

**UNCOVERING THE ICEBERG: MANDATING THE
MEASUREMENT OF FRAUD**

Martin James Tunley

**University of Portsmouth
Institute of Criminal Justice Studies**

September 2013

**Thesis submitted in partial fulfilment for the
requirements of the Professional Doctorate in
Criminal Justice Studies (DCrimJ)**

**Institute of Criminal Justice Studies Professional Doctorate in
Criminal Justice Studies (DCrimJ)**

**Thesis submitted as partial requirement for the award of a
Professional Doctorate in Criminal Justice Studies (DCrimJ)**

Title: Uncovering the Iceberg: Mandating the Measurement of
Fraud

Submitted by: Martin James Tunley

Declaration:

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

I confirm that, subject to final approval by the Board of Examiners of the Institute of Criminal Justice Studies, a copy of this thesis may be placed upon the shelves of the library of the University of Portsmouth and may be circulated as required.

Signed:



Date: 1st September 2013

Table of Contents

Abstract.....	14
Acknowledgements.....	16
Chapter 1: The Issue.....	17
Introduction.....	17
Context.....	17
What is Fraud?.....	19
Why do we Measure Crime and Fraud?.....	22
Do we really look for Fraud?.....	23
How do we Measure Fraud?.....	24
Fraud: The Current Picture.....	26
Options for Change.....	28
Justifying State Intervention.....	38
How to Regulate?.....	51
The Research Argument.....	60
Why is this Research worth Doing?.....	61
Thesis Outline.....	66
Conclusion.....	67
Chapter 2: Literature Review.....	69
Introduction.....	69
The 'Dark Figure of Crime'.....	70
The 'Dark Figure of Fraud'.....	72
Crime Statistics.....	74
Crime Surveys.....	78
Fraud within Crime Statistics.....	80
Fraud in Crime Surveys.....	82
Sources (Inclusion/Exclusion Criteria).....	86
Search Strategy.....	86
Identified Methodologies and Issues.....	87
Obstacles to Accurate Measurement.....	89
Statistically Valid Loss Measurement Surveys.....	94
Measuring Detected Fraud.....	100

Guestimates.....	101
Impostors.....	124
The Charitable Sector.....	126
Review of Methodologies.....	129
Methodological Deficiencies.....	133
Measuring Fraud in Medicare and Medicaid: A Case Study..	143
Conclusion.....	152
Chapter 3: Methodology.....	154
Introduction.....	154
Method Selection.....	154
Epistemological Perspectives.....	155
Framing the Research Design.....	156
The Qualitative Element.....	158
The Sample.....	159
Structured Interviews.....	162
Interviewing Respondents.....	163
Security of Data.....	165
Transcription and Analysis.....	166
The Quantitative Strand.....	168
Questionnaire Design.....	169
Layout.....	171
The Pilot Study.....	171
Sampling Strategy.....	172
Circulating the Questionnaire.....	175
Launching the Questionnaire.....	176
Response Rates.....	177
Coding and Analysis.....	178
Rigour.....	179
Ethical Considerations.....	183
Limitations.....	183
Conclusion.....	186

Chapter 4: What, When, Who, Why and How?.....	187
Introduction.....	187
The Sample.....	188
What is Fraud?.....	191
Do you measure Fraud?.....	194
Why no Measurement?.....	196
Immoral Phlegmatism?.....	202
Is Measurement Important?.....	207
How do we Measure Fraud?.....	213
How often should we Measure Fraud?.....	216
What is Measured?.....	222
Conclusion.....	224
Chapter 5: Laying Down the Law.....	226
Introduction.....	226
Mandating Measurement.....	226
Proactive Measurement.....	235
Creating a Statute.....	237
Legislating Measurement: When, What and How?.....	248
Directing Measurement.....	251
Reporting Findings.....	252
A Fraud Measurement Agency?.....	257
Conclusion.....	259
Chapter 6: The Doctrine of Measurement.....	261
Introduction.....	261
Reliability of Measurement.....	261
Statistically Valid Measurement?.....	264
Creating a Standard.....	270
The Fraud Loss Calculation.....	275
Adopting the Standard.....	277
Mandating Standards.....	282
Developing ‘Best Practice’.....	285
Conclusion.....	290

Chapter 7: Conclusion.....	292
Introduction.....	292
Addressing Immoral Phlegmatism.....	293
Defining Fraud for Measurement Purposes.....	299
Who should Measure.....	301
Increasing Measurement Consistently.....	301
Mandating Measurement.....	303
The Art of Persuasion.....	305
Creating a Statute.....	311
Regulating the Sectors.....	315
Setting a Standard.....	321
Knowledge Management.....	325
Conclusion.....	328
Postscript: Reflecting on Research.....	330
Appendices.....	335
Bibliography.....	352

List of Tables

Table 1: Summation of fraud measurement methodologies.....	130
Table 2: Summation of limitations of fraud loss measurement reports.....	141
Table 3: Please indicate which sector your organisation falls within.....	188
Table 4: What is your position in the organisation?.....	189
Table 5: What is your organisation's function?.....	190
Table 6: Does your organisation measure fraud?.....	194
Table 7: How important do you think the accurate measurement of fraud is?.....	208
Table 8: How important do you think it is to measure fraud in the public sector?.....	209
Table 9: How important do you think it is to measure fraud in the private sector?.....	210
Table 10: How important do you think it is to measure fraud in the Voluntary/charitable sector?.....	212
Table 11: How does your organisation measure fraud?.....	214
Table 12: Percentage proactive/reactive approaches to fraud measurement by sector (based upon confirmatory responses).	215
Table 13: Percentage of fraud measurement exercises by typology conducted annually by sector.....	217
Table 14: How often do you think fraud should be measured?.....	218
Table 15: Should a statute be created to mandate fraud measurement in the UK?.....	227
Table 16: Arguments against mandating fraud measurement.....	228
Table 17: Arguments against the creation of a statute.....	237
Table 18: Which sectors should this proposed legislation apply to?.....	242

List of Tables (Continued)

Table 19: How regularly should mandated fraud measurement exercises be conducted?.....	248
Table 20: Should legislation prescribe what types of fraud are measured?.....	251
Table 21: Should legislation prescribe what fraud measurement methodology is employed?.....	251
Table 22: Should legislation also mandate the publication of fraud loss data?.....	252
Table 23: What are the perceived risks to publishing fraud loss data?....	255
Table 24: What is the level of statistical confidence of your organisation's fraud loss data?.....	264
Table 25: How important is the creation of a British Standard of fraud measurement?.....	270
Table 26: Would a British Standard of fraud measurement be adopted by your organisation?.....	277
Table 27: Which sectors should a British Standard of fraud measurement be applied to?.....	279
Table 28: Should compliance with a British Standard be mandatory within the public sector?.....	282
Table 29: Should compliance with a British Standard be mandatory within the private sector?.....	283
Table 30: Should compliance with a British Standard be mandatory within the voluntary/charitable sector?.....	283
Table 31: How important is the creation of a knowledge management infrastructure for sharing best practice?.....	286
Table 32: Would your organisation participate in a knowledge management infrastructure?.....	288

List of Charts

Chart 1: Does your organisation measure fraud? (Percentages by sector).....	195
Chart 2: If your organisation does not measure fraud please indicate why.....	197
Chart 3: How important do you think the accurate measurement of fraud is? (Percentages by sector).....	209
Chart 4: How important do you think it is to measure fraud in the public sector? (Percentages by sector).....	210
Chart 5: How important do you think it is to measure fraud in the private sector? (Percentages by sector).....	211
Chart 6: How often do you think fraud should be measured? (Percentages by sector).....	219
Chart 7: What types of fraud does your organisation measure?.....	223
Chart 8: Should a statute be created to mandate fraud measurement in the UK? (Percentages by sector).....	227
Chart 9: Which sectors should this proposed legislation apply to? (Percentages by sector).....	243
Chart 10: Should legislation also mandate the publication of fraud loss data? (Percentages by sector).....	253
Chart 11: How important is the creation of a British Standard of fraud measurement? (Percentages by sector).....	256
Chart 12: Would a British Standard of fraud measurement be adopted by your organisation? (Percentages by sector).....	278
Chart 13: Which sectors should a British Standard of fraud measurement be applied to? (Percentages by sector).....	280
Chart 14: Should compliance with a British Standard be mandatory within the public sector? (Percentages by sector).....	282
Chart 15: Should compliance with a British Standard be mandatory within the private sector? (Percentages by sector).....	283

List of Charts (Continued)

Chart 16: Should compliance with a British Standard be mandatory within the voluntary/charitable sector? (Percentages by sector).....	284
Chart 17: How important is the creation of a knowledge management infrastructure for sharing best practice? (Percentages by sector).....	287
Chart 18: Would your organisation participate in a knowledge management infrastructure? (Percentages by sector).....	289

List of Appendices

Appendix 1: Interview Schedule.....	335
Appendix 2: Introductory letter to research participants.....	336
Appendix 3: Web based questionnaire.....	337
Appendix 4: Websites used for sampling frame.....	348
Appendix 5: Questionnaire introductory letter.....	349
Appendix 6: Letter to 'Gatekeepers'.....	350

Abbreviations

ABI	Association of British Insurers
APACS	Association for Payment Clearing Services
BCS	British Crime Survey
BDO	BDO Stoy Hayward
BSI	British Standards Institute
CERT	Credit Industry Fraud Avoidance System
CIFAS	Credit Industry Fraud Avoidance System
CMS	Centers for Medicare and Medicaid Services
DVLA	Driver and Vehicle Licensing Agency
DWP	Department for Work and Pensions
FCIC	Financial Crisis Inquiry Commission
FED	Fraud Error and Debt Taskforce
FSA	Financial Services Authority
HMRC	Her Majesty's Revenue and Customs
IPERA	Improper Payments Elimination and recovery Act of 2010
IPIA	Improper Payments Information Act of 2002
KPMG	Klynveld Peat Marwick Goerdeler
KROLL	Kroll Advisory Solutions
NAO	National Audit Office
NFA	National Fraud Authority
NHS	National Health Service
NHSCFS	NHS Counter Fraud Service

Abbreviations (Continued)

OCJS	Offending, Crime and Justice Survey
OIG	US Office of Inspector General
OMB	US Office of Management and Budget
PAC	Committee of Public Accounts
RAC	Recovery Audit Contractors Program
SOX	Sarbanes-Oxley Act 2002

Abstract

There has been limited academic interest on accurate fraud measurement, and no identifiable published research on practitioner and academic opinion on measurement methods and how the process might be improved to generate a more realistic loss figure. This thesis presents the findings of research conducted as part of a Professional Doctorate in Criminal Justice studies. The project has gathered views from fraud professionals and academics, drawing upon 12 structured qualitative interviews. The opinion of fraud professionals from the public, private and voluntary/charitable sectors has been gathered through the issue of a quantitative web based questionnaire informed by the responses obtained from the qualitative strand. The thesis presents collective opinion on the creation of a standard definition of fraud for measurement purposes, mandating measurement through the creation of a statute based upon empirical evidence provided by the United States (US) Improper Payments Information Act 2002, the implementation of a consistent standard of measurement, and the development of best practice. The research findings have identified a complacent attitude towards fraud and associated business risks, defined as *immoral phlegmatism*. Accordingly, solutions are offered to address this phenomenon within all three sectors. Recommendations are then proffered on how to improve the accuracy of loss figures through the creation of legislation mandating fraud measurement in the public and private sectors, the introduction of a British Standard of measurement, the development of a knowledge exchange infrastructure, and

a marketing campaign to increase fraud awareness and associated business risks.

Acknowledgements

I would like to express my sincere gratitude to the following people for their invaluable assistance and support in the completion of this thesis.

Dr Mark Button and Dr Phil Clements, my two thesis director of studies, for their advice, guidance and direction throughout this research project.

Kassim Noor Mohamed, Pete Fisher and Nick Osborn, my friends, for their support and encouragement throughout my studies.

Chapter 1: The issue

Introduction

This chapter will introduce the research topic by first evidencing why this area of financial loss requires attention. Moving on, the chapter will trace the historical difficulties of defining fraud and how this hampered accurate measurement. The discussion will then examine the question ‘what is fraud?’, before evidencing that accurate fraud loss measurement continues to be something that is aspired to, but rarely achieved. The chapter will then introduce options for change, which are considered to be essential if this issue is to be addressed. Justification for state intervention will be discussed, followed by an assessment of regulatory options appropriate to the options for change previously suggested. Subsequently, I present the research argument followed by a discussion on the value of this research, and how it offers an original contribution to new knowledge within the subject matter, before closing with an outline of the subsequent chapters within this thesis.

Context

“Fraud is currently a very significant socio-economic crime problem, and there is no reason whatever to suppose that its costs...will diminish naturally over time.”

(Levi & Burrows, 2008, p. 316)

“Within the UK there is no current overall picture of the harm fraud causes to the economy and society as a whole.”

(Office of Fair Trading, 2006, p. 6)

There are varying estimates of the cost of fraud to the UK, these ranging from £7 billion to £72 billion. These annual loss figures include the following; £6.8 Billion to £13.8 Billion (NERA, 2000), £16 billion (Norwich Union, 2005), £40 billion (RSM Robson Rodes, 2004) and £72 billion (Mishcon de Reya, (2005). Reviews of these data suggest that losses may range between £14 billion and £72 billion (Fraud Review Team, 2006; Levi, Burrows, Fleming & Hopkins, 2007). During 2010 annual fraud losses by the public sector, private sector and charities were estimated at £30.5 billion (NFA, 2010a, p. 8; NFA, 2010b, p. 1). Interestingly, the most recent estimation estimate total fraud losses to be £73 billion (NFA, 2012).

Clearly, not all these can be correct; consequently, with such a wide disparity of estimates of the cost of fraud, there is a need for an evaluation of existing measurement methodology to develop a more accurate mechanism which produces meaningful data.

What is Fraud?

Introduction

Prior to the Fraud Act 2006, one of the most frequently asked questions was 'what is fraud?'. The Fraud Advisory Panel (1999) observe that the lack of a "comprehensive or universally accepted definition of fraud limits meaningful data analysis" (p. 3), and makes "comparison of statistics from different organisations difficult" (p. 6). Similarly, Doig, Johnson and Levi (2001) conclude that "there are no definitive figures on the cost of fraud; indeed there is no definitive definition of fraud" (p. 91).

The Fraud Review Team (2006) observe that the lack of a legal definition "has seriously hampered the objective measurement of fraud" (pp. 22-23).

Accordingly, organisations apply varying definitions, resulting in no single "robust methodology for fraud" (Fraud Review Team, 2006, pp. 22-23).

Similarly, the Fraud Advisory Panel (2006) remark that "currently there is no precise legal definition of fraud" (p. 2). Interestingly, the Fraud Advisory Panel's (1999) study of published literature on fraud identifies only one report offering a definition of fraud (p. 6), describing fraud as "the use of deception with the intention of obtaining advantage, avoiding an obligation or causing loss to a third party" (HM Treasury, 1995, p. 6). This definition, whilst being rather dated, does summarise the key elements of the Fraud Act 2006, and warrants consideration when developing a standard definition for measurement purposes, being both succinct and unambiguous.

The Fraud Act 2006

The Fraud Act 2006, “makes a number of fundamental alterations to the general understanding of fraud” (Johnson & Rogers, 2007, p. 296).

Specifically, that fraud can be perpetrated in three clearly defined ways (Summers, 2008, p. 12). These being,

- By false representation.
- By abuse of position.
- By failure to disclose.

(Farrell et al, 2007, pp.1-2)

The stated objective of the Fraud Act “is to make the law of fraud more simple and readily understandable” (Farrell et al 2007, p. 11). Arguably, this statute achieves this by offering a description of how fraud is committed, however it fails to answer the definitional question of what actually constitutes fraud.

Optimistically, Hoare (2007) argues that this statute facilitates “effective measurement of fraud” by making “recording and reporting fraud easier” (p. 277). Whilst being of relevance to this research, this view is based upon the presumption that fraud losses may only be measured using reported or detected data, which is no longer the case, and will be discussed later in this chapter.

Post Fraud Act 2006

Unfortunately, this statute has failed to address the problem of multiple definitions of fraud, because “drafting for legal purposes seldom provides...behavioural categorisation that corresponds to the way individuals and businesses categorise frauds” (Levi, Burrows, Fleming and Hopkins, 2007, p. 9). This observation being evidenced by the continuing range of fraud definitions used for measurement purposes following the introduction of this statute. Interestingly, Levi and Burrows (2008), when examining the impact of fraud, create their own definition, describing it as “obtaining...financial advantage or causing of loss by implicit or explicit deception; it is the mechanism through which the fraudster gains an unlawful advantage or causes unlawful loss” (p. 299). The Audit Commission (2009) offer another definition, suggesting it is “any intentional false representation, including failure to declare information or abuse of position that is carried out to make gain, cause loss or expose another to the risk of loss” (p. 9). An examination of both definitions identifies important common themes of note relating to financial gain and causing loss.

The Civil Definition of Fraud: Derry v Peek (1889)

Gee, Button and Cook (2011) argue that “the criminal law” relating to fraud is used to punish individual fraudsters, whereas, the civil law is used “to recover losses” (p.15). Drawing upon Derry v Peek (1889), fraud is considered to have been proved “when it is shown that a false representation has been made (a)

knowingly, or (b) without belief in its truth, or (c) recklessly, careless whether it be true or false” (Keenan, 2007, p. 772). I contend that because *Derry v Peek* (1889) utilises the balance of probabilities rather than ‘beyond reasonable doubt’, thus including cases where fraud is identified but with insufficient evidence for a criminal prosecution, it could be used as a standard fraud definition for the purpose of more accurate loss measurement.

Why do we Measure Crime and Fraud?

It is also worth considering why crime and fraud are actually measured. Foucault (1977; 1979; 2000) argues that collecting information about individuals forms part of a government strategy to extend control over the population. Similarly, Levi and Burrows (2008), make the point that “the collection of crime statistics to serve the panopticon poses a question, namely answers are required concerning what is required and what is not collected by those managing the state” (p. 293). Arguably, this suggests there may be a political agenda in terms of data collection, and explanations are required as to why on occasions the state fails to look too closely at certain crime types. Brand and Price (2000) offer a simple explanation for the collection of crime data, suggesting it provides a way of measuring crime reduction policies (p. 3). In terms of measuring fraud, one of the most compelling arguments for developing accurate measurement, is that without a precise representation of fraud losses, “where do you invest in resources?”, and once mobilised, “where do you deploy your best resources?” (J. Gee, personal communication, May 18, 2009).

Do we really look for Fraud?

Levi & Burrows (2008) observe that any policy encouraging individuals to report fraud may result in perceived increased levels, and create an unachievable public expectation on law enforcement agencies to address this issue (p. 315). Arguably, to alleviate such a risk, it is in the interest of law enforcement agencies and the government to undercount fraud, which may explain the poor quality fraud loss data, which I will discuss later in this chapter.

It is also worthwhile considering the methodology behind the fraud measurement process, specifically why these data are collected, and possible motives for not looking too hard. The Home Office has been criticised for targeting research to suit the government's political agenda, this being "motivated by outcomes that are of immediate benefit to existing political demands" (Walters, 2005, p. 6). This charge may also be levelled at the collection, or in some cases lack of collection, by central government departments of data relating to fraud committed against the department. This will be explored further within the literature review chapter. A significant finding, which I offer in support of the contention that there is a reluctance to look for fraud, is the conclusion within a PriceWaterhouseCoopers (2010) survey *Fraud in the Public Sector*, which reveals that in the preceding twelve months, only 52% of government owned enterprises reported economic crime.

When commenting upon Insurance companies, Doig, Jones and Wait (1999) observe that some institutions prefer to absorb losses because “fraud is seen as another cost associated with increased volume of business or market share” (p. 19). Arguably, this suggests that fraud is considered as a business cost by these organisations, and accordingly should be measured accurately. Furthermore, this reluctance to confront the issue by the private sector due to fear of organisational embarrassment, or in the case of the charitable sector, concern that exposure may impact on donations, may explain the limited engagement with fraud measurement by these sectors. Furthermore, a lack of understanding concerning the amount of potential losses to fraud may result in these organisations believing that it may be more cost effective to ignore rather than address the issue. This thesis will now consider how fraud is measured.

How do we measure Fraud?

“Measuring the extent of fraud is complicated further by fraud being a constantly changing phenomenon.”

(Financial Services Authority, 2003, p. 11)

According to Kirk (2008), “assessing the extent of fraud, and fraud trends, has always been a tough task” (p. 335). Levi and Burrows (2008) conclude that “before an actual fraud comes to be counted” in official statistics “it has to go through a process of being suspected, investigated and identified as such” (p. 310). This is an interesting observation, because it implies that fraud may

only be measured using reported or detected cases, thus illustrating a perception which needs to be addressed if fraud is to be more accurately measured.

There are different mechanisms for measuring fraud used by both the public and private sectors offering varying levels of accuracy and statistical confidence. These include;

- (Censuses drawing on) administrative records of fraud reports.
- Probability and non-probability sample surveys of individuals and firms as fraud victims.
- Audits of probability samples of customers/accounts/transactions/ expenditures to uncover fraud losses.
- Analyses of samples of Suspicious Activity Reports filed on suspicion of money laundering.
- Analyses of samples of offenders convicted of certain frauds or of law enforcement case information.

(Fleming, 2009, p.11)

I suggest that this array of methods explains why there is a range of estimates of the exact cost of fraud, and consequently evidences the need to apply a more consistent approach to loss measurement.

An additional factor impacting upon the calculation of fraud losses, and

offering an explanation for the variety of measures, is that of cost (National Audit Office, 2008a, p. 15). Arguably, the amount of resources devoted to measurement exercises influences the reliability and statistical confidence of resultant data. Limited resources may result in sporadic measurement exercises, with insufficient samples which subsequently generate unreliable data. This issue will be revisited in subsequent chapters, because there is an urgent requirement to change the way fraud losses are viewed. I will also return to the subject of how fraud is measured in the following chapter, when individually critiquing the different approaches to measurement.

Fraud: The current picture

Introduction

Following the Fraud Review (2006), fraud has received significant parliamentary and media attention. This section will identify the developments relevant to this research, and which have informed the research argument, which will be discussed later in this chapter.

Fraud Loss Measurement Unit

The NFA (2009a) aims to make “the UK a more hostile environment for fraud” (p. 5). The now established Measurement Unit, which forms an integral part of the NFA’s risk assessment strategy is of relevance to this objective, being responsible for conducting measurement exercises, whilst also collecting loss

data from organisations within all sectors, these populating the *Annual Fraud Indicator* (NFA, 2010a; NFA, 2011a; NFA, 2012; NFA, 2013), which will be critiqued within the literature review.

Fraud Task Force

The Cabinet Office based Counter Fraud Taskforce on Fraud, Error and Debt proposed within the *Smarter Government* strategy (Her Majesty's Government, 2009), was established in late 2010 "to analyse successful approaches to combat fraud and error cross Government" (NFA, 2011c, p. 4). Led by Francis Maude MP, the Taskforce brings together fraud professionals from the public and private sector, creating a "high level cross-Whitehall group" (Cabinet Office, 2011, p.3). The first 'Taskforce' publication outlines areas of priority, the second of which includes "the independent assessment of the accuracy of estimated and reported losses" (Cabinet Office, 2011, p.14). When discussing consistency however, the only reference is to the adoption of "common and consistent estimates for spend metrics" (p.14). Whilst this is important, it is disappointing that no reference is made to consistent fraud loss measurement, which should be an additional objective.

Options for Change

Introduction

Drawing upon the above, this research project has identified options to address the issue of a significant lack of accurate fraud loss measurement data, limited consistency of data, and a restricted knowledge base. These three options for change; mandating fraud measurement, creating a British Standard and developing an information exchange matrix will now be discussed.

Mandating Fraud Measurement

In the US, the increased prevalence of fraud and error led to Government intervention mandating its measurement in certain public bodies through the Improper Payments Information Act (IPIA) of 2002 (Tunley, 2010a; Button, Gee & Brooks, 2012, p. 69). During fiscal year 2000, the federal government of the United States “expended approximately \$1.8 trillion” and as the “steward of taxpayer’s dollars” is responsible for safeguarding against improper payments (United States General Accounting Office (US GAO), 2001, p.1). Improper payments are defined as “any payments that should not have been made or that were made in an incorrect amount under statutory, contractual, administrative, or other legally applicable requirement” (Gordon & Willox, Jr, 2005, p. 2; US OMB, 2006, p. 2). Improper payments are identified as “a widespread and significant problem” receiving increased attention by the

federal government (US General Accounting Office, 2001, p. 7). To address this issue, the President's Management Agenda for 2002 (United States Office of Management and Budget (US OMB), 2001, pp. 19-21) advocated direct action to improve performance. The resultant Improper Payments Information Act of 2002 requires all Federal agencies to "annually review programs and activities they administer, identify those that may be susceptible to improper payments, and submit a report on actions taken to reduce improper payments" (US Child Care Bureau, 2007, p. 1; Schick, 2007, p. 297). Each agency is also required to report on the capability of their current information systems and infrastructure to support the effort to reduce improper payments (Vallabhaneni, 2008, p. 287).

Agencies are required to systematically review all their "programs" and identify those at risk to significant improper payments, defined as "annual erroneous payments in the program exceeding both 2.5% of the program payments and \$10 million" (US OMB, 2003a, p. 2). Agencies are also required to estimate annual losses by conducting a random sample large enough to "yield an estimate with a 90% confidence interval within 5% precision" (Hatch & McMurtry, 2009, p. 3; White House, n.d.), thus improving the statistical robustness of these data. Finally, agencies must develop and implement a plan to reduce these payments and report these figures to the president through OMB and Congress (Hatch & McMurtry, 2009, p. 3). One important development has been provision for "alternative sampling methodologies" (Hatch & McMurtry, 2009, p. 4) appropriate to individual agency requirements, thus improving statistical validity.

Each Federal Agency is responsible for conducting loss measurement exercises and reporting these findings to the OMB either in the Agency's Performance and Accountability Report or Annual Financial Report (Executive Office of the President, 2011, p. 9). Compliance with the IPIA is policed using each individual agency's Inspectors General, who are politically independent individuals appointed under the Inspector General Act 1978, and responsible for ensuring agency compliance with legislation, and in the case of the IPIA, conducting financial audits in conjunction with the content of the agency's IPIA reporting (US Government Info, n.d.). Each agency Inspector General review verifies publication of improper payment data, and that the agency has conducted a program specific risk assessment for each program identified as meeting the criteria laid down in the statute (Federal Housing Finance Agency Office of Inspector General, 2013, p. 3).

To assist implementation, guidance has been created to improve the management of improper payments (United States Office of Management and Budget (US O.M.B.), 2003a; US OMB, 2003b). Agencies are required to systematically review all their "programs" and identify those at risk to significant improper payments (US OMB, 2003a, p. 2). Re-measurement is also an important part of the process, this providing information on the effectiveness of the control activities put in place and assisting identification of areas requiring further attention (United States General Accounting Office, 2001, p. 48).

There has been renewed focus on improper payments by the Obama administration, which were reported at \$100 billion for Fiscal Year (FY) 2009 (US OMB, 2010, p. 1). Whilst these figures may still be inflated due to the credit crunch, an Executive Order signed by the President on 20 November, 2009 aims to “reduce improper payments by boosting transparency” (US OMB, 2010, p. 1). In the wake of the economic downturn it would not be unreasonable to accept an increase in fraud, however, the continued determination of the US government to reduce fraud is creditable, and a policy the UK government should embrace with similar tangible actions rather than just rhetoric.

To supplement the IPIA, on 22nd July 2010 the Improper Payments Elimination and Recovery Act of 2010 (IPERA) became public law (White House, 2010a). “IPERA greatly expands the scope of the IPIA and also adds the force of law to the requirements in the Executive Order, thereby providing an even stronger incentive for agencies to act” (KPMG Government Institute, 2011, p. 1). The statute “redefines ‘significant’ in terms of dollar levels and from fiscal year 2013 onwards, requires reporting of all improper payments equaling \$10 million or more which amount to 1.5 per cent or more of total outlays of \$100 million or more regardless of what percent they represent of total outlays” (KPMG Government Institute, 2011, p. 1). As a consequence of this supplementary legislation, “many more exercises to measure losses have taken place than would otherwise be the case” (Button & Gee, 2013, p. 72). Furthermore, the statute requires agency heads to conduct recovery audits for “programs that expend \$1 million or more annually”, and “allows agencies to

retain up to 25% of funds recovered” to further address improper payments; a similar figure may also be retained “for the program’s original purpose” (US Social Security Administration, 2010, p. 1).

In March 2010, as a precursor to IPERA, President Obama announced a further initiative to recover improper payments identified through measurement. These being payment recapture audits, which are described as “investigations in which specialized private sector auditors use cutting edge technology and tools to scrutinize government payments and then find and reclaim taxpayer funds paid in error or gained through fraud” (White House, 2010b). Accordingly, the implementation of the IPIA and the subsequent IPERA have had a positive impact on measuring and reducing improper payments, the US OMB (2008) arguing that “Federal agencies can achieve the greatest return on investment for the taxpayer by ensuring improper payments are eliminated in the highest risk programs” (p. 5). Regular measuring and implementation of remedial action has resulted in a continued decrease in the improper payment rate for all programs that commenced measurement between 2004 and 2007, this falling from 4.3% in fiscal year 2004 to 2.8% in fiscal year 2008 (United States Office of Management and Budget, 2009, p. 3). Nevertheless, Hatch & McMurtry (2009) are somewhat critical, arguing that “nearly one third (31%) of the programs in the FY 2004 cohort...have seen no improvement in their error rates after five years of improper payments reporting” (p. 9). When viewed from a different position, these data suggest that over two thirds have demonstrated an improvement in their error rates. This is an admirable achievement, particularly when

compared with the U.K public sector experience. The Department for Work and Pensions (DWP) commenced fraud measurement in 1997, when introducing “a continuous rolling measurement of Income Support and Jobseekers Allowance” (Hoare, 2007, p. 269). Yet it was not until 2004-05, that changes in measurement methodology achieved “improved accuracy” (National Audit Office, 2008b, p.14).

Additional programs commenced measurement in 2008, and as a consequence, the government-wide improper payment rate increased to “a high water mark” of 5.42%” in fiscal year 2009, before decreasing to 4.35% in 2012 (Payment Accuracy, n.d.a). A target of 3.32% has been set for fiscal year 2013 (Payment Accuracy, n.d.b). Furthermore, the United States Government Accountability Office (2012) reports that “we identified 40 federal agency programs, or about 50 percent of the total programs reporting improper payments in fiscal year 2011, that reported a reduction in the error rate of improper payments...when compared to fiscal year 2010 error rates” (p. 9). Additionally, federal agencies reported a decrease in improper payments of \$5.3 billion for fiscal year 2011 compared to the previous year’s figures (p. 5). Further improvements were made during 2012, with President Obama announcing that “by the end of fiscal year (FY) 2012, the Administration will avoid \$50 billion in improper payments” (Payment Accuracy, n.d.c).

Published results also indicate a positive impact in recovering the debt resulting from improper payments. This is evidenced by the fact that “the

government surpassed by more than double a goal the President set in 2010 to “recapture \$2 billion in overpayments to contractors by the end of FY 2012”, the total recovered being “\$4.4 billion” (Payment Accuracy, n.d.c.). I suggest these results evidence the positive impact of mandating fraud loss measurement and setting recovery targets through the creation of legislation, and I contend that this is an option for change worthy of consideration when trying to improve the extent, quality and cost effectiveness of fraud loss measurement within the UK.

Moving on to consider mandating fraud measurement in the private sector, the area that gives cause for concern is the banking sector, where a reluctance to supply mortgage fraud data resulted in an undercounting of banking fraud (NFA, 2010a, pp. 24-25). There is also a likelihood that losses may be recovered through increased costs passed on to the consumer. Furthermore, the revelation that insurance companies make good their fraud losses by increased premiums (Association of British Insurers (A.B.I.), 2009, p. 8) suggests this industry is worthy of consideration for incorporation into any proposed statute. Interestingly, the US also offers an example of where persuasion has been unsuccessful, and it has been necessary for the state to intervene and regulate the insurance industry. As a result, a statute has been created whereby each organisation is legally required to form and maintain a fraud special investigation unit and monitor its performance (Association of Certified Fraud Examiners, 2009, p. 12).

Consequently, I contend that any statute mandating fraud measurement should include an option that, should the NFA suspect banking industry data supplied to be knowingly inaccurate, banks should also be compelled to measure and supply accurate fraud loss data. Similarly, in view of the insurance industry's admission that fraud losses are offset by increased premiums, any statute should include reference to the insurance industry and an option to mandate.

I do however offer one caveat to this recommendation, this being that the proposed exercises based upon statistically valid samples are only applicable to "a relatively homogenous group of transactions" including payroll, procurement, housing, education grant payments, social security and tax credit payments, healthcare payments, insurance claims, pensions, agriculture subsidy payments and compensation claims (Button & Gee, 2013, p. 74).

A British Standard of Fraud Measurement

In 1999 the Council of Standards Australia and New Zealand prepared and adopted a joint standard on risk management to provide a cultural framework for managing risk in order to minimise losses, including fraud (United States General Accounting Office, 2001, p. 13). Within the UK, the British Standards Institution (BSI) (n.d.) "deliver best practice solutions through the development and publication of British Standards and standards-related information" (p.1). These "standards promote and share best practice", supported by a portfolio

of 27,000 British Standards (BSI, n.d., p.1). von Solms (2000) argues that following such a code of practice provides assurance that an organisation has parity with international best practices and such a standard “provides a single reference point” (p.617). Furthermore, to comply with such a standard, and display the British Standard logo, “procedures have to be established and then documented; staff trained to follow procedures” (Mistry & Usherwood, 1996, p. 1). The process is then measured “using performance indicators and evaluated against predetermined standards; and the firm audited by a recognised external body” (Mistry & Usherwood, 1996, p. 1).

Whilst monitoring and evaluation may be an extended procedure, it ensures that the process is performed to a consistently high standard, and also offers the opportunity to compare data between organisations, or to conduct a longitudinal study of one organisation’s data. Therefore, to ensure that fraud is measured consistently and to a prescribed level of accuracy as defined within the proposed statute previously discussed, a further option for change is the creation of a British Standard of fraud measurement. There are already British and International standards for auditing and accounting. For example, BS 6001-5:2002/ISO 2859-4 provides guidance on “sampling procedures suitable for...reviews or audits” (British Standards Institute, 2002, p. v). Similarly, BS 600:2000 provides guidance on statistical methods “applicable to administrative areas and to all sectors including commerce and public service” (British Standards Institute, 2000, p. x). Additionally, the Auditing Practices Board (2010) produces an international standard covering “the auditor’s responsibilities relating to fraud in an audit of financial statements” (p. 3),

however this only advocates that an auditor should consider the possibility of fraud and offers no guidance on measurement. These documents do however offer a useful starting point to inform the development of a British Standard of fraud loss measurement.

Information Exchange Matrix

“Minimizing improper payments often requires the exchange of relevant, reliable, and timely information between individuals and units within an organization and with external entities with oversight and monitoring responsibilities. This can be achieved by establishing working groups” (United States General Accounting Office, 2001, p. 37). The third consideration is therefore the structured and controlled sharing of best practice between organisations. This could include successful data collection and analysis methodologies which could be documented within a manual of guidance. Reddy and McCarthy (2006) observe that “the essence of identifying and sharing best practice is to learn from others and to re-use knowledge” (p. 595). This exchange of information could be implemented through the creation of a best practice database supplemented by the creation of a fraud measurement working group populated by ‘fraud measurement champions’ from all sectors. To implement this option, it is important that “the required infrastructure is in place” which forms part of a “wider knowledge management strategy” (Reddy & McCarthy, 2006, p. 597). The NFA is one possible conduit for such an infrastructure; an alternative option might be a panel of academic experts, such as those currently involved in externally

reviewing the *Annual Fraud Indicator* (NFA, 2012, p. 6). Furthermore, this information exchange matrix should remain in place after the creation of any statute mandating fraud measurement to develop core doctrine. The next section will discuss state intervention.

Justifying State Intervention

When evaluating whether there is a need for state intervention, it is initially worth contextualising the scale and cost of fraud within all criminal activity against individuals and organisations to evidence the impact of this offending typology. Statistical data suggests that crime trends have continued to reduce since 2003, however, even allowing for inflation, fraud losses are in the region of four times greater than from other crimes. The Home Office (2005) published an estimate of the total cost of crime against individuals and households based upon a survey conducted during 2003-2004 which suggested that the actual value of property stolen was £2.1 billion. This figure however, excluded individual losses to fraud. In comparison, the NFA (2013) estimate the total losses to fraud by individuals as £9.1 billion (p. 24). There is an even greater differential between losses to volume crime and fraud experienced by organisations. The NFA (2013, pp. 11-12) estimate identified and hidden losses experienced by public and private sector organisations at £41.8 billion. This compares to a figure of £4.2 billion placed on the value of stolen property against commercial and public sector organisations for volume crimes the last time the Home Office produced an estimate (Brand & Price, 2000). I contend that these figures illustrate the significant size of the fraud

problem in comparison to other crimes; specifically that fraud is the most costly crime to society, and thus state intervention is a justifiable consideration.

Historically, past governments have used Keynesian ideas to justify state intervention (Gunn, 2004, p. 117; Aaronovitch, 1983, p. 46). Arguably, the labour government also drew upon Keynesian principles to justify a 'bailout' during the banking crisis. The rescue of Northern Rock by means of government intervention was described by Prime Minister Gordon Brown as "action that was necessary" (Hencke & Sparrow, 2009, p. 1). Previously, during September 2007, £24 billion in emergency loans had been authorised to be paid to Northern Rock, justified by the Chancellor because "the government has an interest in maintaining financial stability" (Politics.co.uk, 2007, p. 1). There seemed no end to state intervention, in October 2008 the government took a £37 billion stake in three banks, Royal Bank of Scotland, Lloyds TSB and HBOS (Channel Four News, 2009, p. 1). Further loans authorised in January 2009 were justified by the Prime Minister on the grounds that "good businesses must have access to credit" (Livingstone, 2009, p. 1). When reflecting upon the labour government's interventions, it is worth comparing the value of the losses with fraud loss figures. For example the proposed losses at HBOS, forecast to be "nearly £11 billion" (BBC, 2009, p. 1) fall well below the total of £17.6 billion lost to fraud by the public sector during 2008 (NFA, 2010a, p. 1).

In 2009 the Government provisionally estimated that net losses from its financial sector interventions may lie between £20 billion to £50 billion (House of Commons Treasury Committee, 2009, p. 8). The Committee also concluded that the government “was right to take decisive action in response to the exceptional instability in financial markets” (House of Commons Treasury Committee, 2009, p. 6). Here it is worth revisiting the NFA’s (2010a) Annual Fraud Indicator, which estimates 2008 public sector fraud losses at £17.6 billion (p. 1). When also considering the potential for undercounting by central government departments, then the true loss figure may be even closer to the lower limit of the projected losses from the banking crisis. Applying the average fraud loss figure of 5.7%, calculated by reviewing 205 statistically valid fraud loss measurement exercises from nine countries (Button & Gee, 2013, p. 73) to UK public sector expenditure of almost £600 billion, the resultant losses would equate to £34 billion, thus far exceeding the £20 billion projected losses from bailing out the banks. I suggest that escalating public sector fraud losses, and a requirement to address the “black holes in the budget” (Trickett, 2010, p.2), are compelling arguments for the state to intervene and mandate the measurement of fraud. The argument is made even more persuasive by evidence that regular accurate measurement exercises, and use of the resultant data to inform control strategies, contribute to reducing these losses, and in the case of the NHS, offer a 12:1 return on the cost of the work (Gee, 2009b, p. 20).

When exploring the justification for state intervention further, the principal consideration is “will the recommended government intervention have the

desired impact?”, and are the “benefits...likely to outweigh the cost?” (Belli, 1997, p. 2). Clearly in the current macro economic climate with significant spending cuts, mandating fraud measurement warrants serious consideration. Particularly, when evidence from the NHS supports the contention that regular measurement exercises reduce loss by up to 40% within the first year (Button & Gee, 2013, p.187), and that “taken as a proportion of the measured losses, this equates to two per cent being added to the ‘bottom line’ within a year” (Gee, 2010a, p. 13).

Arguably, there is scope for pragmatic state intervention (Adams, 2001, p. 29), thus ensuring the provision of accurate fraud data, rather than a free market where individual choice prevails. Something that is still prevalent , as evidenced in a recent conference presentation (May 21, 2013) when Lynn McDonald from the Cabinet Office Fraud Error and Debt Team advised that when central government departments were asked about fraud measurement, some responded that “we don’t measure fraud but we know it’s not large”. Additionally, within the presentation Lynn McDonald advised that the Cabinet Office are considering offering incentives to central government departments to measure fraud, but not compelling them to do so. Furthermore, it could be suggested the government are morally obliged to intervene to fulfil their role as “the guardian of equity and the interests of future generations” (Arrow, 1978, p. ix). Therefore, by mandating fraud measurement in the interest of “social justice” (Fan, 2008, p. 5), state intervention would be justified by reducing the loss of public funds which in turn may contribute to a “net

increase in social welfare” (International Monetary Fund, 2000, p. 176) by limiting the cuts in public spending.

