

# Regulating securities fraud: Evidence from unauthorised trading cases

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## ABSTRACT

*This paper summarises and evaluates the results of new empirical evidence serving as an input to the ongoing policy debate whose central objective is to design an efficient overall governance structure to reduce fraud in financial institutions. While the focus is exclusively upon*

*unauthorised trading fraud, the findings have more general applicability. Fraud control procedures operating within financial institutions can be divided into two categories. First, internal operational risk control systems, both those designed by the institution and those mandated by third parties. Secondly, the disincentive effects attributable to the threat of legal sanctions once the fraud has been identified.*

*The paper begins by critically evaluating the effectiveness of both classes of constraints. Recent attempts to identify empirically the degree to which losses from fraudulent activity can be associated with the breakdown of individual constraints are then summarised and evaluated. The evidence is based on the analysis of 37 case studies of unauthorised trading fraud drawn from financial institutions in eight countries. The findings suggest that internal controls present the primary defence against severe fraud losses. They also indicate that regulatory penalties imposed on senior supervisory management are crucial in ensuring efficient fraud loss mitigation in financial institutions. Finally, the implications of the results for regulatory policy are highlighted.*

## INTRODUCTION

This paper provides new empirical evidence as a contribution to the ongoing policy debate whose central objective is to design an efficient internal governance and external regulatory framework aimed at reducing the level of fraudulent activity in

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financial institutions. There is a widespread consensus that market failure considerations suggest market forces alone are unable to sustain the optimal risk management structures for mitigating fraud.<sup>1</sup> The supplementary policy actions available to regulatory authorities encompass two broad classes of possibilities.

One set consists of *ex ante* intervention, such as mandating institutional conformity with specified fraud control system guidelines, and efficient managerial monitoring of internal control procedures. Such benchmarking of internal systems is acknowledged to have a significant role to play. The effectiveness of such policies is, however, handicapped by several factors including: the practical difficulty of observing an institution's internal operations; institutional heterogeneity, which mitigates against a one standard fits all regulatory approach; and the costs imposed by control and auditing procedures, both upon policymakers and financial institutions.

These constraints signify that the incentive effects of penalties imposed upon fraud detection, which consists of *ex post* sanctions upon the fraudster, responsible management, or the institution itself, must also play a leading role in aligning parties' incentives to prevent fraud. Policymakers have a wide range of civil and criminal sanctions available to them, including fines, suspension and the loss of professional status. Moreover, they are able to commit credibly to the imposition of these penalties.

Ultimately, the relative efficiency of the alternative courses of regulatory action available to policymakers in reducing the losses from fraudulent activity is an empirical question. To date most of the evidence has been anecdotal, often based upon one or two high publicity cases. This paper aims to contribute to the policy debate by presenting a non-technical contextual summary of the central results of a series of

papers which systematically analyse the collective impact of regulation and internal risk management controls on fraud loss reduction. The authors believe these are the first such studies in the literature. To facilitate comparability, the focus is exclusively upon one particular type of employee fraud, namely unauthorised trading. Unauthorised trading is defined for present purposes as the intentional violation of written policies and procedures by trading in excess of permitted financial limits, or outside permitted product lines, or with unapproved counterparties.

The analysis is based upon 37 cases of unauthorised trading fraud, involving 34 financial institutions in eight countries, occurring over the period 1984–1999. Further details are provided later. The empirical analysis is explicitly designed with normative policy implications in mind. The objective is to provide evidence relating to recent discussions, initiated by the Bank of England among others, of the impact of regulation as a deterrent to fraud.<sup>2</sup> The main arguments emerging from this discussion form the focus of the analysis and can be summarised as follows. First, there is a belief that in order to reduce losses from fraudulent activity, it is imperative to penalise those individuals in the institutional hierarchy who are responsible for monitoring the fraudulent employee and/or implementing and operating the internal control systems. Secondly, and more controversially, imposing severe penalties on fraudsters without also penalising responsible management may have no impact on the prevalence of, or losses from, fraud. Potentially, it results only in a substitution effect, leading to a reduction in monitoring by the fraudster's managerial superior(s), and a concomitant increase in fraudulent activity.

