implications of the cartel being found out … (Samuel, cited in Dodd, 2003, p. 19)

In addition to the Australian scheme, leniency programs also operate in the US, UK, Canada and the EU. These programs are discussed in OECD (2002b) and European cartels are discussed in detail in Harding and Joshua (2003). Harding and Joshua (2003) concluded that the US approach to cartel detection was more successful than the European approach due its greater reliance on surprise 'dawn raids' on companies and the provision of a high degree of certainty to informants about the likely benefits of providing evidence to regulators about cartel conduct (Harding & Joshua, 2003, p. 165). Harding and Joshua also conclude that as the European regulators refine their leniency programs, 'these new strategies may eventually transform the landscape of enforcement. If leniency does become successful in the way that it has worked for the US Department of Justice, this should ease the Commission's evidential workload and reduce the scope for some kinds of legal argument on appeal …' (Harding & Joshua, 2003, p. 142).

The overall rationale behind leniency programs is that the potential to avoid sanction is, in itself, an incentive to provide information. However, direct financial incentives are likely to be even more effective than leniency for two reasons. First, the incentive is larger, and second, the probability of a co-conspirator becoming an informant is greater. As Pamela Bucy states, 'Money, lots of it, is necessary to attract knowledgeable insiders with helpful information of complex wrongdoing' (Bucy, 2002b, p. 970).

While leniency programs have some capacity to act as incentive, it is possible to increase the benefits of providing information on corporate crime by offering rewards. The existence of rewards is common both in Australia and internationally when law enforcement agencies are seeking information to assist inquiries into a specific crime. In the US, rewards are paid to individuals who provide assistance in the detection and prosecution of white-collar crime under the *Qui Tam* provisions of the *False Claim Act* [FCA]; see Bucy, 2002a), internal revenue laws (IRS, 1983) and the *Securities Exchange Act* (USSSEC, 2003).

Under the *Qui Tam* provisions, individuals providing information which leads to a successful prosecution for fraud against the government collect a percentage of the money recovered. According to Bucy (2002a):

> more than any other private justice actions or for that matter, more than most legal actions, the FCA's structure seeks to change social values. Perhaps not by design, but in fact, the FCA elevates the value of protecting the government, or larger community, over the value of loyalty to those close at hand (Bucy, 2002, p. 54).

Similarly, the SEC has the power under Section 21A(e) of the *Exchange Act* to offer 'bounties' to individuals who provide material information assisting in a successful prosecution for insider trading.

Insider trading may result in enforcement action by the Commission or in criminal prosecution by the Department of Justice. The *Exchange Act* permits the Commission to bring suit against insider traders to seek injunctions, which are court orders that prohibit violations of the law under threat of fines and imprisonment. The Commission may also seek other relief against insider traders, including recovery of any illegal gains (or losses avoided) and payment of a civil penalty. The amount of a civil penalty can be up to three times the profit gained (or loss avoided) as a result of insider trading:

> The SEC is permitted to make bounty awards from the civil penalties that are actually recovered from violators. With minor exceptions, any person who provides information leading to the imposition of a civil penalty may be paid a bounty. However the total amount of bounties that may be paid from a civil penalty may not exceed ten per cent of that penalty (USSEC, 2003).

Based on the submission of the Attorney-General's Department, the Griffith Committee rejected the need to introduce a system of rewards or bounties for informers in Australia on the grounds that such incentives reduce the credibility of evidence put forward by the prosecution, suggesting that they are 'incompatible with accepted principles and practices within Australian society' (House of Representatives Standing Committee on Legal and Constitutional Affairs, 1989, p. 45). While it is possible that the provision of incentives may reduce the credibility with which a jury views information provided by an informant, such a factor must be considered in the context of the almost complete absence of evidence which is currently available to those seeking to enforce the law. As for the 'accepted principles and practices' of Australian society, given the extent of the spread of 'market values' across Australian society over the last 15 years, it is unlikely that contemporary Australians would be as averse to the provision of financial incentives as may have been the case in 1989.