When debating whether the state should intervene into the private sector, it is worth returning to the previously discussed government ‘bailout’ during the banking crisis. The need for such action has been attributed to “the problems in performance of subprime mortgages in the United States” (Hellwig, 2008, p. 3), which can be linked to fraud and corruption. From applicants fabricating false information, to brokers exaggerating their clients prospects without them knowing, to ultimately a system of mortgages which was certainly built upon negligence if not a great deal of fraud. This all culminated in creating a growth in mortgages, which were doomed for default (Bitner, 2008; Ferguson, 2008; National Commission on the Causes of the Financial and Economic Crisis in the United States, 2011). I suggest the case for state intervention can be further evidenced by the global impact of this subprime mortgage crisis on both financial institutions and wider society.

The cost of this resultant Global Financial Crisis of 2008–09, which arguably could have been averted by tighter regulation of the US banking sector, has been estimated at \$11.9 trillion by the International Monetary Fund (IMF), or, in plain terms, one-fifth of annual global world output (*Daily Telegraph*, 2009). The impact of this US crisis has had an international impact (Friedman, Friedman & Kass-Shraibman, 2008, p. 31), being described by Morris (2008) as “the first big boulder in an avalanche of asset writedowns”. This crisis has also been felt by the wider society, with millions of Americans being in danger

of losing their homes (Morris, 2008), metropolitan areas experiencing higher unemployment rates (National Commission on the Causes of the Financial and Economic Crisis in the United States, 2011, p. 23), and many households experiencing a decline in net wealth combined with reduced access to credit (National Commission on the Causes of the Financial and Economic Crisis in the United States, 2011, p. 391). This impact on wider society has also been felt outside the US, with some households in the UK also experiencing a decline in net wealth as a consequence of low interest rates or reduced access to credit.

When examining the impact on UK banking, the forecast losses at HBOS of “nearly 11 billion” (BBC, 2009) that necessitated state intervention also fall well below the latest estimated private sector losses to fraud, which total £21.2 billion (NFA, 2013, p.17). The financial and insurance sector contribute £5.4 billion to this (NFA, 2013, p.17), which includes an estimate of £1 billion for mortgage fraud, this figure being only £0.2 billion lower than the estimated losses for benefit fraud (NFA, 2013, p. 34), which receives much more government attention. However, the estimate for mortgage fraud is given a poor level of confidence by the NFA, and the figure has remained unchanged since 2009 (NFA, 2013, p. 42). Estimated mortgage lending during 2012 totalled £143 billion (NFA, 2013, p. 42), and when applying the average loss figure to fraud of 5.7% and the highest percentage loss figure of 10.6% (Button & Gee, 2013, p. 16), the true extent of mortgage fraud losses could range between £8 billion and £15 billion. When taking account of the continued pressure applied by the state to increase lending, it is conceivable

that these losses could be even higher, thus emphasising the need to adopt a more accurate measure, which current indications suggest the financial institutions are reluctant to implement voluntarily.

Data on the private sector reveals that the total turnover across all business sizes is £3.1 trillion (NFA, 2013, p. 17). When applying the average loss to fraud figure of 5.7% (Button & Gee, 2013, p. 73) to this figure, losses could be as high as £0.18 trillion, which far exceeds the estimate of £21.2 billion for the whole of the UK private sector (NFA, 2013, p. 17). I suggest these potential private sector losses to fraud warrant consideration being given to state intervention into other industries apart from the financial services sector. The industries warranting inclusion are those experiencing large scale losses, and the estimate supplied being only attributed average confidence in the 2012 *Annual Fraud Indicator* (NFA, 2012, p. 18), this being the most recent fraud loss dataset broken down by industry. Those into which state intervention is worthy of consideration include wholesale and retail trade, repair of motor vehicles and motorcycles, manufacturing, mining, utilities, information and communication, waste management and transportation (NFA, 2012, p. 18).

Additionally, it is worth examining perception surveys of UK private sector businesses conducted by the NFA during 2011 and 2012. The first survey took the form of a snowball sample using contacts within the private sector and resulted in 202 respondents completing the questionnaire (NFA, 2012, p. 16). What is of concern is that no information is supplied by the NFA regarding the response rate. Of equal concern is the fact that the

questionnaire identified that only “79.2% of respondents said they agree or strongly agree that their organisation is at risk from fraud” (NFA, 2012, p. 16). Additionally, all respondents were asked to provide an estimate of fraud against their organisation as a percentage of annual turnover, however “almost half of respondents chose the option ‘prefer not to say’” (NFA, 2012, p. 16). Whilst I accept this information is commercially sensitive, arguably it suggests a reluctance to supply estimated fraud loss data to the NFA, let alone accurate data. Equally, it may be suggested that this reluctance to supply such an estimate might be because the organisation has no idea whatsoever of the extent of their fraud losses. Consequently, to secure these missing data, state intervention in the form of regulation may be justified.

Of further interest to this research project are the findings from the 2012 qualitative survey undertaken with 45 private sector organisations participating in the quantitative survey “to understand better the considerations for estimating fraud loss” (NFA, 2013, p. 20). The significant responses being that many organisations “felt that it was too difficult to place a precise figure on an activity they did not know about” and that they “may have more hidden fraud occurring than they had originally considered” (p. 20). I maintain these issues can be addressed by the creation of a British Standard of fraud measurement, supported by the creation of an information exchange matrix to improve understanding of the fraud loss measurement process.

The issue of cost is also relevant when advocating the mandating of measurement, with a potential argument to be countered being that

conducting fraud loss measurement exercises is too costly to be financially viable. Historically this may have been the case, with one exercise taking “six people six months to complete such an exercise (600+ days)” (Button & Gee, 2013, p.76). However, “advances in technology and process have reduced this to 100-150 days and progress will see these figures reduce further in coming years” (Button & Gee, 2013, p.76). The costs are not excessive and once organisations are made aware of this, the probability of compliance may increase. A further argument I offer when advocating the benefits of fraud loss measurement is profitability. For example, applying the global average loss rate of 5.7% to the 255 companies in the FTSE 350 who posted financial returns and were profitable, the average increase in profitability “would be almost 36 per cent” (Button & Gee, 2013, p.187). I suggest this statistic offers additional support for the organisational benefits of the proposed options for change.

In further support of the contention that fraud loss measurement is cost effective and “provides a basis for reaping competitive advantage” (Button, Gee & Brooks, 2012, p. 72), there are case studies from both the UK and US where adopting this process has resulted in financial benefits. These include:

- The NHS, which had a budget of £87.2 billion for 2005/06, reduced losses by up to sixty per cent during the period 1998 and 2006, and by up to forty per cent over a shorter period (National Health Service Counter Fraud and Security Management Service, 2007).

- The US Department of Agriculture reduced losses by twenty eight per cent within a £12 billion dollar program between 2002 and 2004 (United States Department of Agriculture, 2002; 2003; 2004).
- The Department for Work and Pensions reduced losses in the two means tested benefits Income Support and Jobseekers Allowance that have an annual expenditure of £11.4 billion by fifty per cent between 1997/8 and 2005/6 (Department for Work and Pensions, 2007).

The US offers another example of regulatory intervention aimed at addressing the risks posed by fraudulent activity, in the form of the Sarbanes-Oxley Act 2002 (SOX). The financial impact of the respective collapses of Enron and WorldCom (De Vay, 2006, p. 1), particularly the former company who filed what was then the largest bankruptcy in US history (Mallin, 2010; McLean & Elkind, 2003) was felt globally, but significantly in the US. As a consequence of public outcry, President George W. Bush tasked Senator Paul Sarbanes and Congressman Mike Oxley to create “some tough new laws that would prevent or at least diminish the possibility of corporate scandals like Enron, WorldCom et al from happening again” (Holt, 2008, p. 4). The ensuing statute created the most radical set of financial auditing changes in the US since the 1930s (Moeller, 2004, p. 3; Murphy & Topyan, 2005). The resultant expansion of federal regulation was aimed at increasing the reliability of “corporate financial reporting, accounting methods and auditing practices” and the subsequent reforms mandated by the act left “no significant aspect of public company operations” untouched (Ambler, Massaro & Acre, 2010, p. 3). One significant component of this regulation, and of particular relevance to the

proposals of this research, is the Act's imposition of corporate certification requirements, whereby Chief Executives and Chief Financial Officers are required to certify the Company's published statements (Zhang & Wiersema, 2009). Consequently, this "has resulted in various approaches to structuring internal compliance procedures and developing best practice controls" (Ambler, Massaro & Acre, 2010, p. 3). This process of self certification and developing best practice offers a model that may be used to inform the proposals made by this research.

The effectiveness of the Sarbanes-Oxley Act 2002 has been the subject of academic discussion, with supporters on both sides of the debate. A detailed critique of all provisions of the Act is outside the scope of this research. However, one recurring criticism worth mentioning is that this statute did not go far enough in terms of federal regulatory control, this opportunity being missed as a consequence of the speed in which the bill passed through the legislative process (Perino, 2002, p. 672; Wyant, 2003, p. 567). That said, it could be argued that the urgent need to address the risks posed by large scale corporate fraud and a plummeting Dow Jones Average (Perino, 2002, p. 672) through regulatory intervention was recognised by the US Congress, hence the swiftness of the act being signed off by the President. Nevertheless, this statute has achieved some impact on addressing fraud risk and the resultant public harm, through the introduction of the requirement for management reporting of internal control (Gupta & Leech, 2006, p. 39); increasing penalties for financial statement fraud (Tackett, Woolf & Claypole, 2004, p. 349); prohibition of auditing consulting services structuring

transactions (Cullinan, 2004, p. 861) and providing middle management with a reason to resist pressure “to be creative with their numbers” (Wyant, 2003, p. 578). This importance of this legislation has been acknowledged internationally, with “the rest of the world” considering enacting “SOX like legislation (Gupta & Leech, 2006, p. 450). Of further significance is the fact that the provisions of the act have global impact, with overseas companies that have securities registered or listed in the US having to comply with the Act’s requirements. (Cardilli, 2003, p. 790; Litvak, 2006, p.11). A similar provision is worthy of consideration within the proposed UK statute.

Finally, I draw upon the Bribery Act 2010 as another example of state intervention into the private sector. Section seven of this statute creates an offence which may be committed by a commercial organisation should they fail to prevent “persons who perform services for or on behalf of that organisation from bribing another on their behalf, and are unable to evidence that they had the necessary safeguards in place to prevent such activity taking place”. I therefore contend that, if the Government intervenes in such a manner for bribery, by laying down mandatory obligations to private sector organisations to implement specified processes at a cost to the business, why not impose similar mandatory requirements for the measurement of fraud, which will actually benefit the organisation?

Additionally, Section 9 of the Bribery Act stipulates that the Secretary of State must publish guidance on procedures that will assist organisations to comply with the legislation. This has subsequently been issued, including a ‘*Quick*

Start Guide' (Ministry of Justice, 2011) which performs the function of a manual of guidance. Furthermore, and of relevance to the research argument, this legislation is supported by a British Standard 10500 which provides an anti bribery management system for organisations (BSI Group, n.d.) which is applicable to "small, medium and large organisations in the public, private and voluntary sectors" (BSI Case Study, n.d.). This system introduces a significant number of measures resulting in costs to the organisations, including "the adoption and communication of an anti-bribery policy, training and guidance for employees, appointing a compliance manager, undertaking risk assessment and due diligence, controlling gifts and hospitality, implementing effective procurement, commercial and financial controls, and instituting reporting and investigation procedures" (BSI Case Study, n.d.).

In conclusion of this section, I offer the observations of the United States General Accounting Office (2001) who argue that "One of the biggest hurdles that many entities face in the process of managing improper payments is overcoming the propensity toward denial of the problem" (p. 48). This research therefore argues that to develop accurate fraud loss measurement three valid and co-ordinated options for change have been identified. Before discussing the research argument directing this project, I have examined the scholarly works on regulatory options that would require consideration if progressing the first option for change discussed, particularly if it were to include private sector organisations.

How to Regulate?

Introduction

“Regulation has long been an important activity within the traditional UK state” (James, 2005, p.326). The most notable, and of relevance to this thesis, being the regulatory system associated with finance and accounting which is undertaken by the National Audit Office (James, 2005, p. 326). According to Hood (1983), if legislation is perceived as being draconian, for example by applying a command and control strategy which imposes standards backed by criminal sanctions, there is a risk that regulatees may respond negatively (p. 5). It is therefore important that any regulation imposed is seen as beneficial, workable and cost effective. There may need to be some redress if organisations fail to comply, however the statute is more likely to succeed if it is perceived as a “carrot” rather than a “stick” (Braithwaite, 2002a, p. 13). Consequently, to set the options for change being considered in the broader context, I have reviewed regulatory scholarship with a view to identifying how organisations are motivated to obey the law, before moving on to consider the development and application of responsive regulation (Ayres & Braithwaite, 1992). For the purpose of this discussion, regulation is defined as a “means to control or direct others by rules, standards or principles” (Braithwaite, 2006a, p. 1).

Why do organisations obey the law?

Kagan and Scholz (1984) contend that organisations have different motivations for compliance and non compliance (p. 69). These motivations may be plural (Gunningham, Kagan & Thornton, 2003), and have been identified by Scheuer (1999) as economic, social and self fulfilling. Nielson & Parker (2012) draw similar conclusions, identifying motivations as “economic, social and normative” (p. 429), the latter being defined as the extent to which the “firm and its managers are committed to obeying the law” (Nielson & Parker, 2012, p. 431). Gunningham and Kagan (2005, p. 213) suggest that “in economically advanced democracies, firms are concerned about their reputations and legitimacy...and often are responsive to the norms underlying regulatory requirements”. Arguably, when seeking compliance with financially driven regulation, economic and normative motivations are the most applicable, because they may be perceived by organisations to have minimal social impact (Grasmick & Bursik, 1990). However, whilst economically “calculated motivations” (Winter & May, 2001) are important, consideration should also be given to how reputation and legitimacy could be harnessed to inform compliance strategies by triggering and directing managerial commitments (Gunningham and Kagan, 2005, p. 213).

According to academic debate, of equal consideration are “internal and external” motivations (Houston, 2000, p. 714), with economic being considered internal and normative external (Nielson & Parker, 2012, p. 433). The motivation of businesses to comply when they have potentially plural

interests can be determined by each organisations individual “goal framing” (Etienne, 2011). The author further argues that whilst businesses often have multiple goals that influence compliance, there is usually one motive that influences and frames their course of action (p. 306).

As previously discussed, the normative motivations of businesses require consideration, specifically their normative commitment to comply (Burby & Patterson, 1993), because the difference between organisations largely relates to the level of support for the specific “regulatory regime, not in relation to the general duty to obey the law” (Nielson & Parker, 2012, p. 447).

Whilst the aforementioned motivations are influential, what is equally significant in terms of compliance is the legitimacy of any regulations (Levi, 1988, p. 69). The concept of responsive regulation will now be discussed.

Responsive regulation

Esty and Geradin (2001) contend that “optimal governance requires a flexible mix of...cooperation between governmental and non governmental actors” (p.31). According to Baldwin and Cave (1999) “A regulatory system will be difficult to justify...if critics can argue that a different strategy would more effectively achieve relevant objectives” (p. 34). Selznick (1992) contends that the challenge of responsiveness is “to maintain institutional integrity while taking into account new problems, new forces in the environment, new demands and expectations” (p. 336). It is also suggested that “business

custom shapes responsive business regulatory law” (Braithwaite, 2006b, p. 885). Furthermore, when regulation is seen to be legitimate and fair, the likelihood of compliance with the law increases (Tyler & Blader, 2000; Tyler & Huo, 2001).

When framing appropriate guidelines, Rose-Ackerman (1988) argues that the development of good responsive regulatory policy requires interaction between state regulation and self regulation. A further pertinent observation is offered by Braithwaite (2006a), who argues that “when regulation...includes persuasion, influence, voluntary compliance and self regulation, the term ‘to regulate’ takes on a whole new dimension” (p. 1). The conclusions of Porter (1990) that “firms, like governments, are often prone to see the short term costs of dealing with tough standards and not their longer term benefits” (p. 648) are particularly pertinent when developing regulation that has cost implications for organisations.

Minimising Non Compliance

“A strategy based mostly on punishment fosters an organized business subculture of resistance to regulation” (Braithwaite, 1990, p. 61). Similarly, should a business perceive that the regulator is being unfair, this may have a negative impact on compliance in the long term (Braithwaite, Braithwaite, Gibson & Makkai, 1994). Moreover, Braithwaite (2002b) argues that frequently, financial penalties for non-compliance will either be too limited to deter calculated misconduct or they will be too excessive that businesses do

not have the capacity to pay (p. 108). Therefore, “the trick of successful regulation is to establish a synergy between punishment and persuasion” (Ayres and Braithwaite, 1992, p. 25). Haines (1997) and Gunningham and Grabosky (1998) go one stage further, identifying a shift from coercive to cooperative legislation with punishment being replaced by the more appropriate option of persuasion. Ayres and Braithwaite (1992) further suggest that persuasion should be the first tactic, because if this proves to be successful, “more resources are left to expand regulatory coverage” (p. 26). One further opinion of note is that of Braithwaite (2002a), who maintains that punishment is a more useful tool than reward (p.25), however, the most difficult decision is when to punish and when to persuade (Braithwaite, 1985). Parker (2006) concludes that there is a low probability of...successful enforcement action for most business offences, making the perception of deterrence even less potent (p. 592).

Regulatory best practice suggests that regulators should blend regulatory strategies to improve compliance rather than just relying on deterrence (May, 2005). Braithwaite (2006b) draws a similar conclusion, arguing that individually, “restorative justice, deterrence and incapacitation are all flawed theories of compliance” whereas coercive control combining all three elements in a regulatory pyramid is more likely to succeed (p. 887).

When considering punishment for non compliance, it is imperative that a balance is struck so that the sanction is not considered too severe. Sunstein (1990) argues that too stringent regulatory laws may in fact result in under

regulation (pp. 91-92). Therefore, when formulating sanctions, it is worth considering that formal changes in the levels of sanctions, enforcement strategies or inspection efforts may only change the behaviour of regulates in the short term (Whelan, 2007). In terms of policing fraud loss measurement, these observations are particularly relevant because the costs of validating compliance are likely to be sizeable. Winter and May (2001) observe that traditionally, enforcement has been based upon the assumption that increased activity will lead to increased compliance, however deterrent features should be seen as only one means of achieving compliance (p.675).

To maximise the potential for compliance, consideration also needs to be given to the capabilities of each individual business. Winter and May (2001) make a pertinent observation, noting that regulated firms vary in their available resources, therefore, irrespective of motivation, if a business does not have the financial capacity there is a risk that they will fail to comply (P.680). Nielson and Parker (2012) consider that lack of technical know-how is another factor influencing compliance. A similar observation is offered by Braithwaite, 2006b) who advocates that “non compliance is neither about lack of goodwill to comply, nor about rational calculation to cheat. It is about management not having the competence to comply” (p. 887). The standards being imposed also require careful consideration; specifically they need to be realistic and achievable, because imposing too high standards that have a cost implication may result in increased rates of non compliance (Makkai & Braithwaite, 1993, p. 272).

The question of maximising compliance therefore requires consideration of both regulatory strategies, and associated sanctions. Three regulatory options have therefore been evaluated, these being direct government regulation, self regulation and enforced self regulation, which will now be discussed.

Regulatory Options

Direct government regulation involves state 'policing' of all regulatees to ensure compliance, including auditing of accounts and direct inspections. According to Clinard and Yeager (1980) however, "fiscal pressures invariably prevent government inspectors from checking every workplace...for crooked bookkeeping" (p. 95). Similarly, Braithwaite (1982) argues that in terms of regulation, "the state simply cannot afford to do an adequate job on its own" (p. 1467). Peters and Hoornbeek (2005) also draw similar conclusions, observing that "direct regulation requires significant resources for standard setting, monitoring and enforcement" and such resources are only likely to be available "in those cases where the numbers and types of activities are reasonably limited" (p. 96). These observations suggest that this model would be unsuitable where there are large numbers of regulatees and the process involves a significant amount of inspection.

Self regulation is an internal regulatory process induced by government or public authority (Aalders & Withagen, 1997, p. 427). However, the question of striking a balance again comes to the fore. Braithwaite (1990) argues that "a strategy based totally on persuasion and self regulation will be motivated

when actors are motivated by economic rationality” (p. 61). This observation is particularly relevant when regulation has cost implications to the regulatees, because should organisations fail to be persuaded that the proposed regulation is of economic value to them, there is a significant risk of non-compliance. One pertinent disadvantage of self regulation is that whilst businesses have more capability than government of regulating their activities, “they are not necessarily more willing to regulate effectively” (Braithwaite, 1982, p. 1469). This observation is particularly appropriate when considering regulatory options when there is likely to be some resistance from regulatees.

“Under enforced self regulation, rules may be written, monitored and enforced by companies themselves in conjunction with the government and state agencies” (Vincent-Jones, 2006, p. 88). According to Parker (2006) “Enforcement action might provide an opportunity...for businesspeople to be persuaded of the value of compliance with the law” (pp. 609-610). Fairman and Yapp (2005) identify that enforced self regulation differs from self regulation “in that the standards to be achieved are determined by the regulator and not from within the industry. These are enforced by “agents of the state and not by the industry body itself” (p. 493). Genn (1993) argues that there are disadvantages to enforced self regulation, specifically that businesses sometimes have difficulty in understanding how self assessment works. This issue can easily be addressed however, because enforced self regulation involves negotiation between the state and individual firms “to establish regulations that are particularized to each firm” (Ayres & Braithwaite,

1992, p. 101). When attempting to regulate a range of organisations of differing size and structure, this is worthy of consideration, and some flexibility should be built in to accommodate the differences between businesses so that rules are “tailored to match the company” (Ayres & Braithwaite, 1992, p. 110). The rules may not necessarily be written by each company; however any proposed regulation could include different criteria which would be applicable dependant upon the characteristics of each the business. Arguably, this model offers the most scope because, “in terms of flexibility, compliance, enforcement and accountability, the Enforced Self Regulation model is considered to confer greater benefits than self regulation” (Ojo, 2011, p. 142).

Sanctions

Addressing the issue of non compliance necessitates the creation of appropriate penalties which serve two purposes. Firstly, to facilitate some form of redress from those that fail to act in accordance with the regulation, but more importantly, to act as a motivator for compliance which removes the need to sanction. Braithwaite’ (2002a) argues that “punishment is not the most important lever of compliance” (p. 25) and that compliance is not always closely related to the perceived risk of punishment (Braithwaite & Makkai, 1991). Accordingly, Braithwaite (1990) suggests that “the existence and signalling of the capacity to get tough as is needed can usher in a regulatory culture more voluntaristic and less litigious than is possible when the state rules out adversariness and punitiveness as an option” (p. 64). When considering how to sanction, academic debate suggests an enforcement

pyramid that includes the options of criminal penalty and licence suspension (Braithwaite, 1990 p. 62; Braithwaite, 2002a, p. 20). An alternative option, which seeks to avoid the deterrence trap resulting in large scale non compliance, is the use of “broad, informal, weak sanctions” (Braithwaite (2002b) p. 110). I suggest the latter is more appropriate when attempting to regulate when there is likely to be organisational resistance to the process that is being imposed. This chapter will now discuss the research argument directing this project, drawing upon the three options for change previously discussed.

The Research Argument

As discussed, whilst there is one overarching research argument, this is actually supported by two sub-arguments, all of which might be considered independently, but ideally mesh together, and arguably, may be of limited impact on an independent basis. The research argument is as follows:

- The measurement of fraud should be mandated
- This statute should be supported by the creation of a British Standard of fraud measurement
- The creation of knowledge exchange infrastructure based upon the US strategies previously discussed that develops core doctrine through the development of a ‘manual of guidance’ will support the implementation of the first two options for change

Why is this Research worth Doing?

Introduction

“A true picture of fraud is a chimera, but a better and truer picture of fraud is possible.”

(Levi & Burrows, 2008, p. 315)

“Assessing the scale of loss from fraud is an important first step in developing a strategy for tackling external fraud.”

(NAO, 2008a, p.13)

This section will advocate the value of this research by developing specific themes relating to the benefits of improved fraud loss measurement. I will examine the lack of rigour in existing research, the impact on business costs and crime reduction, before moving on to discuss how this research is compatible with the professional doctorate ethos. Before evaluating these however, the discussion will initially question the need for improved accuracy of fraud loss data.

Why improve measurement accuracy?

Brooks, Button and Frimpong (2009) argue that “fraud is an ongoing problem that needs continuous monitoring and assessment” (p. 497), however the

NFA (2009a) observe that “there is little guidance available on how to quantify the cost of fraud” (p. 16). Arguably these conclusions suggest there is an urgent need to develop a consistent standard of measurement, supported by best practice guidance.

Gee, Button and Brooks (2010a) suggest that “it is no longer reasonable to suggest that fraud losses cannot be measured” (p. 15). I maintain this statement suggests this research is of value, and in further support of this argument, I proffer Gee’s (2009a) contention that “measurement of fraud losses is crucial to reducing them, if you don’t know the nature and scale of the problem how can you apply the right solution?” (p. 255). In support of the argument for increased measurement, I draw upon Herdan (2010) who identifies an urgent need for more organizations to measure fraud (p. 28).

Limited Rigour

Commenting upon fraud studies, Levi et al (2007) observe that “details of the methodology used are typically lacking”, and consequently, “fraud research findings are based on loose methods (at best)” (p.16). Of significance is the Attorney General’s acknowledgement that, due to a lack of accurate fraud measurement methodology, “it is impossible to say how big it is” (Scotland, 2007). The Fraud Review Team (2006) identify inconsistencies in extant fraud loss data which rely upon “various estimates which all use different methods of measurement” (p. 38). Equally, Doig (2006) suggests that “any attempt to

assess the true cost of fraud will continue to be hindered by the various reporting sources and the criteria they use” (p. 47).

Levi and Burrows (2008) conclude that considerable work is required to create a rigorous fraud measurement methodology, observing that “the financial costs...of deception offences have tended to be more the subject of rhetoric than of serious empirical investigation” (p. 294). A pertinent observation is also made by Hoare (2007), who suggests that “most measures of fraud...have not been carried out to a robust methodology-they all measure different things-so adding them up to produce an overall total is not possible” (p. 277).

Crime Reduction

Crime reduction is defined as

“action to reduce the seriousness of criminal events.”

(Ebklof, 2004, p. 15)

Walker (2011) argues that “effective crime reduction is likely to be achieved by a number of different policies working together” (p. 8). Arguably, by adopting a policy of regularly measuring and re-measuring fraud losses to an improved standard of accuracy, and using the resultant data to reduce

vulnerability through informed prevention policies can lead to a reduction in fraudulent criminal activity perpetrated against an organisation.

In support, I offer the example of the NHS, who between 1998 and 2006 conducted regular statistically valid fraud loss measurement exercises, with the resultant data being used to inform fraud reduction strategies. As a consequence, fraud losses were reduced by up to 60% (Gee & Helwig, 2008, p. 19). If this large organisation can develop and implement effective measurement processes, which in turn are used to inform risk assessment and improve crime reduction, then it is not beyond the capabilities of central and local government, and even private and charitable sector organisations. Furthermore, once established, progress on achieving crime reduction can be gauged by regular re-measurement exercises. To further emphasise the importance of establishing effective crime reduction strategies, within which accurate fraud loss measurement can play an integral part, I draw upon Plasvic (2007), who advocates that “there is a real danger that both the cost and frequency of fraud will rise significantly over the next five years and beyond” (p. 3).

Financial Value

“The measurement of losses to fraud (and error) is an essential first step to successful action.”

(Gee, Button & Brooks, 2010b, p. 4)

Gee (2009b, p.19; 2009c) maintains that the true value of accurate fraud measurement is that losses may be treated as a business cost. Interestingly, and of relevance to this research, this may then result in “greater pressures from shareholders, taxpayers, governing bodies to reduce this cost” (Button, Johnson and Frimpong, 2008, p.246). Moreover, once a robust mechanism for fraud loss measurement is established “there may also be a trickle down to smaller organizations unable to afford a counter fraud resource” (Button, Johnson and Frimpong, 2008, p. 246). Equally, if adequate investment is made in fraud measurement, “a considerable return...can be made” (Gee, 2007, p. 7), simply because limited focus upon fraud costs means they have become one of the “great unreduced business costs” (Gee, 2010a, p. 13). The financial value of re-measurement is also worthy of consideration. When conducting the review of statistically valid fraud loss measurement exercises discussed earlier, Button, Gee & Brooks (2012) identified that organizations that repeated fraud loss measurement exercises tended to show a reduction in the percentage loss rate, which equates to “an average reduction of just under 15 per cent”, which in many organizations “would amount to a significant sum of money” (p. 71).

Professional Doctorate Ethos

This research provides me with the opportunity to combine academic knowledge with practitioner researcher skills drawn from experience as a fraud investigator and criminal intelligence analyst. Equally, because fraud measurement has received minimal attention from academia, it presents an

opportunity to make an original contribution to knowledge construction (Eraut, 1994), thus embracing the professional doctorate ethos by contributing to practice (Scott, Brown, Lunt & Thorne, 2004, p. 113). To further evidence this, I draw upon Levi and Burrows (2008) who conclude that “few of the studies on fraud are derived from academic or professional analytical sources” (p.296). Having contextualised the research topic, I close by summarising the content of the subsequent chapters within this thesis.

Thesis Outline

The subject of fraud measurement is taken up in Chapter 2 through a thematic literature review that offers an overview of the limited critiques of fraud measurement, before moving on to evaluate existing fraud loss data outputs. The purpose of this chapter is to evaluate existing measurement methodologies, with a view to identifying best practice and inadequacies of technique, both of which inform the data collection plan for this project. The chapter also critiques the broader literature on crime data including the concept of the ‘dark figure of crime’. The chapter concludes with a case study that examines the impact of IPIA on healthcare fraud in the US.

The research methods are described in Chapter 3, commencing with a discussion of my worldview which led to the adoption of a pragmatic approach to methodology, influenced by practitioner experience and in keeping with the professional doctorate ethos. The chapter also contains a discussion of the data collection plan, data security, analysis, ethics, and academic rigour, all

which are intended to offer an open and transparent account of this project for the benefit of any future researchers examining the same subject.

Chapters 4, 5 and 6 describe my findings, following analysis of the qualitative data harvested from semi-structured interviews and the quantitative data gathered using a web based questionnaire. The three chapters address the topics of who measures fraud and the methods applied, mandating fraud measurement, the creation of a common standard of fraud measurement and the development of doctrine. Chapter 7 summarises the entire thesis by offering conclusions based upon the analysis of data collected and recommendations that offer improvements to existing practice, thus providing an original contribution to knowledge. Finally, as a postscript I offer a reflective account of my journey through this research process.

Conclusion

In sum, this chapter has discussed the historical difficulties in defining fraud, and how lack of a universally applied definition has hampered accurate and consistent measurement, before detailing some of the varying definitions that have been applied. Moving on, this chapter has offered some options for change to support the development of a more accurate fraud measure, justification for state intervention and a discussion on regulatory options. The evidence presented however, suggests that to progress these proposed changes, a standard definition of fraud is the starting point. In support of this conclusion, I close this chapter, by offering the conclusions of the NFA

(2009a) that “there needs to be an agreed definition of fraud before it can be measured consistently” (p. 6).

Chapter 2: Literature Review

Introduction

The purpose of this chapter is to explore the subject of fraud measurement by conducting a thematic literature review which critically examines extant publications containing fraud loss measurement data. The purpose of the review is to report findings having conducted critical analysis of the measurement processes applied, paying particular attention to accuracy, reliability and comparability. An assessment of data collection methods has identified differing typologies which have in turn informed the structure of this chapter. Consequently, the review of fraud loss reports will discuss in turn publications falling into the following four criteria; 'statistically valid surveys', 'measuring detected fraud', 'guesstimates' and 'impostors'. Within these classifications reports will be grouped in terms of which sector's data they present, this being public sector, private sector or 'hybrids' which synthesise data from both sectors, but are distinguished by the sector from which they originate. The charitable/voluntary sector is not used as an additional sub-classification, because currently there are no fraud loss reports produced by this sector, although this review will discuss the current standing of measuring fraud within this sector.

Having critiqued the aforementioned literature, this chapter will then present a review of measures, providing a synopsis of the typologies applied by the organisations whose loss data have been examined during this critique. I will

then outline the methodological issues that have been identified through content analysis of the literature. Before moving on to discuss the fraud loss measurement publications, this chapter will explain the literature inclusion and exclusion criteria, before describing the search strategy employed to identify the literature and then offering a review of identified methodologies and issues highlighted by past reviews of fraud processes harvested during the collection process. The final section of the chapter presents a case study of the impact of the Improper Payments Information Act 2002 on US healthcare fraud. Firstly, this chapter will contextualise this study by examining crime statistics and surveys, seeking to explain the 'dark figure of crime' before moving on to discuss the limited attention paid to fraud within these data outputs, thus resulting in what may be described as 'the dark figure of fraud'.

The 'Dark Figure of Crime'

"The term dark figures has been widely used by criminologists to represent the gap between the true extent of crime and the amount of crime known to the police" (Mosher, Miethe & Hart, 2011, p. 93). The authors contend that the principle sources of this gap are "the inability of police to observe all criminal activity, the reluctance of crime victims and witnesses to report crime to the police, and variation in the recording of known crime incidents due to police discretion" (p. 93). Interestingly, Coleman and Moynihan (1996) maintain that the dark figure of crime is "not simply out there waiting to be counted by the application of a simple rule", but crime rates result from the fact that "people

with particular interests, concerns and objectives use a set of definitions, rules and procedures...to arrive at that product” (p. 20).

In terms of addressing this issue, Jones (2001) argues that “crime surveys have gone some way towards shedding light on what is referred to as the dark figure of crime”; data from the British Crime Survey (BCS) suggesting that “about half of all known crime is brought to the attention of the police” (p. 56). Nevertheless, Jones (2001) goes on to observe that “even the surveys themselves do not completely expose the dark figure” (p. 65). In defence of the British Crime Survey, Hough, Maxfield, Morris and Simmons (2007) suggest that the case made by the Home Office’s Crime, Planning and Policy Unit was that the proposed survey “placed less importance on the dark figure of unreported crime than on obtaining intelligence in respect of crime prevention, fear of crime and for informing enforcement responses” (p. 13). Consequently, criticism that this survey fails to address the dark figure of crime is somewhat unjustified because this is not the principal function of these data. As evidenced by these observations, it is apparent that the two main changes required to at least reduce this dark figure, are enhanced police crime recording processes that capture a wider range of data, and increased reporting of crimes by victims.

The dark figure of crime (Biderman & Reiss, 1967) is an international problem, having been identified as an issue in the US. During 1965, US President Lyndon Johnson convened a Commission to examine rising crime in urban areas (Rennison & Rand, 2007, p. 18). The Commission was unable to draw

meaningful conclusions because these missing data prevented the “accurate measurement of crime trends” (President’s Commission on Law Enforcement and the Administration of Justice, 1967, p. 40). Again drawing on the US as an example, the dark figure of crime is also offered as an explanation for the divergence of crime levels measured in the Federal Bureau of Intelligence’s Uniform Crime Reports and the Bureau of Justice Statistics’ National Crime Victimization Survey (Rosenfeld, 2007, p. 253). Similar criticism has been levelled towards recorded crime statistics and the British Crime Survey due to the disparities in these data; however this is unsurprising because of the reluctance of victims to report certain crimes, and in some instances victims being unaware of the crime, fraud being one example, as will be discussed in the following segment which examines what may be described as the ‘dark figure of fraud’.

The ‘Dark Figure of Fraud’

Many frauds remain undiscovered, and therefore absent from official returns. Consequently, police recorded statistics, and data compiled by agencies such as the DWP only capture a limited amount of fraud (Doig & Levi, 2009; Doig & Macaulay, 2010; Gannon & Doig, 2010), thus contributing to what may be described as ‘the dark figure of fraud’. Arguably, the first acknowledgement of the possible existence of a dark figure of fraud is offered by Sutherland (1940), who identifies a lack of recognition of white collar crime in police recorded statistics. White collar crime being defined as “crimes committed by persons of respectability and high social status in the course of their

occupations” (Sutherland & Cressey, 1960, p. 40). Sutherland (1940) concludes that this is because prosecution is frequently avoided due to the status of the parties involved, that the offences are often considered trivial, and on occasions it is difficult to gather sufficient evidence. Debatably, this explanation is still valid in terms of the under-representation of fraud within official crime statistics. In support, I offer the conclusions of Allen et al (2005) who maintain that only a small proportion of frauds are recorded by the criminal justice system. Two explanations for this ‘dark figure of fraud’ are offered by Sutton (2007), who suggests that “many frauds are not seen by individual victims as crimes that warrant reporting to the authorities”, or alternatively, “the hassle, or culpable embarrassment of informing the authorities may outweigh the desire to report the scam” (p. 250).

Following the refinement of criminal statistics, more types of “private criminality” have been studied, such as white collar crime, yet they still remain “greatly under-represented in recorded crime figures” (Maguire, 2007, p. 247). The author offers a potential explanation, suggesting that “the relationship between frequency and seriousness is not straightforward” (p. 265). Consequently, “fraud and forgery appear in recorded crime figures in relatively small numbers”, however if the measure focused upon value stolen, “fraud would come out as of greater significance than other categories with many times the number of recorded offences” (p. 265). To address this issue, the criteria for crime statistical recording should incorporate monetary value in addition to frequency, and through an awareness campaign, individual victims encouraged to report losses.

To explain the concept of the 'dark figure of fraud', this thesis will examine the status of fraud as a crime within criminal statistics and surveys, before moving on to critique fraud loss measurement data outputs. Firstly, the review will examine the collection of general crime data using official statistics and surveys.

Crime Statistics

Field (1990) suggests that crime statistics reveal more about those collecting and recording them than they do about crime itself (p. 2). Historically, crime measurement in England and Wales consisted of annually compiled Home Office statistics detailing offences recorded by the Police (Maguire, 2007, p. 241). The politicisation of crime however, has resulted in increased "collection, analysis and publication of crime data from many new sources" (Maguire, 2007, p. 242.). Academic critique of crime statistics has also influenced change in data collection practise. For example, Bottomley and Coleman (1981) identify that police recording methods can actually influence these statistics and create inaccurate data that fail to reflect criminal activity. Accordingly, changes and improvements have been implemented to both the typology of data collected, and the methodology employed.

Ghatak (2008) observes that the "collection, analysis and archiving of data on the national population is a critical part of...the rationality of governance of modern states" (p.32). Accordingly, the collection and publication of crime data has, and continues to be, the remit of the public sector. For example, the

Home Office Research, Development and Statistics Directorate produce a number of 'thematic' statistical publications, in addition to the annually produced paper which combines crime survey and police statistics (Walker, Kershaw & Nicholas, 2006; Office for National Statistics, 2012). The thematic reports relevant to the recording and measurement of fraud will be discussed in the subsequent segment of this review.

These official data are subject to criticism, specifically that on occasions they can be skewed, thus presenting what appears to be a significant change in criminal activity, rather than reflecting the changes in the data collection process (Maguire, 2007, p. 257). Koffman (1996, p. 1) is more dismissive, arguing that official figures are not an objective measure of crime. Attempts have been made to clarify the recording methodology. One example being the implementation of the *Perks Committee* (Departmental Committee on Criminal Statistics, 1967) recommendation to issue revised guidance to try and achieve consistency in recording (Home Office, 1971). Unfortunately, this guidance created different inconsistencies resulting in further changes to the counting rules in 1980, and again in 1998. The latter revision implemented amendments to counting within the British Crime Survey, whereby statistics reflect the number of victims wherever possible (Maguire, 2007, pp. 259-260). This modification has had minimal impact on the measurement of financial fraud within official crime statistics, because monetary value of loss is more significant than the number of victims. For instance, a prolific credit card fraudster's activities may result in the recording of multiple offences, but with a

combined loss figure of a few thousand pounds. Whereas one single victim of “boiler room fraud” (Levi, 2008, p. 403) may lose hundreds of thousands of pounds. Debatably, this evidences a lack of understanding of fraud by those charged with developing crime data collection strategies.

A further review of crime statistics was commissioned by the Home Office in response to the changing requirements of crime control practise, for example, intelligence led policing (Ratcliffe, 2008). The report argues that a new approach is required whereby the problem is first identified, and then a suitable data collection plan formulated (Simmons, 2000, p. ii). To further improve the reliability of these data, National Crime Recording Standards were introduced in April 2002, the most significant change being a shift from an evidential to a *prima facie* principle (Maguire, 2007, p. 292). The impact being a requirement for police to record all crime reports, as opposed to discounting those they believed to be “mistaken” (Burrows, Turling, Mackie, Lewis & Taylor, 2000, p. 74). A further review of crime statistics conducted independently on behalf of the Home Office concludes that there are still significant flaws in current police recording processes, whilst also identifying growing gaps in national figures and limited coverage of the British Crime Survey (Smith, 2006, pp. 7-9), thus suggesting there is still more scope for improvement.

One important issue concerning all government statistics is that of trust (Duffy, Hall & Williams, 2005), which is particularly relevant to crime statistics (Statistics Commission 2005; Statistics Commission 2006). The Statistics

Commission (2005, p.4) observe that the flow of statistical messages from the Home Office are regulated to the extent that, sometimes policy responses are issued in advance of the statistics. Accordingly, the Commission recommends a distancing between differing functions, namely that the Home Office statistical function “should be located at arms length” from policy functions (Statistics Commission, 2006, p. 6). Smith (2006) draws similar conclusions, arguing that the governance, management and organisation of the Police and Home Office should be revised to offer assurance of independence and integrity of statistics.