The structure of the remainder of the paper is as follows. First there is a critical overview of the major theoretical issues,

outlining the incentive effects of different forms of regulatory control and considering the existing state of the practical implementation of existing regulations. Then there is a brief discussion about the characteristics of the case studies. Finally, there is a non-technical summary and evaluation of the results of the various empirical analyses, outlining the relevance of the study for the conduct of regulatory policy.

### **REGULATING FRAUDULENT ACTIVITY: AN OVERVIEW OF SOME THEORETICAL ISSUES**

A summary discussion of the emerging consensus regarding the incentive effects of differing forms of regulation to discourage fraudulent activity can usefully proceed on the basis of the *ex ante/ex post* regulatory distinction introduced earlier.

#### *Ex ante* regulation

At a minimum *ex ante* regulations should encourage institutions to improve their internal operational control environments and increase their monitoring of employees.<sup>3</sup> Such *ex ante* regulation is rationalised by the belief that market forces alone are considered to be insufficient to provide financial institutions with the appropriate incentives to constrain fraud efficiently owing to one or more of the following market failures. First, fraudulent activity may impose significant cost upon non-contracting third parties. These costs fail to be internalised by decision-makers within the fraudulent institution. Secondly, operational risk arising from agency costs and other corporate control weaknesses may preclude the institution's managers from implementing the optimal level of monitoring.<sup>4</sup>

*Ex ante* regulatory intervention by policy-makers usually involves attempting to mandate appropriate levels of supplementary operational risk controls. Customarily, they incorporate one or more of

the following:

- establishing guidelines for the design of fraud control systems and procedures
- establishing monitoring procedures whereby regulators or independent third parties such as auditors, inspect fraud control systems
- varying the level of capital requirements above the BIS mandated minimum, thereby inducing firms to improve fraud controls.<sup>5</sup>

While the current debate indicates that *ex ante* regulation is important in dealing with fraudulent behaviour its use is also subject to severe limitations. Although establishing standards serves a purpose, institutional heterogeneity precludes the general applicability of detailed guidelines. Institutions may appear to have effective control systems on the basis of external inspection but, as the Baring's episode demonstrates, their practical implementation may be flawed. The informational requirements and associated costs of auditing internal procedures imply that identifying these lapses is problematic. Such considerations imply that *ex post* regulatory penalties must also play a significant role in aligning parties' incentives.<sup>6</sup>

#### *Ex post* regulation

Once fraud has been detected, there are a wide range of *ex post* regulatory penalties which may be applied and enforced through the legal system. Although many of these can also be implemented by the institution itself, a reasoned case can be made that they are more appropriately applied by an independent judicial authority. To clarify the reasoning, reputation is often cited to be a financial institution's most valuable asset. As the reputational effects of a revealed lapse of control may be very great, financial institutions themselves are unlikely to be able to commit

credibly to the imposition of transparent and appropriate *ex post* penalties in the event of a revealed fraud. Such a commitment is more credibly signaled through penalties mandated by a third party, normally the authority responsible for financial market supervision, or the legal system of the jurisdiction involved. Moreover, internal penalties levied on the management responsible for control breakdowns may be perceived as counterproductive if these penalties impose significant operational costs on the institution's business activities.

Appropriate *ex post* penalties fall into one of three classes. First, sanctions can be imposed on the employee who perpetrated the fraud. These include the imposition of fines, the loss of professional status (loss of trading licence, banning from the industry) and possible imprisonment. Secondly, penalties can fall upon the responsible management/supervisory team for their perceived recalcitrance in implementing the appropriate control systems and/or for their negligence in monitoring the fraudulent employee. Generally, these include some form of disciplinary action and extend either to fines or banning from the industry. Finally, there are the penalties which can be levied upon the fraudulent institution itself. These may consist once again of fines, but can also involve costly and intensive investigations of the firm's procedures, and may even extend to precluding the institution from undertaking a particular securities market activity.