The role of incentives in regulation is discussed in Grabosky (1995). He states that 'Incentives may be necessary to enlist the assistance of the general public when regulatory powers and compliance capacities are inadequate to attain regulatory objectives' (Grabosky, 1995, p. 263).

Given the difficulties faced in detecting and prosecuting white-collar crime discussed above, it would appear that incentives are well suited to aid in the achievement of regulatory objectives.

Grabosky (1995) also cites a range of problems with reliance on incentives including the capacity for material rewards to erode the effectiveness of moral rewards, that citizens should not be rewarded for the normal responsibilities of citizenship, and the cost of providing rewards. While such concerns must be carefully considered in the development of any reward system, it is important to note that it is the existing failure of the business and finance community to live up to their responsibilities to report corporate crime that underpins the case for the provision of incentives. Furthermore, the cost of rewards to the state will be

minimised through the reliance on the income-contingent payment mechanism outlined above.

Whistleblower Protection

The need for whistleblower protection has been widely discussed in the Australian and international literature (see, e.g., Demster, 1997; Glazer & Glazer, 1989; Grabosky, 1991; McMillan, 1986; Perry, 1998; Starke, 1991). Recently proposed changes to the Australian *Corporations Act 2001* (Cth) under Corporations Law Economic Reform Program (CLERP 9) would afford greater protection to whistleblowers who report suspected breaches of the ations legislation to the ASIC. The draft Bill (Audit Reform and Corporate Disclosure Bill 2003) attempts to provide protection to whistleblowers from victimisation.

In addition to providing further incentive for whistleblowers to come forward, the provision of financial rewards to some whistleblowers, as proposed above, would help to further protect whistleblowers. Financial rewards would both help to compensate whistleblowers for any loss of earnings associated with their actions and send an important public signal that the actions of the whistleblower are of value to the community.

Malicious Allegations

One final issue that must be considered is the possibility that individuals could make malicious allegations against other parties. While such an occurrence is possible, the ROGUE scheme provides no real incentive to encourage such behaviour as rewards are only payable if whistleblowers provide useful information that leads to a successful prosecution. Furthermore, the publication of malicious allegations may leave the whistleblower liable for damages if they were found to have defamed a person or organisation.

An Example of Reform: Collusion

Figure 1 shows the impact of an income-contingent fine on the profits of Mayne Nickless (now Mayne Group). It is assumed that the initial fine was $12 million rather than the actual fine of $6 million. The figure of $12 million is based on the assumption that if the prosecution had been able to rely on information provided by an informant, the judge would not have had to make 'substantial allowance' for the fact that the corporation decided to withdraw its defence.

As repayments of the $12 million fine are set at 3% of net profit, the repayments vary directly with profit. However, if a loss was made repayments would be suspended, though the nominal value of the debt is increased in line with inflation. Given the actual profits of Mayne Group since 1994 the debt would have been repaid by 1999, as shown in Figure 2.

An Example of Reform: Insider Trading

The suggested reform entails the imposition of fines on insider traders to be paid depending on the offender's future income. This raises the issue of what would

