Introduction

The intertwined history of fraud and finance is a long and colourful one. From Charles Ponzi, whose stamp speculation scheme in the 1920s promised an initial investment of $1000 could be turned into $1500 in just 45 days (Baker and Faulkner 2003) to the recent US$65 billion Bernard L. Madoff (hereafter referred to as Madoff) scandal (Benson 2009), the core design feature of the charade remains the same. Ponzi schemes involve the originator of the scheme raising money from investors who believe they are investing in a legitimate business or investment strategy. In fact, the returns from Ponzi schemes actually come from the cash deposited by the next investor and, as long as new investors continue to contribute cash, existing investors receive their distributions and have no reason to suspect fraudulent activity. Ultimately, Ponzi schemes are exposed when the liquidity demands of investors exceed that of the Ponzi founder to source new investments (Benson 2009). While the magnitude of Madoff’s activities as discussed in this paper is unprecedented, there have been several Ponzi schemes detected over the last two decades suggesting the need for ongoing vigilance. Table 1 provides an illustrative history of recent Ponzi schemes.

Cash starvation leads to Pohzi scheme identification

One of the ironies of the GFC is that it has been the single greatest catalyst for fraud identification in financial services for many decades. As the GFC began to reverberate around the globe in mid 2007, investors clamoured to redeem hundreds of billions of dollars from investment schemes, as they looked for some protection against the heightened downside volatility of the financial markets. The extent of investor panic during this period was felt most acutely by the global hedge fund industry. By way of example, it has been reported that:

...investors pulled US$103 billion out of hedge funds in the first three months of 2009 alone, further shrinking the size of the once red-hot asset class to US$1.3 trillion. The hedge fund industry now manages US$600 billion less than it did at its peak during the middle of 2008 (Giannone 2009).

In a matter of two years, the pool of funds under management by global hedge fund managers has shrunk by around one-third.

As one of the largest hedge fund managers in the world, Madoff was not immune to the volatility of the GFC and investors seeking to redeem their funds. Madoff, and his associated feeder funds (an important issue we will return to later in the paper), dominated the hedge fund category known as equity market neutral (at their zenith, Madoff-related funds accounted for around 40 per cent of this category). As one of the largest players in the equity market neutral space, any investor requiring liquidity would simply submit their redemption request to a Madoff-related fund as part of the normal course of adjusting their

<table>
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<th>Table 1: Tour de Ponzi</th>
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<tr>
<td><strong>Case</strong></td>
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<tr>
<td>Barry Minkow</td>
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<tr>
<td>Steven Hoffenberg</td>
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<td>Patrick Bennett</td>
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<td>John G Bennett Jr</td>
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<td>Angelo Hallianni</td>
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<td>Kirk S Wright</td>
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<td>Bernard L. Madoff</td>
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(Wolf Street Journal 2009)
Ponzimonium and the rise of the mini-Madoff syndrome

The demand for cash in a Ponzi scheme can be so acute that within a matter of months of investors redeeming funds, the scheme can completely unravel. One of the leading US regulators, the Commodity Futures Trading Commission (CFTC) uncovered 13 Ponzi schemes in 2008 and, at the end of the first quarter of 2009, a further 19 Ponzi schemes were identified. Commissioner of the CFTC, Mr Bart Chilton, described the problem as 'rampant Ponzimonium' and a 'Ponzi-Palooza' (a play on Lollapalooza, a US music festival featuring a long list of acts) (Szep 2009). During the period October 2008 to January 2009, the US Securities and Exchange Commission (SEC) obtained court orders against a further nine alleged Ponzi schemes (SEC 2009a).

The US experience is not unique. At the time of writing, there are several alleged Ponzi schemes being investigated around the globe, including a major investigation being conducted in the UK. The UK investigation targets irregularities in an allegedly bogus high-yield Ponzi fund (UK Serious Fraud Office 2009). South African police and financial regulators are currently investigating a suspected Ponzi scheme that allegedly cost investors in several countries over US$1 billion (Rose 2009). Further evidence on the global rise of Ponzi schemes is provided in an IMF working paper by Carvajal et al. (2009) documenting the uncovering of Ponzi schemes in a diverse range of countries including the Caribbean, Columbia, Lesotho and Albania.