The policymaking rationale for the *ex post* imposition of penalties is firmly grounded in the tradition of the economic analysis of the legal infrastructure, which explains the impact of regulation upon the incentives and behaviour of the relevant parties in the following terms. Consider a situation where the regulatory and legal penalties are set in accordance with the dictates of economic efficiency, implying that

on average they are set equal to the expected social costs of the fraud, with their incidence distributed appropriately across the relevant responsible parties. The credible threat to impose the penalty upon detection of fraud will then cause the potential fraudsters and/or lax supervisory management to internalise fully the expected social costs of their behaviour. The optimal precautions to prevent fraud will, therefore, be undertaken. Furthermore, the threat of regulatory actions and the appropriate directives will guide the efficient evolution of the institution's internal controls described previously. The fact that regulatory actions occur only after the fraud has been detected is in this sense irrelevant. Moreover, there is ample opportunity for potential fraudsters to both observe and also learn from, previous regulatory action taken against individuals convicted in fraud cases.

Recent theoretical work, which is particularly appropriate in the present unauthorised trading context as it focuses on the behaviour of dealers and their managers, argues that imposing penalties simply on the perpetrators of fraud may not necessarily lead to a reduction in such fraudulent activity.<sup>7</sup> The basic intuition is as follows. To ensure efficiency in fraud mitigation, regulators must not only sanction fraudsters, but also encourage managerial monitoring of employees. It follows that penalties on fraudsters must be applied in conjunction with sanctions on management at different levels of the institutional hierarchy. Failure to do so is likely to lead to strong substitution effects. To clarify, only penalising the fraudster may simply lead to a concomitant reduction in the level of managerial monitoring and enforcement of internal control systems, leaving the incidence of fraud itself unaffected. Generating the correct incentives for those responsible for the employee monitoring process is of paramount importance in

fraud mitigation. With this as the context, the existing state of the regulation of fraudulent activity in financial services in a selection of countries is now considered.

### **Fraud regulation in practice**

Existing evidence reveals substantial variation in both the ability and also the willingness of banking and securities market regulators to impose *ex post* sanctions. A comparative analysis is revealing. The custom in certain jurisdictions such as the UK and New Zealand, is for banking supervisors to hold senior management responsible for effective risk controls within their organisations, rather than penalising the institution itself. This focus upon implementing changes in senior management structures and personnel in response to fraud, reflects a belief that penalising senior management encourages both the development and the effective implementation of control systems. It does, however, raise questions concerning the ability of banking supervisors to penalise appropriate management at lower levels in the institutional hierarchy. Further, although many countries such as Japan, France, Denmark and Belgium have the power to implement fines at an institutional level, they invoke such powers only rarely, if at all. Other jurisdictions such as Ireland and the Netherlands do not even permit such sanctions.

In contrast, the Office of the Comptroller of the Currency (OCC) in the USA, and both the Italian and Spanish banking authorities have frequently fined individuals (at all levels) in banks. Italian authorities levied fines in an average of 80–85 cases in the three years from 1994–96, while the OCC levied a total of 614 fines, mainly against individuals in the six years from 1991–97.

Individual and institutional fines are a more prevalent strategy adopted by securities market regulators. The National Asso-

ciation of Securities Dealers (NASD) in the USA permits senior management to delegate the responsibility for compliance and monitoring, refusing to sanction senior management if such delegation has legitimately occurred. It also actively imposes fines on the direct supervisor of an employee involved in unauthorised trading. The Securities and Futures Authority (SFA) in the UK has regularly employed all three types of *ex post* sanctions identified earlier. SFA notices indicate that between 1991 and March 1997, 52 per cent of the penalties imposed against individuals (usually senior management) were fines, and 46 per cent involved suspension from the industry. The fines usually arose from control failures, while the bans were often linked to engaging in fraud. In about 20 per cent of SFA sanction cases the institution itself was fined. These instances usually involved breaching reporting requirements, exceeding dealing authority or placing misleading advertisements. The results of the empirical work identifying the impact of various forms of regulation in reducing the losses from fraudulent activity is now summarised.