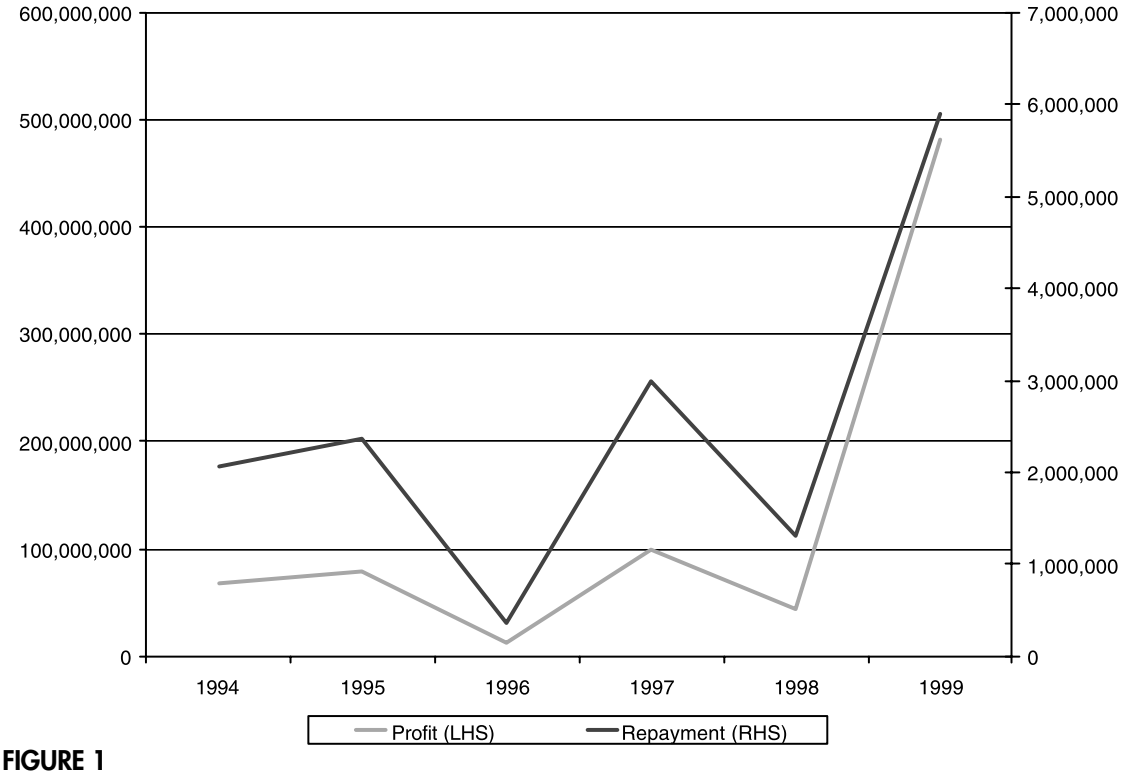

FIGURE 1

Profit and fine repayment schedule for a hypothetical $12 million fine against Mayne Nickless.

Source: Aspect Financial (2003) and authors' estimates.