In conclusion, I maintain that although these data make interesting reading, they carry a sizeable caveat in relation to accuracy and usefulness when forecasting patterns and trends. The principal flaw being in the collection methodology, data being gathered by “busy people for a variety of purposes” (Maguire, 2007, p. 267), which renders them of minimal value for the objective of forecasting patterns and trends. The key issue is that these data are reliant upon the victim reporting the crime. This potential for undercounting is evidenced by the 2006/07 Survey of Crime in England and Wales, which identifies that 71% of respondents did not report the crime to the police because they perceived the crime to be trivial or that the police could not, or would not do anything about it (Nicholas, Kershaw & Walker, 2007, p. 26). Furthermore, there are a considerable range of crime typologies excluded from official statistics, and of those offences that are reported, bias exists in both the reporting and recording (Walker, 1995, p. 5). Consequently, the reliability of these statistics is best summed up by Barclay (1995), who

observes that “no-one knows the true extent of crime in this country” (p. 1). Maguire (2012) does offer a solution, arguing that “any attempt to present the national state of crime through any statistical measure...should focus on more serious and more reliably measurable offences” (p. 239). Having considered official recorded data, this review will now explore crime surveys.

Crime Surveys

Social surveys are described as democratic instruments used to collect data on individual's fears and experiences of crime (Young, 1992, p. 50). The trend towards a victim focused approach emerged during the 1980s and directed attention towards the offence and away from the offender (Maguire, 2007, p. 250). As a result, the first British Crime Survey (BCS) was conducted in 1982 (Hough & Mayhew, 1983). This has now become an annual publication (Spalek, 2007, p. 6), complemented by local surveys (Maguire, 2007, p. 249), and is currently known as the Crime Survey of England and Wales. For the initial 20 years following its launch, “a fundamental requirement in the management of the British Crime Survey has been to maintain:

1. The routine monitoring of crime rates;
2. Measuring and understanding these crime rates, and
3. Researching other crimes that are new or strangely neglected”

(Sutton, 2007, p. 244)

The sampling frame used within the BCS utilises the Postcode Address File, because this is believed to offer a more accurate representation of the population than the Electoral Register (Foster, 1994; Bolling, Grant & Donovan, 2008 p. 9). The BCS is considered to provide unique information on the reporting and recording of crime, but also on public fears of crime and attitudes to the police (Bottomley & Coleman, 1995, p. 45).

A significant criticism of national crime surveys is offered by Sutton (2007), who contends that,

“such work is increasingly commissioned merely to service the needs of ministers and their advisers in order to comply with short term and narrowly focused political agendas” (p. 257).

I suggest that this observation might also be levelled at fraud measurement within the public sector, whereby such exercises may be politically biased and under representing losses through inaccurate counting may actually suite a particular political agenda.

Smith (2006) identifies limitations in the BCS, in particular that it excludes those under sixteen years old and those not living in ‘normal’ households, for example student accommodation and nurses accommodation (p. 10). Furthermore, because the BCS and official crime statistics do not cover exactly the same crime areas, making a comparison is difficult (Maguire,

2007, p. 268). Sutton (2007) argues that “administrative criminologists currently design and control national crime surveys and then use these findings to shape their work” (p. 245). A solution would be to “replace this in-bred administrative criminology with a more widely informed, up to date, and comprehensive policy-orientated criminology that has more external input from expert academics” (Sutton, 2007, p.245). Sutton’s observation is relevant to this research, which advocates a more accurate mechanism for measuring fraud, which is up to date and academically informed. Furthermore, it may be suggested that, apart from generic crime statistics, some existing fraud measurement methodologies are politically influenced and maintained by administrative criminologists, thus resulting in the identifiable omissions within state produced crime data. This review will now move on to consider the recording of fraud within official crime statistics.

Fraud within Crime Statistics

The main source of fraud data within crime statistics is provided by the police, who have recorded fraud and forgery offences since the nineteenth century (Simmons & Dodd, 2003, p. 63). Police recorded crime data “provides a count of fraud, based on legal definitions and according to National Crime Recording Standards and Home Office Counting Rules”, however they are “generally considered to be a poor indication of the real level and trends” (Hoare, 2007, p. 265). This limited representation results from the fact that fraud and forgery offences are particularly susceptible to underreporting (Allen et al, 2005, p. 1; Coleman & Moynihan, 1996 p. 8), often because victims are

unaware of the fraud, or elect not to report the incident to the police (Fraud Review Team, 2006, p. 7). Newburn (2007) draws a similar conclusion concerning underreporting, observing that for a crime to be reported it has to be 'known', and on occasions where a victim has been defrauded of a small sum of money they may not be aware of it (p. 57). Accordingly, this offence may not find its way into either the official crime statistics or victim surveys, thus contributing to the 'dark figure of fraud'. This aforementioned 'dark figure' may also be exacerbated by the counting rules for fraud offences, which actually limit their contribution to the overall picture of crime, because, as previously discussed, these figures fail to take account of the size of the monetary value involved (Maguire, 1994, p. 252).

One exception is credit and debit card fraud data produced by the Home Office which uses data supplied by UK Payments (formerly Association for Payment Clearing Services), because this fraud typology is often reported direct to the card issuer rather than the police (Nicholas, Kershaw & Walker, 2007, p. 86). In fact, Maguire (2007) observes that "only an estimated 5 per cent of fraudulent credit card transactions are reported to the police" (p. 282). These data are now incorporated into the *Crime in England and Wales* report (Office of National Statistics, 2012, p. 89). The principal explanation for this level of reliability is that the credit card fraud is likely to be reported because the consumer no longer bears any financial liability once reported to the card issuer. The crime statistics produced by the Office of National Statistics also include fraud data from the National Fraud Intelligence Bureau; however these data are "subject to ongoing development before they

should be seen as providing an authoritative measure of fraud” (Office of National Statistics, 2012, p. 89).

Following the introduction of the Fraud Act 2006, the way in which the police record crime has changed due to the introduction of an economic crime category (Maguire, 2012, p. 213). This is encouraging because it raises the profile of fraud within official crime statistics, however changes in this recording process means that “year on year comparisons are only possible from 2007/08 onwards” (Office of National Statistics, 2012, p. 60). A further development which may also assist in reducing the ‘dark figure’ results from the National Statistician’s review of Crime Statistics in England and Wales (National Statistician, 2011), which identifies fraud as a significant gap within official crime statistics, and that data should be provided from additional sources. One positive development in terms of fraud reporting is that from April 2013 the National Fraud Intelligence Bureau took over full responsibility for recording all fraud offences from the police (Office of National Statistics, 2012, p. 59).

Fraud in Crime Surveys

Maxfield Hough and Mayhew (2007) suggest that interviewing offenders can reveal information about the perpetrators of volume frauds which in turn may lead to a more precisely defined target population resulting in better counts (p. 313). Jansson (2007) suggests that the BCS “is used to examine new or emerging types of crime such as fraud” (p. 30). However, the BCS only covers

debit and credit card fraud, and more recently has been expanded to include identity fraud and mass marketing fraud. I suggest that the inclusion of the latter does not necessarily assist the calculation of the economic cost of fraud, because identity theft is a *modus operandi* that enables the criminal to facilitate fraud by the use of either a fictitious or hijacked identity. Hoare (2007) argues that a significant difficulty in using crime surveys to measure fraud is the delay between the fraudulent act and its discovery, consequently, in terms of the BCS, “respondents may be victimised by fraud at the time of the interview, but be unaware of the fact” (p. 268). The author further argues that “evolving crimes, such as internet fraud can be difficult to keep up with on a large scale continuous survey” (p. 267). A similar observation is also offered by Mann & Sutton (1998), who contend that national crime surveys should focus more on technological changes such as the internet, which opens up new opportunities for criminality (p. 225). This criticism is particularly relevant to the measurement of fraud, because evidence suggests that fraudsters are frequently turning to cyber crime because the internet offers a quick and effective medium for their scams (Thomas & Loader, 2003). Consequently, to be of value, it is imperative that the BCS keeps up to date with new and emerging crimes, such as cybercrime, which can be achieved by asking questions on “the most important and up to date subject matter” (Sutton, 2007, p. 250).

A further omission within the BCS, thus further contributing to ‘the dark figure of fraud’, is that it surveys individuals and excludes fraud against businesses (Blunt & Hand, 2007, p. 7). There have however, been surveys conducted by

private sector organisations (British Retail Consortium, 2009; PriceWaterhouseCoopers, 2011), that have attempted to measure fraud by surveying a random selection of businesses. These surveys are somewhat unreliable due to their small or unrepresentative sample, and the lack of consistency between methodologies employed.

There have however been some Government led victimization and offender surveys that have incorporated fraud offences within the data gathering process, thus making some progress in illuminating the 'dark figure of fraud'. The 2003 Offending, Crime and Justice Survey (OCJS) (Budd, Sharp & Mayhew, 2005) "was the first nationally representative self report offending survey to cover fraud crime, providing information from an offender's perspective" (Hoare, 2007, p. 265). The survey includes "credit and debit card fraud and also explores benefit fraud, income tax fraud and insurance fraud" (Hoare, 2007, p. 265). The findings of this first survey are combined with supplementary modules in the 2002/03 BCS which asks respondents about fraud and technology crimes, which are presented as a thematic report (Allen et al, 2005). The exercise was repeated in the 2004/05 BCS and an updated report issued (Wilson, Patterson, Powell & Hembury, 2006).

The first commercial victimization survey was conducted in 1994 (Mirrlees-Black & Ross, 1995), however the follow up was not conducted until 2002 (Shury, Speed, Vivian, Kuechel & Nicholas, 2005). According to Maguire (2007), this provides "a new source of information about theft and fraud against businesses" (p. 282). Surveys of this nature and the aforementioned

report on fraud and technology crimes do offer some useful information, but offer minimal assistance in terms of eradicating the 'dark figure of fraud' simply because they are not produced on a regular enough basis and require an increased sample size. Furthermore, in respect of the commercial victimization survey, the questions concerning fraud are located amongst those relating to crime typologies that may be considered of higher impact and consequently may be overlooked. Arguably, to develop a more informed picture of the extent and nature of fraud, surveys should be conducted more frequently and be fraud specific.

I close by suggesting that to make inroads into reducing the dark figure of fraud, there is a need to increase awareness of fraud as a crime, place more emphasis on the importance of reporting it, and in the case of organisations, a "memorandum of understanding" issued by the police that may help "clarify any dilemmas directors have" about reporting fraud (Higson, 1999, p.2).

These proposals will actually contribute to a more accurate picture of fraud within official crime and survey data because improved awareness may result in increased reporting of fraud related crime to the police, or more answers in the affirmative when being surveyed, and an increase in organisations conducting fraud loss measurement exercises. This chapter will now discuss the literature inclusion and exclusion criteria of the fraud data publications that will be subsequently critiqued.

Sources (Inclusion/Exclusion Criteria)

When deciding upon the publications for review, to produce a more holistic viewpoint, it was important to move outside fraud and examine crime reporting data, victim survey, and crime survey documents, paying particular attention to data collection methodologies and the reliability of data. The next logical step was to examine fraud as a sub-set of these data, and reviewing these documents proved illuminating when formulating the research argument and project design. Nevertheless, due to word count limitations, a detailed discussion of all these documents has not been possible. Accordingly, the documents selected for inclusion are restricted to fraud data output publications and critiques of fraud measurement.

Search Strategy

To garner relevant documents for this review, the following sources were explored:

- Google.
- Google Scholar.
- Google Books.
- Applied Social Sciences Index and Abstracts.
- Sage Full Text Criminology Journals.
- Cambridge Scientific Abstract Database.
- Birmingham City University Library catalogue.
- 'My iLibrary E-books'.

Below are the 'key-words' used to identify relevant material:

- Fraud.
- Counter fraud.
- Definition of Fraud.
- Fraud Act.
- Measuring Fraud.
- Fraud Measurement.
- Public sector fraud.
- Private sector fraud.
- Fraud in Charities.
- Charitable fraud.

The bibliographies contained with documents retrieved were used as an additional source of material.

Identified Methodologies and Issues

Introduction

Before reporting the results of this current review, I will initially discuss the existing typologies of measuring fraud identified, before moving on to explore the issues requiring remedial action. These have informed the classification of fraud data outputs, which will be discussed in the following sections. I commence by exploring the 'top down and bottom up' approaches.

Top Down or Bottom Up?

Levi et al (2007, p. 19) and Levi and Burrows (2008, p. 306) identify two fraud measurement methodologies, “bottom up” and “top down”. The former is used to calculate the costs of fraud from an organisational perspective, whereas a top down methodology estimates fraud from a national perspective (Levi & Burrows, 2008, p.306). An example of the former is where an annual loss figure is merely the sum of all reported frauds. A ‘top down’ macro approach involves the creation of an estimated figure using linked datasets, possibly sourced externally, which consequently renders it more exposed to error, and limitations in statistical certainty than a bottom up approach.

Gee, Button and Brooks (2009a) identify two typologies of fraud measurement, a percentage loss rate, and secondly a fraud frequency rate (p. 7). The percentage loss rate (PLR) shows the proportion of expenditure lost to fraud and error, whereas a fraud frequency rate (FFR) details the frequency of fraud and error. The authors correctly point out that the same exercise can produce different PLR and FFR figures, dependant upon the value of fraudulent items of expenditure (p.7).

Finally, as previously suggested, another fraud measurement methodology with limitations calculates losses based upon successfully detected cases. Gee (2010b) observes that “no unlawful act has a 100% detection rate and the essence of fraud is deception and concealment” (p. 24). Interestingly, organisations conducting measurement exercises using common sampling

have identified that detection rates rarely exceed one in thirty (Gee, 2010b, p. 24), which offers additional evidence to suggest that this approach to measurement is flawed. What gives further cause for concern, and further evidences the need for a sea change in the approach to measurement, is the fact that the Cabinet Office's Fraud, Error and Debt (FED) Taskforce (HM Government, 2012), who are seeking to "reduce the impact of fraud and error" (p. 6) are still advocating the use of this methodology, rather than compelling central government departments to undertake "proactive" fraud loss risk measurement exercises" (p.17).

Obstacles to Accurate Measurement

Introduction

"Levels of Fraud are extremely difficult to quantify."

(NFSA, 2008, p. 1)

The Fraud Review Team (2006) identify two problems when measuring fraud, these being:

- Having clear definitions of what constitutes fraud.
- Having robust and transparent mechanisms for measuring fraud.

(p. 23)

Interestingly, research into strategies and techniques for detecting fraud by Silverstone and Davia (2005) cited by Hoare (2007, p. 277), identifies that only 20% of fraud “is exposed and public” another 40% is “known but not publicised” and the remaining 40% is “undetected”. This is a 'detection and reporting' issue, but in terms of measurement, can be addressed by a common sampling approach, which will be discussed further within this chapter.

Under- Reporting

Under-reporting often results from a reluctance to accept fraud losses as a legitimate business cost and is considered a significant barrier to accurate fraud measurement (Foresight Crime Prevention Panel, 2006, p.10). Ernst and Young (2000) suggest that within the private sector, this is due to “fear of adverse publicity, the perception of customers and shareholders, or perhaps just the embarrassment at having to admit to being defrauded” (p. 4).

Similarly, Maxfield, Hough and Mayhew (2007) contend that “companies could be particularly resistant to saying much about fraud” (pp. 306-309). Jones and Levi (2000) remark that “there will always be companies that do not contribute data”, therefore fraud statistics “should be viewed as the lowest reliable figure, rather than a true full blown picture” (p. 9).

Russell (1998) reports survey findings that reveal “only a fifth of finance directors...would report an incident of suspected fraud” (p. 5), because of a

“concern that it would become public knowledge” (p. 6). Blunt and Hand (2007) suggest that companies are reticent to report fraud because they are concerned about:

- Length and cost of legal proceedings.
- Risk to the company’s reputation.
- Hazy definitions of fraud.
- Belief that authorities place a low priority on fraud.
- The easiest option may be to dismiss the individual concerned.

(p. 24)

Similar explanations are offered by Higson (1999), who suggests that companies are reluctant to report fraud due to:

- The impression of the word fraud.
- The vagueness of directors’ responsibilities.
- Confusion over the reason for reporting suspected fraud (is it to gain the magnitude of fraud, or to deter potential perpetrators?
Or to punish fraudsters.

(p.2)

This reticence by companies to report crime is not specific to fraud however, as evidenced by the *2012 Commercial Victimization Survey* which reveals low reporting rates on many crimes including assaults, theft by persons unknown and thefts by employees (Home Office, 2013, p. 21). To achieve a more

accurate picture of private sector fraud, mandating measurement may be an option worth considering, this being supported by an awareness campaign on the associated business benefits. This in turn may result in companies becoming more willing not just to measure, but also to report fraud, thus providing a more accurate representation of private sector fraud in UK loss data and also official crime statistics, thus contributing to reducing the 'dark figure of fraud'.

Undetected Fraud

When discussing undetected fraud, whereby fraud has been committed but the victim is unaware of the fact, Blunt and Hand (2007) observe that "one definition of fraud ensures that we can only identify fraud at the end of the legal process...thus estimating undetected fraud is a logical contradiction" (p. 23). Interestingly, Levi (1987) identifies a link between undetected and under-reported fraud, suggesting that the victim may believe that "he or she has been unfortunate or has made a commercial misjudgement" (p. 27), rather than being defrauded.

One problem identified is that there are numerous grey areas. For example, two activities that might be committed with fraudulent intent but may also go undetected are:

- Default on personal loans or credit cards where the borrower had no intention of repaying.

- Bankruptcy or Individual Voluntary Arrangements used as a means of avoiding debts.

(Blunt & Hand, 2007, p. 23)

Arguably, the above should be considered within a common sample during any measurement exercise and incorporated into loss data.

Costs of Measuring Fraud

The costs of measurement exercises are dependant upon:

- The frequency of the estimating exercise.
- The sample sizes checked.
- The work involved in checking each case sampled.
- The work involved in validating the results.

(NAO, 2008a, p. 15)

The NAO (2008a) also observe that due to costs, in smaller departments and agencies, a one off estimate or one produced at longer intervals may be sufficient (p. 15). Nevertheless, despite such cost implications, the advantage of regular measurement exercises is actually acknowledged by the NAO (2008), who argue that they enable a department to “track changes over time in the estimated fraud loss” (p. 15), thus enabling organisations to evaluate the effectiveness of reduction strategies.

Statistically Valid Loss Measurement Surveys

Introduction

This appraisal will initially examine fraud data outputs which following evaluation are considered to contain sound loss measurement methodologies. The selection criteria has been informed by critical evaluation of methodology; specifically, data sources, sampling methodologies, and levels of statistical confidence. Interestingly, this section only contains reports produced by two public sector organisations. I commence however, with a discussion of the drivers behind the development of public sector fraud loss measurement.

Public Sector Fraud Loss Measurement:

Public sector fraud first came to prominence with the publication of the HM Treasury (1989) report *Government Accounting*. Fraud subsequently became a significant issue following the publication of *Managing the Risk of Fraud: A Guide for Managers* (HM Treasury, 1997), which required government departments to identify levels of fraud committed against them. *Managing the Risk of Fraud: Assurance Control and Risk* contains further guidance, including advice on “evaluating the scale of fraud risks” (HM Treasury, 2003, p. 4). This review contends that these directives explain why certain public sector organisations have developed surveys with sound methodologies. It is apparent however, that not all central government departments have embraced these instructions, resulting in limited data, a theme which will be

developed later in this chapter. In terms of public sector methodologies, Maguire (2007) offers the pertinent observation that most organisations estimate fraud losses using differing methodologies, including common sampling, rather than “simply analysing detected cases” (p. 282). In support of this contention, I suggest that the DWP and NHS are the only two government departments conducting statistically valid fraud loss measurement surveys. The former will now be discussed.

Department for Work and Pensions

The DWP “began a continuous rolling measurement of Income Support and Jobseekers Allowance in 1997, recognising their vulnerability to fraud loss” (Hoare, 2007, p. 269). When examining data quality, the Benefit Fraud Inspectorate (1998) conclude that there are “a number of weaknesses in the way fraud is measured” (p. 19). Sainsbury (1998) further suggests that despite announcements of a reduction in fraudulent benefit claims by consecutive governments of the late nineties, “whether we now have an accurate idea of the amount of fraud in the system...is more debatable” (p. 4).

Some of these historical shortcomings in data quality have been addressed, and more statistically robust estimates of losses are the outcome. For example, *Fraud and Error in the Benefits System: April 2007 to March 2008* (DWP, 2008) provides estimates for the means tested benefits Income Support, Jobseekers Allowance, Pension Credit and Housing Benefit, based on “analysis of random samples drawn from the benefit caseloads” (p. 2). The

data presented are subject to some “statistical uncertainty”, which is quantified in the form of “95% confidence intervals” (p. 2). A lack of statistical robustness of certain measures is acknowledged, for example, assumptions being made about benefits which have not been “regularly reviewed” (p. 18). This trend has continued, with extant data being subject to “statistical sampling uncertainties” and that “a proportion of continuously measured benefit expenditure cannot be captured by the sampling process” (DWP, 2012, p. 9). Even taking into account these shortcomings, which will be discussed later, I contend that through the use of continuous rolling measurement exercises, DWP data are far more statistically reliable than any other government department, with the exception of historical NHS data.

Interestingly, the National Audit Office (NAO) (2008b) report *Progress in Tackling Benefit Fraud* considers that measurement frequency is “proportionate to the value of expenditure and the assessed likelihood of fraud...occurring in each benefit type” (p. 14). The report does however identify limitations in DWP data, observing that “the size of the sample of cases examined can only distinguish regional variations; reliable data is not available at district or office level” (p.14). This criticism of the DWP is significant, and arguably suggests increased value being placed on micro data, because when previously undertaking an international comparison of fraud and error, the NAO suggested that by using large samples, the DWP “measures fraud and error more comprehensively than the rest of the countries” (NAO, 2006, p. 5). It is noteworthy that the NAO revised its opinion

on sample sizes, and is something that should inform future revisions to measurement processes.

One final shortcoming of benefit fraud data is the fact that DWP only conduct measurement on a continuous basis of benefits accounting for only 27% of total expenditure (DWP, 2012, p. 7). “Occasional reviews” are conducted on benefits that account for 59% of total expenditure and the remaining benefits accounting for 14% of total expenditure go “unreviewed” (DWP, 2012, p. 8). When considering that the unreviewed benefits actually accounted for expenditure in 2011/12 of £22.5 billion (DWP, 2012, p. 8), this further suggests that there is more work required to establishing a more accurate picture of benefit fraud.

Finally, when comparing the measurement methodology, it is worth noting that DWP rely upon a criminal based evidential test informed by the conditions of benefit entitlement, thus placing emphasis on beyond reasonable doubt. Whereas, the NHS rely upon a civil definition of fraud which applies the balance of probabilities, which will now be discussed.

National Health Service

When evaluating fraud measurement by the NHS, Levi and Burrows (2008)

observe that,

“considerable progress has been made in specific fields”

(p. 309)

The task of measurement is challenging, fraud being committed by patients, pharmacists, dentists, opticians, doctors, hospital consultants, and staff (NHS, 1999, pp. 34-37). This requires a significant commitment in terms of measurement exercises, and because of the volume and diverse nature of fraud, the decision to measure each area of spend separately is sound.

Within each individual measurement exercise, the NHS Counter Fraud Service (NHSCFS) validate data on a case-by-case basis, decisions being made using a civil definition of fraud (Hoare, 2007, p. 270). This may be considered a tactical decision because the civil burden of proof is based upon the balance of probabilities, and thus any measurement exercise may appear to uncover more fraud than by applying the test of ‘beyond reasonable doubt’. On the other hand, because the NHS are required to measure such a wide range of estimated fraud the decision to adopt a definition applicable to all is a logical decision, and worth remembering when considering a definition of fraud for the purpose of loss measurement across all sectors.

To further progress the measurement strategy, *Countering Fraud in the NHS*, identifies the need to “develop a robust measure of the amount of fraud that exists” to accurately target “available resources at areas most at risk” (NHS,

1999, p.10). The strategy initially concentrates upon one area of fraud, this being prescription fraud (NHS, 1999, p.10) in order to gain understanding of measurement processes and develop best practice. This is prudent because prescription fraud is simple to measure, using means tested benefits data, thus avoiding the production of “heavily qualified estimated figures” (p. 31).

Countering Fraud in the NHS: Identifying the nature and scale of the problem unveils the Risk Measurement Project (RMP) which measures fraud using “statistically valid samples of cases in each area of NHS spending” (NHS CFSMS, 2001a, p. 2). Most importantly, this strategy acknowledges that “information about the money that is lost to fraud” may be used to illustrate “where savings have been made”, which may then “inform the development of preventative measures” (NHS CFSMS, 2001a, pp. 2-3). This approach of publicly acknowledging the value of fraud loss data is sadly lacking within other government departments.

In conclusion, an improvement in the accuracy of fraud loss data through the use of common sampling (NHS, CFSMS, 2001b, p. 31) has enabled effective targeting of the counter fraud tactical resource (Gee, 2010b, p. 25). One concern however, is that having made progress in developing measurement strategies, the NHS have not published any loss figures since 2006 (Phillips, 2010; Gee, 2010b, p. 25). The only NHS specific data contained within the *Annual Fraud Indicator* (NFA, 2013), is that of patient charges fraud (p. 44). Any other NHS specific fraud appears to have been absorbed into the remaining fraud by typology data, which therefore offers a less accurate

picture of healthcare fraud than available prior to the NFA collating fraud loss data. This chapter will now examine the measurement of detected fraud.

Measuring Detected Fraud

Introduction

This discussion will now examine reports utilising data from successful investigations, where fraud has been proven based upon the evidential test applied by each organisation, the inadequacies of this methodology having already been discussed within this and the preceding chapter. There are additional reports that incorporate detected fraud, but have been allocated an alternative classification within this review. Paradoxically, the only report falling within this section that relies wholly on detected cases is published by the Audit Commission.

Audit Commission

The Audit Commission's (2010) report *Protecting the Public Purse 2010* contains the results from the survey of "detected fraud committed against councils" (p. 10). In contrast to previous surveys, the Audit Commission "made submission of 2009/10 survey data mandatory" (p.10). Of significance however, is the statistic that a return rate of 94 per cent was achieved (p.10). The response rate for the subsequent report improved to 99 per cent (Audit Commission, 2011). I maintain however, that if the Audit Commission fails to

achieve total compliance when mandating reporting of fraud losses, this further evidences the need for a statute that mandates fraud measurement, but also contains sufficient penalties for non compliance.

One interesting finding is that despite the Audit Commission offering a definition of fraud (p.10), “some councils do not record all types of fraud, or do not always classify all fraudulent activity as fraud” (Audit Commission, 2010, p.11). There has been some improvement, with public bodies “classifying more incidents correctly as fraud” (Audit Commission, 2011, p. 7).

Nevertheless, I suggest if fraud is to be measured accurately, there is need for both a recognised definition of fraud and standard of accuracy that are applied when conducting mandatory loss measurement exercises. In conclusion, I contend that these documents are of interest in terms of comparing the levels fraud investigation activity by individual local authorities. However, they fail to offer a full and accurate picture of local government fraud losses, and may continue to do so until all local authorities are compelled to correctly record all frauds.

Guestimates

Introduction

This section examines fraud loss publications containing data that are considered little more than guestimates. For the purpose of this review, documents falling within this criterion contain data collected using an unsound

collection plan, or provide significant caveats on reliability, or limited disclosure of methodology. This segment is mainly populated by reports produced by private sector organisations advertising their accounting and auditing capability, rather than collecting meaningful fraud loss data. This discussion will however, commence with the public sector documents which worryingly fall into this category despite the government strategy to improve public sector fraud loss data.

Public Sector

British Broadcasting Company (BBC)

The BBC match their data with the Office of the Deputy Prime Minister's count of the number of homes, which is then matched against "TV penetration data" supplied by the Broadcasters Audience Research Board (Fraud Review Team, 2006, p. 328). The evasion rate totalling £195 million is estimated at 5.3% "which is a calculation of the number of premises where no licence is held but a licence is believed to be needed" (TV Licensing, 2009, p. 8). The overall loss figure is very subjective, being reliant upon the accuracy of third party data, and no account is taken of whether these dwellings are occupied. Consequently the confidence level should be rated as low and the resultant data considered nothing more than guesstimates.

Driver and Vehicle Licensing Agency (DVLA)

“Estimates of Vehicle Excise Duty (VED) evasion are derived from periodic roadside surveys” (Fraud Review Team, 2006, p. 329). The evasion rate is calculated using Department for Transport vehicle sightings data collected annually during June from 250 locations. These data are then compared with the licensing status record of each vehicle, enabling a national estimate of VED lost through evasion (DVLA, 2009, p. 51). VED evasion is calculated at £50m, which equates to less than 1% of total due (DVLA, 2009, p. 9). This fails to stand up to scrutiny; firstly, because the sample is limited in terms of representation, and secondly, the figure of 1% falls significantly below the average public sector loss of 4.57% (Gee, Button & Brooks, 2010a, p. 4). VED evasion data harvested using the same methodology is now incorporated into the *Annual Fraud Indicator*, and for 2011/12 was estimated to be £40 million, this being 0.7% of revenue (NFA, 2012, p. 52), which when compared with the aforementioned average public sector loss, again raises questions on the accuracy of these data.

Foreign and Commonwealth Office (FCO)

The FCO investigates fraud relating to operational procedures (Foreign & Commonwealth Office, 2010); however no specific information is provided on what fraud typologies are considered. When attempting to measure fraud, the Department’s main predicament is that data are collected from a wide geographical area and they rely upon “data received from third parties”

(Hoare, 2007, p. 270). Consequently, data are considered to have very minimal statistical confidence, the resultant loss figure being considered nothing more than a guesstimate and the resultant contribution towards constructing an accurate picture of public sector fraud losses is minimal.

Her Majesty's Treasury

When developing this taxonomy of fraud loss measurement outputs, the HM Treasury's (2009a) *2008-2009 Fraud Report* "analyses data submitted by central government departments and their agencies about fraud and theft perpetrated by staff" (p. 5). The findings concentrate upon "fraud relating to departments' administrative affairs" and exclude "fraud perpetrated by external fraudsters" (p. 3). Disappointingly; the findings are only based upon data supplied by "45 central government bodies", which reveals that 20 departments submitted a nil return (p. 5). When judging the accuracy of public sector fraud losses, this observation casts significant doubt on the reliability of these data. It is no surprise therefore, that the report includes the caveat that it is "not a definitive account of all frauds affecting government departments during the relevant period" (p.5). What is uncertain is whether these departments have conducted measurement exercises and found no evidence of fraud, failed to detect fraud, or simply not bothered measuring and just sent a nil return.

I advocate that the lack of suggestion within the report that questions have been raised concerning these missing data proffers further evidence to

support the argument for mandating fraud measurement within the public sector. Furthermore, it is of concern that external fraud is not measured, nor any explanation offered concerning its omission. Of equal interest is the fact that this document is no longer produced, it being considered to have “served its purpose”, and that the Treasury should withdraw, “as the National Fraud Authority begins to build and share knowledge in central government” (HM Treasury, 2009b). This is a significant development, and it will be interesting to see how the NFA addresses the issue of nil returns from departments, which clearly cannot be accurate. Should these issues fail to be addressed, I suggest mandating public sector fraud measurement is the only option available.

Her Majesty's Revenue and Customs (HMRC)

Introduction

HMRC employ different methodologies when measuring fraud, and similar to the NHS, have a large number of inputs and outputs to measure. This review will commence by exploring the measurement of taxation losses.

Indirect/Direct Taxation

When measuring indirect taxation, actual tax receipts are compared against a potential yield informed by external statistics on consumption. Regrettably, these estimates include generous confidence intervals because consumption

estimates are uncertain. In contrast, because there is no reliable equivalent source for direct taxation, “it is difficult to establish...the value...of this type of fraud” (Hoare, 2007, p. 269).

The introduction to *Measuring Indirect Tax Losses-2007* advises that “estimating the scale of...revenue losses is not only inherently difficult, but also a relatively untested area of work for governments in the EU” (HMRC, 2007, p. 3). Within the updated document *Measuring Tax Gaps-2009*, HMRC (2009) reveal they have “developed estimates for tax gaps for the main direct and indirect taxes that are the best possible based on the available information” (p. 4). A “top down approach” is used to measure indirect taxes, whereby the tax gap is estimated by subtracting tax paid from an estimate of revenue due” (p. 5). Due to the uncertainty of the estimates however, methodologies are regularly reviewed (p. 4).

The methodology for measuring Value Added Tax (VAT) losses compares “the net theoretical tax liabilities with actual VAT receipts, the difference between these amounts being known as the VAT gap” (p. 39), which disappointingly is also “subject to a degree of uncertainty” (p. 36).

Consequently, HMRC (2009) advise they are unable to produce a precise confidence interval in respect of VAT loss estimates (p. 36).

When discussing Missing Trader Intra-Community VAT fraud, (‘carousel fraud’), HMRC are vague in describing their measurement methodology, but do reveal that a “bottom-up approach” is applied “to estimate attempted fraud

and its impact on VAT receipts” (p. 12). Excise gaps also include spirits cigarettes and hand rolling tobacco, being defined as the amount of duty and VAT not collected due to illicit purchases (p. 13). Losses are measured using a “top down technique”, calculating the illicit market as total consumption minus legitimate consumption (p. 13). Minimal confidence can be placed in these data, HMRC advising that “it is not possible to provide an accurate single estimate of the illicit market for spirits and tobacco” (p. 14).

Interestingly, the Committee of Public Accounts (PAC) (2004) research identifies that HMRC estimates of spirits fraud are five times higher than those of the Scotch Whisky Association, the conclusion being that “neither method could be considered reliable” (p. 8). However, it could be suggested that the latter may have a brand investment in underestimating, hence the wide discrepancy. A further limitation relates to estimated losses for cigarettes, calculated using General Household Survey data which only becomes available twelve months after completion of the survey (HMRC, 2007, p. 16). Estimates of losses are therefore always behind loss data for other commodities, which limits any meaningful aggregated analysis of fraud loss data. All figures presented “are subject to statistical uncertainty caused by sampling and systematic errors in the data, resulting in estimates that are either too low or too high”, thus generating “margins of error within which the true value would be expected to lie 95 per cent of the time” (HMRC, 2009, p. 36).

A similar caveat is contained within the HMRC (2010) statistical release, declaring that the data presented are subject to both random and systematic

errors (p. 4). This suggests that a revision of collection methodology and data sources is urgently required to facilitate more reliable loss measurement. The continuing issue is the reliance upon third party data, many of which have limited confidence levels, which may skew HMRC fraud loss data. Arguably, this lack of a robust data collection methodology by such an important public sector department further evidences a pressing requirement to mandate fraud measurement to a prescribed level of accuracy.

Tax Credits

Child and Working Tax Credits presents the results from the first random enquiry programme measuring tax credit fraud and error (HMRC, 2006, p. 2). A random stratified sample of 4,500 cases is reviewed, the results being “scaled up...to estimate the overall level of error and fraud in the tax credit system” (p. 2). Fraud levels are calculated to a 95% confidence level (p. 3), but subject to “sampling errors” (p. 8), which cast doubt upon data accuracy. Furthermore, the rigour may also be questioned because not all cases in the original sample were used (p. 9). Lamentably, a review of extant data output (HMRC, 2010), indicates that despite a developing awareness of the limitations of fraud loss data, no progress has been made to improve the robustness of these data. I suggest this further evidences the need to mandate public sector fraud measurement.

Ministry of Defence (MOD)

“Right back to the time of Samuel Pepys and before,
the task of supplying and supporting military forces
has attracted thieves and fraudsters”

(MOD, 2011, p. 1)

The MOD ‘Defence Fraud Analysis Unit’ (DFAU) “provides estimates based on reports from line managers or whistleblowers” (Hoare, 2007, p. 266). There is limited clarity in the data offered, and it is difficult to establish exactly how many of the cases reported on actually involve fraud as opposed to theft. Accordingly, these data should be attributed a low confidence level, and considered nothing more than a guesstimate.

Private Sector

Association of British Insurers (ABI)

The ABI (2009) research brief *General Insurance Claims Fraud* estimates that undetected general insurance claims fraud “totals £1.9 billion a year” (p. 1). In estimating the cost of undetected fraud the ABI employ an amalgam of data

collection techniques including:

- “ Interviews with:
 - ten insurers accounting for over half the retail and commercial general insurance markets.
 - other bodies (including IFB, CIFAS, and MIB) who have relevant knowledge in this area.
 - several of the major loss adjustors.
- A survey of customers – as part of the ABI’s Savings and Protection quarterly survey - asking about attitudes and behaviours in respect of general insurance fraud.
- A review of the relevant literature, including that relating to the relationship between crime and the economy (and by implication the likely impact of the recession).”

(p. 2)

This data collection plan is more comprehensive than those applied by most other organisations in the public and private sectors, estimates being obtained of “total fraud risk” during interviews with insurers (p. 2). This is a good starting point, but unfortunately, much of it is based upon qualitative surveys. The quantitative data however, do come with some statistical confidence which is sadly lacking from most private sector produced reports.

UK Payments (Formerly Association for Payment Clearing Services (APACS)

Fraud the Facts, which contains payment industry fraud loss data, is published twice yearly (APACS, 2009, p. 2). This area of fraud measurement is relatively unique, because there is a high probability that victims report fraud, simply because most account holders are likely to identify erroneous transactions on their statements. Blunt & Hand (2007) describe these data as “comprehensive” (p. 9), a view shared by the FSA (2003), who conclude that these “statistics are comprehensive” (p. 14). I contest these findings, because it is difficult to assess the reliability and validity of these data due to the source not being disclosed, the sampling methods unexplained, and no detail of how the figures have been calculated being offered. These are repeated in the 2012 edition of this report (Financial Fraud Action UK, 2012). Should these omissions be addressed, the document would offer an even more robust illustration of evidentially supportable fraud losses in this sector.

The review will now evaluate reports categorised as hybrids, these being defined as outputs containing data from multiple sectors. I will commence with the public sector before moving on to the private sector and conclude with the NFA’s cross sector publication.

Hybrid (Public)

The Nature, Extent and Economic Impact of Fraud in the UK

This report “was commissioned by the Association of Chief Police Officers and the Home Office to meet the following objectives:

- To determine as accurately as possible... the nature, extent, and cost of fraud to the public and private sectors.
- To assess critically the availability and quality of existing evidence on fraud.
- To recommend appropriate strategies to facilitate the comprehensive and consistent recording of data on fraud.”

(Levi et al, 2007, p. 8)

The authors suggest that to improve the quality of fraud loss data, owners of statistical systems should encourage data providers to “expose and better estimate undiscovered fraud” (p. 49). Arguably, this final recommendation may only be achieved by action that is stronger than just encouragement, such as the mandating of fraud loss measurement to a set standard of accuracy.

Whilst critiquing extant fraud loss measurement methodologies and offering pertinent observations, (Levi et al, 2007, p. 8) also offer their own estimate of UK fraud losses (p. 5), collating data from a range of available reports

estimating loss. Paradoxically, this appears to be based upon a combination of measures, of which all have weaknesses, being identified as such by the authors within their report. This suggests there is a culture, whereby when discussing fraud losses, there is a perceived need to offer some form of loss figure, no matter how statistically robust.

Hybrid (Private Sector)

National Economic Research Associates (NERA)

The Economic and Social Cost of Fraud produced by NERA (2000) “provides estimates of expenditure on investigations, court proceedings and preventative measures and the amounts of money defrauded across the economy” (Brand & Price, 2000, p. 47). This is the “first contemporary cross sector snapshot” of the cost of fraud (Doig, 2006, p. 43), dividing it into “discovered and undiscovered components” (NERA, 2000, p. 2). Moreover, “discovered fraud can then be further subdivided into reported fraud and unreported fraud” (p.3). NERA (2000) also suggest that reluctance by firms to report fraud may cause data collection problems, which may be rectified by using survey evidence (p. 3).

Fraud costs are divided into two types, firstly resource costs, which include prevention and detection costs, and secondly transfers, which are simply defined as “the amount defrauded” (p.4). The published data “are based on the definitions of fraud used by those who have compiled the original

statistics”, consequently the figures “may not be strictly comparable with the Home Office definition of fraud, or with each other” (NERA, 2000, p. 4).

Arguably, this significantly limits the value of these data for analysis, because the failure to adopt a standard definition of fraud that restricts individual interpretation renders any comparison or aggregation of data relatively meaningless.

Unsurprisingly, the report has been criticised, Doig (2006) observing there was “no review of the methodology used” (p.44). Furthermore, Brand and Price (2000) suspect undercounting, noting that “the difficulty of detecting some frauds and the limited data collected...led NERA to believe that even the higher figure, (of £14 billion), is likely to be an underestimate” (p. 47). Equally, Blunt and Hand (2007) observe that NERA offer little discussion concerning “uncertainty in measurement” (p. 11). Nevertheless, the NERA estimate of fraud was used as a baseline figure for some considerable time even though it may only be considered a guesstimate.

BDO

BDO’s (2010) *FRAUDTRACK 7* considers cases “that have been through the criminal justice system and reported by the media” (p. 2); the inclusion criterion being “cases over £50,000 from December 2008 to November 2009” (p. 30). This further illustrates the limitations of some private sector produced fraud reports, the overall loss figure excluding a significant number of frauds because they fall under the report’s ‘radar’. Consequently, the figure produced

underestimates the true extent of losses. The credibility of some private sector fraud reports, often produced by auditing companies, has been challenged by Kirk (2008), who observes that they are often designed specifically to entice corporations into using that particular organisation (p. 335).