### **UNAUTHORISED TRADING: CASE STUDY DESCRIPTIONS**

The 37 cases of unauthorised trading fraud, involve 34 financial institutions in eight countries (USA, UK, Italy, Japan, Singapore, Hong Kong, China and Chile). The frauds occur over the period 1984–1999. Certain criteria influenced the cases selected. First, the nature of the activity under consideration constrains the initial sample to cases for which a substantial amount of information exists in the public domain. The studies' sources of fraud data are widespread, including commissioned reports, law reports, court papers and electronic databases among others. In many cases, further details can be obtained from the affected banks. All information must be

substantiated, and in the final analysis care is taken to exclude information for which independent corroborating evidence cannot be obtained. As such, the authors believe the information is reliable and accurate. It is fully acknowledged that the selection of case studies is non-random (a random sample is impossible to obtain) and contains an element of 'newsworthiness bias'.<sup>8</sup> The very fact that the analysed cases are newsworthy implies however, that they are those which are likely to have the biggest impact on public policy recommendations, a consideration which is of paramount importance in the present context.

Secondly, fraudulent activity in which subordinate employees acted without the knowledge of the institution's senior management and shareholder is considered. All 37 employees in the data set are male insiders employed in a trading function. For 54 per cent of the 'respondents', direct financial gain seems to be the main behavioural motivation, while 46 per cent sought to conceal trading losses.<sup>9</sup> In about 20 per cent of the cases, the fraudster is described in news reports as having a 'whiz-kid', maverick or risk-taker reputation within their institutions or among their peer group. This enables the authors to investigate whether relatively lax supervision of such individuals contributes to fraud as some anecdotal evidence would lead one to believe.

#### **UNAUTHORISED TRADING: ANALYSING THE RISK FACTORS**

As the purpose of the overview in this paper is to synthesise and evaluate the central findings from a series of independent analyses, it is not necessary to provide the specific details of the various empirical techniques employed. These can be found in the relevant papers and reports.<sup>10</sup> It is noted, however, that the case study analyses generally proceed by identifying the characteristics (personnel factors, *modus*

*operandi*, means of detection, etc.) of each individual fraud. These characteristics are then benchmarked against the basic principles and procedures that the BIS and Federal Deposit Insurance Corporation (FDIC) maintain are the major activities that should underpin the assessment of a financial institution's internal fraud control systems.<sup>11</sup> These principle activities are summarised in Table 1.

The results of this benchmarking exercise provide a potential foundation for the design of fraud and operational risk indexing.<sup>12</sup> The empirical work undertakes indexing along several dimensions, including one or more of the following. First, scaling the internal controls of a financial institution as one or zero, depending on whether some relevant control is in place or not. Secondly, assessing the overall strength of an institution's controls on a scale which reflects the existing percentage of acceptable controls. Thirdly, calculating the relative strength of a firm's controls *vis-à-vis* a comparison with the equivalent in comparable institutions.

The case study results are not only analysed on a stand-alone basis, but are also incorporated into quantitative empirical models which seek to investigate the likelihood, incidence or severity of fraud losses in financial institutions. These studies relate the severity of fraud losses to three different sets of explanatory variables using a variety of alternative statistical specifications to ensure robustness. Two specifications, namely two-tier regression analyses and general-to-specific methodology are utilised most extensively. Again, details of specific procedures can be found in the relevant studies.

The first set of explanatory variables reflect the internal operational risk controls and other institutional characteristics prevalent in the fraud-impacted institution. These variables are constructed with reference to the results of the indexing