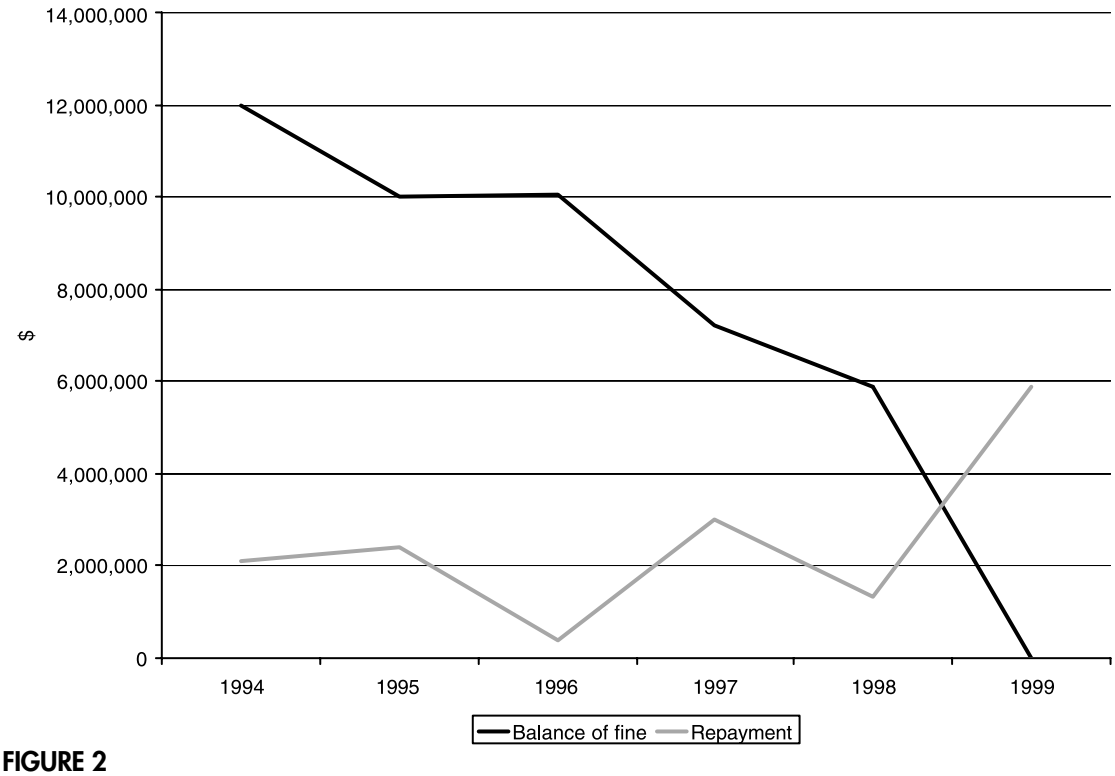

FIGURE 2

Repayment schedule and fine balance for a hypothetical $12 million fine against Mayne Nickless.

Source: Aspect Financial (2003) and authors' estimates.

constitute appropriate repayment parameters. As discussed above, the two obvious examples of current practice are HECS and the CSS.

The choice of repayment parameters entails a basic trade-off between two matters. On the one hand the repayment of a fine needs to be relatively quick since a short period of payment, for any given level of fine, constitutes a relatively high per period penalty, and this might be considered appropriate for a major white-collar criminal offence.

On the other hand, a major benefit of an income-related payment is that such arrangements diminish the burdens associated with debt remission as well as offering a form of default-protection insurance. However, the more severe the payment parameters, the lower the prospects of the delivery of these benefits.

It is possible to illustrate the timing and per-period payment obligations of ROGUE with respect to both HECS and the CSS. The following assumptions are used:

1. The offender earns a constant annual taxable income of $20,000, $40,000, $60,000 or $200,000.
2. If fine payment is made on the basis of HECS, the parameters used in 2001/02 are adopted (see DETYA, 2001).
3. If fine payment is made on the basis of CSS, the 2003 formula is used (see CSA (2003).
4. If fine payment is made on the basis of CSS, the annual payment is equal to the obligation of a noncustodial parent of one child only, with the custodial parent receiving social security payments of a sole parent.

Tables 1 and 2 show respectively the annual payments and the time taken under these two regimes for a fine of $50,000. The rate of interest on the debt is assumed to be zero in real terms (i.e., as with HECS, adjusted only for price inflation).

The data from Tables 1 and 2 suggest the following. First, for very low incomes (under about $25,000), applying the HECS repayment parameters would mean that offenders would pay nothing and thus all of the debt would remain unpaid. Second, even at incomes close to the average of individuals working for pay, HECS parameters suggest very long periods of debt payment, for example, about 23 and 15 years for incomes of $40,000 and $60,000 respectively. In other words, HECS seems to be far too generous a way in which to pay penalties for insider trading.

On the other hand, the CSS results seem much more appropriate for the following reasons. First, even at the very low income of $20,000, some obligation ($1383 per year) is still required. Second, the CSS rules suggest relatively short, or at least manageable as far as the courts are concerned, periods of fine payment of around 10

TABLE 1

$50,000 Fine Repayments Under HECS and the CSS: Annual Payments

Annual income ($)	20,000	40,000	60,000	200,000
HECS	0	2200	3300	11,000
CSS	1383	4983	8583	19288*

Note: *The payment is capped for incomes exceeding $119, 470.

TABLE 2
$50,000 Fine Repayments Under HECS and the CSS: Years Taken

Annual income ($)	20,000	40,000	60,000	200,000
HECS	Unpaid	22.7	15.2	4.5
CSS	36.2	10.0	5.8	2.5

years for incomes around $40,000 per annum, to just 2.5 years for those on very high incomes..