KPMG Fraud Barometer

KPMG's (2010; 2012) *Fraud Barometer* examines cases relating to "financial services, non-financial services, company, government, investors and 'other'" (Levi et al, 2007, p. 76). In terms of contributing towards an accurate picture of fraud, these data are also of limited value. The principle shortcoming of the report is that it measures "fraud cases in court where the loss/claim is a value over £100,000" (Fraud Review Team, 2006, p. 32), thus only capturing a portion of fraud cases. Again there is a risk of double counting data from other fraud measurement exercises supplied by the Serious Fraud Office, banks, and government departments. Consequently, KPMG data offers a limited contribution in establishing an accurate representation of fraud losses from any sector.

Norwich Union

The Fraud Report (Norwich Union, 2005) was produced because no official body "currently compiles or publishes comprehensive annual statistics on the economic cost of fraud to the UK" (p. 7). The report estimates that in 2004 fraud cost the UK economy "in the region of £16 billion" (p. 2). Whilst also

highlighting the range of wide disparities in estimates of the total cost of fraud by non government organisations which range from “£7- 40 billion” (p. 5). The methodology employed replicates the NERA (2000) survey by seeking updates from the original sources (p. 12). Where extant data are unavailable, the original figures are subjected to a 12.4% inflation modifier, as advised by the National Statistics Office (p. 12). Conceivably, such a calculation renders these data of limited value because they fail to take account of changes in levels of fraudulent activity. Furthermore, drawing upon data supplied by various private sector organisations and the Serious Fraud Office increases the risk of double counting. Consequently, the final loss figure achieved may only be considered to be a guesstimate.

Hybrid (Cross Sector)

National Fraud Authority– Annual Fraud Indicator

The NFA’s (2010a) first *Annual Fraud Indicator* aims to provide “the best picture possible” of fraud losses, whilst also acknowledging the estimate “is some way from perfect” (p. 3). The report incorporates public and private sector data, and estimates fraud losses in the charitable sector (p. 7). NFA estimate that fraud cost the UK economy £30.5 billion in 2008, but suggest this figure is a significant underestimation because certain organisations only measure reported fraud (p. 6), confirming that there is still much work to be done in terms of accurate measurement. Significantly, in terms of this research, the report suggests there is an urgent need for a standardised

measurement of fraud, by identifying the limited value of the figures in terms of comparative analysis, because estimates from contributors utilise varying definitions and methodologies (p. 6).

This report has been described as “puzzling” by Jim Gee, former chief executive of the NHS Counter Fraud service, and the figures for the health service considered “extraordinary” (Phillips, 2010). The data in dispute are the NFA figure for NHS fraud, which equates to 0.27% of the budget, whereas the global average has been calculated at 5.59% for healthcare systems (Phillips, 2010). Whilst acknowledging these observations, this report does provide a useful starting point for developing a more accurate picture of overall fraud losses, whilst also illustrating there is more work required to achieve this. The principal issue being that all contributing organisations must supply data that is statistically valid by applying the same definition of fraud and standard of loss measurement.

Some concerns identified within the first report are addressed within the 2011 edition (NFA, 2011a), it being described as “the most...definitive assessment of fraud loss in the UK” (NFA, 2011b, p. 9). The NFA (2011a) report confirms that “work has continued...to develop a more robust and comprehensive picture of fraud loss in the UK” (p.5), with fraud being estimated to cost the UK £38.4 billion a year (p. 15). What has to be recognised, and this may require some education, is that increased and more accurate measurement will result in an increased loss figure. There are still data limitations however, the NFA

acknowledging that “caution must be taken when using and interpreting the figures provided, particularly when drawing comparisons between different figures” and that “further work is still needed to improve the robustness and granularity of some of the new fraud loss estimates provided in this publication” (p. 6).

The NFA (2012, p. 7) *Annual Fraud Indicator* evidences this, reporting an increased overall loss figure of £73 billion. This increase is largely attributed to changes in methodology, specifically “direct engagement with UK businesses...to improve the comprehensiveness of loss against the private sector” (p. 6). The report suggests this figure now includes an estimate of undetected fraud within the private sector (p. 5). When examining the methodology however, the figures do not appear particularly robust.

Respondents of an online survey were asked to estimate how much fraud there could be in their organisation as a percentage of turnover. This estimate ranged from 3% (91 respondents) to 1.4 % (37 respondents) (p. 16). The NFA applied the “conservative estimate of 1.4%” to calculate private sector losses (p. 16). This falls well below both the average figure of 4.57% for expenditure lost to fraud (Gee, Button and Brooks, 2009a, p. 8) and the updated figure of 5.7% (Button & Gee, 2013, p.16). It is also somewhat mystifying why the NFA elected to apply this figure, thus basing the estimate for total losses within the private sector (excluding financial and insurance industries) on the opinion of 37 respondents, when a much higher proportion of respondents indicated losses at 3%. What this does evidence however, is that the figure for private

sector losses and the overall loss figure fall well below what might actually be the true cost of fraud.

One acknowledgement contained within the 2012 report is that, there are

“some limitations to the approach of using surveys to estimate areas of unknown fraud loss, such as the potential bias of organisations self selecting to participate; the level of response rates; issues of representativeness within the samples; and findings which are based on opinion rather than fact”

(p.6)

This has resulted in each estimate being assigned a level of confidence ranging from excellent to poor (p. 6). Interestingly, mortgage fraud has been assigned the lowest rating, and the estimated figure of £1 billion remains unchanged from the 2011 estimate (p.37). Similarly, the estimated loss for fraudulently obtained public sector assistance grants remains unchanged, the NFA observing that “further work is required to identify a more robust methodology for this area of fraud.” (p.34). I maintain these admissions further suggest that the overall loss figure significantly undercounts true fraud losses. Accordingly, this can only be addressed by a standard measure that would generate data with a consistent confidence level.

Moving on to examine the 2013 *Annual Fraud Indicator* (NFA, 2013), overall fraud losses are now estimated at £52 billion (p. 2). This figure comprises of “identified fraud loss estimates by victim” (p. 11) and “hidden fraud loss estimates by victim” (p. 12). The overall loss figure represents a reduction of £21 billion from the 2012 figure, however due to the changes in the research methodology “year on year comparisons are not meaningful” (p, 4). Whilst the aim to improve accuracy of data is commendable, the fact that these changes in methodology prevents each annual figure from being used “to trend or draw conclusions on the ‘growth’ or ‘decline’ of fraud over time” (p.4), does render the document of limit value in terms of a holistic evaluation of the impact of counter fraud strategies. The significant reduction in the overall loss figure, in the main, results from a decrease in private sector losses, which at £21.2 billion (p. 17) represents a decrease of £24.3 billion on the 2012 figure. This change is again attributable to the change in research methodology, which employed a “quota sample survey of 500 small, medium and large businesses” (p.17). What is most disappointing is the fact that these loss data are no longer presented by industry, instead being categorised by business size, with the exception of financial and insurance activities (p. 17). This limits the amount of meaningful analysis of fraud loss within the private sector that can be undertaken using these data.

The figure of £20.6 billion for public sector losses (p. 13) is more convincing, this representing an increase of £0.3 billion on the 2012 figure and equating to an average loss rate of 3.76%. Nevertheless, some of the component data continue to be afforded confidence levels that suggest there is still room for

improvement in developing a more accurate measure of fraud within this sector. For example, grant fraud data to be assessed as poor (p. 14) and the estimated losses to procurement fraud are only allocated an average level of confidence.

This report however, still fails to provide an accurate figure of overall fraud losses because of the significant gaps in, and limited reliability of, some of these data. For example, the figure of £1 million is based upon the “opinion” of mortgage fraud experts (p. 42), rather than being measured, and remains unchanged since the initial publication of this report in 2010. These limitations are recognised by the NFA (2013), who admit that “there are large gaps in knowledge about fraud losses” (p.3), and as a consequence, “the entire fraud spectrum is not captured” (p. 4). Furthermore, some of the data used continues to be very outdated, the earliest used having originally been captured in 2006 (p. 4).

The significant fact that the fraud loss data contained within the NFA’s (2013) *Annual Fraud Indicator* “ranges from 2006 to 2013” (p. 4) clearly indicates that in certain industries, fraud loss measurement continues to be sporadic, and arguably of low priority. I maintain this again supports the argument that it is no longer acceptable for industries to measure fraud on the hoc basis that the National Fraud Authority appear to be content with. This is the fourth publication of this report, yet in certain calculations they continue to use data that was actually outdated when the first report was published in 2010.

Additionally, the NFA (2013) identify the same limitations in the use of survey

data, which were acknowledged in the 2012 report, although some attempt has been made to mitigate these through the use of increased sample sizes and “stronger sampling strategies” (p. 5). Clearly it is time to move on from voluntary measurement and the use of surveys which are often based upon individual perception, and consider some form of regulation that involves mandating measurement.

The limitations in the use of perception based surveys rather than statistically based common sampling are clearly evidenced by the estimate from the private sector survey of 500 businesses that “on average, fraud losses as a proportion of turnover could be in the region of 0.54 per cent” (p. 7), of which hidden losses amount to “0.36 per cent of their turnover of £2.9 trillion” (p, 18). Effecting a comparison with the research conducted by Button & Gee (2013) on statistically valid fraud loss measurement exercises that concluded that on average fraud losses amount to 5.7% (p.16) suggests this methodology is unlikely to offer anything near an accurate measure of losses for this sector. Further limitations of these private sector data are firstly that the estimated loss figure is actually based upon the 278 respondents who “stated that they were either ‘sure’ or ‘very sure’ in their estimate (p. 18), and secondly the “indicative confidence interval of +/-4.4 per cent on a 50 per cent finding” (p. 59), which falls below the confidence level mandated within IPIA. Arguably, this suggests there is a need for the creation of a mandated standard of measurement with a prescribed confidence level.

The overall loss figure for financial and insurance activities also contains “an estimate of hidden fraud losses based on assumptions” (p. 19). As a consequence, these data have been afforded a poor level of confidence by the NFA (p.65), yet still incorporated into the report. I again maintain that this use of poor quality data in terms of validity is unacceptable and the only realistic option available is to mandate measurement using common sampling within these two industries through regulation.

The limitations of using a perception survey are also evidenced by estimate of charity income lost to undetected fraud, which “equates to 0.17 per cent of income” of all charities with an income of £100,000 or more (p. 23). Once again, effecting a comparison with the average fraud loss figure of 5.7% (Button & Gee, 2013, p.16) enables the conclusion to be drawn that this methodology fails to offer an accurate measure of losses for this sector. The results of the online survey of charities also suggests there continues to be much work needed to be done to promote fraud loss measurement with only 21% “having attempted to measure their fraud loss in the last financial year” (p. 23). Furthermore, these data are only afforded a confidence level of “+/- 2.5 per cent”, and with only a 6% response rate, the NFA acknowledge that “there may be issues of representativeness and the ability to generalise” (p. 58).

In conclusion, I suggest this document offers the most accurate picture of fraud losses across all three sectors. Nonetheless, it also continues to evidence that there remains an urgent need to develop and progress

improved mechanisms of measurement across all three sectors. I will now move on to discuss the final classification of reports within this review, these being described as impostors.

Impostors

Introduction

Critical analysis of the fraud loss measurement reports has identified a further typology, which this thesis has classified as 'impostors'. These publications originate from the private sector and offer no contribution to developing a more accurate picture of losses, but simply 'talk up' fraud losses or global threats from fraudsters in an attempt to generate business. These aforementioned publications are frequently produced by auditing and accountancy companies, the first example being published by Ernst and Young, which will now be discussed.

Ernst and Young

Ernst and Young's (2006) *9th Global Fraud Survey* has been included in this section because it fails to offer any specific fraud loss data. The publication actually provides the findings of a qualitative study which aims to improve understanding of how companies manage "the risks associated with bribery of government officials outside their home countries" (p.1). The methodology employed involves qualitative interviews with over 500 corporate leaders

representing worldwide organisations (p. 3). This offers a valuable insight into the issues impacting on large global organisations, “but is inherently limited by this focus” (Hoare, 2007, p. 268). Consequently, this lack of robust data renders this document of little value in terms of identifying worldwide fraud losses. The report does identify that within the survey “over 50% of managers investigate fraud” (p. 8). This level of investigative activity illustrates the need for accurate data so that this resource can be deployed towards areas of maximum impact in terms of reducing losses. Interestingly, the *12th Global Fraud Survey* (Ernst & Young, 2012) also fails to offer a valid contribution to developing an accurate picture of losses.

CIFAS

The longstanding annual publication *Fraudscape*, CIFAS (2011; 2012) records information on fraud cases that have been detected by CIFAS members. Blunt and Hand (2007) are critical of CIFAS data, arguing that they “do not show fraud losses, rather the amount of money saved by members of the CIFAS service” (p. 17). Consequently, these data are only just considered guesstimates, this being another output seeking to advertise the organisation’s services and are of very limited value in providing an accurate picture of fraud losses.

KROLL

The KROLL (2009) *Global Fraud Report* has been included within this category because no detailed explanation of the measurement methodology is offered. The report advises that “a total of 729 senior executives took part in the survey” (p.2), but no detail provided about the questions asked, and what evidence the respondent’s answers are based upon. As a consequence, the finding that financial services fraud has increased by 18% (p. 6) cannot be given any credibility because no data audit trail is provided.

The *Global Fraud Report* (Kroll, 2012) provides a combination of fraud related articles but offers even less in terms of specific fraud loss data. The report’s findings could be given more credence if there was more detail concerning the research methodology. I contend these are both examples of reports raising organisational profile, but contributing little to progressing accurate fraud measurement. I will now discuss the charitable sector

The Charitable Sector

Fraud in the charitable sector is a relatively new discovery; in fact the Charities Commission has not even begun estimate fraud within this sector (NFA, 2010a, p. 31). The first suggestion that charities are vulnerable to fraud was provided by the Fraud Advisory Panel’s (2009) report on *Fraud in the Charitable Sector*, observing that “the extent of fraud within and against charities in the United Kingdom is relatively unknown” (p. 4). The findings

reveal that “7% of respondents had been the victim of fraud in the last two years” (p. 7). The research methodology comprises of “a self completion postal survey” and “six in depth interviews” (p. 10). The response rate for the postal survey of 22% (p. 10) suggests that the limited data acquired is insufficient to provide an accurate picture of the losses suffered by this sector.

The NFA (2011a) advise that with over 180,000 charities registered with the Charity Commission, “their focus for this year in quantifying fraud loss in the third sector has been on measuring fraud against charities” (p.18). Targeted measurement work involves the issue of a survey to 10,000 charities, the responses numbering “more than a 1,000” (p.18). I suggest that any data produced has to be treated with caution, when considering that the response rate of 10% actually equates to one per cent of the total registered charities. For the subsequent report, the NFA (2012) increased the size of the sample to 34,000 but achieved a lower response rate of 9% (p. 19). It is estimated that charities lose 1.7% of their income to fraud, which equates to £1.1 billion (p. 21). This figure is questionable because it also falls well below the average percentage of expenditure lost to fraud of 5.7% (Button & Gee, 2013, p. 73). Further data giving cause for concern is that the “vast majority of those surveyed believed that their organisation was effective at preventing fraud” and that fewer than 4% of respondents indicated that they had detected fraud (NFA, 2012, p. 21).

The estimate for the VC sector of £147 million (NFA, 2013, p. 21), which is a significant reduction from the 2012 estimate due to a change in the research

design, also has limitations, being based upon a response rate of just 6% to an online survey of charities with an income of over £100,000 a year (p. 23). This survey is also based upon perception; with respondents being asked to estimate a percentage of their income lost to fraud that is undetected (p. 23). I suggest that the significant reduction in estimated losses from the 2012 may constitute a gross undercounting of losses, however, until losses are measured accurately rather than using perception the true impact of fraud on this sector will remain unclear.

The responses to both surveys raises some serious questions, firstly, are charities still being complacent about fraud, believing that it will never happen? Alternatively, is there an awareness that fraud exists, but reluctance to measure because any publicity might impact on donations? What is imperative however is that this sector acknowledges vulnerabilities to fraud and develops appropriate counter strategies. Failing this, an alternative option would be to incorporate this sector in any mandating legislation. This may appear draconian, but without a drive for increased measurement, which is in the interest of this sector as it will enable development of informed reduction strategies, the full picture will never be known. Furthermore, in view of the pressure on charities to reduce overheads, thus compensating for grant cuts (Sherman, 2011, p. 3), measuring fraud and addressing losses will help compensate for this lost funding. This chapter will now review the methodologies identified.

Review of methodologies

Introduction

This section of the chapter offers a review of the analysis of fraud data outputs by producing a synopsis of the fraud measurement methodologies adopted by each organisation. The objective being to summarise the findings, which have also informed the following section of this chapter addressing the shortcomings of these measures.

The table overleaf summarises the multiplicity of fraud measurement data collection methodologies applied by the public and private sectors when attempting to measure fraud.

Table 1: Summation of fraud measurement methodologies

	Count of Detected Fraud	Count of Suspected Fraud	Probability Sample	Administrative Data	Data Matching	Literature Review	Qualitative Interviews
AUDIT COMMISSION	✓			✓			
BBC					✓		
DVLA		✓			✓		
DWP		✓	✓	✓			
FCO	✓			✓	✓		
HMRC		✓	✓	✓	✓		
H M TREASURY	✓						
MOD		✓					
NFA	✓	✓	✓	✓	✓	✓	✓
NHS		✓	✓		✓		
ABI	✓	✓		✓		✓	✓
BDO	✓						
CIFAS				✓			
ERNST & YOUNG							✓
KPMG	✓			✓			
KROLL							✓
NERA	✓	✓		✓			
NORWICH UNION	✓	✓		✓	✓		

n.b. U.K Payments have been excluded because no detail of methodology was supplied in the document examined.

Having conducted a detailed review, the statistically valid fraud data outputs considered to contain sound methodologies, are those employing representative samples that stand up to rigorous academic scrutiny. Furthermore, the DWP who trail blazed the development of an improved measure of fraud losses has maintained data quality, thus presenting a starting platform for future development of best practice. Nevertheless, despite being at the forefront of fraud measurement, there is room for improvement within DWP processes, which will be discussed shortly. In contrast to the findings of the Fraud Review Team (2006, p. 31) that considered HMRC to have robust fraud measurement methodologies, this review finds otherwise. I advocate that HMRC data are unreliable because certain measures are reliant upon third party data, whose validity is beyond their control.

There is also a significant lack of rigour in the loss data provided by many central government departments, evidenced by those that offer a nil return. Equally, those that do measure fraud losses present data of very poor quality, mainly because they rely upon detected fraud, rather than conducting sampling exercises. It is therefore imperative that the NFA (2010c) stand by their intention that “a more comprehensive estimate of public sector fraud should be produced on an annual basis” (p. 7).

In terms of the private sector, insurance industry data are the only measurements that come anywhere close to standing up to academic scrutiny. Much of the private sector produced reports such as those produced

by Ernst and Young (2012) and Kroll (2012) are of limited value due to the failings previously discussed. Arguably, this research typology would be better replaced by measurement exercises conducted by each individual industry in the private sector, which at least would offer a worthy contribution to developing a more accurate picture of fraud losses.

In sum, the data presented within Table 1 enables the conclusion to be drawn that the recommendations contained within existing fraud measurement critiques about standardisation have not been implemented. Specifically, it is worth noting that the NFA, who are perceived to produce the most accurate representation of fraud losses, actually employ all of the measurement methodologies within their annual indicator. I therefore conclude that, seven years on from the Fraud Review (2006), the need to improve the quality of fraud measurement now requires more assertive action based upon the options for change discussed within the preceding chapter. On a more positive note, this review has identified some good practice, which offers a starting point for the development of improved fraud loss measurement.

I close this section by suggesting that the varying methods employed to calculate fraud losses evidenced above, further indicates the need for a standardised method of loss measurement that is embraced by all organisations, and if necessary, mandated to ensure compliance. I maintain this can be achieved through “a statistically valid, representative sample of payments or cases” which are “examined thoroughly” to decide upon the potential presence of fraud, maintaining an accuracy level of + or - 1%, and a

95% level of statistical confidence (Gee, Button & Bassett, 2010, pp.20-21).

The latter is significant, because the higher the level of statistical confidence, the more accurate the result will be (Button & Gee, 2013, p. 74).

Methodological Deficiencies

Introduction

Critical analysis of the measurement processes within the fraud data outputs reviewed, combined with content analysis (Krippendorff, 1980) of the limited critiques of fraud measurement has identified recurring issues that need to be addressed to improve the quality, reliability and comparability of fraud loss data. I will discuss these issues, commencing with the question of why organisations measure fraud.

Why is fraud being measured?

This is a question I have considered whilst reviewing private sector fraud loss reports, particularly those produced by organisations that are not inwardly looking. That is to say, those that conduct organisational fraud loss measurement exercises, but fail to release data at national, sector or even industry level. When examining fraud loss data publications, this analysis has identified considerable variations in fraud loss figures, specifically 'estimates' produced by private sector organisations vary significantly. I contend that this further evidences the unreliability of private sector loss measurement

exercises that appear to be self initiated, rather than underpinned by sector or industry sponsorship. To reiterate previous suggestions to improve accurate fraud measurement, organisations should only measure their own losses, unless specifically commissioned to do so, rather than produce commercially motivated data that is meant to create an organisational “moral panic” (Cohen, 1972) to generate business. Kirk (2008) offers an example, when citing a BDO report with the emotive headline “as the credit crunch bites so do the fraudsters” (p. 335).

Whilst some reports provide interesting qualitative data, they offer little contribution towards the accuracy of fraud measurement within the UK. A pertinent example being the Ernst and Young (2006; 2012) reports which fail to offer any specific fraud loss data, rather sitting within the category of marketing documents, whose specific intention is to generate new business. Whilst these types of documents are inevitable in the commercial world, I suggest they offer no contribution towards offering a more accurate measure.

Debatably, this type of research should be replaced by measurement exercises conducted by each individual private sector industry. Consequently, these publications should be discounted when any improvements to measuring fraud are developed. Arguably, they should be eradicated by the further development of the NFA’s *Annual Fraud Indicator*, which must source data direct from those specifically measuring fraud within their own area of responsibility.

Frequency of measurement

Whilst DWP offer what this review considers to be the most statistically valid fraud loss data, there are certain inadequacies in these data due to the lesser frequency of measurement of certain benefits. To expand, although DWP has frequently reported substantial fraud losses (National Audit Office, 1998; National Audit Office, 2008b), these data lack extant Disability Living Allowance (DLA) fraud data (Sainsbury, 1996, 1999, 2001). This review has identified that this is still the case, DLA last being measured in 2004, and prior to this, it was reviewed in 1996 (DWP, 2005, p. 3). Arguably, this timescale is inadequate to provide accurate detail of total losses of DLA, a benefit frequently targeted by the greedy calculating or systematic fraudster (Tunley, 2010b, p. 14; Tunley, 2011, p. 316), when compared with the rolling measurement of means tested benefits. I suggest this may be explained by be a perception that DLA losses are low and do not warrant such frequent measurement. Alternatively, because of the sensitivity and potential adverse publicity, a less rigorous approach is applied. Finally, I pose the question that if DLA is considered to be a low priority benefit in terms of fraud measurement, why does the DWP employ specialist DLA fraud investigation teams in most regions?

There are other public sector organisations that conduct measurement exercises sporadically, one example being local authorities as evidenced by the Audit Commission (2010; 2011). The NFA (2010c) however, do seek to address the infrequency of data compilation within the public sector by

recommending that “a more comprehensive estimate of...fraud should be produced on an annual basis” (p. 7). Nevertheless, as evidenced, central government departments have continually ignored HM Treasury directives, so even with the backing of the Cabinet Office, what guarantee is there that these departments will fully comply with instructions issued? I therefore advocate that to ensure compliance, there appears to be little option but to mandate the measurement of fraud throughout the public sector through the creation of a statute.

Inconsistent definitions of fraud

Levi and Burrows (2008) identify “inconsistencies in defining fraud” (p.298) as an obstacle to improving accuracy. Yet the *Economic Impact of Fraud* report (Levi et al, 2007) issued the previous year offers an estimate of overall losses drawn from ‘hybrid’ data using inconsistent fraud definitions. I therefore contend that if those charged with reviewing the process actually identify weaknesses, but then offer loss data that is based upon such inconsistencies, then there is an urgent requirement for a standard definition for measurement purposes. I evidence this assertion using the observations of this review, which maintains that little progress has been made. To develop this theme further than previous reviews, I will now discuss the range of different fraud definitions identified.

Within the public sector for example, there are departments with bespoke counter fraud legislation such as the DWP and HMRC, which although used

as a prosecution tool, are the criteria upon which loss measurement exercises are based. For example, the DWP normally prosecute benefit fraud under the Social Security Fraud Administration Act 1992. Thus when measuring fraud using common sampling, the DWP use this statute as an evidential test of whether fraud can be proved, but also use the benefit conditions of entitlement as a test as to whether a claimant's declared circumstances are considered fraudulent. Interestingly, the NHS relies upon the civil definition of fraud (Keenan, 2007, pp. 320-321), based upon case law (Derry v Peek 1889). Because of the range of functions performed by the NHS, there is no specific statute that prescribes conditions of entitlement; therefore drawing upon the common law to measure fraud is a reasoned decision.

Similarly, there is no consistent definition of fraud within central government departments, however HM Treasury (2009a) do offer examples of the *modus operandi* of fraud typologies based upon detected cases. In terms of measuring fraud in local government, the Audit Commission offer their own 'bespoke' definition of fraud, which was discussed in chapter one. As discussed, the NFA's *Annual Fraud Indicator* is a 'hybrid' report that incorporates data based upon varied definitions of fraud. If this report is to be given credibility, I maintain that all data used must be based upon one single definition of fraud, which would then enable comparative and longitudinal analysis of these data. Examination of private sector fraud measurement publications reveals that frequently there is no disclosure of the fraud definition upon which the measurement has been based upon, APACS (2009) data being one example. Furthermore, many private sector produced fraud

loss reports rely upon criminal determination, drawing upon successfully prosecuted cases.

I suggest that if there is no consistent definition of fraud within the public sector, then the likelihood of finding consistency amongst all sectors is extremely remote. The problem with an individually created definition of fraud however, is that it can be both politically and commercially driven to influence the outcome of any measurement exercise. Consequently, an independently devised definition, possibly informed by academia, might prove to be best solution. As a starting point I offer my own definition, this being *'the deliberate false representation, including omission of material fact with the intention of knowingly making gain, or causing loss to a third party'*. Alternatively, the civil definition of fraud has stood the test of time, and arguably can be embraced by all sectors.

Unsubstantiated and Inconsistent Data

This review has identified a continuing failure to measure fraud accurately and consistently, hence the inclusion of the 'guesstimate' category. Analysis has identified the two principal deficiencies that limit the reliability of these fraud loss statistics; these being reliance upon apparently unsubstantiated third party data, and inconsistencies in data used. I will firstly address the problems of using data matching for the purpose of fraud measurement.

Whilst many of the reports described as hybrids are reliant upon what may be described as an amalgamation of data from a range of sources, there are some measures that are dependant upon data matching using third party data. For example, the measurement of TV licence evasion (TV Licensing, 2009) combines two data sets, one of which is external data which presents problems when attempting to set a level of statistical confidence. Specifically, the importing organisation has no control over the data collection and analysis, and consequently, if unclear from the data supplied, any statements of statistical validity may well have to be taken upon trust.

Furthermore, there is no explanation of how these data have been captured, and consequently their validity cannot be judged, because frequently no explanation is offered within the methodology about the robustness of these third party data. It may be that in some instances these data are fit for purpose, for example means tested benefit records; therefore it is essential that there is a full and detailed explanation of methodology, which includes an account of the statistical validity of all data used. I therefore suggest that if any organisation has no alternative but to rely upon third party data, they validate its accuracy to ensure that any fraud loss measurement data stands up to the highest level of scrutiny.

For the purpose of this review, I define inconsistent data as any that originate from multiple sources and used in reports that have been categorised as hybrids. The principle issue with these reports blending data is that they are of significantly limited value; because harvesting data from a number of sources

frequently results in a muddle of figures based upon assorted data collection methodologies, varying time spans, different data typologies, and inconsistent statistical validity.

Regrettably, the NFA's *Annual Fraud Indicator* falls within this category. The NFA are predominantly 'fraud data collection agents', and therefore reliant upon third party data. Consequently, the arguments presented earlier about the inadequacies of these data may apply to the fraud losses reported by the NFA because they have no option but to rely upon these figures. Based upon this 'given', I suggest the only option to ensure regular and accurate fraud measurement, at least in the public sector, is to mandate this activity and supply a common standard supported by a manual of guidance that offers 'best practice'.

Lack of rigour

This review has identified that there is very limited rigour within the fraud loss data outputs evaluated. Levi and Burrows (2008, p. 296) observe that few studies on fraud emanate from academic sources. From the literature reviewed, this continues to be the case, there being no identified loss measurement exercises supported by academic input. Content analysis of the publications falling within the inclusion criteria has enabled the identification of specific shortcomings, all impacting upon the rigour of these fraud loss reports. The principle issues identified are detailed in the table overleaf.

Table 2: Summation of limitations of fraud loss reports

	Purpose Not Explained	Lack of Detailed Method	Deficient Research Methods	Limited Statistical Confidence	Lack of Clarity	Poor Quality Presentation	Lack of Informed Conclusion
AUDIT COMMISSION		✓	✓	✓	✓		
BBC			✓	✓	✓	✓	
DVLA			✓	✓	✓		
DWP			✓	✓			
FCO	✓	✓	✓	✓	✓	✓	✓
HMRC			✓	✓	✓		
H M TREASURY		✓	✓	✓	✓	✓	✓
MOD	✓	✓	✓	✓	✓	✓	✓
NFA			✓	✓			
NHS					✓		
ABI			✓	✓	✓		
UK PAYMENTS		✓	✓	✓	✓		
BDO	✓	✓	✓	✓	✓		✓
CIFAS		✓	✓	✓	✓		
ERNST & YOUNG			✓	✓			✓
KPMG		✓	✓	✓			✓
KROLL		✓	✓	✓	✓		✓
NERA		✓	✓	✓	✓		✓
NORWICH UNION			✓	✓	✓		✓

I again suggest this issue may be addressed by the creation of a British Standard of measurement, supported by an information exchange matrix and manual of guidance informed by academic input.

Combining Fraud and Error

One final methodological issue identified by this review is only relevant to the public sector, this being combining of fraud and error when conducting and reporting the results of measurement exercises, something that is still advocated by the FED Taskforce (HM Government, 2012, p. 9). Both are entirely different, possessing diverse root causes and can be identified through a thorough examination of cases sampled. Consequently, there is no reason why they should not be measured and reported individually. In terms of the DWP, Sainsbury (2003) offers an explanation, suggesting that ministers have always sought to make political capital from social security fraud and combine fraud and error figures “for dramatic effect” (pp. 291-2). I therefore suggest that any legislation mandating fraud measurement should direct organisations to separate fraud losses from error. This review will now offer further evidence of the positive impact of legislation on the measurement of improper payments in the US.

Measuring Fraud in Medicare and Medicaid: A Case Study

Introduction

The US spends more than \$2.3 trillion on healthcare per annum (National Healthcare Anti-Fraud Association, 2010). Fraudulent acts by patients, professionals and health care providers result in increasing pressure on health care expenditure (Brooks, Button & Gee, 2012, p. 76). The US Government Accountability Office estimates that over \$70 billion are lost each year to health care fraud, waste and abuse (US Energy and Commerce Committee Subcommittee on Health, 2012, p. 1). This case study therefore examines the impact of the Improper Payments Information Act 2002 on identifying and reducing fraud in Medicare and Medicaid healthcare programmes in the US.

The Medicare and Medicaid programs were created to provide healthcare for the elderly and the impoverished (Iglehart 2001; Payne 2006; Rowland & Garfield 2000). Medicare is a federally operated program that provides healthcare for individuals who are disabled or elderly, and Medicaid is a state program providing healthcare for individuals on low incomes (Payne, 2012). The principal cause of improper payments across Medicare is insufficient documentation supplied by contractors to support the claim, and in the case of Medicare Fee For Service, the administration of medically unnecessary services (US Government Accountability Office, n.d.). Medicare processes 1.2 billion medical claims per year for more than one million registered health care

providers (Gaines III, 2012, p. 1). From these statistics it is evident that identifying improper payments is a significant challenge. Furthermore, Medicare has been designated as a high risk program “because of its size, complexity and susceptibility to improper payments” (United States Government Accountability Office, 2011a.). “Improper Medicaid payments can occur within a variety of health care settings by a number of different providers” (Policastro & Payne, 2013, p. 191). The fraudulent offences committed include billing for services the doctor did not perform and double billing which involves charging a patient and/or multiple insurance providers for the same services (Pontell, Jesilow & Geis, 1982, p. 118).

Prior to the creation of the IPIA, there was limited measurement of fraud in Medicare. When fraud loss measurement was suggested, there was minimal resistance at field level; however senior management raised the technical objection that “scientific measurement couldn’t be done” (Sparrow, 2000, p. 154). Consequently, whilst quality review processes in Medicare were in existence, none were designed to “measure the level of fraud in the system” (p. 154). Furthermore, Sparrow (2000) cites the response from the vice president for audit of a Medicare contractor, who when asked if his company might consider random audits for fraud measurement purposes, commented “There is no reward for finding fraud. There are no out of pocket losses for us. Why would we put ourselves in this painful position? We have to think about our shareholders” (p. 154). This is an interesting statement in terms of attitude to fraud measurement, and one that is extant, as reflected in the research questionnaire responses discussed in chapter five suggesting potential

arguments to the publication of fraud loss data. Similarly, the dismissal of measurement on the grounds of no out of pocket expenses suggests that as long as losses can be offset, fraud loss measurement is not considered a priority, a culture that is currently prevalent in the insurance industry .

Arguably, this statement evidences why the US needed to create a statute to mandate fraud measurement. Of further interest is the apparent outsourcing of public sector responsibilities such as Medicare and Medicaid to private sector organisations. The existing culture of market testing in the UK resulting in outsourcing of public sector functions, such as the running of some prisons for example, gives cause for concern that where state functions are performed on a 'for profit' basis, similar attitudes towards fraud measurement may also exist. Returning to the case study, some fraud loss measurement exercises were being performed in Medicare prior to the introduction of the IPIA, which will now be discussed.

Fraud Loss Measurement pre IPIA

Measurement of Medicare improper payments by the Office of Inspector General (OIG) actually commenced in July 1997, however the auditing procedure followed the standard medical review process and consequently was unlikely to uncover the majority of fraud schemes (Sparrow, 2000, p. 94). Furthermore, due to the small sample size of approximately 6,000 claims, it was not possible to identify improper payment rates by claim processing contractor type or identity, service type or provider type (Centers for Medicare and Medicaid Services, 2012, p. 7). The one exception was the Texas study,

which contained a “rigorous fraud audit protocol”, and unlike the OIG sampling process, included interviews with patients. Consequently, this study did identify fraudulently made false claims (Sparrow, 2000, p. 94).

The legislature’s involvement at state level was the precursor to intervention at a national level. In Texas this involvement was “precipitated in 1996 by the reported amounts of improper payments in the Texas’ Medicaid program” which ranged from “\$365 million to \$730 million” (United States General Accounting Office, 2001, p. 13). Consequently, “Texas lawmakers sought to reduce improper payments by mandating specific actions by responsible agencies” to deter fraud and abuse including publicizing activities (p. 13). Texas conducted payment accuracy reviews in 1998 and 2001, the latter included client telephone interviews and medical record reviews. The costs of conducting a first time review were found to be between \$250,000 and \$400,000, however the state recognised that these would reduce after the baseline measurement had been determined, and the cost benefits of being able to focus resources on high risk areas (United States General Accounting Office, 2001, p. 19). This is an observation of note, because cost is a potential issue that may be raised within objections to mandating fraud measurement in the UK.

The IPIA

Following the passage of the IPIA, changes were made to the way improper payments were measured in healthcare. In 2003, measurement of improper

payments became the responsibility of the Centers for Medicare and Medicaid Services (CMS), who immediately increased the sample size substantially.

This currently stands at fifty thousand claims, and enables the calculation of a national improper payment rate and a contractor and service specific improper payments rate (Centers for Medicare and Medicaid Services, 2012, p. 7).

These additional rates provide CMS and its contractors with “valuable information to assist in the development of specific, robust corrective actions to prevent improper payments from occurring in the future” (p. 7). As a result of implementing this strategy and the Comprehensive Error Rate Testing Program (CERT), the national improper payment rate reduced from 10.8% in 2009 to 8.6% in 2011 (p. 9). The CERT program involves the evaluation of a random sample of Medicare Fee-for-Service claims to determine if they were paid correctly. If these criteria are not met, the claim is designated as a total or partial improper payment. Consequently, the CERT program ensures a statistically valid sample which can then be extrapolated to reflect all of the paid Medicare Fee-For-Service claims during the year (Centers for Medicare and Medicaid Services, 2012, p. 10). Another achievement resulting from the implementation of the IPIA is that the error rate target for 2010 in the Medicare Advantage Program was exceeded by 0.02% (United States Government Accountability Office, 2011b, p. 5).

On 8 June 2010 “ A Presidential announcement discussed the goal to cut the improper payment rate in the Medicare Program in half by 2012, a reduction of more than \$20 billion annually” (KPMG Government Institute, 2011, p. 4).

Arguably, this evidences the confidence the US government has in the impact this legislation on measuring and reducing losses.

Supplementary Legislation and Strategies

Successful identification of where fraud occurs within Medicare through improved and increased measurement has resulted in the development of accompanying strategies to act upon this improved knowledge. For example, the creation of an Interagency Health Care Fraud Prevention and Enforcement Action Team “to combat abuses in Medicare” (Iglehart, 2009, p. 229). Another strategy informed by the identification of losses resulting from mandating the measurement of improper payments is the Medicare Recovery Audit Contractors Program (RAC), which utilises independent contingency fee paid contractors “to ferret out improper payments in exchange for a percentage of the dollars recovered” (Gaines III, 2012, p. 1). This strategy was limited to only part of the Medicare program, however the effectiveness of the identification and recovery of improper payments resulted in this being extended to all states in the Medicaid Program during 2012, as laid down in the Patient Protection and Affordable Care Act of 2010 (Gaines III, 2012, p. 1). There is an ethical issue concerning the offering of financial incentives to identify improper payments, because this may open up the risk of abuse by these contractors. However, the system does appear to be working successfully in identifying improper payments in all programs, and has resulted in expansion of recovery auditing initiated by this legislation, which is estimated to save more than \$2 billion per annum (Gaines III, 2012, p. 2).

To assist in delivering the requirements of IPIA, the Center for Program Integrity was created in 2010 to serve as a focal point for all integrity issues including identifying and monitoring all program vulnerabilities (United States Government Accountability Office, 2011b, p. 7). The Center has contributed to achieving the objective of “identifying the nature, extent and underlying causes of improper payments” in Medicare and Medicaid (United States Government Accountability Office, 2011c, p. 20) as mandated within the IPIA the IPERA.

To ensure compliance with the IPIA and associated guidance, the CMS developed the “Payment Error Rate Measurement program” which measures improper payments in Medicaid and produces error rates for each component of the program” (Centers for Medicare and Medicaid Services, n.d.). Prior to the presidential announcement on 10th March 2010 of Payment Recapture Audits discussed in chapter one, under separate statutory authority the CMS implemented a recovery auditing demonstration project in the Medicare Fee For Service program. The project was run in California, New York and Texas between March 2005 and March 2008. The recovery audit contractors recaptured a total of \$900 million in improper payments (Hatch & McMurtry, 2010, p. 19). I maintain this further evidences the value of mandating fraud measurement across the public sector, and putting in place strategies to recover identified losses. UK government departments already have targets imposed on them through public service agreements (Vincent-Jones, 2006, p. 146). Therefore, these could be employed to set recovery targets for

fraudulent payments identified through mandated loss measurement exercises rather than create supplementary legislation.

The influence of the IPIA

The impact of the IPIA and associated legislation imposing recovery audits can be evidenced by the fact that in Fiscal Year 2011 over \$4 billion dollars of improper payments were recovered, which represents “the single largest health care fraud recovery in history” (US Energy and Commerce Committee Subcommittee on Health, 2012, p. 1). Within the Medicare Fee For Service program, which provides hospital and supplementary medical insurance, Recovery Auditors recaptured \$939 million in improperly paid claims during Fiscal Year 2011 (Centers for Medicare and Medicaid Services, 2012, p. 3). Furthermore, the United States Government Accountability Office (2012) reports that “the fiscal year 2011 improper payment rate for the Medicare Advantage program”, which is the area of healthcare posing the highest risk, “decreased from the fiscal year 2010 reported amount of \$13.6 billion to \$12.4 billion, which represented a decrease in the error rate from 14.1 percent to 11.0 percent” (p. 10). Whilst this figure might still be considered excessive, healthcare fraud “frequently involves higher than average value items of expenditure” (Button, Gee & Brooks, 2012, p. 72), and debatably does evidence that the mandating of measurement is having a positive impact on reducing losses through improper payments. This is further illustrated by the results reported for Fiscal Year 2012 in which the Medicare Fee For Service improper payment rate reduced from the previously discussed 11.0% in 2009

to 8.5% in 2012 (Payment Accuracy, n.d. d). Positive results are also reported on improper payment accuracy in Medicare Advantage which reduced from 14.1% in 2009 to 11.4% in 2012 (Payment Accuracy, n.d. e), and in Medicaid where the improper payment rate reduced from 9.6% in 2009 to 7.1% in 2012 (Payment Accuracy, n.d. f). There has also been significant success in the recovery of improper payments to contractors since the enactment of the IPIA, with the Medicare Recovery Audit Contractors Program recovering a total of \$3,163.4 million “from fiscal year 2004 through 2012 (Payments Accuracy (n.d. g).