**Table 1** Principle activities adopted for the benchmarking analysis of internal control systems in the case studies

<i>Principle</i>	<i>Task</i>	<i>Responsibility</i>
<b>A. Management oversight and the control culture</b>		
1.	Understand, set limits and oversee the identification, monitoring and controlling of these risks	Board of Directors
2.	Setting appropriate internal control policies, monitoring the effectiveness of the internal control system	Senior management
3.	Promoting high ethical and integrity standards, spreading a culture of controls throughout the bank	Senior management and Board of Directors
<b>B. Risk assessment</b>		
4.	Identification and evaluation of the internal and external factors that affect the bank's risk profile	Senior management
5.	Continuing re-evaluation and updating of internal controls to incorporate new products, processes and regimes	Senior management
<b>C. Control activities</b>		
6.	Top level reviews, appropriate activity controls for different units, physical controls, checking compliance with limits, approval and authorisation systems, verification and reconciliation systems	Senior management
7.	Segregation of duties, and monitoring of same to check for conflicting responsibilities as well as potential conflict of interest	Senior management
<b>D. Information and communication</b>		
8.	Ensure that timely, reliable and accessible information on internal and external market conditions are made available for decision making	Senior management
9.	Ensure the effective communication of policies and procedures throughout the bank	Senior management
10.	Set up, secure and test appropriate information systems that cover all the activities of the bank	Senior management
<b>E. Monitoring</b>		
11.	Continuous monitoring of the overall effectiveness of the bank's internal controls. Daily monitoring of key risks	Senior management
12.	Effective and comprehensive internal audit of the internal control systems. Staff responsible for this duty to report directly to the Board of Directors or the audit committee and to senior management	Internal auditors
13.	Identified control deficiencies to be reported to appropriate management level and rectified in a timely manner. Senior management and the BOD to be notified of material control weaknesses.	Internal auditors

procedure from the case study analysis. The second group consists of those legislated regulatory sanctions that the fraudulent employee, the supervisor and their institution can, on the basis of legal precedents, rationally expect to be imposed in the aftermath of a fraud. The models thus provide a platform to test the relative influence of the various regulatory sanctions available to policymakers on the severity of fraud losses. The third set of variables proxy for the institutional environment aspects of fraud, such as pressures to perform, target attainment, performance bonus measures, star trader status etc. As far as the authors are aware, these studies are the first to provide explicit empirical estimates of the relationship between the internal and external control environment and the extent of fraudulent activity.

#### KEY RESULTS AND CONCLUSIONS

The central conclusions which emerge from these studies are as follows. Internal operational risk controls and *ex post* regulatory sanctions are complementary in the fraud mitigation process. The former must, however, shoulder the major burden of fraud loss prevention. In this context, the internal verification of payments/trades, and the independent valuation of portfolio positions and products play the most significant role among all the internal operational controls in reducing losses from fraud. The establishment and monitoring of dealing or other appropriate trading limits is also found to be of central importance in preventing unauthorised trading. Clearly, this latter finding is perhaps not surprising, as it accords with recommendations following inquiries into high-publicity frauds (such as those at Barings and Daiwa).

In terms of identifying the extent to which credible regulatory threats to impose costly penalties upon fraud detection will mitigate fraud, the key conclu-

sions are as follows. Reprimanding or fining the individual fraud perpetrator appears to have no measurable impact on fraud reduction. While such penalties can be justified on the basis of other criteria, there appears to be no apparent deterrent effect as far as a potential fraudster is concerned. There is strong corroboration for the proposition advanced by the Bank of England, among others, that generating the correct incentives for those senior managers responsible for the operational risk implementation and monitoring process appears paramount in reducing fraud losses. The results of the present analyses give one reason to believe that this may be most efficiently implemented through the threat of regulatory sanctions. Another key policy relevant result is that instituting penalties (fines) at the level of the institution has little effect on the nature or incidence of fraud. This is consistent with the view that given neither the perpetrators of fraud nor responsible management bear the full direct costs associated with penalties levied upon institutions, these individuals do not internalise the associated disincentive effects when making decisions. Viewed collectively, the results support the notion that effective supervision and monitoring is a function best delegated to the appropriate level of management. Crucially, however, this must come hand-in-hand with an effective mechanism in place to penalise appropriately the relevant management team for any perceived recalcitrance in implementing the appropriate control systems and/or for negligence in monitoring. This accords most closely with the current practices followed by security market regulators as opposed to banking supervisors (except in those jurisdictions noted earlier). The results suggest that a revision of regulatory policy in the banking sector along the lines suggested may be warranted.