It would seem then that applying the CSS repayment rules would come fairly close to satisfying the needs to have fines paid quickly without imposing undue duress on offenders. This is the same conclusion reached by Chapman, Frieberg, Quiggin and Tait (2003) with respect to imposing income-related fines on low-level criminal behaviour. After all, the CSS arrangements are designed to enforce significant payments while taking account of the financial needs of the payer. In summary, it is difficult to support the payment of fines for criminal behaviour constituting a less arduous experience than that associated with the financial support of a child.

Conclusion

In order to detect cartels and insider trading it is important to provide an incentive to individuals to supply information to the regulators. While most countries offer some form of leniency programs to individuals who volunteer information (see OECD, 2002a), immunity from prosecution is far less attractive than large financial rewards.

Rewards are likely to increase the probability of detection as they would work on a number of different elements of the decision-making process simultaneously. At present, if a firm is approached to enter a cartel it is likely to compare the risk-weighted benefits of participation with the status quo. Given the potential for cartels to increase profits combined with the low risk of detection, it is likely that the profit-maximising strategy is to participate.

However, if financial rewards are available to firms which provide information to regulators then not only does the financial benefit of nonparticipation in the cartel increase, the assessed risk of detection is also likely to increase. Put simply, if the incentives offered are large relative to the potential profit from collusion, the profit-maximising strategy would shift from entering a cartel to reporting its existence.

Similarly, for existing cartels that have achieved stability, a new variable would be introduced into the calculation of individual participants. At present, individuals involved in cartel behaviour are unlikely to trust each other; however, the worst case scenario resulting from cheating on the part of one or more collaborators is that profits revert to their noncollusive level.

By introducing a reward for firms admitting to their involvement in illegal conduct, disgruntled cartel members will, for the first time, have an incentive to report their activity to the regulator rather than to attempt to reconstruct the cartel. While the existence of a whistleblower does not guarantee that the other parties accused of collusion or insider trading will plead guilty, there is little doubt

that, compared to existing leniency programs, the provision of rewards will increase the probability of whistleblowers coming forward.

It could be argued that policies to encourage whistleblowing will be largely unsuccessful in countries such as Australia, where 'dobbing' may be seen to be inconsistent with popular depictions of the dominant culture. While this is a possibility it is important to note that in the areas of taxation and welfare payments 'hotlines' exist to encourage members of the public to volunteer information about possible breaches of the law.

The Australian Tax Office receives a large amount of information on tax evasion each year from members of the public. For example, in the financial year 2002–03 the ATO collected 'over 51,000 reports of suspected tax evasion' (ATO, 2004). While not all reports were substantial enough to investigate, 28,000 reports received some further attention. The ATO urges people to 'help make sure everyone is paying their fair share of tax' (ATO, 2004) and can be contacted by mail, phone or fax. Similarly, Centrelink encourages individuals to report fraud and, in addition to the methods noted above, has an 'online' reporting function. In the financial year 2002–03, on the basis of information provided by the public, 58,788 reviews were conducted (Centrelink, 2004).

Whistleblowers can potentially place themselves at risk by revealing information to regulators. While it could be argued that such risks mitigate the desirability of schemes to encourage informants coming forward it can also be argued that such risks are in fact an important justification for the provision of rewards in the manner outlined above. That is, at present individuals who seek to alert regulators to the existence of criminal conduct are providing a public service while potentially facing adverse personal consequences. In order to minimise such consequences it may also be necessary to strengthen existing whistleblower protection laws (see, e.g., the South Australian *Whistleblower Protection Act (1983)*).

By relying on income-contingent payment mechanisms, the potential for large penalties to bankrupt firms, and therefore further disrupt the distribution of resources, is minimised. Similarly, individuals would not be able to escape their sanctions by declaring bankruptcy, a situation serving both to increase equity and the certainty of incentive payments being paid.

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Endnotes

1 Sections 45 and 45A of the *Trade Practices Act 1974* (Cth) deal with proscribed agreements, such as market-sharing agreements, which have the purpose or effect of substantially lessening competition and agreements that fix prices.

2 The information on the Rivkin case comes from Lampe (2003). The authors are not responsible for its contents.

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