In conclusion I contend that this case study has evidenced that the mandating of fraud loss measurement exercises supported by a targeted recovery strategy can have a positive effect in reducing and recapturing losses, even within an area of high vulnerability such as healthcare. However, one lesson to be learned from the US model is that careful consideration is required when framing any statute to ensure that it includes all necessary options from the outset. I close by drawing upon the challenging target set in the high risk Medicare Fee For Service program for a further reduction in the improper payment rate which is expected to reduce to 8.0% by 2014 (Payment Accuracy, n.d. d), which arguably evidences an expectation that regular measurement exercises have a continued positive effect on stemming losses.

Conclusion

This chapter commenced by examining crime statistics and surveys, paying specific attention to the concept of 'the dark figures' of crime and fraud.

Having discussed the literature inclusion criteria, the following section examined fraud measurement within all sectors by evaluating fraud data outputs, and reviewing critiques of existing fraud measurement methodologies. Having reviewed the former, some evidence of good practice has been identified, yet there is much room for improvement, evidenced by the caveats concerning data quality and statistical confidence contained within many of the publications reviewed.

The issues identified are principally based upon the frequent assumption that fraud may only be measured by examining reported instances or detected cases, and such exercises are labour intensive and therefore costly.

Furthermore, despite regular criticism of data quality, little remedial action has been taken in the form of collecting data fit for purpose, from which meaningful and comparable analysis may be conducted.

I close by suggesting that a thorough review of the literature has uncovered evidence which suggests that there is still much work to be done to improve fraud loss measurement. This is evidenced in table two, which highlights the identified limitations of some fraud loss reports. These being,

- No explanation of the nature and purpose of the report.

- Lack of detailed methodology.
- Deficient research methods.
- Limited statistical confidence.
- Lack of clarity when reporting findings.
- Poor quality presentation of findings.
- Lack of informed conclusion.

Furthermore, I contend that, in view of the matter-of -fact approach taken to fraud measurement and the reluctance to voluntarily address the deficiencies evidenced within this review, improvements in data quality and accuracy may only be facilitated by legislation mandating fraud measurement, a theme which will be further explored in the findings chapters. Moving on, the following chapter will discuss my research methodology.

Chapter 3: Methodology

Introduction

This chapter will initially outline the background to the method selection and then discuss the epistemological perspectives underpinning this research. Subsequently, the design of the enquiry will be explained and the methodology selection justified. Details of each research strand will then be presented including a discussion about the paradigms adopted and participant selection. Issues considered during the project will be explored, and an explanation of how data were collated, evaluated and analysed provided. The validity and reliability of these data will also be discussed. In sum, the chapter will demonstrate rigour by providing a decision trail, which audits “the events, influences and actions of the researcher” (Koch, 2006, p. 100).

Method selection

According to Kaplan (1964, p. 23) methodology assists the understanding of the processes of scientific enquiry. Data were required to measure opinion on the research argument, whilst also seeking individual and organisational perspectives on fraud measurement. Selecting the most appropriate technique for measuring opinion, whilst also maintaining rigour, was imperative. Furthermore, working within a limited self funded research budget, it was essential that the methodology selected was practicable, whilst also

facilitating exploration and maintaining neutrality about the likely study outcomes.

Epistemological Perspectives

Introduction

Creswell (1998) argues that qualitative researchers “approach their studies with a certain paradigm or worldview, a basic set of assumptions that guide their inquiries” (p. 74). Conversely, Patton (1990, p. 90) argues that method should be distinct from epistemology. Similarly, Brannen (1992) argues that in addition to epistemological and ontological links, pragmatic factors including researcher skills influence method selection. Practice based experience of frequently needing effective and time bound research methods influenced method selection more than any worldview. Furthermore, contrary to Greene and Caracelli’s (2003) argument that by placing limited value on epistemology researchers are “insufficiently reflective” (p. 107), embracing the professional doctorate ethos, reflection (Creswell & Miller, 2000, p.124) significantly influenced the development of the project design.

A Pragmatic Approach

Whilst accepting that personal assumptions are relevant, this study offers a pragmatic view (Teddlie and Tashakkori, 2003, p. 4). Methodological pragmatism (Rescher, 1977) has created a research design based upon

“practicalism” (Maxcy, 2003, p. 82) which evaluates “the rules of method...in terms of success” (Sankey, 2008, p. 138). Contrary to Bryman’s (2007, p. 15) observation that researchers sometimes use methods “with which they are not entirely comfortable” (p.15), methodological pragmatism informed a design I was at ease with, and that was appropriate to the research argument (Mason, 2002, pp. 27-30; Bryman, 2006, p.118; Blaikie, 2000, p. 58; de Vaus, 2001, p.9; Brannen, 2005, p. 8; Benbasat, Goldstein & Mead, 1987, p. 369; Erzberger & Kelle, 2003, p. 482).

Critics argue that pragmatism fails to offer an appropriate worldview (Schmitt, 1995, p. 78; House & Howe, 1999, p. 65; Mertens, 2003, p. 159). In contrast, I contend that pragmatism offers an alternative worldview (Tashakkori & Teddlie, 2003a, p. 680), viewing methods “in a technical rather than epistemological frame” (Bryman, 1988, p. 127). Accordingly, this study has been pragmatically directed by empirical practitioner knowledge, as opposed to epistemological considerations (Rossman & Rallis, 2003, p.36; Harden & Thomas, 2005, p. 265).

Framing the Research Design

The Influence of Research Aims

The selection of the most advantageous methodology (Burke Johnson & Onwuegbuzie, 2004, p. 15) was dictated by the theoretical drive of the project (Robson, 2002, p. 81; Morse, 1991a), which examined a phenomenon that is

poorly understood (Fleury, 1991, 1993, 1998). To evaluate the viability of the research argument, I concluded that the topic under investigation (Greene & Caracelli, 2003, p. 107) required the collection of “rich empirical data” (Hermerinta-Peltomaki & Nummela, 2004, p. 178) from multiple sources to complement each other (Miller and Crabtree, 1994, p. 344).

Mixing Methods

Firstly, the views of fraud professionals (practitioners) and academics with recorded opinion about fraud measurement were required on the research argument. This was to ascertain whether the research argument was viable in its entirety, or required any revisions. The intention being to draw upon the resultant opinion when developing the research instrument for the second strand of the research, which sought data from a larger sample of individuals involved in fraud investigation, fraud measurement or audit from a range of organisations, acting as a barometer of opinion ‘from the field’ on the research argument. Having considered the appropriate sample size for each data source, which will be discussed later, it became apparent that qualitative methodology was appropriate for the first element of data collection because of the detailed informed opinion required on the research argument (Denscombe, 2010, p. 152). Whereas, the number of participant organisations required for the second research component, and the volume of data needed to ensure validity, suggested that this paradigm was not appropriate (Nardi, 2006, p. 17). Consequently, a pragmatic decision to mix methods (Moran-Ellis et al, 2006, p. 46) was taken, blending quantitative and qualitative strategies

(Kuhn, 1970) into a single study (Tashakkori & Teddlie, 1998, pp. 17-18; Morse, 2003, p. 191). Furthermore, this methodology enabled the application of practitioner researcher “techniques” (Burke Johnson & Onwuegbuzie, 2004, p. 15), thus embracing the ethos of the professional doctorate.

A Fixed Design

The design was therefore determined by the “number of methodological approaches, number of strands and type of implementation process” (Teddlie and Tashakkori, 2006, p.14). A fixed design was therefore considered appropriate, having already established what the research was “looking for” (Robson, 2002, p.46). Whilst this methodology is normally associated with quantifiable phenomena, it may also be applied to a qualitative design (Oakley, 2000, p. 306).

The Qualitative Element

Introduction

Qualitative methodology permitted a flexible approach to this element of the project (Polit & Beck, 2003, p. 274; Grady, 1998, p. 4), which generated the rich data required to evaluate the achievability of the research argument (Glaser & Strauss, 1967; Strauss & Corbin, 1990). The qualitative component had two specific objectives; firstly to obtain informed opinion on the reliability

of extant fraud measurement exercises by asking “what is going on?” (Morse & Field, 1996, p. 1987), and secondly, to harvest opinion on the research argument to inform the quantitative element.

The Sample

Sampling for purpose

A purposive sample (Burt & Barber, 1996, p. 222; Hek & Moule, 2006, p. 72) met the “the information needs of the study” (Coyne, 1997, p. 630), establishing “a good correspondence between research questions and sampling” (Bryman, 2004, pp. 333-334). The principal compatibility being the deliberate targeting of particular people (Freeman & Tyrer, 2006, p. 81) with a “particular purpose in mind” (Jupp, 1989, p. 37). The participants were selected because they were considered “the most knowledgeable” (Glaser, 1978, p. 45), possessing the credentials to “illuminate and inform” (Ritchie, Lewis, & Elam, 2003, p. 82).

Content analysis of “written material...using carefully applied rules” (Aaker, Kumar & Day, 1995, p. 190), when conducting the literature review facilitated the identification of the required sample of academics considered qualified to offer informed opinion on “the phenomenon” (Hsieh & Shannon, 2005, p. 1279). The fraud professionals were identified through a professional network (Davies, Nutley & Smith, 2000 p. 366) within which I participate. In

summary, by using “subjective judgement” (Schmidt & Hollenson, 2006, p. 171) the adoption of non probability sampling has achieved a target population that meets the requirements of this project (Thomas, 2004, p. 106).

Sample Size

“Nothing is more important than making a proper selection of cases”

(Stake, 1994, p. 243).

When determining the sample size, Bernard (1995) suggests that researchers should “always collect data on the lowest unit of analysis possible” (p. 37). In qualitative research however, “there are no hard and fast rules about numbers” (Tuckett, 2004, p.47), suggestions ranging from “12-20” (Baum, 2002, p. 176) to “10 to 100” (Rubinstein, 1994, p. 80). Nonetheless, commentators observe that qualitative research normally relies on small sample sizes with the aim of detailed in depth study (Miles & Huberman, 1994, p.27; Patton, 1990, p. 172; Morse & Mitcham, 2002, p.12).

Drawing upon Baum (2002, p. 176), I therefore decided to conduct twelve interviews split equally between academics and fraud professionals who were considered suitably qualified to offer informed opinion. This was considered to be a sufficient number of participants to evaluate the viability of the research argument and inform the content of the questionnaire. The fraud professionals were identified through the literature review and drawing upon personal

contacts. The six fraud professionals selected represented both sectors and were purposively chosen (May, 2011, p. 100) due to their differing involvement within the fraud loss measurement process because I considered that their collective specialist knowledge would offer valuable informed opinion on the proposed options for change outlined in chapter one. As previously discussed, the literature review informed the selection of the six academics within the sample, who were chosen having been identified as having published on fraud losses or fraud loss measurement. The twelve interviews were conducted between May and September 2010.

Although twelve interviews may be considered a small sample, “the number of people interviewed is less important than the selection criteria” (Wilmont, n.d., p. 3). Additionally, I draw upon Wainright (1997) who observes that;

“It is the quality of the insight that is important, rather than the number of respondents that share it.”

(p.11).

Because the project was “sampling for meaning” (Luborsky & Rubinstein, 1995, p. 102), the inclusion and exclusion criteria were carefully linked to the research argument (Rowan & Huston, 1997, p. 1445). Furthermore, the sample size enabled “intense analysis associated with qualitative research” (Mason, 1996, p. 91) of a “precisely defined population” (Arber, 1993, p. 38).

Structured Interviews

Structured interviews (Lofland & Lofland, 1995, p. 16; Armstrong, 1998, pp. 5-6) were conducted because they were considered the most suitable method of obtaining the data required, and permitted “comparability between responses” (May, 2001, p. 122). The interviews used “predetermined questions with fixed wording...in a pre-set order” (Robson, 2002, p. 270). This interview structure was also selected to obtain “an inside view” (Bryman, 1984, p. 78) and individual perceptions of process (King, 1994, pp. 16-17) on fraud measurement, thus generating “rich data” (Agar, 1980, p.11; Lofland, 1971, p. 76; Charmaz, 2006, p. 76). The interviews were designed as conversations “with a purpose” (Kahn & Canell, 1957, p. 149), collecting data on the participant’s views (Marshall & Rossman, 1995, p. 80; Miller & Glassner, 1997, p. 100). The primary intention, as previously discussed, being to harvest informed opinion of the research argument to ascertain its viability, the responses then being used to inform the second research strand.

A structured interview schedule was drafted (Appendix 1), which commenced with a list of self instructions for the introduction (Lofland & Lofland, 1995, pp. 84-85). To develop rapport (Craig, 2005; Rogers 2001), drawing upon practitioner interview skills (Hersen, Turner & Beidel, 2007, p. 84), a sequence of questions was drafted, commencing with “warm up, followed by the “main body” and concluding with “cool off” (Robson, 2002, p. 277.). To produce reliable data (Cicourel, 1964, p. 74) and generate “substantive” theory (Strauss & Corbin, 1994, p.281), a standard interview format was adopted,

with targeted questions exploring the subject matter in detail (Aaker, Kumar & Day, 1995, p. 190).

Pilot Study

Piloting of the interview schedule was important to address any emerging problems (Bryman, 2004, p. 159). Six pilot test interviews were conducted, split between fraud practitioners and academic colleagues. This number was considered sufficient to ensure the schedule contained appropriate language, prompting, and ordering of questions (Wilson & Sapsford, 2006, pp. 104-105). Having reflected upon the feedback received, amendments were made to the question wording.

Interviewing Respondents

Informed Consent

Participant agreement (Moilanen, 2000, p. 382; Kastman Breuch, Olsen & Frantz, 2002, p. 10) was sought from academics and fraud professionals. An introductory letter (Appendix 2) explaining the research aims (Sweeney, O'Donoghue & Whitehead, 2004, p. 315) and advising that participation was voluntary (Kent, 1996, pp 19-20) was issued by e-mail. Before commencing each dialogue, interviewees were again advised that participation was voluntary, and informed consent (King & Horrocks, 2010, p. 99) obtained. Although permission was given by most academics and some fraud

professionals to use attributed verbatim quotes, to remove the risk of compromising the fraud professionals, and observing the British Society of Criminology (2006) ethical guidelines, a decision was made to anonymise all quotations (Grinyer, 2002, p. 2). This posed no risk to the rigour of this research because interviews were digitally recorded, and anonymised quotations used can be validated. Participants were also offered the opportunity to view and comment upon the research findings if desired.

Structure and Reflexivity

A reflexive approach was adopted (Trauth & O'Connor, 1991, p. 133) seeking to achieve "full cooperation and participation" (Spradley, 1979, pp. 82-83), which is generative in creating new knowledge (Legard, Keegan & Ward, 2003, pp. 141-142). To extract candid opinion from fraud professionals, on occasions it was necessary to "probe" (Zeisel, 1984, pp. 140-154) and encourage participants to "amplify their answers" (Hoinville & Jowell, 1987, p. 101). Moreover, by applying an inductive approach, theory began to be generated during this data collection process (Morse 1991b, p. 121; Morse & Field, 1995, p. 10; Risjord, Moloney & Dunbar, 2001, p. 46), which assisted subsequent analysis, because themes began to emerge. Whenever possible, interviews were conducted "face-to-face" (Sturges & Hanrahan, 2004, p113), however, due to limited accessibility to certain participants (Brace, 2007, p. 27), some were conducted by telephone (Williams, 2003, p. 93). To maximise data quality, the interview schedule was sent to respondents in advance (Gillham, 2007, p. 95).

Audio Recordings and Field Notes

To capture responses to questions accurately, interviews were recorded (Lofland, 1971, p. 89), having first obtained consent (Robson, 2002, p. 277). To complement recordings, short field notes were compiled (Spradley, 1979, p. 74) comprising of “quotes” and “key words” (Lofland & Lofland, 1995, p. 90). When evaluating the field notes a “record of analysis and interpretation” was constructed (Kirk & Miller, 1986, p.53) thus ensuring accurate capture of “factual data” (Coffey & Atkinson, 1996, p. 46).

Security of data

All data were processed and retained in a manner compliant with the Data Protection Act 1998. A record of participants was created using a password protected Excel spreadsheet. Each participant was allocated a specific anonymous identification number that related to their category (e.g. Academic 1). This identification number was allocated to each audio recording, interview transcript and field notes. All audio files of interviews, interview transcripts and electronic versions of field notes were also held within specially created password protected files. All data were retained on a password protected laptop computer that remained at my home address and backup copies held on my password protected workplace computer and a password protected memory stick held in a lockable cabinet in my office, along with hard copies of field notes. Because I used a transcription service (Fielding, 1993, p. 147), which will be discussed shortly, audio recording files were copied to another password protected memory stick and delivered in person. To maintain data

security, the completed transcriptions were saved on a memory stick, and this was collected in person and kept in a lockable cabinet when not being used. Data will continue to be stored in a manner compliant with the Data Protection Act 1998 until any questions relating to this research have been addressed. All data will then be disposed of securely and will not be used for any future research.

Transcription and Analysis

Transcribing the interviews

The use of a digital recorder (Branley, 2004, p. 208) produced better quality verbatim accounts (Seale, 1999, p. 148), thus assisting transcription accuracy (Stockdale, 2002, p. 2). When considering transcription, Klenke (2008) observes that it is “common practice for someone other than the interviewer” to perform this function (p. 137). Because funding was available, I elected to use an outside contractor to transcribe the interviews (Rafaeli, Dutton, Harquail & Mackie-Lewis, 1997, p. 14). Once received, careful attention was paid to checking the accuracy of the transcriptions (Poland, 1995; Poland, 2003, p. 268). I listened and re-listened to the recordings (Lapadat & Lindsay, 1999, p. 82), which was more rewarding than just reading a transcript (Milton, 2007, p. 73). Consequently, verification of the transcripts was achieved by cross checking them against the recordings (Skinner, Biscope, Poland & Goldberg, 2003, e32).

Analysing the Interviews

According to Pyett (2003) “analysing interview data involves critical assessment and interpretation of the participant’s narratives” (p. 1173). Because qualitative data are not always easily converted into measurable units of narrative (Schatzman & Strauss, 1973, p.108), selecting the appropriate analytical methodology was crucial. The analysis was therefore data driven (Heritage, 1984, p.243), the units being defined at the outset (Punch, 1998, p. 153) as identifiable commonalities of attitude towards key topics discussed during the interview (Coffey & Atkinson, 1996, p. 187). To identify recurring themes and patterns (Saks & Allsop, 2007, p.124; Re Velle, 2004, p. 200; Boyzatis, 1998, p. 7; Strauss & Corbin, 1998, p. 223) the transcripts were subjected to thematic content analysis (Lumby, 1998, p. 110; Pierre, 2000, p. 252; Tate & Dobson, 2000, p.221; Green & Thorogood, 2004, p. 177; Newell & Burnard, 2006, p. 100). This generated emergent data categories (Ryan & Coughlan, 2009, p. 193; Ritchie, Spencer & O’Connor, 2003, p. 262) in the form of general themes (McLaughlin, McKenna, Leslie, Robinson & Moore, 2006, p. 684).

When conducting analysis, computer assisted qualitative data analysis software (Fielding & Lee, 1991) was rejected in favour of Microsoft Word (Kelle, 1997, p. 5) because the transcripts were already in this application and it offered “excellent functionality for organizing, sorting and retrieving data” and enhanced “the rigour of data analysis” (Ruona, 2005, p. 234). Highlighting

and tagging (Ryan, 2004, p. 113) using colour codes (Burnard, 1991, p. 463) enabled quick retrieval of specific text (Lichtman, 2010, p. 201).

Evaluating the quality of the data harvested from the interviews before administering the quantitative instrument was essential. The criteria of validity and reliability were therefore applied to these data, which will be discussed in more detail later. The findings have been documented in a “readable product” (Kvale & Brinkmann, 2009, p. 102), incorporating intentional subjectivity to capture the explicit meanings constructed by participants (Cho & Trent, 2006, p 330), by applying the criteria “is it useful?” (Reason & Rowan, 1981, pp. 243-244).

The Quantitative Strand

Introduction

To obtain a ‘snapshot’ of extant attitudes to fraud measurement in the empirical setting (Brown and Dowling, 1998, pp. 82-83) it was essential to measure and count this phenomenon (Langdrige, 2004, p. 13) through systematic data collection (Mertens & McLaughlin, 2004, p. 52). Informed by the proposed number of observations (Mumford, 2006, p. 383) to ensure a representative sample of organisations within the public, private and charitable sectors, a questionnaire was considered the apposite data collection methodology (Denscombe, 2003, p. 145). A questionnaire is defined as a data collection instrument completed by the respondent in written

format (Polit & Hungler, 1999, p. 201). The advantages of using such an instrument were that it afforded respondents greater anonymity (Kumar, 2005, p.117), the target audience was clearly defined, and most respondents knew what was required of them (Jack & Clarke, 1998, cited by Marshall, 2005, p. 132).

Questionnaire Design

Introduction

Careful attention was paid to the design of the research instrument (Stone, 1993, p. 1264), the objective being to collect information for subsequent analysis using identical written questions (Denscombe, 2003, pp.144-145). The project aims were revisited to ensure that the instrument would collect the data required to assess the feasibility of the research argument (Frazer & Lawley, 2000, p. 7; Seale and Filmer, 1998, p. 129).

Evaluating Existing Material

The next consideration was the availability of proven material, either from an existing instrument or from a question bank (Bryman, 2004, p. 160; Walklate, 2000, p. 194). The advantages of using a previously validated and published questionnaire are that it saves resources and affords the opportunity to compare findings with those from previous research (Boynton & Greenhalgh, 2004, p. 1313; Williams, 2003, p. 247). A thorough search of the University of

Surrey question bank (Bryman, 2004, p. 162) and the “U.K. Data Archive” (Payne & Payne, 2004, p. 190) failed to identify suitable instruments.

Nonetheless, this exercise provided guidance on developing questions that would gather suitable data for analysis (de Vaus, 1996, p. 81).

Formulating the Questions

Firstly, standard questions were constructed that would obtain data on which sector the organisation represented (mandatory), the role of the respondent (optional), and the organisation’s function (optional), together with those intended to obtain richer information (Giddens, 1993, p. 687). The instrument also contained closed questions (Marshall, 2005, p.132), and filter questions (Oppenheim, 1992, p. 111) excluding respondents whose organisation did not measure fraud from some questions. The ability to identify the sector represented by each questionnaire facilitated the collection of valuable data on the extent to which fraud is measured by each category, and any significant differences of opinion about the research argument.

Attitude statements in the form of “a single sentence that expresses a point of view” (Oppenheim, 1992, p. 174) were included to measure the respondents “position on the attitude continuum” (Moser & Kalton, 1971, p. 358). Having considered scaling options, Thurstone and Guttman scales (Thurstone & Chave, 1929; Guttman, 1944) were discounted because they required “complex construction and analysis” (Bell. 1999, p. 185). A pragmatic decision was taken to adopt Likert’s (1932) summated rating approach because it was

easy to administer, appeared “interesting to respondents” (Robson, 2002, p. 293) and benefited the research by affording swift collection of volume data.

Layout

The survey commenced with the most straightforward questions, the remaining sequence being carefully drafted to avoid leading the respondent towards “inevitable answers” (Denscombe, 2003, p. 154). To obtain attitudinal responses, the instrument followed a shortened “funnel approach”, which directed respondents to the specific point of the research (Oppenheim, 1992, p. 110). The attractiveness of the questionnaire (Dillman, 1983) and its apparent ease of completion (Robson, 2002, p. 249) influenced the decision to circulate the instrument using ‘the web’, which will be discussed later in this chapter. For the purpose of the pilot however, the instrument was circulated electronically as a Microsoft Word document.

The Pilot Study

Having completed the first draft, the instrument was piloted to evaluate the clarity of the instructions (Bell, 1999, pp. 127-128) and establish whether the questions flowed (Bryman, 2004, p. 160). The principal objective however, was to measure the instrument’s ability to collect essential data (Colton & Covert, 2007, p. 139). Six participants from friends and family (Bell, 1999, p. 128) provided feedback on readability and ease of navigation. A further six

associates from a network of fraud professionals evaluated the questionnaire's technical content, which ensured the pre-test sample size fell within the range of between twelve and fifty considered adequate by methodologists (Sheatsley, 1983, p. 226; Sudman, 1983, p. 181). All participants were excluded from the final sample. Analysis of responses resulted in amendments being made to the content and structure of the questionnaire (Frazer & Lawley, 2000, p. 34), a copy of which may be found at Appendix 3.

Sampling Strategy

Introduction

For the purpose of the quantitative instrument, a sample is defined as “a miniature version of the population” (Fink, 1995, p. 1). The adoption of “stratified random sampling” (Bryman, 2004, p. 92) was informed by the research objectives and the quantity of data required (Mason, 1994, pp. 91-92; Weber, 1985, pp. 42-43). The decision making process behind this decision will now be discussed.

The Target Population

The “target population” (Bryman, 2004, p. 85) is defined as “the aggregate of persons...under investigation” (Moser and Kalton, 1971, p. 5). To identify the target population for the survey, an extant publication was selected.

Accordingly, the National Fraud Authority's (2011) *Annual Fraud Indicator* was subjected to content analysis (Krippendorff, 1980, p. 21; Ezzy, 2002, p 83).

This confirmed that the public and private sectors were relevant, but data also confirmed that voluntary and charitable organisations were also experiencing significant losses to fraud. Consequently, a decision was taken to undertake a theoretical sample using organisations from all three sectors to "maximise theoretical development" (Glaser & Strauss, 1967).

A stratified sampling plan (Neef, Siesfeld & Cefola, 1998, p. 280; Vogt, 2005, p. 29) was designed, this being compatible with the type of analysis required (National Audit Office, n.d., p. 4), and producing a more representative sample (Thrusfield, 2007, p, 231). The population was divided into three homogenous groups (Babbie, 2007, p. 205), or "strata" (Krippendorff, 2004, p. 115), and due to size, the public sector was divided into central and local government in an attempt to achieve adequate representation from both. When reporting the research findings, for consistency within this thesis, they are combined and referred to generically as the public sector. The sampling frame (Babbie, 2008, p. 221) for organisations within the specified population (David & Sutton, 2004, p. 151) was easily obtainable from websites containing electronic lists (Denscombe, 2003, p. 17) of central government departments, local authorities, the FTSE 100 and 250 companies and charities. Details of websites used for the sampling frame can be found at Appendix 4.

Sample Size

To determine the sample size, the National Audit Office (NAO) (n.d.) guidance on sampling was consulted. Because the population size and likely response rate were unknown, a 50% proportion was used (NAO, n.d., p. 8). To achieve a manageable sample size for a lone researcher, a precision level of 12% with a 95% confidence level was selected. This revealed that the minimum sample size for each stratum was 66 (NAO, n.d., p. 9). The confidence level selected was to enable “forceful conclusions” to be drawn from the data harvested (NAO, n.d., p. 7).

Because non-response rates are a disadvantage of questionnaires (Murray Thomas, 2003, p.142; Fitzgerald & Cox, 1987, p. 90; Wiersma, 1975, p.142), thought was given to how sufficient units from each stratum (Crocker, Chiu & Charney, 1984, p. 165; Foreman, 1991, p. 99) could be harvested. According to Bryman (2004, p. 98), the sample should be increased as a contingency for possible non-response. To estimate the expected response rate for questionnaires, meta-analysis, specifically “the analysis of analyses” (Glass, McGraw & Smith, 1981, p. 12) was conducted of relevant literature. This indicated that response rates were higher for electronically administered questionnaires, these ranging from 60% (Mattick & Bligh, 2005, p. 607) to 70% (Sproull, 1986). These data were also influential in determining how the research instrument was circulated, which will be discussed further later in this chapter. Research conducted into response rates in academic studies calculated average response rates by managers as 61.8% Baruch (1999).

Using these data, the likely non-response rate was estimated at 40%. The sample size was adjusted accordingly, resulting in an initial issue of 110 requests to complete the online questionnaire per sector. To select the recipient organisations, a simple random sample was conducted, drawing upon the sampling frame already identified for each of these strata (Schofield, 2006, p. 32), this methodology being considered “fit for purpose” (May, 2001, p. 95).

Circulating the questionnaire

There are different options for questionnaire circulation, however current practice favours a web based questionnaire (Sapsford, 2006, p. 130), this being the most “easily adaptable tool” (Hewson, Yule, Laurent & Vogel, 2003, p. 43). One pertinent advantage of circulating a questionnaire electronically is reduced cost (Thach, 1995, p. 2787; Kiesler & Sproull, 1986, pp. 403-404). Others include a higher response rate (Thach, 1995, p. 31), rapid receipt of research data (Erwin & Blewett, 1998, p. 119; Fenton & Morris, 2003, p. 64) and ease of completion (Hollingsworth, Frush, Cross & Lucaya, 2003, p. 405; Frensch, 2007, p. 365). The principal advantage however, is that it can utilise “a much wider variety of embellishments in terms of appearance” (Bryman, 2008, p. 645).

This project elected to use an electronic survey made available via a “weblink” (de Vaus, 2002, p. 124), this being an efficient way of reaching the target population (Yun & Trumbo, 2000). There are a number of internet based

survey programmes available (Thomas, Nelson & Silverman, 2011, p. 284), however, *Bristol Online Survey (BOS)* was selected because it was used by my employer's research centre and I was able to draw upon an existing knowledge base of experienced users. Additionally, this programme displayed survey results in an easy to understand format, and offered a wide range of analytical functionality including the cross tabulation of results and cross-referencing of questions (Bristol Online Survey, n.d., p.1), which simplified the data analysis process.

Launching the Questionnaire

Introduction

Having identified the target population, *BOS* was accessed, an online version of the questionnaire created, and the instrument 'launched'. This created a hyperlink to the questionnaire to be issued to research participants. A letter of introduction was then drafted which explained the purpose of the research and included the hyperlink to the questionnaire (Appendix 5).

Gatekeepers

Because the identity of the individuals responsible for managing fraud or internal audit was unknown, a covering letter (Bryman, 2008, p. 647) was sent by e-mail to the Chief Executive of each organisation (Appendix 6). This requested that they act as "gatekeeper" (Bogden & Bicklen, 1992, p. 116; Lee,

1993, p.122; Benton & Cormack, 2000, p. 131) by forwarding the questionnaire web link to the person most qualified to respond. Where the Chief Executive's e-mail address was unavailable, the request was issued to the most appropriate e-mail address found on the organisation's website. Each e-mail sent requested a 'delivery receipt' to confirm it had reached the intended recipient organisation. Contact details were supplied with the introductory e-mail, should any clarification have been required to ensure respondents understood the content and purpose of the instrument (Brugha, 1995, p. 9).

Response Rates

Response rates were regularly monitored, however because anonymity had been promised, there was no audit trail of respondents, which prevented any follow up action being taken (Bell, 1999, p.130). Due to a low response rate from the initial cohort, a second list of organisations was created using another random sample, applying a different calculation methodology to prevent duplication. The public and charitable sector organisations were identified using the original sampling frames. Some of the private sector organisations were drawn from a random sample of the FTSE 250 list, the remainder being taken from a list of members of the Association of British Insurers obtained from their website, and from a list of banks obtained from the Financial Services Authority website. These industries were selected because they had been identified during the literature review as experiencing high losses to fraud. Further monitoring of response rates suggested that the

required number of responses from the private sector was unlikely to be achieved. To address non response bias, the questionnaire was also posted to a newsgroup (Hewson, Yule, Laurent and Vogel, 2003, p.82) subscribing to the University of Portsmouth's Centre for Counter Fraud Studies. This also increased the number of public sector responses. Whilst it is accepted there may be an element of participant bias, all intended participants were fraud practitioners, and thus possessing the required understanding of the technicalities of fraud risk and measurement to participate in the survey. Furthermore, because members of the newsgroup represented both public and private sectors and held a variety of posts within 'the fraud arena', their input was considered valuable to the research. There was a limited risk to integrity due to the fact that subscribers to this forum included students with no practitioner experience. To address this, each response was individually assessed for discrepancies or inconsistencies in answers to ensure that the respondent demonstrated appropriate fraud knowledge. This suggested all respondents within the sample were legitimate actors. To gather data in sufficient quantity to meet the statistical requirement set, there was no option but to use this forum. The resultant data, however, has ensured that this is the largest survey to date on this subject, thus providing a starting point for the development of new knowledge.

Coding and Analysis

According to Stone (1993, p. 165), "advance coding saves time", therefore having completed the survey, the most appropriate coding methodology was

identified. Those questions containing scaled fixed choice answers had been pre-coded at the design stage (Bryman, 2004, p. 146). As previously discussed, the inbuilt functionality within Bristol Online Survey provided a significant analytical capability which assisted in making sense of the data collected, and incorporated a coding functionality. The online survey package also contained the facility to export data for use in other applications. Data were therefore exported into "Microsoft Excel" (Denscombe, 2003, p. 237) for supplementary analysis.

Rigour

Introduction

There has been much debate concerning the use of validity and reliability when conducting naturalistic enquiry (Guba & Lincoln, 1981; Sandelowski, 1986; Mishler, 1990, Lincoln, 1995; Bradbury & Reason, 2001; Morse, Swanson & Kuzel, 2001; Atkinson, Coffey & Delamont, 2003). Whilst these terms are usually linked to quantitative enquiry (Altheide & Johnson, 1994; Leininger 1994; Peck & Secker, 1999; Tobin & Begley, 2004, p. 390), the criteria have been considered when evaluating both datasets, because they were also considered "pertinent to qualitative enquiry" (Morse, Barrett, Mayan, Olson and Spiers, 2002, p. 4). It was not appropriate to borrow rules from one to address the rigour of the other (Morse, 2006, p.6), consequently, rules specific to each paradigm were applied (Morse et al, 2002, p. 6).

Validity

Validity may be defined as trustworthiness (Angen, 2000, p. 387), meaning “the extent to which the research findings represent reality” (Morse & Field, 1995, p. 244). To address “threats to validity” (Whittemore, Chase & Mandle, 2001, pp. 527-528) in the qualitative strand, the criteria of “description, interpretation and theory” were applied (Maxwell, 1992, p. 279). Pilot testing of the interview questions achieved “face validity”, by confirming they were “up to the job” (Farrall, Bannister, Ditton & Gilchrist, 1997, p. 1). Utilising a digital recorder ensured accurate recording of the interview content (Wolcott, 1990, p. 132). To reduce interviewer bias “guidance and direction” of interviewees, “were kept to a minimum” (Merton & Kendall, 1946, p. 555). A transparent audit trail was achieved by maintaining a research decision log supplemented with a research diary recording “activities with dates, details of data collected, data analysis and personal reactions” (Cryer, 1996, p. 74).

Increased accuracy and validity of data (Caldwell & Mou, 1995, p. 145) were achieved using thematic analysis of interview transcripts which organised data into opinions and beliefs using human coding (Neuendorf, 2002, p. 111).

Furthermore, to ensure “good qualitative inquiry” (Morse, 2006, p. 6), data were critically evaluated during analysis, thus enabling “continual evaluation of subjective responses” (Finlay, 2002, p. 532). There was a reduced risk to validity posed by the telephone interviews, being more impersonal than face to face contact they were “less effected by interviewer bias” (Mitchell & Jolley, 2009, p. 268). Furthermore, these anonymised data were periodically shown

to academic colleagues that teach criminological research as a supplementary means of testing validity.

In terms of the quantitative strand, piloting tested the validity of the questionnaire (David & Sutton, 2004, p. 171), establishing that the instrument measured the concept it aimed to measure (Williams, 2003, p. 249; Gilbert, 1993, p. 27). A comparison of the responses from the pilot test and those from the developed quantitative instrument confirmed that the measure worked “in a consistent way” (Proctor, 1993, p. 126). To limit researcher bias (Robson, 2002, p. 174), all actions and decisions were again recorded in the decision log and research diary. Data collected from the quantitative instrument were also periodically shown to academic colleagues as a supplementary measure to limit threats to validity.

I acknowledge that the interpretation of results could have been influenced by personal values and assumptions (Tashakkori & Teddlie, 2003b, p. 703; Lincoln & Guba, 1985, p. 37), which often occurs when the researcher is unable to bracket personal biases (Onwuegbuzie & Leech, 2007, p. 236). This threat was reduced by the application of triangulation (Robson, 2002, p. 174) through the use of different methods (Denzin, 1988; Moran-Ellis et al, 2006, p.47), which further reduced the risk of researcher and respondent bias (Padgett, 1998, p. 95; Duffy, 1987, p. 132; Mitchell, 1986, p. 21). Furthermore, collecting data from several sources using recorded interviews, field notes and a quantitative research instrument sought to limit the effects of participant bias (Fox, Martin & Green, 2007, p. 17). Triangulation also helped evaluate

the accuracy of the conclusions drawn (LeCompte & Preissle, 1993, p. 48). Finally, when reporting the project findings, care has been taken “not to generalize beyond the groups in the experiment” (Creswell, 2003, p. 162). Consequently, the findings acknowledge that any support for the arguments underpinning this research is limited to those individuals sampled. It is fair to say however, that the responses may be considered a micro sample of opinion, which should a larger survey be conducted, might be replicated.

Reliability

According to Morse (1999), “good rigorous research must be reliable” (p. 717). Based upon the researcher’s judgements (Brink, 1991, p. 167-168), reliability establishes whether a research technique would yield the same results if repeatedly applied (Babbie, 1997; Maxfield & Babbie, 2001, p. 426). Within this chapter, I have documented the methods used to collect and record data and will draw upon verbatim quotes and field notes in subsequent chapters when presenting my findings (Rowan & Huston, 1997, p. 1445). This has enabled accurate reporting of data (Lewis, 2009, p. 7), which arguably, has strengthened the reliability of the research findings.

One of the principal strengths of the qualitative paradigm is that reliability is easy to establish (Alston & Bowles, 2003, p. 205; Byars & Love, 1973, p. 92). Equally, the application of scientific procedures increased the probability of data gathered being relevant to the question asked (Sellitz, Jahoda and Deutsch (1965, p. 2). Furthermore, careful development of the quantitative

instrument and its sampling methodology increased the probability that similar results would be obtained by others drawing upon the same criteria (Newell, 1993, p. 99). This was determined through the application of “test-retest reliability”, whereby three months after piloting, the questionnaire was re-issued to those involved in the pilot test and a comparison of responses undertaken to measure stability (Litwin, 1995, p. 8), which demonstrated consistency in responses.

Ethical Considerations

Adherence to the British Society of Criminology (BSC) (2006) ethical guidelines was maintained throughout this research to maintain high standards, good practice, quality, transparency and integrity throughout the research. Consideration was therefore given to my responsibilities towards the discipline of criminology, colleagues and research participants (BSC, 2006, p. 2) which informed the ethical framework of this study. The proposal to conduct this research was examined and authorised by the University of Portsmouth Research Ethics Committee.

Limitations

I acknowledge that there are limitations inherent in this type of study. For example, the decision to focus on a limited number of key informants within the qualitative study, arguable places authenticity over reliability (Silverman, 1993, p. 10). It was important for this research to obtain the views of

academics with knowledge of fraud measurement, or the impact of fraud in the UK. However, this is an area that has received limited attention from academia, thus resulting in a 'small pool' of potential interviewees. Having pre-determined the number of interviews required, and through purposive sampling identified potential interviewees, the criteria determining selection was willingness to participate and availability for interview. Consequently, those interviewed may not be considered totally representative of all academic opinion within this field. Nevertheless, I am satisfied that those interviewed fully understood the research subject, having all published on fraud losses or fraud loss measurement. Accordingly, they were able to provide valuable data, which when interpreted and used carefully did help to establish an evidence base on the feasibility of this study and the data required from the questionnaire. The remaining six interviewees were fraud professionals selected upon the basis of convenience, specifically that they were known by the researched or known to the researcher via personal contacts. Consequently, being a small sample their views may not be fully representative of the entire Counter Fraud Specialist population. However, the fraud professionals are all practitioners involved in fraud loss measurement, and offered informed opinion on the research argument from a practice perspective.

Moving on to discuss the quantitative strand of the research, I again acknowledge there are limitations with the resultant data in terms of representation of the broader population. However, I do not claim these data to be totally representative, rather a 'barometer of opinion' that may reflect the

views of the counter fraud specialist population. It is accepted that the respondents do not represent a random sample of the counter fraud specialist population due to the selection criteria employed, as previously discussed within this chapter. Secondly, self selection to participate also introduced an element of bias. Thirdly, by using a 'gatekeeper' to access some of the respondents, I have had to take on trust that the respondent is the most suitably qualified person within that organisation, and has sufficient technical knowledge to provide reliable answers. Finally, the use of a newsgroup to source participants may result in multiple respondents from the same organisation, thus again limiting the extent to which the sample may be considered representative

In hindsight I also acknowledge that the questionnaire could have been improved. Firstly, a question sourcing details of the size of the respondent's organisation might have provided valuable insight into some of the answers provided concerning the fraud loss measurement activities undertaken by that organisation. I could also have provided more opportunities to answer 'do not know' to some of the technical questions. By not providing this opportunity there is a risk that some respondents may have guessed when providing their answers. To limit this risk however, the questionnaire did contain explanations about what constitutes a fraud loss measurement exercise, what is meant by a British Standard and an explanation of the US Improper Payments Information Act 2002. Finally an additional question about how viable it is to measure fraud might also have offered an important insight into the

practicability of implementing the proposed option for change mandating fraud loss measurement

Conclusion

This chapter has discussed the methodological and epistemological considerations underpinning this research. The research design has been outlined and justification offered for the selection of paradigms. The methodology for participant selection and the ethical considerations of this research have been explored. The data collection, evaluation, collation and analysis methodologies have been fully justified. Finally, the limitations of this research have been discussed

The following three chapters present the research findings by documenting the emergent themes, patterns and attitudes in relation to the research argument underpinning this study, commencing with the current standing of fraud and its measurement.