Moving forward and taking what positives that can be garnered from these series of events, it is our conjecture that future systems of fraud detection need to reconsider the type and role of internal and external controls. As stated by Michel (2008, p. 385), ‘a criminal or fraudulent transaction is usually the result of a risk-management failure’. As such, we seek to reflect on some of the specifics of the Madoff case that can be used to inform strategies that may prevent, or at least limit, the extent of such fraud in the future.
The fraud triangle

Fraud and financial crime are two terms that reside within white-collar crime literature. Within this literature, considerable debate exists over the categorisation and definitional boundaries of various aspects of white-collar crime (Coleman 2002; Croall 2001; Shapiro 1980). Therefore, we provide a clear definition of fraud and financial crime and a brief overview of the theoretical and empirical context used to analyse the Madoff case.

Fraud is an encompassing term referring to 'offences that involve obtaining material advantage by making false representations' (Croall 2001, p. 161). More specifically, fraud involves 'the deliberate actions taken by management at any level to deceive, con, swindle, or cheat investors or other key stakeholders' (Zahra et al. 2005, p. 804). Financial fraud, as interpreted by Coleman (2002), constitutes a sub-category of white-collar crime. Financial fraud or finance crime more generally, relates to criminal activity that occurs within the context of high-level finance, ranging from frauds in the securities markets to banking (Friedrichs 2007).

From a theoretical standpoint, we draw on one of the seminal contributions to the field of fraud and finance provided by Cressey (1953) and his focus on embezzlement. Cressey's work entitled, Other people's money: a study in the social psychology of embezzlement, introduced the fraud triangle framework, graphically depicted in Figure 1. The fraud triangle captures the factors that must work in concert for fraud to be perpetrated. Cressey's objective was to understand what made embezzlers different from those who do not embezzle—specifically, examining what led people who were entrusted with other people's money to violate that trust, and how they operated (Greenberg and Tomlinson 2004).

Cressey's theory suggests that in order for an individual to commit fraud, three elements must be present: opportunity, motivation and rationalisation—the fraud triangle. The strength of Cressey's theory is that it includes both endogenous and exogenous factors relating to the individual(s) perpetrating the fraud to be analysed. Endogenous (or psychologically-based) factors in fraud may include the motivation and rationalisation of the fraudster (see Duffield and Grabosky 2001 for a more complete discussion). The exogenous factor of opportunity involves those circumstances that exist, which allow some type of misappropriation of assets to occur (McNeal and Michelman 2006). However, as discussed by Coleman (2002), criminal behaviour cannot be adequately explained by motivation alone. In short, motivation is severely limited by opportunity.

![Motivation]

Pressure and incentives misappropriate cash or other assets

![Opportunity]

Circumstances that allow the misappropriation of cash or other assets to be carried out

![Rationalisation]

A frame of mind and/or ethical character that allows the intentional misappropriation of cash or other assets and the subsequent justification of dishonest actions

Figure 1 The fraud triangle
This paper explores some of the more exogenous components of opportunity. Opportunity is particularly relevant to the Madoff case and more generally financial fraud, given that research has suggested that the opportunity for fraud is influenced by organisational and occupational specificity (Coleman 2002; Friedrichs 2007). Some occupational and organisational contexts provide greater possibility and opportunity for fraudulent behaviour to occur (Coleman 2002). Not surprisingly, those contexts that legitimately involve financial dealings are particularly amenable to fraudulent activity (Coleman 2002; Rosoff et al. 1998).

So whilst it is acknowledged that the convergence of all factors within the fraud triangle is what ultimately results in fraud, from a crime-prevention and detection perspective, the opportunity component of fraud allows direct consideration of how the likelihood of fraudulent activity can be diminished. It is argued here, as elsewhere, an important mechanism of opportunity reduction is through the establishment of adequate controls (McNeil and Michelman 2006; Michel 2008).

A recent report by the Association of Certified Fraud Examiners (2008) provides some relevant and important findings in respect to how fraud is typically uncovered (see Table 2). Interestingly, whilst formal mechanisms such as internal/external audits and internal controls feature, the role of informal mechanisms (such as tips and the discovery of fraud simply by accident) are the most frequent precursor to fraud detection.

<table>
<thead>
<tr>
<th>Method</th>
<th>Percentage</th>
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<tr>
<td>Tip</td>
<td>46.2%</td>
</tr>
<tr>
<td>Internal controls</td>
<td>23.3%</td>
</tr>
<tr>
<td>By accident</td>
<td>20.0%</td>
</tr>
<tr>
<td>Internal audit</td>
<td>19.4%</td>
</tr>
<tr>
<td>External audit</td>
<td>9.1%</td>
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<tr>
<td>Notified by police</td>
<td>3.2%</td>
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(Association of Certified Fraud Examiners 2008)

Note: Some frauds had more than one reported method of detection, causing the percentages to exceed 100 per cent.
Bernard L Madoff Investment Securities LLC.