Finally, it is noted that while increased product complexity appears positively



associated with fraud losses, such losses are not significantly related to the perception that an individual is a trading 'superstar'. This implies that *ceteris paribus*, (apparently) relatively lax supervision of such traders is not a significant contributing factor to fraud losses. Another interpretation is that 'star' traders are no more motivated to engage in unauthorised trading than their less illustrious colleagues. This may reflect a reluctance to sacrifice the already lucrative rewards they are reaping from bona fide trades.

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#### REFERENCES

- (1) Goodhart, C., Hartmann, P., Llewellyn, D., Rojas-Suarez, L. and Weisbrod, S. (1998) 'Financial Regulation: Why, how and where now?', published in association with the Bank of England, Routledge, and Benston, G.J. (1998) 'Regulating financial markets: A critique and some proposals', Hobart Paper 135, Institute of Economics Affairs, are both instructive on this issue.
- (2) Instefjord, N., Jackson, P. and Perraudin, W. (1998a) 'Securities fraud', *Economic Policy*, Vol. 27, pp. 587–623, critically evaluates existing thinking on this issue. A related discussion is contained in Instefjord, N., Jackson, P. and Perraudin, W. (1998b) 'Securities fraud and irregularities: Case studies and issues for senior management', in 'Operational risk and financial institutions', Risk Publications (in association with Arthur Andersen), London, pp. 147–158.
- (3) Bank for International Settlements (1998) 'Framework for the evaluation of internal control systems', Basle Committee on Banking Supervision, Basle, pp. 1–29.
- (4) See the essays in 'Operational risk and financial institutions', Risk Publications (in association with Arthur Andersen), London, 1998.
- (5) The Securities and Futures Authority (SFA) in the UK was one of the first to introduce variable capital requirements for the credit exposures of securities firms. This enabled it substantially to increase capital requirements for those securities firms perceived as having poor risk management procedures. Moreover, regulatory authorities are also endowed with the discretion to vary the intensity of any supervisory activity. This ability can be utilised in two ways. First, it can be designed as a mechanism to encourage management to improve their controls. The RATE system, currently evolving in the UK, is designed to be able to provide banking supervisors with an assessment of the risk profile of financial institutions which also incorporates an analysis of the adequacy of an institution's risk control systems. Secondly, supervision frequency and/or intensity can be increased in response to any revealed inadequacies of internal controls.
- (6) Bowe, M. and Hall, M. (1998) 'A comparison of capital standards and proprietary surveillance as mechanisms for regulating financial market risk in the EU', *International Journal of Finance and Economics*, Vol. 3, pp. 303–320. Instefjord *et al.* (1998a) *op. cit.*
- (7) Instefjord *et al.* (1998a) *op. cit.*
- (8) Summers, S. L. and Sweeney, J. T. (1998) 'Fraudulently misstated financial statements and insider trading: An empirical analysis', *The Accounting Review*, Vol. 73, No. 1, pp. 131–146.
- (9) Clearly, indirect financial gain via promotions, bonuses and so on remains a factor even for the concealment-only cases.
- (10) See Bowe, M. and Jobome, G. (2000) 'Managing operational risk: Implications from the analysis of securities fraud', Proceedings of 3rd International Conference of the Association of Business and Administrative Sciences, Prague, July, <http://www.sba.muohio.edu/abas/conf2000.html>. 'Fraudulent activity in financial institutions and optimal incentive structures for managing operational risk', Proceedings

of a conference: 'Preparing the manager of the 21st Century', Thessaloniki, Greece, December 1999, available at [http://www.uom.gr/event/conf\\_manager.html](http://www.uom.gr/event/conf_manager.html). Further unpublished reports constituting work in progress are available from the current authors on request.

- (11) Federal Deposit Insurance Corporation (1997) 'An examination of the banking

crises of the 1980s and early 1990s: History of the eighties, lessons for the future', Washington, DC: Federal Deposit Insurance Corporations. BIS (1998) *op. cit.*

- (12) Caplan, D. (1999) 'Internal controls and the detection of management fraud', *Journal of Accounting Research*, Vol. 37, No. 1, pp. 101–117.