Chapter 4: What, When, Who, Why, and How?

Introduction

This is the first of three chapters presenting the research findings, and concentrates on the questions posed relating to fraud measurement methodology, frequency and importance. Initially, characteristics of the questionnaire respondents will be presented, offering a breakdown of representation by sector, individual position and organisational function. Verbatim responses from academics and fraud professionals to the question '*What do you define as fraud?*' will be then be discussed. This question was only posed to interviewees, because it was considered that semi-structured interviews afforded better opportunity to obtain detailed explanations from respondents.

Data harvested through the questionnaire are presented using tables and charts, supplemented where applicable, with relevant interview responses. The percentages shown in all tables are rounded up; consequently in some instances the sum may not equal one hundred. Firstly, responses to the question on who measures fraud will be reported, followed by explanations on why organisations fail to measure fraud. Moving on, this chapter will then discuss fraud measurement methodology, before offering opinions on the ideal measurement frequency. Finally, questionnaire respondent's explanations about what fraud typologies their 'organisation' measures will be discussed.

To maintain confidentiality, within all three findings chapters, verbatim responses from interview respondents have been allocated the identifier of either 'A' (Academic) or FP (Fraud Professional), combined with a numerical identifier (e.g. FP1). It should be noted that fraud professionals one and three represent the private sector, and the remainder the public sector. Similarly, responses harvested from the questionnaire 'free text' sections are reported in a manner that maintains participant confidentiality, whilst indicating the sector, industry or department, and where relevant but with no risk of compromise, the respondent's position. Finally, within all findings chapters, the 'voluntary/charitable' sector is represented as 'VC'.

The Sample

Sector Representation

The table below details the useable responses received, broken down by sector.

Table 3: Please indicate which sector your organisation falls within

	<i>n</i>	%
Public	85	46
Private	68	37
Voluntary/Charitable	32	17
Totals	185	

The response rate needed to achieve the desired level of statistical confidence discussed in the methodology chapter was achieved within the public and private sectors. The VC sector response rate is disappointing, but consistent with past research, as discussed within the literature review. Arguably, this low response rate evidences a reluctance to confront ‘fraud’ by this sector. I contend however, that the response rate provides sufficient data to conduct meaningful analysis, and while generalizability is limited, they offer a barometer of opinion that might be considered representative of a wider population.

Respondent’s Position

Analysis of the optional answers to question 2, provided by 60% ($n=111$) has established that posts held by respondents include directors, senior management, middle management, investigators and administrators. Data of note are provided in the table below:

Table 4: What is your position in the organisation?

	<i>n</i>	%
Manager	31	17
Investigator	24	13
‘Head’	15	8
Director	11	6
‘Senior’	5	3
Auditor	4	2
‘Group’	2	1
Other	19	10
No Response	74	40

Respondents selecting the 'other' option include owner, bursar, analyst, chief accountant, managing director, underwriter and lead auditor.

Organisational Function

The 88 responses to the optional question concerning organisational function reveal that all major organisations and industries within the public and private sectors are represented. The VC sector has not been similarly sub-categorised, because identification at sector level is all that is required for this research. Details of organisational representation from the public and private sectors are presented below.

Table 5: What is your organisation's function?

	n	%
Local Authority	21	11
Local Government	16	9
Insurance	15	8
Welfare/ Benefits	11	6
Health	8	4
Banking/ Financial	7	4
Education	5	3
Care	3	2
Retail	2	1
No Response	97	52
Total	185	

Representation and Generalizability

I contend these data suggest that questionnaire respondents offer adequate representation of those involved in the fraud environment. Whilst the sample size is small, they do represent the public sector organisations and private sector industries that are known to experience significant fraud losses, as detailed within the *Annual Fraud Indicator* (NFA, 2012). Consequently, whilst there may be limitations on generalizability, in particular because the size of the organisations represented is not known, there are sufficient data to enable meaningful analysis to be conducted, thus offering some representation of opinion on fraud measurement.

What is fraud?

One of the historical issues hampering accurate measurement is the absence of a consistent definition of fraud for this purpose. The first objective of this research therefore, was to gather data to inform the construction of a definition of fraud that is specific, transferable and easy to understand by measurement practitioners. Fraud professionals and academics were therefore requested to offer their definition of fraud in the context of measurement. Predictably, there are varying opinions offered by interview respondents, with some contending that extant legislation offers a definition suitable for cross sector measurement exercises.

The noteworthy responses are detailed below, commencing with two contending that existing legislation is adequate.

“The Fraud Act.” (A3)

“The Fraud Act offers a universal definition that can be used for measurement purpose.” (FP4)

Conversely, another interviewee argues that this legislation fails to offer a suitable definition for fraud measurement purposes,

“the Fraud Act is as close as we come to having a good quality definition. It certainly makes it clear in your mind as to what’s fraud and what’s not fraud but it certainly doesn’t help the person who is quantifying if the case should be counted as fraud for the purpose of measurement.” (FP2)

One differing opinion of interest is that the civil definition is more appropriate for measurement purposes, offering both increased clarity and the opportunity to treat fraud as a business cost;

“If you have a criminal law definition then you are excluding some losses, which can be recovered and taken forward in civil law so we use the civil law

concept of fraud which has been prevalent in this country since 1889 Derry v. Peak.” (FP1)

Interestingly, each interviewee offered their own definition, thus illustrating the difficulties previously identified in chapter one concerning lack of a standard definition. The definitions offered however, did contain some recurring themes, including deliberate intent to deceive and the gaining of advantage, as evidenced below;

“It is the obtaining of financial advantage or cause of loss by invisible expressive deception. It is the mechanism by which a fraudster gains unlawful advantage or causes unlawful losses.” (A2)

“The deliberate misuse of circumstances with the intention of gaining some advantage. Or withholding information that should be given.” (A4)

“It involves a false declaration, actus reus, with intent to deceive, mens rea. In terms of a criminal offence it involves dishonest intent to gain an advantage through a deception.” (FP3)

The themes identified within the opinions offered above are worthy of consideration when developing a standard definition of fraud for the purpose

of loss measurement. This chapter will now report the responses to the question ‘do you measure fraud?’

Do you measure fraud?

Using questionnaire data, this section now examines the extent of fraud measurement by sector, before presenting explanations offered, on why the respondent’s organisation doesn’t measure fraud.

Who measures fraud?

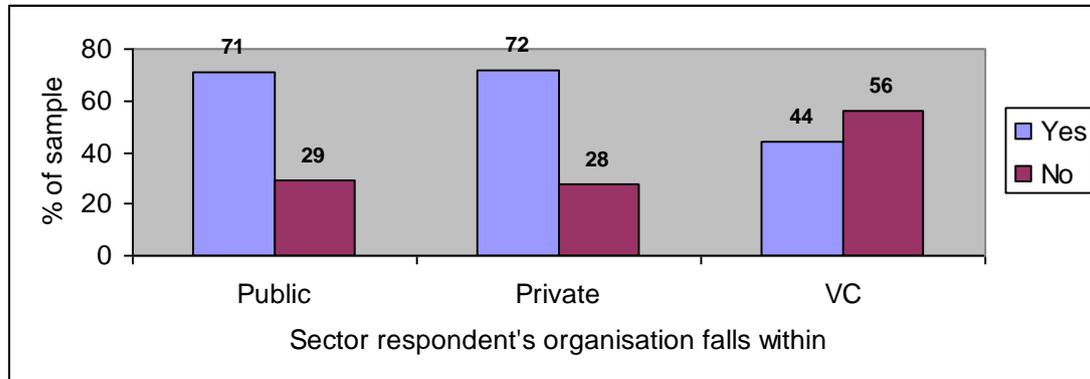
The table below provides data outlining the levels of fraud measurement by sector as indicated by survey participants.

Table 6: Does your organisation measure fraud?

	Public	Private	VC	<i>n</i>	%
Yes	60	49	14	123	66
No	25	19	18	62	34
Totals	85	68	32	185	

Within the sample, there is an active level of fraud measurement across all three sectors, with of 66% ($n=123$) of all respondents answering “yes” to this question. This is broken down by sector in the chart overleaf, which indicates that the highest level of measurement activity within the organisations represented falls within the private sector, this being 72% ($n=49$).

Chart 1: Does your organisation measure fraud? (Percentages by sector)



When drilling down to the micro level however, some very interesting and significant responses are identified. For example, the fact that 29% ($n=25$) of respondents from the public sector responded 'no' to this question is of immediate concern, but debatably endorses the arguments that have been developed within Chapter One that there is a lack of commitment within the public sector to fully embrace fraud loss measurement. Of particular relevance, is that of these 25 respondents, 7 indicated they were from Local Authorities and another 5 declared their organisational function as local government. What is noteworthy is that the declared role within their organisations indicates a spread of functions including fraud manager, risk manager and senior auditor. It is somewhat paradoxical however, that organisations spending public money create such posts, but neglect to measure fraud. Analysis of data relating to organisational functions reveals that there are central government departments that fail to measure fraud. Of further interest are the responses describing organisational function as

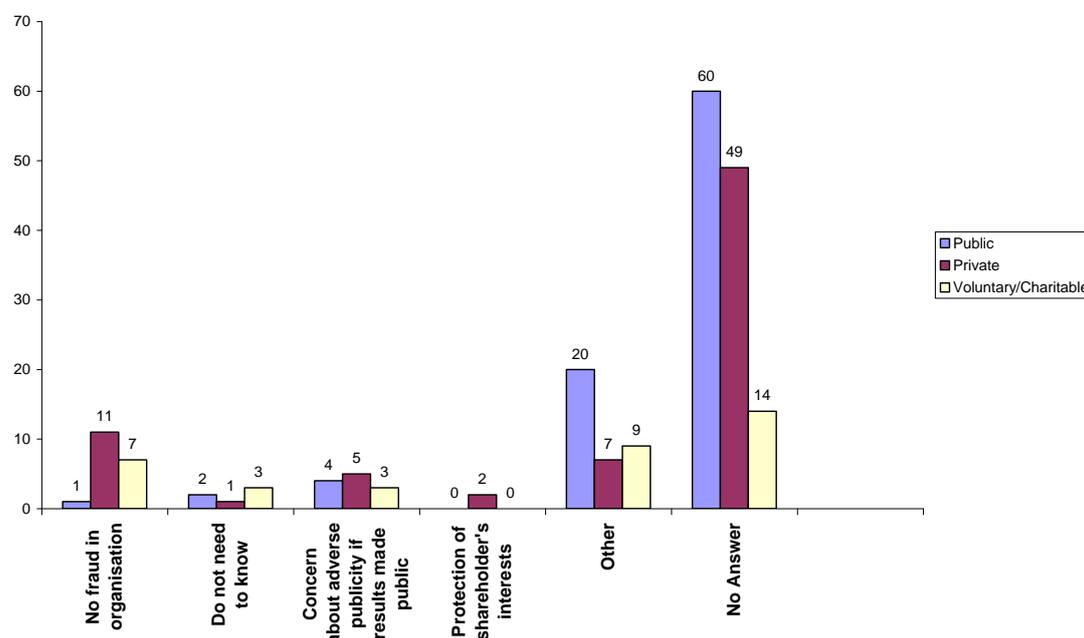
“regulation of the public sector” and “legal aid”. The latter is of particular significance when considering the proposals to reduce the legal aid budget, yet this government department has no idea of the extent of losses to fraudulent transactions.

Moving on to examine the private sector, one surprising discovery is that whilst the ABI are creating an ‘Insurance Fraud Register’ documenting proven fraudsters, two insurance industry respondents indicated that their organisation does not measure fraud. Other examples of lack of fraud measurement within parts of the industry, as revealed by the sample, include retail and manufacturing. Finally, the results from the VC sector reveal that 56% ($n=18$) of respondents indicated that no fraud loss measurement takes place. Whilst the response rate from this sector was low, I contend that this still offers a starting point for estimating the degree of fraud measurement activity within this sector, and suggests an urgent requirement to increase fraud awareness and promote the financial benefits of regular measurement and the development of informed control strategies. Continuing the theme of reluctance to measure, the following section will discuss the responses offered to explain why certain organisations do not measure fraud.

Why no Measurement?

I will now explore the question of why some organisations fail to measure fraud, commencing with the chart overleaf, which presents the responses to this question from sample respondents representing all three sectors.

Chart 2: If your organisation does not measure fraud please indicate why



Analysis of the 75 responses to this question provides some interesting data. Of significance are the 11 respondents from the private sector and 7 from the VC sector who indicated that there is no fraud in their organisation. One noteworthy explanation offered by a respondent from this sector advises that:

“because we are a religious charity there is no fraud.”

The most significant question raised by these responses is that if the organisations do not measure, how can they be certain there is no fraud? I maintain there are two possible explanations for these data, firstly a continuing lack of fraud awareness within these two sectors, and secondly there being a reluctance to accept the existence of fraud, generated by fear of the impact such an admission might create. This latter contention is supported

by the 5 private sector and 3 VC sector respondents who indicated concern about adverse publicity from releasing such information. This issue however, could be addressed by being seen to rectify the situation. To ensure all organisations measure fraud, let alone to a predetermined standard of accuracy, may require implementation of some persuasive strategies, particularly when noting that respondents from all sectors indicated that their organisation had no need to be aware of fraud.

When studying the 'other' responses explaining why organisations do not measure fraud, there are certain answers that arguably suggest management complacency and failure to grasp the full impact of fraud. For example, a chief executive of a charity explains that,

“given the nature of my organisation, significant fraud is unlikely. Low level fraud is inevitable but we can live with it.”

Another interesting response offered by the head of internal audit from a charity indicates that fraud measurement,

“Is seen as a low priority because the level of fraud is perceived to be low and it is so difficult to gain an accurate measurement.”

This suggests there is an urgent need to educate the VC sector about fraud risks, and in view of the reluctance to embrace fraud loss measurement, there may be a requirement to mandate the process in some way.

Moving on to the public sector, there is evidence within the sample of a continuing reluctance by certain departments to acknowledge that fraud exists and should be measured. One explanation for lack of fraud measurement is offered by a local authority fraud manager, who reveals that,

“Senior management and/or elected members are ambivalent towards fraud and corruption.”

A similar response is offered by a local government fraud services manager, who succinctly advises that fraud is not measured because there is,

“no interest!”

This suggests that there is also a requirement for a directed strategy towards educating senior local government managers about managing and measuring fraud. The issue of elected members being ambivalent to fraud and corruption, particularly having regard to the parliamentary expenses fraud cases, might suggest that similar fraud typologies are equally prevalent within local government. Lamentably, there appears to be a reduction in terms of

fraud measurement within certain healthcare trusts, one fraud specialist revealing that

“Other priorities are considered more important.”

This response is disappointing when considering the previous work undertaken centrally within the NHS to measure fraud. This might however, offer an explanation for the lack of recent fraud loss data reported by this department, which was discussed in the literature review. Debatably, this also supports the argument for direct action within the public sector to introduce regular fraud loss measurement exercises across all departments which apply common sampling and not just a count of detected fraud. Whilst the cabinet office may have some authority, I maintain that even issuing directives may not fully address the lack of activity within central government departments, something that may only be rectified by creating a statute mandating measurement.

In further support of this contention, I offer the response from a manager within the department charged with regulating the public sector who reveals that:

“the focus tends to be on measuring fraud in organisations we regulate rather than our own.”

Of equal concern is the response from a 'manager' working within the legal aid department, who explains that fraud is not measured due to,

“concern about adverse publicity if results made public.”

Arguably, this reluctance to confront the fraud problem offers additional credence to the argument for mandating measurement by some means, whilst also educating senior managers on the business benefits, possibly by using a knowledge transfer and best practice exchange network as the conduit.

Analysis of responses also reveals a comparable level of complacency within the private sector. While the issue of no fraud present has already been discussed within this chapter, of interest is the paradoxical response from the managing director of a private sector fraud investigation company who reveals that fraud is not measured because there is

“no fraud in the organisation.”

Another response suggesting private sector complacency towards fraud measurement is provided by the head of fraud training from an insurance

company who discloses that

“Although the organization undertakes fraud work for other organizations there is little concern that fraud may be occurring within.”

A further revelation, which suggests there is a requirement to develop a culture of responsibility for fraud measurement, is provided by an insurance industry counter fraud officer, who maintains that,

“Fraud is not the responsibility of one area and therefore there are no consistent factors to enable the effective and accurate measurement of fraud costs or savings across the business.”

Immoral Phlegmatism?

At this point, I consider it worthwhile to discuss the attitudes to fraud measurement, both individual and organisational, as evidenced so far within this chapter. Analysis of free text responses suggests that within the sample population and potentially, assuming this is a barometer of opinion, within the wider population, there continues to be a significant group who fail to see fraud as a problem at all, or are reluctant to accept the actual size of the problem. Analysis further indicates that within questionnaire respondents, this attitude is prevalent within all three sectors.

Empirical evidence drawn from practitioner knowledge (McLaughlin, 2007, p. 7) suggests that the media have a keen interest in fraud. Interestingly, Chadee and Ditton (2005, p. 234) assert that much of the population have little direct contact with criminality, but read about it in newspapers. Historically, media representations of crime often “exaggerate certain risks” (Newburn, 2007, p. 93). This style of media representation resulted in the development of the concept of a “moral panic” (Cohen, 1972), which occurs when “a condition, episode, person or group of persons become defined as a threat to societal values and interests” (Cohen, 1980, p. 9). Notwithstanding regular media reporting of fraud, this equanimity towards a crime typology costing the UK “£52 billion per annum” (NFA, 2013, p. 2) is in direct contrast to that described by Cohen (1972;1980).

In the context of fraud, this divergent reaction, which is prevalent amongst fraud practitioners, let alone senior management, is defined by this research as *immoral phlegmatism*. Something immoral is described as “being wrong or bad” (Alvarez, 2010, p. 93), or even “hostile to the welfare of the general public” (Words and Phrases, 1959, p. 226). I posit that the ambivalence and lack of interest by management towards the fraud problem described by respondents, which dispassionately allows the loss of public funds to go unchecked in times of austerity, is indeed *immoral phlegmatism*.

Moving on to consider the private sector, Kleinman et al (2011) argue that “institutional immorality will indeed shake the basic ethical values” (p.56). Arguably, as previously discussed, the unethical decision by financial service

and insurance institutions to recover fraud losses from the consumer rather than addressing the problem, combined with responses from the quantitative sample suggesting little concern the fraud is occurring within some private sector organisations offer further examples of *immoral phlegmatism*. Finally, I suggest that *immoral phlegmatism* is also prevalent in the VC sector, with questionnaire respondents suggesting the fraud risk is perceived as being low, and that some organisations “*can live with it*”. Drawing upon the aforementioned definition, I suggest that it is immoral that charitable organisations ignore the risk of fraud, thus potentially allowing the money from public donations to be stolen by fraudsters rather than reaching the intended recipients.

Interestingly, similar attitudes towards fraud have been identified within the Fraud Advisory Panel working party paper which reports upon interviews conducted with senior auditors and forensic accountants on whether their clients reported fraud (Higson, 1999). One interviewee identified a reluctance to acknowledge fraud, suggesting that “*People don’t want to know the full extent of the problem*” (p. 8). Another respondent identified complacency at director level suggesting that “*there is an enormous hurdle of the board saying it can’t happen here*” (p. 14). One final response of note from another respondent is that reporting fraud is “*pointless-there is nothing in it for the company*” (p. 8).

I also contend that this complacent attitude to fraud is an international issue. Turning to the US, and evidence concerning the financial crisis, the National

Commission on the Causes of the Financial and Economic Crisis in the United States (2011) clearly demonstrated there was much concern in organisations at the scale of the fraud problem. However, those decision makers in a position of power to define the response failed to act, even though signs of the coming crisis were there several years before its impact. News reports suggested mortgage fraud was an increasing problem and a news conference held by a senior FBI investigator claimed mortgage fraud had the potential for an 'epidemic'. Yet former US Attorney General, Alberto Gonzales,

“who served from February 2005 to 2007, told the FCIC he could not remember the press conferences or news reports about mortgage fraud. Both Gonzales and his successor Michael Mukasey, who served as attorney general in 2007 and 2008, told the FCIC that mortgage fraud had never been communicated to them as a top priority. “National security . . . was an overriding” concern, Mukasey said.” (p 15)

Indeed the commission also discovered those who did note what was happening and tried to address the issue did not fair well. For example,

“the former head of Ameriquest's Mortgage Fraud Investigations Department, told the Commission that he detected fraud at the company within one month

of starting his job there in January 2003, but senior management did nothing with the reports he sent.” (p12).

I therefore contend that the build up the financial crisis in the USA and the reaction to it has been phlegmatic. There has been denial and under-estimation of the size of the problem, and given the damage it has caused to the financial sector and wider society, this response is immoral.

It is further suggested that the results of the NFA's (2013) private sector perception survey also provides evidence to support the argument of *immoral phlegmatism* being developed within this thesis. The fact that certain private sector businesses refused to participate in the perception survey using the argument that “they had no fraud” even after being advised that “their input was critical” (p. 62) could suggest a reluctance to acknowledge the existence of fraud and measure losses. I draw this conclusion based on the inference that, if they already measured fraud, it is unlikely that they would refuse to participate.

The reluctance to view fraud and those who perpetrate it as a serious business risk is also in direct contrast to the concept of deviancy amplification, whereby an act of deviancy is considered worthy of attention and “responded to punitively” (Cohen, 2002, p. 8). This concept of decriminalising, or even de-labelling the fraud by affording it low priority is identified by Button and Gee (2013) and defined as “deviancy attenuation” (p. 55). The authors identify a

deviancy attenuation process, whereby fraud is not seen as a problem in general and is therefore afforded low priority; as a consequence there are limited numbers of convictions which are reflected in crime statistics, thus reinforcing the view that fraud is not a problem (p. 55). Decision-makers approach to the problem can be further influenced by naïve belief in the attenuated problem in front of them, or that it actually suits their interest not to challenge the evidence in front of them. The consequences of the phlegmatism, however, whether naivety, self interest or commercial interest is an immoral response to fraud in many organisations as well as state institutions.

I suggest that the *immoral phlegmatism* identified within this research, may in fact contribute to the deviancy attenuation process described. Furthermore, I maintain that the attitudes towards fraud defined as *immoral phlegmatism* and deviancy attenuation provide evidence that, in addition to developing the options for change, there is a need to cultivate an attitude adjustment whereby fraud is allocated the business priority it requires. This theme will be explored further within subsequent chapters. I will now discuss the level of importance placed upon fraud measurement by respondents.

Is Measurement Important?

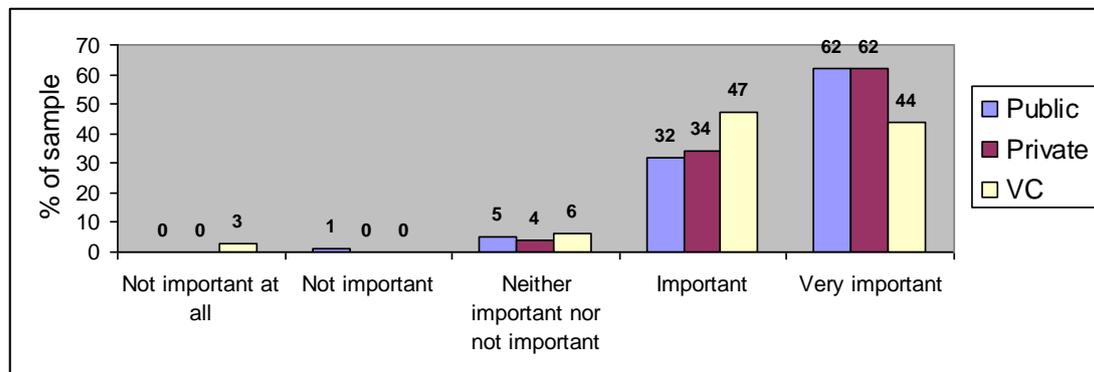
Before offering the views of the qualitative interviewees, the questionnaire responses are presented, commencing with the table overleaf which documents opinion by sector.

Table 7: How important do you think the accurate measurement of fraud is?

	Public	Private	VC	<i>n</i>	%
Not important at all	0	0	1	1	1
Not important	1	0	0	1	1
Neither important nor not important	4	3	2	9	5
Important	27	23	15	65	35
Very important	53	42	14	109	59
Totals	85	68	32	185	

The responses indicate a high level of support for accurate fraud measurement, with 59% (n=109) considering it ‘very important’ and 94% considering it either ‘important’ or ‘very important’ (n=174). Examination of responses presented in the chart overleaf reveals little difference between the two principal sectors, whereas only 44% of VC sector respondents believed it to be ‘very important’ (n=14). When combining these responses with those selecting the ‘important’ option however, 91% of respondents from this sector fall within these two categories (n=29). Whilst only a small representative sample, this does suggest there is some level of acknowledgement within the VC sector that accurately measuring fraud is important.

Chart 3: How important do you think the accurate measurement of fraud is? (Percentages by sector)



Opinion on the importance of measuring fraud within each individual sector will now be presented, commencing with the public sector, the responses being outlined in the table below.

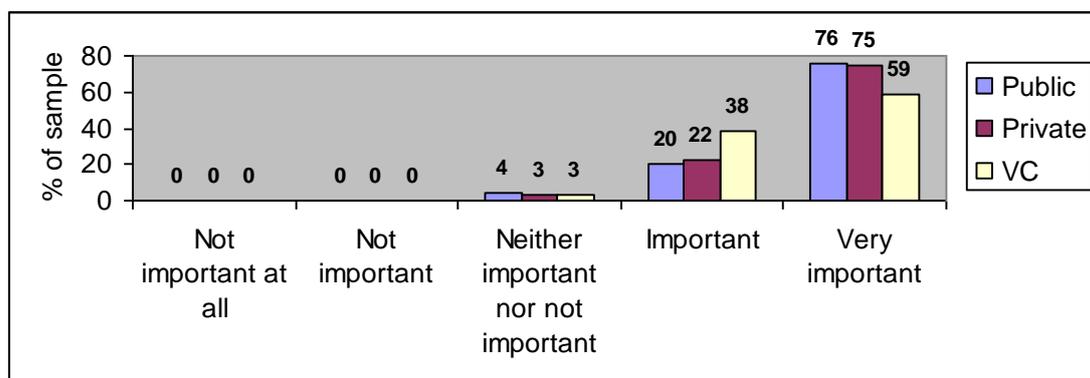
Table 8: How important do you think it is to measure fraud in the public sector?

	Public	Private	VC	<i>n</i>	%
Not important at all	0	0	0	0	0
Not important	0	0	0	0	0
Neither important nor not important	3	2	1	6	3
Important	17	15	12	44	24
Very important	65	51	19	135	73
Totals	85	68	32	185	

These data suggest that collective opinion recognises the need to measure public sector fraud losses, with 73% of respondents considering it 'very important' ($n=135$) and 97% believing it to be either important or very important ($n=179$).

The chart below presents responses by sector, illustrating that the results are very similar, with 96% of respondents from the public sector selecting the 'important' or 'very important' options ($n=82$), compared with 97% from the private ($n=66$) and VC sectors ($n=31$).

Chart 4: How important do you think it is to measure fraud in the public sector? (Percentages by sector)



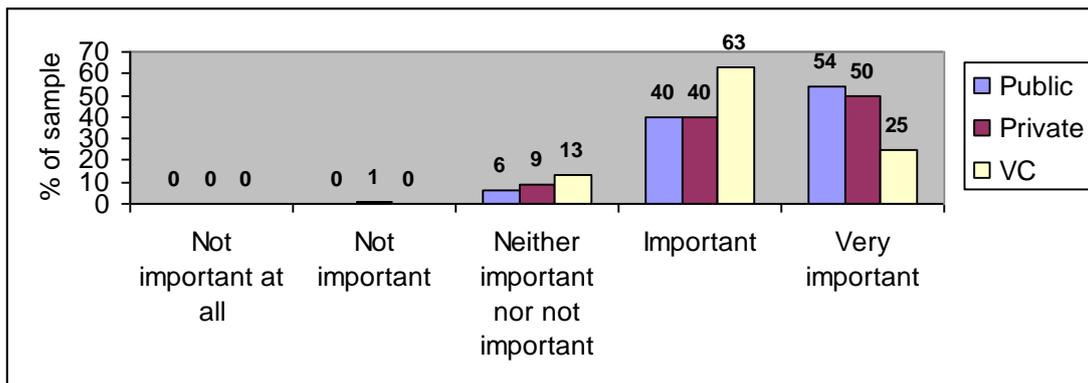
Moving on, the table below documents opinion on the importance of measuring fraud within the private sector.

Table 9: How important do you think it is to measure fraud in the private sector?

	Public	Private	VC	<i>n</i>	%
Not important at all	0	0	0	0	0
Not important	0	1	0	1	1
Neither important nor not important	5	6	4	15	8
Important	34	27	20	81	44
Very important	46	34	8	88	48
Totals	85	68	32	185	

Interestingly, the opinion of all respondents reveals that only 48% consider it to be 'very important' ($n=88$), this figure rising to 92% when incorporating those who selected 'important' ($n=169$), which does suggest some level of support for measuring private sector fraud. Interestingly, the chart below indicates that a higher proportion of public sector respondents (94%) consider it to be either 'important' or 'very important' ($n=80$), compared to those representing the two alternative sectors.

Chart 5: How important do you think it is to measure fraud in the private sector? (Percentages by sector)



This chapter will now examine the opinion on measuring fraud within the VC sector as detailed in the table overleaf.

Table 10: How important do you think it is to measure fraud in the voluntary/ charitable sector?

	Public	Private	VC	<i>n</i>	%
Not important at all	0	0	1	1	1
Not important	0	0	0	0	0
Neither important nor not important	3	2	2	7	4
Important	25	23	13	61	33
Very important	57	43	16	116	63
Totals	85	68	32	185	

A total of 63% of all respondents ($n=116$) considered measurement to be ‘very important’, which is 15% higher than responses selecting this option in respect of the private sector. When adding those indicating it to be ‘important’ this increases to 96% ($n=177$), which 1% lower than the views on the importance of measuring public sector fraud, and is 4% higher than responses relating to the private sector.

Interview participants were asked their opinion on the importance of fraud loss measurement when developing fraud strategies, with collective opinion believing it to be essential to underpin counter measures with reliable accurate data. Some noteworthy responses are detailed below, commencing with a fraud professional who maintains that fraud measurement is,

“essential, because if you don’t know the nature of the scale of the problem how on earth are you going to put in place the right solution?” (FP1)

Two opinions from academics offer a similar viewpoint,

“It is imperative that fraud is measured accurately so that it provides a yardstick of the success of counter strategies.” (A5)

“If you can’t measure the success or evaluate what you’ve done to any degree of certainty... you can’t verify whether there was value for money in that or whether this is actually working.” (A1)

Before moving on to discuss how fraud is measured, this section closes with the words of another academic, who offers an interesting perceptive,

“accurate data enables you to stop people committing fraud and prevents the media from making it up.” (A4)

How do we Measure Fraud?

Drawing upon questionnaire responses, this section will discuss the methodologies applied when measuring fraud, seeking to identify commonalities, which might inform a cross sector standard of measurement, which will be discussed in chapter 6. This question also sought to identify examples of fraud only being partially measured, thus failing to capture the full

extent of potential losses. The findings commence with the table below which outlines responses by sector from the 123 participants who indicated their organisation measures fraud, as detailed earlier in the chapter at table six.

Table 11: How does your organisation measure fraud?

	Public	Private	VC	n	%
Received incidents of fraud(detected) by number of cases	51	42	11	104	34
Received incidents of fraud(detected) by total monetary value of losses	45	44	7	96	31
Fraud loss measurement exercise by number of suspected cases	21	21	5	47	15
Fraud loss measurement exercise by total monetary value of suspected losses	19	20	3	42	14
<i>Other</i>	9	6	1	16	5
Totals	145	133	27	305	

Sample data reveals that the organisations represented are predominantly reactive in terms of fraud measurement, with 65% ($n=200$) of the confirmatory answers to this question, indicating that measurement regularly focuses upon detected cases rather than sampling. It should be noted that multiple responses were permitted, thus indicating that some organisations represented adopt a combined approach, using both methodologies.

The percentage of confirmatory answers to this question (excluding 'other') by sector is reported in the table overleaf, offering an insight into organisational

practise within the sample. I further contend that, if it is accepted that this sample offers a measure of opinion within the wider population, this prevalence of a reactive approach to fraud measurement within the sample, must be addressed if a more accurate representation of fraud losses is to be achieved.

Table 12: Percentage proactive/reactive approaches to fraud measurement by sector (based upon confirmatory responses)

	Public (%)	Private (%)	VC (%)
Reactive	71	68	69
Proactive	29	32	31

Analysis of free text responses from questionnaire respondents also reveals a leaning towards reactivity, evidenced by the response from a public sector team leader, whose organisation’s measurement methodology adopts the following process,

“Every single example of fraud is rigorously checked and recorded for both numbers, type and financial loss.”

Similarly, a public sector fraud prevention and detection manager suggests that measurement is reactive, advising that,

“We also include a measure of frauds prevented because of checks we have in place.”

There is however, evidence of some common sampling to inform loss measurement, as revealed by a head of financial services from the public sector, who indicates that in addition to loss measurement, the department conducts

“Systematic compliance checks...in high risk areas.”

Maintaining the good practice previously established, responses indicate that the NHS are still conducting some loss measurement exercises at the micro level, as evidenced by a ‘regional anti-fraud lead’ who reveals that they conduct,

“locally run measurement exercises.”

This chapter will now explore the ideal frequency that fraud measurement exercises should be performed.

How often should we Measure Fraud?

Having established from questionnaire responses and interview transcripts that collective opinion acknowledges the importance of measuring fraud, the optimum frequency of these loss measurement exercises is also pertinent.

The answer to this question is likely to be determined by the way organisations use their fraud loss data, the comparative costs of measurement against losses, and organisational turnover or budget. By

drawing upon responses to closed and open questions from the questionnaire, combined with narrative extracted through analysis of interview transcripts, this chapter will now seek to address this question.

When examining the frequency of loss measurement exercises within the sample, the preference appears to be for yearly exercises. The table below provides details of the percentage of respondents from each sector indicating which typology of measurement exercise they conduct on an annual basis.

Table 13: Percentage of fraud measurement exercises by typology conducted annually by sector

	Public (%)	Private (%)	VC (%)
Received incidents of fraud(detected) by number of cases	69	73	42
Received incidents of fraud(detected) by total monetary value of losses	70	76	33
Fraud loss measurement exercise by number of suspected cases	58	64	50
Fraud loss measurement exercise by total monetary value of suspected losses	65	62	42

These data encapsulated in the above table, support the contention that within the VC sector organisations sampled, there is less inclination to measure fraud on a regular basis.

Having established that within the sample, organisational preference is for annual exercises, this chapter will now present the opinions of questionnaire and interview respondents on the ideal measurement frequency.

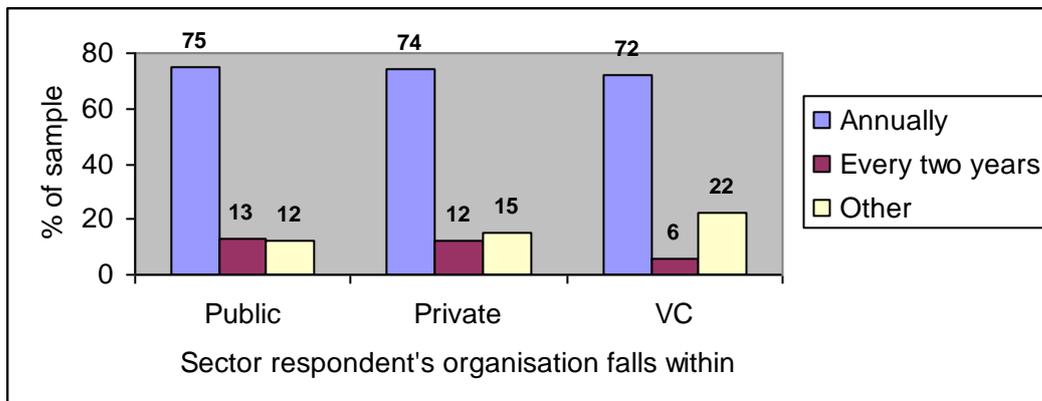
Commencing with questionnaire responses, the table below presents data reporting the opinion of those sampled on the most appropriate intervals between fraud loss measurement exercises.

Table 14: How often do you think fraud should be measured?

	Public	Private	VC	<i>n</i>	%
Annually	64	50	23	137	74
Every two years	11	8	2	21	11
<i>Other</i>	10	10	7	27	15
Totals	85	68	32	185	

The response to this question is reasonably conclusive, with 74% of respondents ($n=137$) indicating that, in their opinion, fraud should be measured annually. Analysis of responses by sector displayed in the chart overleaf reveals a level of consistency in opinion favouring measurement annually, with a range of three percent between the most positive (public sector), and the least positive (voluntary/charitable sector).

Chart 6: How often do you think fraud should be measured?
(Percentages by sector)



The 27 questionnaire participants selecting the 'other' option also offer some informative data, with responses suggesting a wide variation in preferred measurement timescales. Interestingly, some respondents suggest that measurement frequency should vary by sector. For example, a private sector senior fraud analytical consultant argues that,

"Fraud should be measured as often as possible - in the public sector this is monthly as there is a direct impact on the financial performance of the organisation. In the private sector, the systems and processes are geared towards fraud prevention rather than fraud detection. However, in the insurance sector, this is more akin to public sector due to the lengthy investigation time and the "claim" being the focus rather than the insurance policy (think of

national insurance as a home insurance policy and a incapacity claim as a home insurance claim)."

The above response is interesting, specifically the comparison between fraud detection processes within public sector benefit delivery and the insurance industry in terms of dealing with 'claims'. This suggests both organisations might learn from each other's best practice, which could be facilitated by a knowledge transfer forum incorporating all sectors. Equally, if fraud prevention is prioritised, there is a need for accurate loss measurement to identify where to focus control strategies.

One refreshing response from the VC sector indicates some awareness of the need to measure fraud consistently. Interestingly, the respondent recommends shorter intervals, suggesting that,

"this should be a continuous measure - monthly would be appropriate and then an annual review as well."

A further pertinent observation is offered by a local authority head of audit, observing that,

"the frequency would depend on the reason why you are trying to measure fraud in the first place and how accurate the measurement is likely to be."

I maintain that the key objectives for measuring fraud are to identify risk and subsequently implement a control strategy, which can then be evaluated. If an organisation considers the principal aim of re-measurement is to utilise new loss data to assess the success of strategies informed by an earlier exercise, frequency may be determined by what is a realistic timescale for these to impact.

This however, is only one rationale of regular fraud measurement, an equally important principle being the identification of new emergent risks, which then inform future control strategies. Accordingly, the frequency of measurement should not be linked to detection, but informed by the knowledge that fraudsters are always developing new *modus operandi*, and infrequent measurement exercises could enable these to become lost or embedded within organisational processes. In sum, there are varying reasons why fraud is measured, and it is important to set a realistic frequency that meets business needs, but responses suggest that annual exercises are the preferred option.

One final questionnaire response is offered in support of the contention that directed strategies are required to progress VC sector fraud measurement. The respondent, a finance director of a VC organisation, remarks that frequency of measurement is

“a matter for stakeholders to decide, shareholders, trustees etc.”

Nevertheless, when an organisation is reliant upon public donations, it does have a corporate responsibility, aside from any moral or ethical obligation, to ensure all donations are used for the intended charitable purpose and not lost to fraudsters. Furthermore, because there is an increased public awareness about fraud, in the longer term, questions are more likely to be asked of organisations failing to conduct any loss measurement exercises.