This brings us to reflect on some of the specifics of the Madoff case. Bernard L. Madoff was a former non-executive chairman of NASDAQ—one of the largest stock exchanges in North America. The news of the Ponzi scheme that broke in late 2008 was met with reactions such as shock and disbelief (Traders Magazine 2008). Madoff, once regarded by his peers as an industry leader, fell from grace and was relegated to the status of what Sutherland (1940) would have surely termed—a white-collar criminal. Using Michel's (2008) definition of white-collar criminals, Madoff was an expert and professional in his field, whose actions within the business environment were underpinned with wrongful intentions.

The work of Cressey (1953) and the survey results of the Association of Certified Fraud Examiners (2008) underscore the importance of establishing a systematic mechanism or framework that is able to identify red flags or anomalies to detect fraudulent behaviour within the seemingly legitimate practices of finance professionals. Moreover, the establishment of a system that facilitates the total prevention (or at the least early detection) of fraud is a necessity. Given that Madoff grew his Ponzi scheme for nearly two decades (SEC v. Madoff, Bernard L. Madoff Investment Securities LLC), how could there be no clues that the fraud was occurring? Moreover, what were the external controls in place, and why did they not lead to the earlier detection of such sustained fraudulent activity?
Red flags and anomalies

The Madoff case is complex and multifaceted. The analysis undertaken in this paper centres on anomalies related to several specific external regulatory mechanisms that were in place during the life of Madoff's Ponzi scheme (for a broader, conceptual discussion of general regulation theory and regulatory responses see Baldwin and Cave 1998; Foley 2004; Gunningham and Grabosky 1998). Red flags (or anomalies) are a set of circumstances that are unusual in nature or vary from the normal activity—it is a signal that something out of the ordinary has or is occurring and may need to be investigated further (Grabosky and Duffield 2001; Michel 2008). Therefore, while anomalous behaviour may not necessarily be confirmation of guilt, it may be a warning sign of fraudulent activity.

Specifically, this paper examines red flags related to the role of feeder funds and the use of external auditors as identified in the Madoff case. It is acknowledged that this list is not exhaustive; however, these two areas of discussion provide an illustrative example of the failure to detect anomalies in external control mechanisms.

Building the pyramid—the role of the feeder funds

The due diligence specialists, New York-based Aksia LLC (2008), an adviser to hedge fund investors and independent fraud investigator, specifically identified a red flag in relation to the role of feeder funds prior to the collapse of the Madoff empire. The red flag raised in this instance related to the issue of contracting. Instead of contracting directly with Bernard L. Madoff Investment Securities LLC (Madoff Securities), the bulk of investors were clients of feeder funds where, in several cases, the sole investment was with Madoff Securities.

Recent reports, such as that provided by Lauricella (2009), suggest that firms that funnelled investor money into Madoff Securities, likely took in at least $790 million in fees over the years. Furthermore:

‘The biggest feeder fund was operated by Fairfield Greenwich Group, which first placed money with Mr. Madoff in 1989. On its main Madoff conduit, the Fairfield Sentry fund, the firm for many years took as a management fee 20% of profits earned by investors. In October 2004, it also began collecting a 1% fee on assets under management (Lauricella 2009).’
While the level of fees charged in isolation may not be a smoking gun, these fees were being charged by the feeder funds whose primary task was not to manage the money; that is, these fees were not compensation for generating attractive investment returns. It is now alleged that fees were being paid simply to channel money into Madoff Securities. Based on court documents detailing Madoff’s client lists, a complex visual representation of the feeder-fund network that supported the need of the Ponzi scheme to continually gain new investor contributions has been revealed (see Krebs 2009).

A further anomaly relating to the issue of feeder funds that was identified by various sources, including Aksia LLC (2008), centred on the controversial fee structure employed by Madoff Securities itself. Unlike the rest of the hedge-fund industry, that typically charge a fee on the assets under management and a performance fee, Madoff did not charge any fees to feeder funds (like the Fairfield Sentry fund). It has been reported that:

... instead, his market-making unit earned commissions from doing all the trades for his investment operations. That is a conflict of interest because, in theory, a manager could churn his portfolio to earn more commissions (Barr 2008).