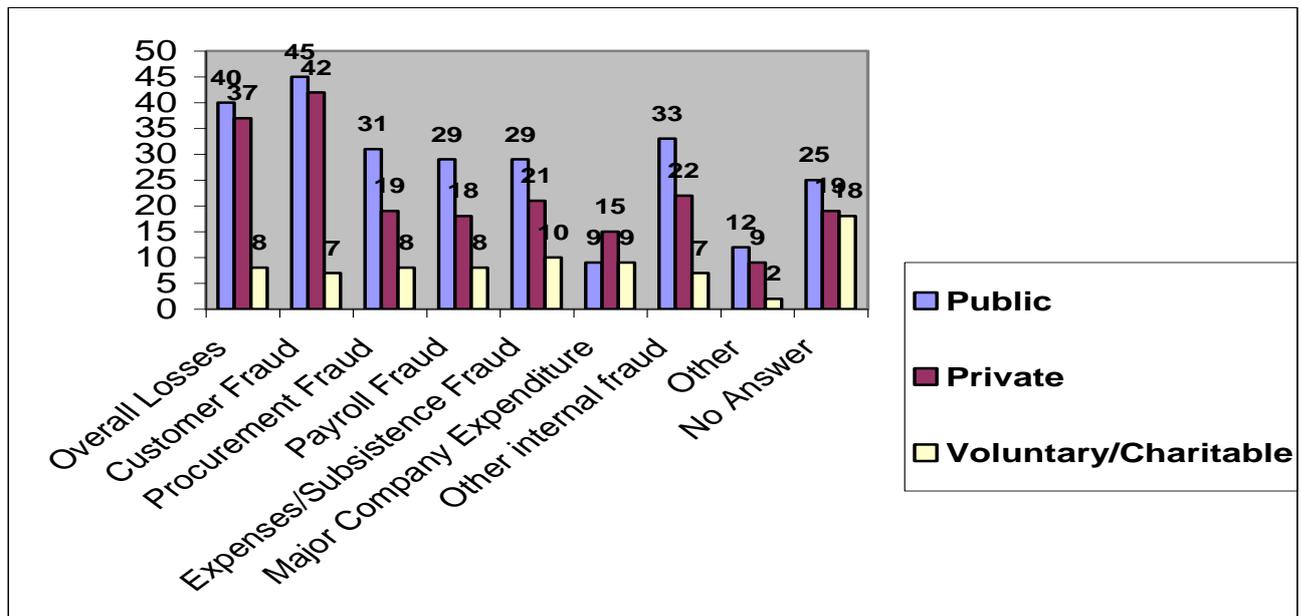
Moving on, analysis of the opinion of interview respondents reveals unreserved agreement that loss measurement exercises should be conducted annually. This collective opinion is summed up by one academic, who advises that,

“measurement frequencies have to be realistic, but annual exercises would be the most appropriate as demonstrated by key public sector departments.” (A6)

What is Measured?

This chapter will now examine what is measured by each sector. The chart overleaf details fraud typologies measured by each sector. It should be recognised that because this question offered multiple selection options, the totals will not be consistent with the number sampled by sector. It should also be noted that 62 respondents offered no answer to this question, which equals the number of respondents indicating that their organisation does not measure fraud.

Chart 7: What types of fraud does your organisation measure?



Analysis of these data suggests that there is consistency within the VC sector of what fraud typologies are measured, the array of responses falling between eight and ten for each specified category. Although this is a limited representation of this sector, it does offer an indication of practice, which I infer may be representative of a greater population.

Unsurprisingly, the public and private sectors concentrate on overall losses and customer fraud, whereas the most frequently measured typology within the VC sector is expense and subsistence fraud, which indicates that other significant risk categories are not addressed, whilst also suggesting a need to educate senior managers in fraud risk awareness.

One typology, which responses indicate may be measured consistently by each sector, is procurement fraud, suggesting there is at least some level of risk awareness present within each sector. Analysis of responses also

suggests a requirement to increase the number of public exercises measuring internal fraud within public and private sector organisations.

Conclusion

This chapter has presented findings from the two sample populations, which advocate that collective opinion considers it essential that organisations measure fraud losses accurately, and at a consistent and appropriate frequency. Furthermore, many respondents indicate that annual measurement is the optimum frequency for fraud loss measurement exercises. Explanations have been offered about why certain organisations fail to measure fraud, which suggests that there is more work to be done in terms of education, but also that rules may need to be introduced whereby measurement is mandatory within certain organisations or sectors. This attitude has been defined as *immoral phlegmatism*, which has been evidenced by indifference and complacency toward the fraud problem. Details of what typologies are measured within each sector have also been outlined, which is of value when developing a standard measure.

Before moving onto the next chapter, which presents views on the creation of statute mandating the measurement of fraud, I will return to the question '*what is fraud?*', upon which a persuasive consensus of opinion has not been achieved. On a positive note however, the responses from the qualitative interview respondents have provided material that can be used to inform the development of a standard measure, should the findings of this research

suggest this is appropriate. The following chapter will discuss the need to mandate fraud measurement.

Chapter 5: Laying Down the Law

Introduction

This chapter will present the responses relating to the issue of mandating the measurement of fraud through the creation of a statute. The data analysed incorporates questionnaire responses and opinion offered by academics and fraud professionals when interviewed. Opinion has been sought on the creation and implementation of a statute that mandates fraud measurement. Views on whether such a statute should prescribe what is measured, how it is measured, and frequency of measurement will also be presented. Attitudes towards the release of what may be sensitive data into the public domain will also be discussed. Finally, the chapter will examine the negative responses to the proposed creation of a statute mandating measurement, and evaluate the reasons offered why this is not considered a feasible option. I commence however, by discussing opinion on mandating fraud loss measurement and the possible arguments that may be offered against such a proposition.

Mandating Measurement

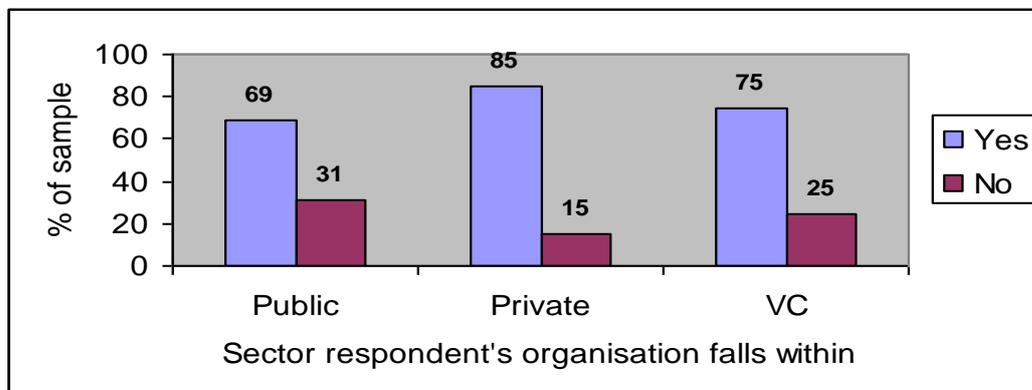
This section presents respondents opinions on the creation of a statute mandating fraud measurement, and what they consider the potential arguments against this proposal might be, commencing with the table overleaf.

Table 15: Should a statute be created to mandate fraud measurement in the UK?

	Public	Private	VC	<i>n</i>	%
Yes	59	58	24	141	76
No	26	10	8	44	24
Totals	85	68	32	185	

The evidence presented reveals that just over three quarters of survey respondents are supportive of a statute mandating fraud measurement. Interestingly, the highest level of support emanates from the private sector, as detailed in the chart below, with 85% of those sampled answering in the affirmative ($n=58$), as opposed to 69% (public sector) ($n=59$) and 75% (VC sector) ($n=24$). I further contend that if these participant responses were considered to be representative of the wider population, the creation of such a statute would have the support of counter fraud practitioners, which may be used to influence decision making at ministerial level.

Chart 8: Should a statute be created to mandate fraud measurement in the UK? (Percentages by sector)



One interview respondent offers a very positive response to this question, demonstrating knowledge of US legislation, arguing that, if a statute was being considered, it should be,

“Something like the IPIA. As long as the detailed guidance is right it will be great for the public sector, and for the private sector it will be the best route for the government to change accounting standards”
(FP1)

The subsequent table details the arguments against mandating fraud that questionnaire respondents suggested may be offered.

Table 16: Arguments against mandating fraud measurement

	Public	Private	VC	<i>n</i>	%
None	7	6	1	14	3
Current measurement statistically valid	13	23	2	38	9
Do not need to measure fraud losses so accurately	16	11	9	36	9
Too Bureaucratic	59	51	25	135	33
Too Costly	69	52	24	145	35
Other	21	17	3	41	10
Totals	185	160	64	409	

Analysis of the responses reveals that cost and bureaucracy were considered to be the most likely arguments against the creation of a statute.

Debatably, these responses offer further evidence of *immoral phlegmatism* towards fraud and its measurement, as discussed in the previous chapter, particularly those indicating that cost is an issue. This complacent attitude, to what has been demonstrated as a high value crime nationally, may only be addressed by developing a culture whereby fraud is seen as a problem that needs to be addressed. It should therefore be treated as a business cost, which can be reduced through regular measurement, the application of informed control strategies and pursuing recovery of identified losses, thus ensuring savings exceed costs.

Those questionnaire participants offering individual responses have also provided some valuable data. One public sector respondent suggests that to encourage fraud measurement, a change in attitude is required, observing that,

“Fraud measurement has traditionally been used as a stick to beat organisations with (think DWP). There needs to be a cultural change to make fraud measurement a positive experience.”

This view is offered in support of the argument presented within this research that there should be no stigma attached to an admission that fraud exists within an organisation as long as there evidence of positive steps being taken to address the issue. This could include creating a risk register, developing an investigative resource or changing processes to reduce vulnerability. This

suggested cultural change would help address the *immoral phlegmatism* and “deviancy attenuation” (Button & Gee, 2013, p. 55) previously discussed.

Maintaining this theme, a private sector respondent observes that there should be a recognisable link between fraud measurement and a risk register, suggesting that organisations,

*“Only need to measure when it has been identified
as a business risk.”*

Further opinion, which arguably may be used in support of mandating measurement, is offered by a public sector financial investigator who suggests central government may be reluctant to mandate public sector fraud measurement due to,

*“Potential political embarrassment and the desire to
conceal the truth”*

Debatably, this belief supports the contention that whilst appearing to promote public sector fraud measurement, in reality, previous governments may not have been fully committed to this strategy. In support of this argument, I return briefly to the discussion within the literature review indicating that H M Treasury has accepted nil fraud returns from a number of central government departments. Unfortunately, there is currently insufficient evidence on the activities of the Coalition’s Counter Fraud Taskforce to make an informed

decision on the present government's commitment to improving the accuracy of fraud loss measurement. Until there is an acceptance that more than just detected fraud can be measured, I suggest that nil returns will continue.

The opinion of a local government head of audit also suggests there may be resistance within the private sector to mandating fraud measurement, manifesting itself in the form of,

“Lack of co-operation from private sector e.g. fear of adverse publicity.”

A regional head of fraud in the private sector offers another potential counter argument to the mandating of fraud, identifying that potential commercial compromise may generate resistance because of,

“sensitive information that an organisation may be unwilling to disclose.”

An insurance industry counter fraud specialist offers a similar view, considering that measurement exercises may produce,

“Information that may be business sensitive”

Continuing this theme, an explanation for this reluctance to disclose these

data within the private sector is offered by a senior fraud analytical consultant, who suggests that,

“the private sector sees fraud as a commercial, competitive issue.”

A further concern is offered by an insurance industry compliance manager, who observes that,

“Data created would be sensitive or subject to misuse.”

These are valid concerns because fraud loss data may be commercially sensitive and release may have an adverse impact on the company, such as a reduction in share value, or in certain industries such as banking and insurance for example, may even result in the consumer going elsewhere.

The following observation offered from a public sector respondent recognises these concerns, thus highlighting the need to address the uneasiness within the private sector over publication of fraud loss data;

“the private sector and in particular financial institutions, would regard such measurements, if published, as a risk to their business and competitively damaging.”

Before developing this discussion further, I offer two contrasting responses that reject the mandating of fraud measurement. The first is from an audit manager from the VC sector, who indicates that internal organisational procedures may remove the need for specific measurement exercises, contending that,

“Internal procedures may cover this requirement.”

The second, is offered by a private sector investigations manager who presents a very negative view on fraud measurement, posing the questions,

*“What value does it add? What use will it be? May
have an adverse affect on a company standing?”*

I contend that, if these opinions represent the views of a wider population, they further illustrate an urgent need to address *immoral phlegmatism* through cultural change that embraces accurate fraud loss measurement. This goal, however, may only be achieved through legislation mandating measurement. Furthermore, in support of the argument for mandating outside the public sector, I contend that it is unethical for private sector businesses to make good fraud losses by transferring these costs to the customer; something which the insurance industry has admitted is common practice. Similarly, it is even more important during a period of financial constraint that charities ensure that losses to fraud are kept to a minimum.

When developing such a policy however, one important consideration relevant to all sectors is organisational size and capability to comply with directives from such a statute, a view offered by a public sector manager who argues that,

“Mandating will not be fair on all organisations.

Account needs to be taken of their size, resources and vulnerability to fraud.”

A similar opinion is offered by a public sector team leader, who suggests that,

“loss is very different across different sectors. To hold my own organisation to the same criteria as a bank or a charity would simply not work as we are completely unique and have little in common with other sectors.”

These comments are of particular relevance when considering how fraud measurement could be mandated, what should be measured, and which organisations or even sectors might be included. It may be that outside the public sector, organisational size and annual turnover might be determining factors, and an appropriate de-minimus limit established which is realistic in terms of which organisations it encapsulates.

Proactive Measurement

Of concern is the finding that many questionnaire respondents consider that detection is the only fraud loss indicator. Consequently, much work is required to develop a cultural change in approaches to fraud measurement including a better understanding of options such as common sampling, and the development of a culture accepting that, anticipating fraud and changing processes, is a more cost effective option than existing prevention and detection methods. The following response from a chief executive in the VC sector is offered in support of this argument for a cultural change.

“It would be better to put money into improving methods of detecting and countering fraud.”

Unfortunately, this view suggests a limited understanding of the value of accurate fraud measurement. For example, how does an organisation know what to counter and what strategies to develop if it is not measuring? I offer a similar opinion from a local government manager;

“Can only measure known fraud - impossible to quantify unknown (successful?) fraud. So stats are meaningless.”

Once again, this exemplifies the limited understanding of what can be measured through the use of statistically valid sampling. If as previously contended, the opinions of the questionnaire respondents reflects the views of

the wider population, there is an urgent requirement for a directed educational strategy on measuring fraud and the associated business benefits. In support of this argument, I offer the views of one interviewee who contends that,

“it’s important for people to start thinking of fraud as a cost and understanding that all fraud losses can be measured. I guess we just need to get that information out there. The more that can be got out to people, the more they understand.” (FP1)

This chapter will now explore respondent’s views on the creation of legislation that mandates fraud measurement and whether this is considered to be the only means of ensuring accurate and consistent measurement.

Creating a Statute

Table 17: Arguments against the creation of a statute

	Public	Private	VC	<i>n</i>	%
Fraud Measurement Should Be Voluntary	6	6	1	13	13
Current Measurement Statistically Valid	5	0	3	8	8
Do Not Need to Measure Fraud Losses So Accurately	3	1	4	8	8
Too Bureaucratic	19	8	7	34	33
Too Costly	17	8	4	29	29
<i>Other</i>	6	3	1	10	10
Totals	56	26	20	102	

The above table details questionnaire respondent's views on potential arguments against creating legislation compelling organisations to measure fraud. Interestingly, although this question offered the similar option of multiple answers, the total responses to the fixed choice answers are considerably lower than the previous question. Debatably, an inference that may be drawn is that there may be fewer arguments presented against the creation of a statute mandating fraud than just a policy change attempting to enforce compliance with a new process. The generalizability, is however somewhat limited, because these data represent only 24% of the sample ($n= 44$), these being the respondents who do not agree with the creation of a statute. Analysis reveals that the perceived counter arguments against creating a statute are again bureaucracy and cost. These recurring themes are relevant to all sectors involved, however as discussed in earlier chapters, the financial

benefits of measurement and re-measurement exercises should outweigh any costs. This is particularly important in times of government spending cuts, as identified by a public sector fraud manager who suggests that,

*“protecting public funds is very important,
Government cut backs on staff resource will make
this increasingly difficult in the future.”*

Whilst embracing the importance of advocating fraud measurement, the issue of cost is again raised by a public sector fraud manager, who suggests that,

*“Whilst it would be useful to encourage fraud
measurement in high risk areas in other areas the
costs may outweigh the benefits.”*

The issue of costing is particularly relevant to small and medium private sector enterprises, however, when considering the estimated fraud losses of £780 million (NFA, 2011a, p. 36) experienced by these businesses, some form of positive action to measure fraud is required. To address the issue of cost implications, I draw upon the opinion of one interviewee, who suggests that,

*“You don’t want to spend lots of money measuring
fraud, but you do want to spend the right amount so
that you end up with a good quality figure that allows*

you to justify all the other spend on fraud prevention and detection.” (FP2)

Therefore, any statute introduced may have to incorporate different standards of measurement for private and VC sector organisations, possibly based upon annual turnover or number of staff employed. A mechanism for implementing such a directive is offered by one academic, who contends that,

“something akin to a national code of practice would be essential. With rankings so you can have three levels of quality. Such as, this is the highest quality data. This is the lowest quality because you only met this many quality standards. One kite mark but different rules that you adhere to depending on the type of data that you’re collecting.” (A1)

The following response also identifies the need for a flexible measurement standard, which in turn may generate increased compliance. The view offered being that,

“if we just have one standard then some people will shy away from it. They need to have some options to choose.” (FP1)

These observations are significant, and whilst relevant to the creation of a statute, also offer an informed view on how a British Standard of fraud measurement could be framed. This concept will be revisited in the next chapter.

When developing a statute, it is important to emphasise that significant returns on investment can be achieved by regular measurement exercises; therefore costs will be offset by reduced business losses. In support, I offer the response of one interviewee, who contends that,

“Think of it as an investment, and a return on the investment. You have to think about the cost of the work as the investment and then look at what you get back from it. If you are measuring accurately you can see the loss figure coming back because fraud hasn’t happened.” (FP1)

Furthermore, in terms of financial return from mandating the process, the same interviewee observes that, as evidenced by personal practice based experience, it represents,

“a twelve to one return on investment.” (FP1)

Two positive views are offered by interview respondents, the first being

offered by an academic who argues that creating a statute is,

“the only way forward to ensure proper and accurate fraud loss data.” (A3)

A slightly more reserved opinion is offered by a fraud professional who maintains that,

“I think argue for it, but I think we should give people a chance to do this optionally first in the private sector, see where we get.” (FP2)

In terms of bureaucracy, this is a recurring argument levelled at government; however, this can be addressed by educating organisations on the financial benefits of regular fraud measurement. Although this may not negate the need for legislation, it will at least go some way to challenge what is perceived as officialdom.

Finally, I offer a contrasting response from an interviewee, who again raises the issue of commercial sensitivity, revealing that,

“I am not persuaded immediately that compulsory legislation is needed for the public sector. I would need to think about it more. When considering the

private sector, I have a real problem with the commercial sensitivity of data” (A4)

The issue of sensitivity may be addressed within the private sector by requiring organisations to demonstrate compliance, but permitting them to keep resultant data out of the public domain, but supplying it to the NFA for inclusion in the national measure. This chapter will now explore the opinions offered on which sectors should be incorporated into legislation mandating fraud measurement, commencing with the table below which reports the opinions of those sampled electronically.

Table 18: Which sectors should this proposed legislation apply to?

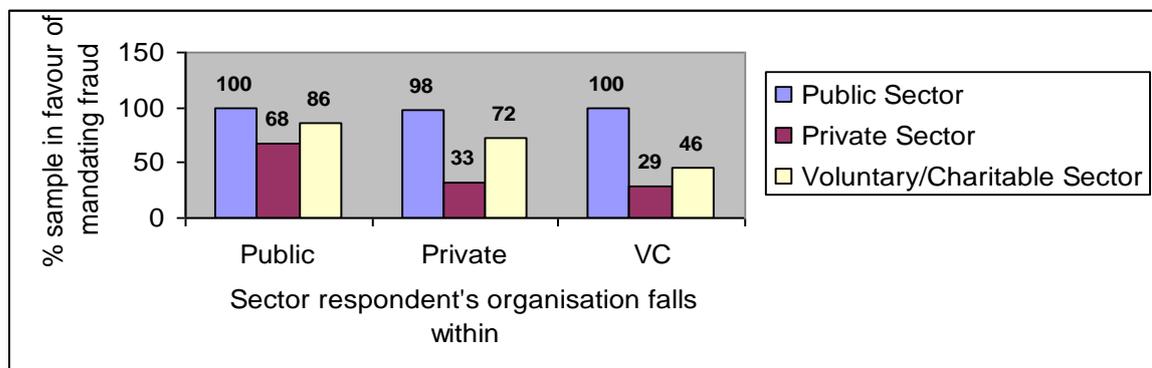
	Public	Private	VC	<i>n</i>	%
Public Sector	59	57	24	140	99
Private Sector	40	19	7	66	47
Voluntary/Charitable Sector	51	42	11	104	74
Total potential responses for each variable	59	58	24	141	

The above table illustrates responses from the 141 respondents in agreement with the creation of a statute. The total potential responses per variable are taken from the ‘yes responses’ detailed in Table 15. Analysis reveals that 99% (*n*=140) of respondents in favour of the creation of a statute suggest that this should be applied to the public sector. What is noteworthy is that a higher

proportion of respondents are in favour of applying such a statute to the VC sector as opposed to the private sector.

Interestingly, when analysing responses by sector, as detailed in the chart below, with the exception of the public sector, there is limited support for the inclusion in the proposed statute of the sector from which respondents emanate. In fact only a third of the respondent's from the private sector indicated they were in favour of the proposed statute applying to this sector. Similarly, respondents from the VC sector offer limited support for this sector being incorporated into the statute, with only 46% ($n=11$) being in favour.

Chart 9: Which sectors should this proposed legislation apply to? (Percentages by sector)



This question was also posed to interviewees; the responses indicate a high level of support for the creation of a statute. There are however, differing opinions on which sectors this legislation should apply to. Initially, I offer two opinions suggesting that it should be applied to both the public and private

sectors;

“I would basically say that if there was gonna be legislation then it would have to apply to both the public and private sectors.” (FP5)

“It could become legislation that relates to the public sector, but surely everyone should be equally accountable, and just because you’re making money rather than serving the public good doesn’t mean that you should be held to a different account. You’d be lucky to get it passed as legislation in regards to the private sector but if there was enough pressure from the right places you could.” (A1)

One additional positive response is offered with regard to mandating public sector measurement, which arguably also supports the proposed information exchange matrix and development of doctrine, which will be discussed in the following chapter. The respondent suggests that;

“Yes you mandate it as it will help them benchmark themselves against other departments, but provide support, make it work for them.” (FP1)

Additional opinion suggests that the public sector is a good starting point, and compliance would put pressure on the private sector to embrace this concept, one interviewee arguing that;

“the public sector is a very good start and then the private sector might think, well that seems to be working. So rather than compelling them, if they see the standards of measurement are better, and the figures more accurate, they may conclude that we should follow that model.” (A2)

The consensus of opinion is that mandating public sector fraud measurement may be a realistic option, but incorporating the private sector may be one step too far. To illustrate this, I commence with two responses from academics;

“I believe that a statute would be a positive move in terms of the public sector as it would ensure transparency within all departments. It may prove difficult to persuade the private sector to publish results, but at least persuading them to measure accurately and then do something about it is important. So why not include them in the statute but include in the drafting something that says they have to measure but they only have to demonstrate to

somebody, not sure who, that they have measured.”

(A5)

“It is essential that in times of cuts the public sector ensure that losses are minimised. A statute compelling measurement and publication hopefully would ensure that public sector losses are addressed. I am not convinced that the statute should cover the private sector although large organisations should demonstrate that they measure.” (A6)

In relation to these sectors, I offer one additional opinion that suggests the proposed legislation should be restricted to the public sector, maintaining that,

“I believe that the creation of a statute may be the only option to develop an accurate national picture which can then inform a national control strategy. This should be limited to the public sector if it has any chance of being passed as legislation. There is a chance that with MPs having connections to the private sector it is unlikely that ministers would be willing to support such a bill if the private sector were included which might put at risk the chances of it being passed for the public sector.” (FP4)

Finally, whilst the initial interview schedule only raised the issue of mandating fraud within the public and private sectors, using a semi structured interview revealed that there were certain respondents who demonstrated an awareness of the evolving issue of fraud and its impact on the VC sector. Whilst not supporting the incorporation of this sector within any proposed statute, it was suggested that there is an urgent need for a fraud measurement strategy that embraces this sector in some manner. One interviewee observes that,

“Charities need to maximise every penny they receive so measuring fraud is important. It may prove sensitive to legislate that they measure but perhaps they could be persuaded in some way to embrace this idea.” (A5)

Prior to exploring what should be contained within the proposed statute, I offer one further response which supports the need to measure fraud within the VC sector, but recommends a soft approach initially, observing that;

“Charities are a delicate area, but let’s face it, every organisation is at risk to fraud so there needs to be a positive move towards measurement. But legislation may be too much before they have been given the opportunity to measure voluntarily.” (A6)

Legislating Measurement: When, What and How?

Frequency of measurement has already been discussed in the context of organisational policy; this section will now consider the appropriate measurement frequency for mandatory exercises. Subsequently, the views of questionnaire respondents on the extent to which a statute should specify what is measured and the methodology to be applied will be reported.

The table below details the responses from those sampled by instrument on the frequency of measurement.

Table 19: How regularly should mandated fraud measurement exercises be conducted?

	Public	Private	VC	<i>n</i>	%
Annually	42	49	21	112	79
Every two years	15	8	2	25	18
Other	2	1	1	4	3
Total potential responses for each variable	59	58	24	141	

The previous table illustrates responses from the 141 respondents in agreement with the creation of a statute. The total potential responses per variable are taken from the 'yes responses' detailed in Table 14. There is little doubt that annual measurement is considered the ideal frequency with 79% ($n=112$) of respondents offering a response selecting this option.

This question was also posed to interviewees, and analysis of opinion indicates that the preferred frequency for fraud measurement exercises is yearly. I offer three of responses below in support of this contention.

“Annual makes sense to me. You want to look at your other types of cost annually; you need to know what your forecast is annually.” (FP1)

“Annually sounds quite sensible for specific fraud measurement exercises.” (A4)

“On an annual basis, particularly if you are looking at detail changes over time. If you’re trying to have an impact then that kind of regularity in measurement is essential.” (A1)

Interestingly, some responses justify the selection of annual data collection by arguing that that the requirement to measure should be linked to both the development and subsequent evaluation of control strategies, and the identification of themes, risks and patterns. Moreover, this offers evidence to support the argument that to develop accurate measurement, there needs to be consistency to ensure comparability. The pertinent views of two fraud

professionals are documented below.

“Measuring fraud annually provides sufficient frequency to track the impact of new strategies without leaving too much of a gap that enables new frauds to target the organisation.” (FP6)

“Annual is reasonable. Monthly would be too much of a burden, every two years seems a bit infrequent for fraud measurement to look at trends which in turn will inform counter measures.” (FP 2)

Equally, to permit fraud losses to be treated as a business cost, an identical frequency of measurement should be applied to these data that is used to measure all other costs falling within this category. One interviewee actually raises this point, suggesting that,

“most companies report annually, most government departments report annually so I think annually is definitely the best so that fraud losses can be included in annual reports.” (A2)

The next segment will consider whether legislation should be prescriptive in terms of the fraud typologies measured.

Directing Measurement

The table below illustrates responses from the 141 respondents in agreement with the creation of a statute. The total potential responses per variable are taken from the 'yes responses' detailed in Table 15.

Table 20: Should legislation prescribe what types of fraud are measured?

	Public	Private	VC	<i>n</i>	%
Yes	46	51	21	118	84
No	13	7	3	23	16
Total potential responses for each variable	59	58	24	141	

Interestingly, the responses to this question indicate a level of support for legislation being authoritarian, with 84% ($n=118$) of the 141 participants offering a response answering in the affirmative.

The same 141 questionnaire respondents were then asked whether the same legislation should influence any measurement methodology. The findings are documented below.

Table 21: Should legislation prescribe what fraud measurement methodology is employed?

	Public	Private	VC	<i>n</i>	%
Yes	47	48	18	113	80
No	12	10	6	28	20
Total potential responses for each variable	59	58	24	141	

The results are not dissimilar to the preceding question, with 80% ($n=113$) of the 141 participants responding to the question indicating that they believe a statute mandating fraud measurement should include a directive on the methods to be employed when conducting such exercises. I will now present the findings relating to the release of fraud loss data into the public domain.

Reporting Findings

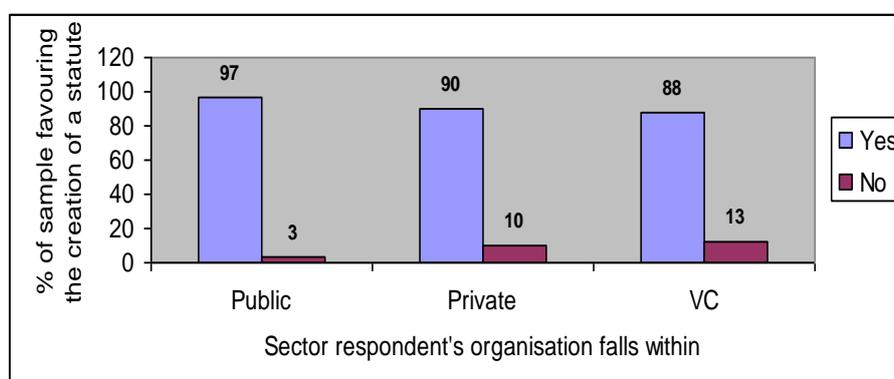
This section explores opinion on publishing fraud loss data, commencing with the views of questionnaire respondents on whether this should be mandatory.

Table 22: Should legislation also mandate the publication of fraud loss data?

	Public	Private	VC	<i>n</i>	%
Yes	57	52	21	130	92
No	2	6	3	11	8
Total potential responses for each variable	59	58	24	141	

Data in the above table indicates there is even more support for the publication of fraud loss data, with 92% ($n=130$) of the 141 questionnaire respondents in favour of creating a statute indicating that they believe the resultant data should be released into the public domain. The highest level of support is offered from public sector respondents, as detailed in the chart overleaf.

Chart 10: Should legislation also mandate the publication of fraud loss data? (Percentages by sector)



This question was also posed to interviewees and generated some informative responses. One fraud professional when discussing the US IPIA, suggested that apart from mandating measurement, the statute has other commendable features in relation to the public sector, specifically,

“All of the information has to be published so that the public can see it, get angry and increase the pressure to reduce it. It’s the level of transparency and accountability that makes it powerful, not just the measurement.” (FP1)

Collective opinion however, offers less support for mandating the publication of private sector fraud loss data with the recurring theme of commercial implications being offered as the principal reason for these data being retained ‘in confidence’. The response detailed below is offered as an example of these shared views.

“Commercial sensitivity is important to consider when debating the publication of private sector data.” (FP 3)

Interestingly, one academic offers a potential solution, suggesting that,

“An external group could validate the measurement, reviewing and checking that some form of consistent standard has been applied. Legislation that enables these validation teams get access might be sufficient.” (A1)

Arguably, a statute could compel the private sector to measure to a British Standard, present their data and the NFA, NAO or an independent academic institution could then adopt an auditing role and publish a certificate of validation, similar to that mandated in the Sarbanes-Oxley Act 2002, which proves the legislation has been complied with. These data may then be incorporated into the NFA’s *Annual Fraud Indicator*, but organisational identities remain in confidence. This idea of a validation team will be discussed in more detail later when considering the creation of a fraud measurement agency.

The research instrument also included a question that asked participants what the perceived risks to publishing fraud loss data might be. This question

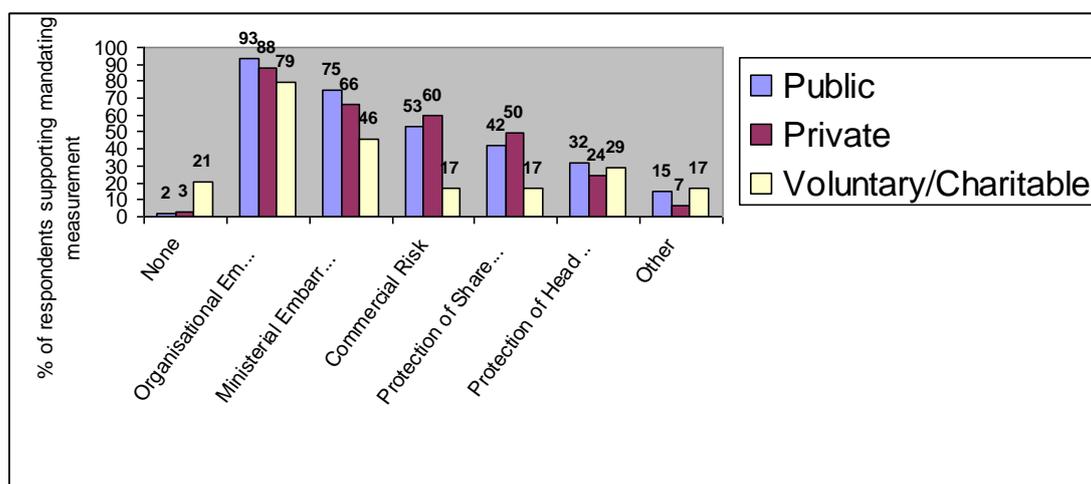
offered fixed choice answers but also provided a 'free text' option. The results are documented in the table below.

Table 23: What are the perceived risks to publishing fraud loss data?

	Public	Private	VC	<i>n</i>	%
None	1	2	5	8	6
Organisational Embarrassment	55	51	19	125	89
Ministerial Embarrassment	44	38	11	93	66
Commercial Risk	31	35	4	70	50
Protection of Shareholder's Interests	25	29	4	58	41
Protection of Head of Organisation	19	14	7	40	28
Other	9	4	4	17	12
Total potential responses for each variable	59	58	24	141	

The results are yet again unsurprising; with 89% ($n=125$) of the 141 participants in favour of creating a statue offering a response indicating that organisational embarrassment is considered to be the most likely reason for resistance to publishing data. These are followed by ministerial embarrassment ($n=93$), commercial risk ($n=70$) and protection of shareholders interests ($n=58$). When examining data at sector level, interestingly 93% ($n=55$) of participants from the public sector offering a response indicated that organisational embarrassment is the most likely reason that might be offered in resistance to publication, compared to 88% ($n=51$) of private sector respondents and 79% ($n=19$) representing the VC sector. The complete dataset is produced in the chart overleaf.

**Chart 11: What are the perceived risks to publishing fraud loss data?
(Percentages by sector)**



The collective opinion of interviewees also suggests that organisational embarrassment is a culture that is prevalent but also need addressing. An example is offered below from one respondent, who maintains that,

“yes there is embarrassment, particularly in the public sector. Nobody wants to be the person to admit that substantial public funds are going astray. But the first stage to solve a problem is to stop being in denial about it.” (FP1)

This culture of organisational embarrassment is also believed to be prevalent within the private sector and is likely to be linked to company stability and the potential impact on value. An issue identified by two interviewees as detailed

below;

“There is obviously going to be an element of organisational embarrassment within the private sector. Particularly when management have to answer to shareholders.” (FP6)

“Private sector companies may well be embarrassed by the publication of fraud losses. Mainly because of the commercial impact in terms of share value and market confidence.” (A5)

Debatably, these responses further support the earlier contention that measurement may be mandated by statute that incorporates the public and private sectors, but compulsory publication of data be limited to just the public sector. As discussed earlier, private sector companies may be allowed to simply obtain a certificate of validation to prove compliance. Equally, this could even be applied to some of the very large VC sector organisations, once they have been persuaded to measure.

A Fraud Measurement Agency?

One additional option for change originally considered was the creation of a fraud measurement agency with a peripatetic team conducting measurement exercises in private and VC sector organisations with insufficient capacity to

conduct them 'in house'. Having canvassed the opinions of interviewees however, it became apparent that this was not considered a feasible option, as evidenced by the following responses;

"You need to have one that is relevant to each sector and the danger is that it's not just one expert but several experts which will impact on costings." (A2)

"There are problems with consistency, but a fraud measurement team may be too costly." (A3)

When indicating that this option had been considered as a result of learning that within the US measurement teams are paid a bonus based upon the amount of fraud identified, and this might be a consideration, one respondent remarked that;

"I don't think I'd encourage that conflict of interest, even if it's independently validated." (FP 1)

I conclude this section with the views of two respondents who suggest that a validation team might be a more viable option;

"A cheaper alternative would be a validation team similar to what is used within the public sector who could examine a random sample of loss

measurement data from the private or charitable sectors. This could actually be a workable alternative to creating a measurement team.” (A5)

“I think that some sort of auditing team that ensures that the measurements have been conducted would be a better option. Maybe the NFA could be funded to do this.” (FP6)

Drawing upon these observations, one option might be the creation of a static validation team that examines methodology rather than data. In the interest of probity, they would assist in policing compliance of any prescribed standard of measurement. This is a preferred workable option than roving measurement teams on commission.

Conclusion

This chapter has presented findings suggesting there is some support within the sample population for mandating fraud measurement, whilst also identifying potential arguments against such a proposal. The dogmatic and equanimous arguments offered against such a proposal from some respondents have been cited as additional evidence of *immoral phlegmatism* towards the fraud problem.

Opinion has also been presented relating to the creation of a statute, and to which sectors this should be applied to. Respondent’s views reveal more

support for creating a statute mandating fraud measurement in the public sector than in the remaining two sectors. The views of all respondents have also been documented relating to the mandatory publication of fraud loss data. These indicate a high level of support for releasing public sector data, but opinion was cautious about the publication of loss data from the private and VC sectors. Finally, this chapter discussed the creation of a fraud measurement agency with a roving measurement team. Having reviewed opinion, it is apparent that the proposal to create a static validation team would meet less resistance.

The next chapter will discuss the quality and accuracy of fraud data. It will also report opinion on the creation of a British Standard of fraud measurement and an information and knowledge exchange infrastructure.

Chapter 6: The Doctrine of Measurement

Introduction

This chapter will initially examine the level of statistical confidence of fraud measurement data disclosed by questionnaire respondents. Opinions from interview respondents on the accuracy of these data will also be presented. Moving on, questionnaire responses and views of interviewees concerning the creation of a British Standard of measurement will be presented. When considering the value of this option for change, its feasibility will be examined at both macro and micro levels. Finally, opinions relating to the creation of an information exchange and knowledge transfer infrastructure will be examined, including views upon the likely participation in this process by organisations from all sectors.

Reliability of Measurement

The findings presented within previous chapters indicate that fraud losses are measured by certain organisations within all sectors. Whilst acknowledging this is good practice, it is imperative that these data accurately reflect losses, and can be validated accordingly. I therefore posed the question “*How accurate do you consider current fraud loss data to be?*” to all interviewees. The majority indicated that they have limited confidence in fraud loss data,

the following two responses are offered as an example of this viewpoint;

“Not very accurate due to the iceberg phenomenon.”

(A3)

“The reality of it is, despite many reports identifying the same issues, very little progress has been made in terms of improving accuracy to a reliable level.”

(A6)

Two respondents did offer an opinion on reliability by sector, observing that;

“There’s no doubt that in terms of accuracy, data produced by some public sector organisations that do measure is relatively accurate. Because the private sector has a commercial agenda, there is always a concern that this may compromise accuracy.” (A5)

“The public sector has got more accurate information than the private sector. Overall measurement would have been a lot further advanced in the NFA if the British Banking Association hadn’t been so nervous about not wanting everything properly measured.”

(FP1)

Arguably, these observations suggest there may be a requirement to create some form of standard measure to which all organisations comply. This will address the issue of uncertainty surrounding the accuracy of some fraud loss data, particularly that produced by some private sector organisations.

Two further extracts from the interview transcripts do raise some concern about exactly how much progress in improving accuracy of measurement has been achieved. Both interviewees place limited value on existing data produced by the National Fraud Authority, as detailed below;

“Based upon data I have seen I don’t think the NFA data is terribly accurate.” (FP1)

“Some data will stand up to scrutiny such as DWP and NHS. I do have concerns though about some of the combined loss data such as that produced by NERA. Likewise I am cautious of NFA data. The overall loss data produced, when you actually read their report, doesn’t come across as being particularly accurate. You are left with the impression that as long as they receive something that can be added to their running total, they are not too fussy about how it has been measured.” (FP5)

I maintain these final two responses offer additional evidence that if credible fraud loss data is to be produced, either by individual organisations or as a collective measure such as that offered by the NFA, it is imperative that consistency is achieved. This may only be attained by the creation of a universal standard of measurement which is supported by the NFA and the National Audit Office, and embraced by all sectors. The next section will explore the level of statistical confidence of extant fraud loss data.

Statistically Valid Measurement?

This section will initially present data from 123 questionnaire respondents who indicated their organisation measures fraud (see table 6). The table below presents responses detailing the level of statistical confidence these fraud loss data carry.

Table 24: What is the level of statistical confidence of your organisation’s fraud loss data?

	Public	Private	VC	<i>n</i>	%
Between + or -1%-4%	13	8	1	22	18
Between + or -5%-9%	7	18	0	25	20
+ or -10% or Above	3	1	2	6	5
No Statistical Confidence	7	11	3	21	17
Do Not Know	30	11	8	49	40
Totals	60	49	14	123	

The level of response to this question, whereby 40% ($n=49$) of the 123 respondents, who had previously indicated that their organisation does measure fraud, were unaware of the level of statistical confidence applied to their organisation's fraud loss data, is a little disappointing, but not unexpected because the questionnaire was circulated via a gatekeeper. Consequently, some respondents, whilst offering valuable opinion, may not be fully conversant with the fraud measurement process applied by their organisation. Alternatively, the number of responses selecting 'do not know' may be a reflection on the limited value placed upon fraud measurement by the respondents, or that fraud loss measurement is not considered a priority by their organisation. Equally, it could suggest that some of the respondents are unaware of this information because it does not impact directly on their specific organisational role, and therefore a more appropriate answer may be 'do not need to know'. Empirical evidence that I can offer as a former DWP fraud practitioner supports this contention, specifically, some fraud investigators are interested in fraud loss data, but not necessarily how they have been calculated. Arguably the business benefits of fraud loss measurement are in the interests of fraud investigators because the information provided enables focused targeting of the tactical resource following a risk assessment and it may actually supply them with investigations where there is a higher probability that fraud is occurring, and consequently improve their performance outcome figures. On a positive note however, these data do indicate that the 49 respondents are actually aware that fraud loss measurement does take place, and thus potentially afforded some priority within their organisation.