The external control issues relating to the role of feeder funds are troubling indeed, particularly the radically different remuneration arrangements struck with Madoff. As Gregoriou and L’Habitant (2009, p. 89) neatly summarise, ‘some of the salient operational features common to best-of-breed hedge funds were clearly missing from Madoff’s operations’.

External auditor capability and alleged auditor shopping

More red flags become evident when examining the auditing arrangements of the various feeder funds and Madoff Securities itself. The auditing literature stresses the importance of a red-flag based methodology in the fight against fraud (see Krambia-Kapardis 2001). Further, Black (2005) identifies that external audits can be effectively used by CEOs and senior management to support and assist the fraud being enacted through the manipulation of the audit systems and process. External auditors, at times unwittingly, assist in the fraud by endorsing the legitimacy and health of the business (Black 2005). In this section of the paper, we simply consider the appointment of external auditors, we do not explore the efficacy (or otherwise) of the external audit process.

In testimony heard before the US Congress in early 2009, it was reported that Fairfield Greenwich had invested about half of its total assets of US$14.1 billion with Madoff Securities. Waxler (2009) reported that:

... given the scale of those assets, one would expect the firm to hire a major accounting firm, or at least an auditor commonly used by the big funds of funds. Instead, in 2004, Fairfield Greenwich appeared to embark on a three-year auditing shopping spree, in which it first entrusted its auditing needs to Berkow, Schchter & Co. of Stamford. Next up for 2005 was PricewaterhouseCoopers in the Netherlands. Then in 2006, it was still PricewaterhouseCoopers, but in Canada. This alleged auditor shopping would not be an encouraging sign.
Toward a system of detection

Madoff stated that he began his Ponzi scheme in 1991 (SEC 2009b). Over an 18-year period, several red flags and anomalies had been identified, but still the Ponzi scheme flourished. And, although the red flags explored in this paper are not the complete list, they seem alarmingly obvious … in hindsight. The challenge for designers of fraud-detection systems relates directly to this most critical of features—overcoming hindsight bias. Fischhoff’s (1975) groundbreaking work on the effect of outcome knowledge on judgement under conditions of uncertainty has spawned an industry of academic and industry research on the identification and management of hindsight bias. What becomes apparent from Fischhoff’s work and subsequent studies is that it appears that hindsight bias is hard wired into the human condition. We can reflect the various investigations into the 9/11 terror attacks or, more recently, the sub-prime lending crisis, the collapse of Lehman Brothers and the long list of red flags that were supposedly clearly evident in the lead up to those events.

Perhaps what is clear from the Madoff case (and previous major events) is that single red flags, or isolated episodes of anomalous behaviour, were not a smoking gun in their own right. As noted, internal and external audit functions lead to a comparatively small proportion of all fraud detections (ACFE 2008). Based on the Madoff case, how then do we respond to the questions of why the ongoing fraudulent activity was not detected earlier? Moreover, why did it take the fracture of the financial system initiated by the GFC to expose the behaviour of Madoff and others?

Our reflections on the Madoff case indicate that approaches to fraud, particularly those that seek to detect fraudulent activity as a result of Ponzi-like schemes, need to employ a multi-dimensional approach to fraud detection, acknowledging the complementarity of internal and external controls. If a system of fraud detection, which embodies a more proactive, preventative approach is to be achieved, further work needs to be done on developing a systematic approach that allows simple, effective and timely detection of multiple smoking guns. In Madoff’s case, the GFC was an important trigger in uncovering a veritable cache of weapons.
References


Cressey, D1953, Other people's money: a study in the social psychology of embezzlement, Free Press, Glencoe.


Foley, T 2004, 'Using a responsive regulatory pyramid in environmental regulation', keynote presentation at, Queensland Environmental Law Association Conference, Cairns, 12–14 May.


Kramb-Akapardis, M 2001, Enhancing the auditor's fraud detection ability: an interdisciplinary approach, Peter Lang, Frankfurt.


Ponzioniun—Madoff and the red flags of fraud—Dr Jacqueline M Drew is a lecturer in the School of Criminology and Criminal Justice, Griffith University. Professor Michael E Drew is Discipline Head of Finance and Financial Planning in the Department of Accounting, Finance and Economics in the Griffith Business School, Griffith University.