A total of 74 respondents were aware of the level of statistical confidence carried by the data produced by their organisation. Within these responses, 38% ($n=47$) indicated that the level of statistical confidence was below + or – 10%, with only 18% ($n=22$) of respondents indicating it to be between + or – 1% to 4%. Of interest is that of those 74 respondents demonstrating an awareness of this figure, 21 revealed that there is no statistical confidence in their organisation's fraud loss data. Analysis of all responses reveals that, should they be representative of the wider population, it enables the conclusion to be drawn that as a starting point, there is some reliability in extant fraud loss data, but much additional work required to improve the robustness of these data across all organisations. Specifically, an urgent requirement to improve accuracy, which may only be achieved by the creation of a universal standard of measurement.

When suggesting potential arguments against mandating fraud measurement, some 'free text box answers' from questionnaire respondents contained observations more relevant to this chapter. In particular, concerns have been expressed that statistical validity standards might be used as an argument against mandating fraud measurement. Some responses are not unexpected, for example an internal auditor, a group chief accountant and a chief executive officer from the VC sector collectively suggest that it is not essential to measure fraud losses so accurately. Should these views be indicative of wider opinion within this sector, much work is required to educate this sector about the financial value of regular and accurate fraud loss measurement to assist in the development of control strategies.

I accept that when developing a loss measurement strategy, the requirements of each sector are different, as highlighted by a manager in retail banking observing that there are;

“Too many variables across different industry sectors - could have a core mandatory reporting in line with CIFAS guidelines but would need to allow flexibility across all sectors. For public sectors, important that there is some consistency across fraud to public funds.”

Another interesting opinion is offered by a regional anti fraud lead from the health sector, who suggests that;

“I do not think that it is possible to compare fraud types across the sectors effectively, fraud in the NHS is so diverse, you would need a large number of categories and sub categories to have any accurate meaning.”

A similar view is offered by a public sector fraud manager who observes that;

“How you measure fraud will depend on the area that you are looking at - so quality, frequency, etc of measurement will be determined by that and what is

possible in some areas will simply not be possible in others. Therefore, whilst having some general principles to guide fraud measurement would be useful, it would be very difficult for prescriptive in all potential areas.”

I contend these are not acceptable rebuttals, because many organisations deal with a variety of fraud types. Certainly, one important means of addressing these refutations on the ability to measure consistently throughout all three sectors is through the development of a universal definition of fraud which is incorporated into any benchmark of measurement. This British Standard could inform both what is measured and how it is measured, and there is no reason why it could not contain classifications that are applicable to all organisations within all three sectors.

The views of interviewees were sought on the ideal level of statistical confidence of fraud loss data. Those canvassed offered some varying opinions, however there was some collective agreement amongst respondents that there does need to be an elevated level of confidence carried by fraud loss data. One respondent suggesting that;

“You want it to the 1% plus or minus.” (A2)

Another respondent offers a similar view suggesting that;

“It’s possible to be very accurate. Individual exercises that have taken place around the world can be very accurate with high levels of statistical confidence. Plus or minus 1% in Europe. Outside Europe and the US plus or minus 2.5% is the standard with 95% statistical confidence outside the US and 90% in the US.” (FP1)

One respondent was more relaxed about accuracy levels suggesting that;

“There should be tolerance of plus or minus 10%.”
(A3)

A final opinion worth discussing is that offered by an academic who argues that there are more important considerations than just a figure when attempting to judge the reliability of data, the contention being that;

“You have to understand how the meta-data is collected, what it represents and what you think the strengths and weaknesses are. I think this approach is more valid than getting caught up in percentages.”
(A1)

These responses are of value when developing a standard of fraud loss measurement. Arguably, there is scope to combine high levels of accuracy and statistical confidence with a robust data collection methodology based upon common sampling that offers both confidence in the process and the reported figures. Before developing a British Standard measure, I considered it important to canvass reaction to such an instrument. The next section will therefore present the views of those sampled on this important criterion of measurement.

Creating a Standard

The table below presents the views of questionnaire respondents on the value they place upon the creation of a British Standard of fraud measurement.

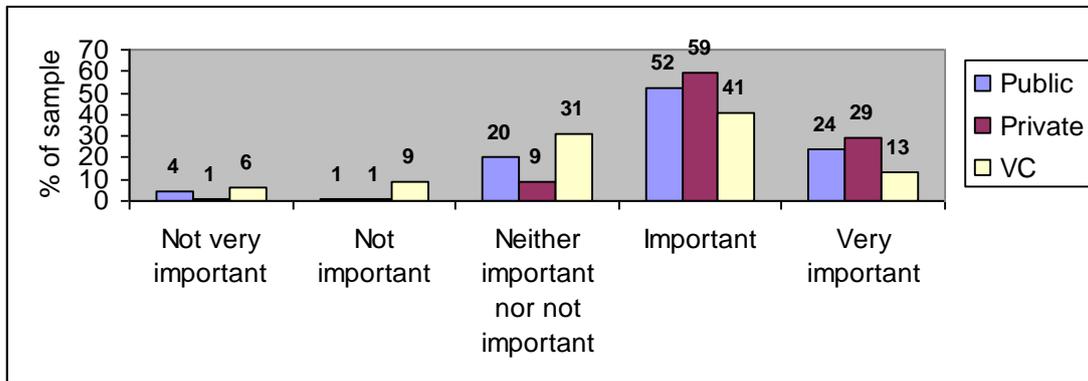
Table 25: How important is the creation of a British Standard of fraud measurement?

	Public	Private	VC	<i>n</i>	%
Not very important	3	1	2	6	3
Not important	1	1	3	5	3
Neither important nor not important	17	6	10	33	18
Important	44	40	13	97	52
Very important	20	20	4	44	24
Totals	85	68	32	185	

Analysis of these data indicates a satisfactory level of support for the creation of a British Standard of fraud measurement, with 76% ($n=141$) of all respondents considering it to be either 'important' or 'very important'.

Responses shown as percentages by sector are presented in the chart below.

Chart 11: How important is the creation of a British Standard of fraud measurement? (Percentages by sector)



The sector offering the highest level of support was the private sector, with 88% ($n=60$) of respondents indicating that they believed it to be either 'important' or 'very important', compared to 76% ($n=64$) of public sector respondents and only 54% ($n=17$) from the VC sector. As discussed previously, should this sample be representative of the views of a wider population, the survey results indicate there would be support for a British Standard of fraud measurement within the public and private sectors. Arguably, the lower percentage response rate from the VC sector arguably offers further evidence of the need to develop increased awareness of the value of accurate fraud measurement.

Moving on to the analysis of interview transcripts, the majority of interviewees were in agreement, proffering the view that a British Standard would be a positive move towards improving the accuracy of measurement data. One

participant suggested that;

“I do think having a standard would be helpful. It’s good practice, not best practice and in my ideal world the British Standard means that you do statistical sampling.” (FP2)

Another interviewee offers a similar viewpoint;

“Having a kind of gold standard and agreed set of definitions that an industry will sign up to makes sense. So we know that this bank has lost this much money through fraud. Also if you’ve got a comparable measurement across banks then surely that’s an incentive to get more industry wide cooperation and understanding.” (A4)

The same participant offers another pertinent argument, observing that;

“Unless you can see where and how the data have been collected then you shouldn’t necessarily rely on it anyway.” (A4)

An additional argument I offer, is that the creation of a British Standard could guarantee data integrity, and without a prescribed standard, data quality would become;

“Discretionary, and all statistics would be unsafe.”

(A3)

One interesting observation offered is that a standard measure should not just be confined to the UK. The argument presented is that this standard should be international, specifically that;

“A global standard should be defined because I don’t like the idea of countries going their own way because then you don’t have comparability.” (FP1)

Some questionnaire participants also offered an opinion on this topic. Of particular interest is the response from the head of fraud in a banking organisation, who acknowledges the business benefits of statistically valid fraud loss measurement exercises by revealing that;

“The Banking industry has agreed fraud measurement definitions for many fraud types, and shares data via UK Payments so a BS would not add too much value to Banking. That said, the data

captured by banks really demonstrates the power of accurate measurement.”

Before concluding this aspect of the research findings, two further pertinent observations are offered from interviewees, who arguably provide observations that may be considered supportive of this project. The first interviewee, when discussing developing a standard of accurate measurement observes that,

“Yes you are on the right lines in terms of the questions you ask about measurement. The biggest problem in measurement is how you achieve consistency of measurement.” (A3)

The second response is even more specific, suggesting that;

“If we were to try and develop a British Standard, it probably should be somebody from academia. That way you would develop something that wasn’t just a commercial project.” (FP1)

Furthermore, the same interview participant believes that the research proposals are attainable, suggesting that combining all proposals, the ideal outcome would be a statute mandating measurement, supplemented by

secondary legislation in the form of;

“A UK IPIA british standard instrument about how to implement it, and then a validation agency to ensure that the measurements have been conducted.” (FP1)

The Fraud Loss Calculation

This chapter will now explore what, in the opinion of interviewees, should be incorporated into fraud loss data. Specifically, whether this should include prevention and detection costs. There are varied opinions, with some respondents suggesting that unequivocally these costs should be included. Firstly, the responses of two interviewees in favour of this methodology of loss calculation are offered, the first participant, when asked if prevention and detection costs should be included answered;

“Yes definitely, but the problem is calculating the cost and data description should be specific about what has been included.” (A3)

The second noteworthy response, whilst supportive of the inclusion of prevention and detection costs, raises the question of public sector

accountability, suggesting that;

“Having data on the cost of prevention and detection would be useful and would increase our understanding of what value for money we are getting from public sector counter fraud organisations. All would be useful to inform more sensible policy making.” (A4)

There are however, other interviewees who suggest these costs should be excluded, one fraud professional arguing that;

“Whilst costs of prevention and detection are important when looking at budgets, they are not specifically fraud losses. By including prevention and detection costs you are creating data that does not offer a true reflection of the actual monetary losses that have been experienced as a result of individual or group fraudulent activity, which are the most important data.” (A6)

Having considered the arguments for and against, I suggest it is feasible that these costs may be offset by fraud that is not committed, because having weighed up the perceived risk of detection, the potential fraudster decides not to pursue this activity. Consequently, I contend that these costs should be

excluded from any fraud loss measures. This chapter will now explore the probability that a British Standard of measurement would be adopted by each individual sector.

Adopting the Standard

The table below details the responses from questionnaire respondents on whether their organisation would adopt such a standard.

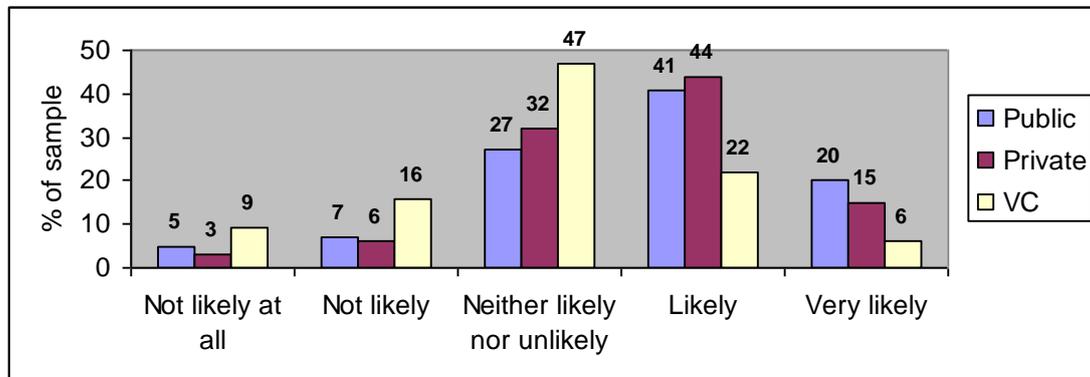
Table 26: Would a British Standard of fraud measurement be adopted by your organisation?

	Public	Private	VC	n	%
Not likely at all	4	2	3	9	5
Not likely	6	4	5	15	8
Neither likely nor unlikely	23	22	15	60	32
Likely	35	30	7	72	39
Very likely	17	10	2	29	16
Totals	85	68	32	185	

These responses suggest there is a need to educate organisations about the value of a consistent and accurate measure. The overall response is relatively encouraging, with 55% ($n=101$) of those surveyed indicating that a British Standard of measurement would be adopted by their organisation. This does however fall significantly below the 76% ($n=141$) of respondents who indicated that they considered the creation of a British Standard of value. These data might be explained by the fact that certain organisations may be represented by more than one respondent, and thus there is no direct

correlation between both datasets. What is of note however is that the affirmative responses of 61% ($n=52$) (public sector) and 59% ($n=40$) (private sector), as detailed in the chart below, offer more encouragement for advocating the adoption of a prescribed standard measure.

Chart 12: Would a British Standard of fraud measurement be adopted by your organisation? (Percentages by sector)



The affirmative response rate to this question of 28% ($n=9$) of VC sector representatives is disappointing, unsurprising given the reluctance to confront fraud and embrace its measurement. I contend this attitude has contributed towards the development of the concept of *immoral phlegmatism* within this research project. Once again, these data, whilst only being a small sample, suggest that there may be a need to develop a better understanding of the value of fraud measurement within this sector. It is however, worth considering alternative options to mandating the publication of organisational loss data from this sector, it being apparent that fear of adverse publicity is the

main driver behind this reluctance to embrace measurement and adopt a universal standard.

A further question was then posed within the questionnaire, seeking opinion on which sectors any British Standard should be applied to. The results are documented in the table below;

Table 27: Which sectors should a British Standard of fraud measurement be applied to?

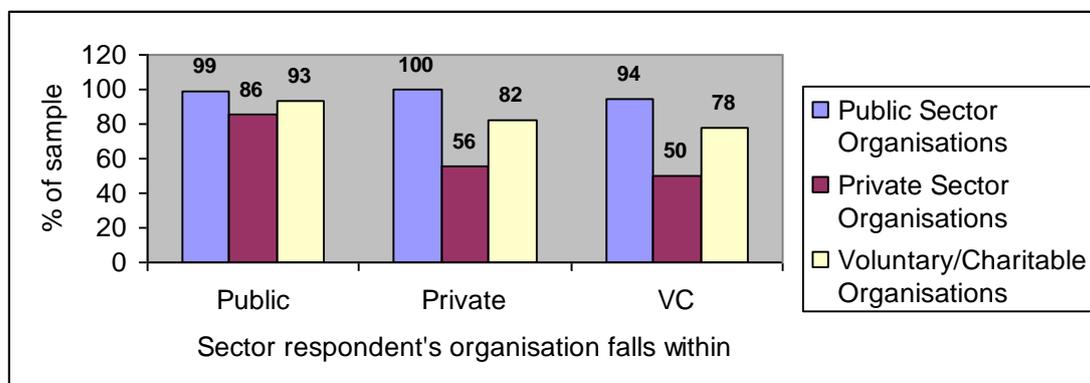
	Public	Private	VC	n	%
Public Sector Organisations	84	68	30	182	98
Private Sector Organisations	73	38	16	127	69
Voluntary/Charitable Organisations	79	56	25	160	86
Total potential responses for each variable	85	68	32	185	

These responses signify that accurate fraud measurement is considered to be most important within the public sector, with 98% ($n=182$) of all respondents indicating that a British Standard of measurement should be applied.

Interestingly, the fact that 86% ($n=160$) of respondents indicated that such a standard should be applied to the VC sector and 69% ($n=127$) considered it appropriate to the private sector offers further persuasion that this option for change is worth progressing. The higher response in respect of the VC sector could be explained by the fact that respondents recognise the important role that charities perform, particularly during a time of significant public sector cuts. Another finding of interest, as presented in the chart overleaf, is that

99% ($n=84$) of public sector respondents and 100% ($n=68$) of private sector respondents indicated that in their opinion, a British Standard of fraud measurement should be applied to the public sector. Once again it could be suggested that, should these data reflect the opinion of a wider population, then the argument that a standard of fraud measurement should be created appears persuasive to representatives from all sectors. The responses concerning the private sector suggest limited support for imposing such a standard, particularly from private and VC sector respondents, who actually offer more support for applying this to Voluntary and Charitable organisations than the aforementioned sector.

Chart 13: Which sectors should a British Standard of fraud measurement be applied to? (Percentages by sector)



Analysis of the responses from interviewees has provided some interesting data, the consensus of opinion being that a British Standard of Measurement should be embraced by all sectors. I commence by offering the views of one

respondent who argues that;

“A British standard of measurement is a good idea if it was applied by all sectors. Fraud data would then have more credibility.” (A6)

Another participant, supportive of such a standard measure, raises the importance of comparability, suggesting that;

“A British Standard would enable more accurate longitudinal studies to be conducted. Simply because you would be able to compare like for like.” (A5)

I close this section by presenting a persuasive argument that the NFA should be more influential in policing the fraud measurement process, specifically that;

“If there was a consistent standard of measurement that was adopted by organisations, and more importantly, insisted upon by the NFA, then the data available would facilitate better informed decision making.” (FP4)

The next section will explore opinion from all respondents on whether compliance with any standard of measurement should be mandated within any sector.

Mandating Standards

The following three tables and charts report the views of questionnaire respondents on the mandating of compliance with a British Standard of measurement within each sector, commencing with the public sector.

Table 28: Should compliance with a British Standard be mandatory within the public sector?

	Public	Private	VC	n	%
Yes	65	65	27	157	85
No	20	3	4	27	15
<i>No Answer</i>	0	0	1	1	1
Totals	85	68	32	185	

Chart 14: Should compliance with a British Standard be mandatory within the public sector? (Percentages by sector)

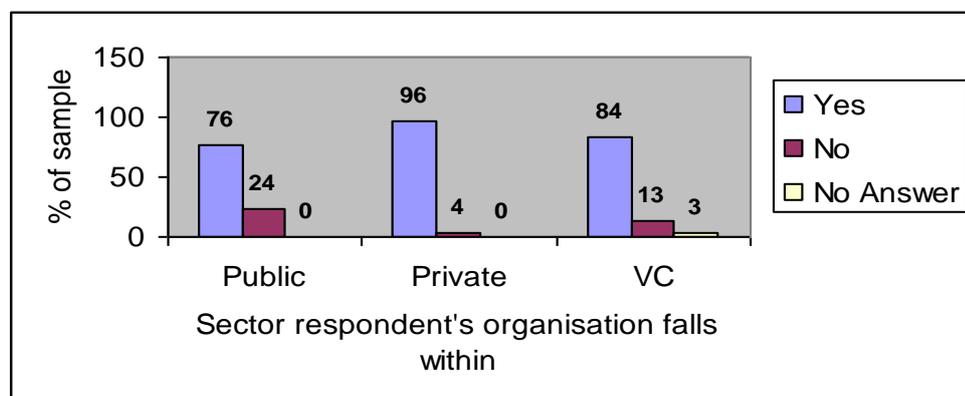


Table 29: Should compliance with a British Standard be mandatory within the private sector?

	Public	Private	VC	n	%
Yes	41	27	9	77	42
No	43	39	20	102	55
No Answer	1	2	3	6	3
Totals	85	68	32	185	

Chart 15: Should compliance with a British Standard be mandatory within the private sector? (Percentages by sector)

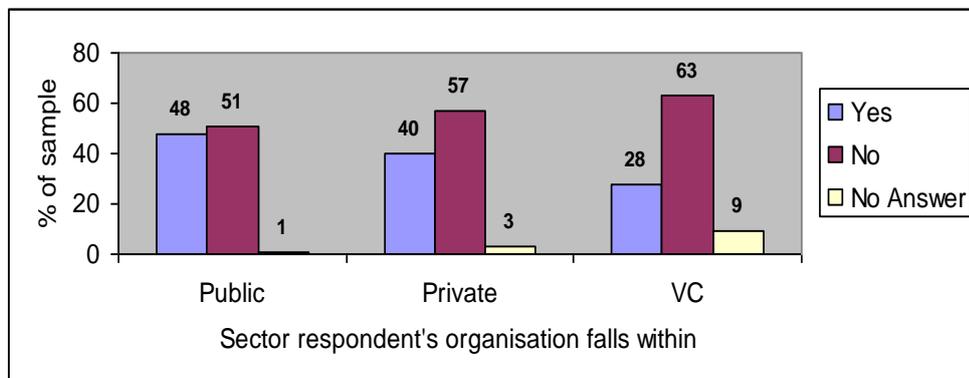
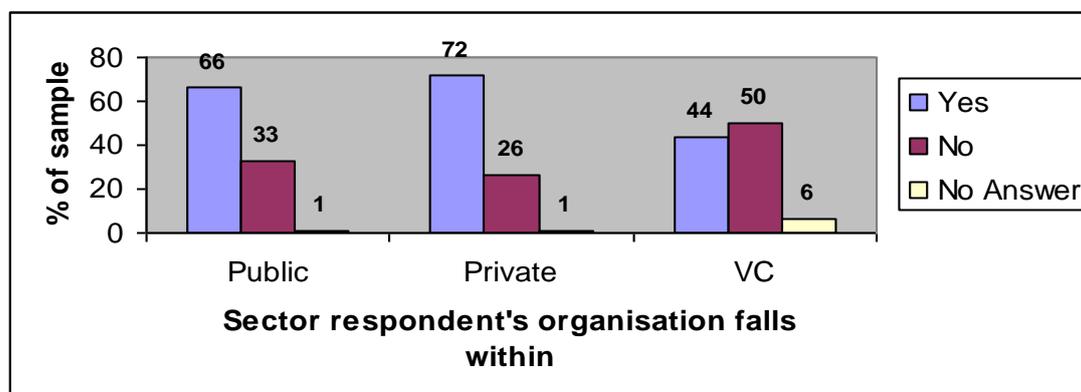


Table 30: Should compliance with a British Standard be mandatory within the voluntary/charitable sector?

	Public	Private	VC	n	%
Yes	56	49	14	119	64
No	28	18	16	62	34
No Answer	1	1	2	4	2
Totals	85	68	32	185	

Chart 16: Should compliance with a British Standard be mandatory within the voluntary/charitable sector?



These data indicate that 85% ($n=157$) of respondents believe that compliance with a British Standard should be mandatory within the public sector, thus suggesting that this option for change should be progressed. Of note however, is that analysis of affirmative responses by sector reveals that the percentage of those representing the private sector (96%) ($n=65$) and the VC sector (84%) ($n=27$) exceed the percentage emanating from the public sector (76%) ($n=65$). This indicates a significant level of concern that public funds may be at risk from fraud, and thus the implementation of a structured measurement standard is worth pursuing.

Moving on to the private sector, the level of support within those sampled is significantly lower, with only 42% ($n=77$) of respondents indicating that such a standard should be mandatory within this sector. The level of support by sector differs, the highest percentage of respondents by sector originating from the public sector with 41 of the 85 respondents (48%) answering in the affirmative.

Analysis of the data relating to the VC sector indicates a more positive stance; whereby 64% (n=119) of respondents indicated that compliance with a British Standard should be mandatory. When examining responses by sector, this overall figure is skewed by the lowly 44% (n=14) of VC sector respondents answering in the affirmative, compared with 66% (n=56) of public sector and 72% (n=49) of private sector respondents. Arguably, this further supports the inference that there is a reluctance to embrace fraud risks within the VC sector.

Before exploring the development of core doctrine, in support of the argument for open and transparent fraud measurement, I offer an observation that suggests losses may be concealed by certain private sector industries, the respondent arguing that;

“Banks will often call a lot of their mortgage fraud, losses. They will not call it fraud, it’s just impairment, they will settle it as bad debt.” (FP2)

Developing ‘Best Practice’

Those sampled electronically were asked what value they placed on the creation of an information and best practice exchange matrix, and if their organisation would participate in such an infrastructure. Firstly, the opinions sourced from questionnaire respondents on the creation of such a network

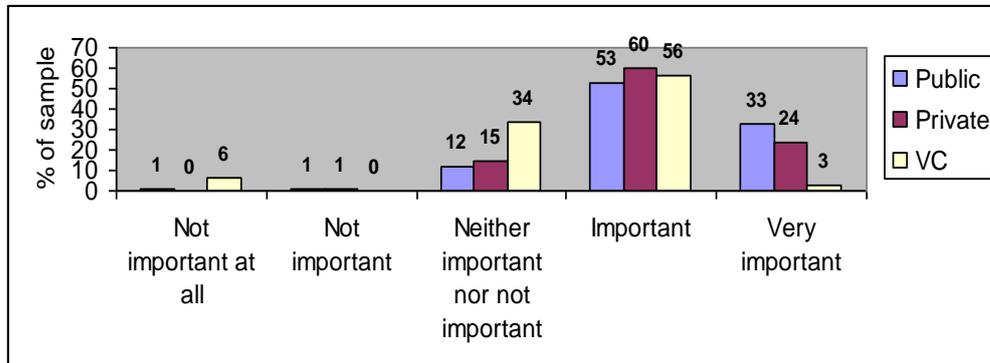
are reported in the table below.

Table 31: How important is the creation of a knowledge management infrastructure for sharing best practice?

	Public	Private	VC	n	%
Not important at all	1	0	2	3	2
Not important	1	1	0	2	1
Neither important nor not important	10	10	11	31	17
Important	45	41	18	104	56
Very important	28	16	1	45	24
Totals	85	68	32	185	

These data represent a positive response to the creation of a knowledge management infrastructure, with 80% ($n=149$) of all respondents considering it either 'important' or 'very important'. As presented in the chart overleaf, individually, the views of representatives from the public and private sectors are also encouraging, with 86% ($n=73$) of public sector and 84% ($n=57$) of private sector respondents selecting either of the aforementioned options. The opinion of VC sector respondents is also encouraging, with 59% ($n=19$) selecting the same two options. If this response were to reflect the views of the wider population from this sector, it would offer a good starting point, in terms of support, for incorporating this sector in any fraud measurement knowledge transfer process, and the development of core doctrine.

Chart 17: How important is the creation of a knowledge management infrastructure for sharing best practice? (Percentages by sector)



Interviewees collectively supported the development of best practice, to evidence this, the narrative of one participant is presented, who argues that;

“I certainly think there is an argument made for good practice, and I think that should be made readily available.” (FP2)

This respondent further qualifies their contention by suggesting that;

“I do think an organisation like the National Fraud Authority should act as a repository for good practice, where people can access it as a resource.” (FP2)

The development of this concept should be driven by a specific, but impartial

organisation, the same respondent suggesting that;

“People need important guidance for measuring their losses. There has to be an authority and a definitive measurement. There should be someone responsible in Government for ensuring that fraud is consistently and accurately measured.” (FP2)

Arguably, the collective views reported suggest that the development of doctrine and sharing of good practice would garner support. What is equally important however, is that ‘ownership’ of this proposed strategy is allocated, and the organisation charged with this responsibility actively encourage participation.

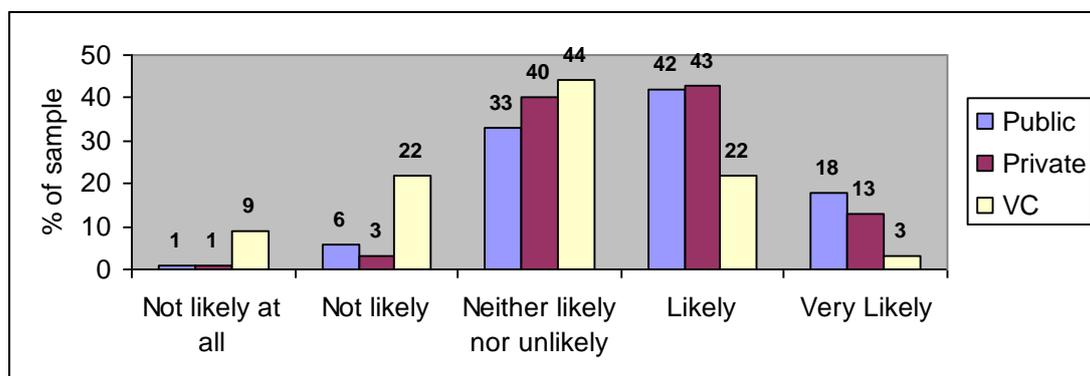
The responses to the question on the likelihood of respondent’s organisations participating in such a process are detailed in the table below.

Table 32: Would your organisation participate in a knowledge management infrastructure?

	Public	Private	VC	n	%
Not likely at all	1	1	3	5	3
Not likely	5	2	7	14	8
Neither likely nor unlikely	28	27	14	69	37
Likely	36	29	7	72	39
Very Likely	15	9	1	25	14
Totals	85	68	32	185	

The total 'positive' response by only 53% ($n=97$) of those sampled is somewhat disappointing, but it should be noted that the overall response figure is lowered by the fact that only 25% ($n=8$) of VC sector respondents answered positively, as revealed in the chart below.

Chart 18: Would your organisation participate in a knowledge management infrastructure? (Percentages by sector)



Arguably, this yet again supports the contention that, should this reflect the views of the wider population, there needs to be a significant marketing thrust directed towards this sector; something that could be undertaken by the NFA, or an impartial academic institution. The responses from participants representing the remaining two sectors suggest that this option for change is worth developing further. Specifically, 60% ($n=51$) of public sector respondents and 56% ($n=38$) of private sector respondents indicated that their organisation would participate in a knowledge management infrastructure.

Finally, one interesting response offered earlier in the questionnaire, but of relevance to this discussion, is provided by an insurance industry counter

fraud specialist, who suggests that,

“Some businesses operate in a silo mentality and do not see fraud as a shared problem”

I maintain that if this attitude is replicated throughout the industry, then it casts doubt upon the effectiveness of the ABI as a conduit for information exchange. Equally, if this is representative of the private sector in general, then I suggest it evidences a need to educate this sector on the sharing of good practice and further supports the need for some form of knowledge transfer matrix that is open to all sectors, and managed by either the NFA or an academic institution.

Conclusion

This chapter has presented the views of those sampled on the subjects of reliability of fraud measurement data, including the level of statistical validity, the creation of a British Standard of fraud measurement and the development of a knowledge management infrastructure. The findings suggest that collective opinion believes there is an urgent need to improve the statistical validity of fraud loss data. Equally, there is a high level of support for the creation of a standard measure of fraud losses from those sampled representing the public and private sectors. The views of participants of both data collection methodologies also support the proposal to develop doctrine which is supported by the creation of an information exchange matrix.

Evidence has also been presented of *immoral phlegmatism* towards accurate

fraud measurement, which may only be addressed by a cultural change, as discussed within the two preceding chapters. The following chapter will present the conclusions and recommendations. These being informed by analysis of the responses obtained from all research participants, utilising both data collection methodologies outlined within chapter three.

Chapter 7: Conclusion

Introduction

This thesis has explored the theme of developing a more accurate measure of fraud. The aim of this Professional Doctorate research has been to offer an original contribution of new knowledge to theory and practice. This project commenced with a critical position that fraud can be measured more accurately, but in order to do so, certain criteria and processes have to be put in place. To empirically test the validity and feasibility of this research argument, the opinion of both academics and fraud practitioners from the public, private and VC sectors was sought. The use of semi structured qualitative interviews enabled specific topics to be explored in detail, the resultant data then being used to inform the quantitative research instrument. The resultant electronic questionnaire facilitated the gathering of volume data on all topics covered within the research argument. Additionally, the use of free text boxes enabled the collection of supplementary qualitative data by offering respondents the opportunity to expand upon the answers provided to certain closed questions within the questionnaire.

Following critical analysis of responses provided by research participants, this chapter will now explore the key enablers for the development of a more accurate measure of fraud. Before doing so however, I once again acknowledge that there are limitations regarding the extent to which the findings from the electronic questionnaire can be generalized to broader

populations, however I maintain they do offer a barometer of opinion suggesting the research argument is worthy of progression. Moving on, I will now discuss the phenomenon of *immoral phlegmatism* and the need to facilitate a cultural change in attitudes towards fraud, and more specifically its measurement.

Addressing Immoral Phlegmatism

Throughout the three findings chapters I have developed an argument that both individual and organisational attitudes towards fraud in general, but specifically fraud measurement, may be described as *immoral phlegmatism*. This phenomenon may be described as an 'anti moral panic', namely a very relaxed, even complacent attitude to all aspects of fraud. Firstly the problem in many areas goes through a process of de-labelling, it is not measured effectively and there are not enough resources dedicated to dealing with it. Decision-makers approach to the problem can be further influenced by naïve belief in the attenuated problem in front of them, or it actually suits their interest not to challenge the evidence in front of them. The consequences of the phlegmatism, however, whether naivety or self interest is an immoral response to fraud in many organisations as well as state institutions.

This viewpoint is evidenced by some of the explanations offered as to why certain organisations fail to measure fraud. Two in particular worth revisiting are from respondents that evidence this approach is prevalent within the VC sector, the first suggesting that because the organisation is a religious charity,

there is no fraud and the second advising that fraud measurement is afforded a low priority because the risk is perceived to be low. I contend this suggests a very complacent attitude when a not for profit organisation makes such a statement without at least attempting to look for the existence of fraud, particularly when current estimates, which potentially may undercount losses, indicate that fraud costs registered charities £147 million per annum (NFA, 2013, p. 21). Evidence has also been presented of similar attitudes within the public and private sectors, with a local authority fraud manager suggesting that senior management are ambivalent towards fraud and a respondent representing the insurance industry advising that there is little concern that fraud is occurring within the organisation.

When examining the quantitative data, 29% of respondents indicating that their organisation failed to measure fraud offered the explanation that this is because there is no fraud in their organisation. This is a somewhat paradoxical situation, because if they do not measure, then how do they know there is no fraud? A further 10% suggested that fraud was not measured because the organisation did not need to know, thus evidencing a somewhat naïve attitude towards fraud and its associated risks. Further confirmation of the need for a cultural change is provided by the argument offered against mandating measurement that such exercises may be too costly.

Within chapter one the cost of measuring fraud was discussed and arguments presented that this can be a cost effective process with associated business

benefits; these being:

- A potential 12:1 return in investment (Gee, 2009b, p. 20).
- Regular measurement exercises reduce loss by up to 40% within the first year (Button & Gee, 2013, p.187).
- “Taken as a proportion of the measured losses, this equates to two per cent being added to the ‘bottom line’ within a year” (Gee, 2010a, p. 13).
- Empirical evidence suggests that regular measurement can potentially result in an average increase in profitability of “almost 36 per cent” (Button & Gee, 2013, p.187).

Evidence in the form of case studies has also been presented within preceding chapters supporting the argument that the costs of regular fraud loss measurement exercises can be offset by the savings resulting from informed use of the resultant data to develop control strategies, implement focused deployment of any investigative resource, and undertake recovery action of identified losses. To summarise, the following case studies evidence the cost effectiveness of regular fraud loss measurement exercises:

- “As a result of IPIA, by the end of fiscal year (FY) 2012, the US Administration avoided \$50 billion in improper payments” (Payment Accuracy, n.d.c).
- In Fiscal Year 2011 over \$4 billion dollars of improper payments were recovered, which represents “the single largest health care fraud

recovery in history” (US Energy and Commerce Committee Subcommittee on Health, 2012, p. 1).

- The NHS, which had a budget of £87.2 billion for 2005/06, reduced losses by up to sixty per cent during the period 1998 and 2006 (National Health Service Counter Fraud and Security Management Service, 2007).
- The US Department of Agriculture reduced losses by twenty eight per cent within a £12 billion dollar program between 2002 and 2004 (United States Department of Agriculture, 2002; 2003; 2004).
- The Department for Work and Pensions reduced losses in the two means tested benefits Income Support and Jobseekers Allowance that have an annual expenditure of £11.4 billion by fifty per cent between 1997/8 and 2005/6 (Department for Work and Pensions, 2007).

Therefore to address this mindset, it is imperative that there is a cultural shift towards embracing the value of measurement, so that if any form of mandating occurs, this would be met with less resistance due to organisations having been educated in the financial benefits of accurate fraud measurement. I therefore suggest that to progress this strategy, there needs to be a proactive marketing campaign that delivers fraud awareness training about both organisational vulnerability to fraud, and a positive message about the benefits of active measurement. In support of the latter argument, I proffer the view of one respondent who suggested the need for a cultural change to make fraud measurement a positive experience. This is a valid point, and can be achieved by emphasising the business benefits in terms of stemming

losses through regular measurement. Equally, the proposed marketing campaign should incorporate the message that there is no organisational stigma attached to being the victim of a fraudulent attack. The issue however, is that the message needs to emphasise that acknowledging the existence of fraud is not injurious, but not actually measuring it and then implementing counter strategies is. Within the private sector there may be a concern that an admission of the existence of fraud may be counter productive to the business through adverse publicity. I further contend that even worse adverse publicity would be that which identifies an organisation that has identified the prevalence of fraud, but fails to acknowledge this and continues to be in denial, or just blatantly refuses to implement fraud loss measurement exercises. Consequently, I maintain that where these complacent and indolent attitudes are identified, the solutions should be persuasively emphasised, in order that *immoral phlegmatism* is eradicated.

This strategy requires government support, which may take some persuasion due to the costs involved. One option might be for the 'Counter Fraud Task Force' led by Francis Maude MP to undertake this role. It could take the form of an electronic campaign by e-mail, direct 'mail shots' to organisations, or even newspaper and television advertisements. An alternative option might be to task the NFA, in their capacity as owners of the *Annual Fraud Indicator*, with implementing an awareness campaign on the business benefits of accurate measurement and how this information can then be used to inform counter fraud strategies. This would actually serve two purposes; firstly achieve the primary objective of raising the profile of the benefits of accurate

measurement, and secondly, improve the accuracy and volume of reliable data that they receive. Having considered these two options, debatably, a more suitable alternative would be for the government to task an academic institution to undertake this marketing campaign. This option could improve the potential for cooperation, because any message coming from academia may be seen as being impartial. Before a final decision is made however, it may be appropriate to conduct additional research examining existing academic and government partnerships to aid identification of the most suitable institution to be tasked with the remit of facilitating such a network. I also conclude that there is a need for supplementary qualitative based research within the VC sector on awareness of, and attitudes towards fraud, with a view to developing a marketing strategy to develop a better understanding of vulnerability to fraud within this sector. The research conducted by the Fraud Advisory Panel (2009) into fraud within this sector offers a model that can be used as a starting point to inform and direct the proposed research project. Arguably, this research would enable a strategy to be developed to increase fraud awareness, reduce *immoral phlegmatism* within this sector, and more importantly, incentivise these organisations to measure.

The next section will discuss the creation of a standard definition of fraud for measurement purposes, which the subsequent recommendations are reliant upon to achieve the primary objective of accurately identifying the full extent of fraud losses across all three sectors.

Defining Fraud for Measurement Purposes

To progress the development of a more accurate fraud measure, I suggest a standard definition for this purpose is necessary. Whilst I accept it may not totally remove individual interpretation, it will restrict this and provide all organisations with a common starting point. This individual interpretation could be further reduced by the development of core doctrine supported by a manual of guidance, which will be discussed later in this chapter. When developing a standard definition, this must be suitable for application trans-sector, and one which may be applied to any unit within the statistically valid sample. This definition should be legally based to prevent any inconsistency in measures, thus removing any doubts on the reliability of data outputs. Whilst the Fraud Act is informative, this statute is not considered suitable for the purposes of measurement because it only provides definitions of how fraud may be perpetrated.

Consequently, when seeking to develop such a classification, the civil definition *Derry V Peek* (1889) is worthy of consideration because it is based upon the balance of probabilities, which offers a less stringent test than criminal law. This concept of civil fraud occurs where *someone knowingly or recklessly obtains resources to which they are not entitled*. An alternative option considered was the Audit Commission (2010) definition of fraud, which encompasses both internal and external fraud, defining it as “any intentional false representation, including failure to declare information or abuse of position which is carried out to make gain or cause loss or such as disciplinary

action has been taken” (p. 10). This definition was considered appropriate because it seeks to offer commonalities relevant to local government on a national basis.

Both of the aforementioned are suitable because they offer a conceptual definition rather than focusing on enforcement. This is important, because it enables any measurement decision making process to be based upon the balance of probabilities, rather than the criminal law requirement of beyond reasonable doubt. I contend that, applying one of these definitions for the purpose of fraud measurement would enable the calculation of a more realistic loss figure. I have previously argued against fraud measurement being based upon detected cases, because lack of evidence to support a criminal sanction would result in these being discounted, even though there may be a strong suspicion of fraud. Furthermore, from inception, “fraud takes 3.4 years to detect” (KPMG, 2011, p. 6), therefore solely relying on detected fraud would further increase the inaccuracy of any loss data. Whereas, applying a test based upon the balance of probabilities may facilitate inclusion in any measurement exercise, thus resulting in more accurate data output. Therefore, in terms of adopting a definition of fraud that would improve the accuracy and reliability of data generated, having considered the feasibility of both options, I contend that to progress accurate measurement there needs to be a legally based definition of fraud. Consequently, I advocate that the accepted civil definition of fraud *Derry V Peek* (1889) should be adopted as a standard definition for fraud loss measurement purposes. Furthermore, this could then form the basis for developing an International standard of

measurement, whilst also facilitating the opportunity for more measurement, which will now be discussed.

Who should Measure?

I contend that subject to statistical validation through the creation of a British Standard of measurement, with the exception of the NFA's *Annual Fraud Indicator*, 'hybrid' style fraud loss data measurement reporting should be discontinued. I further maintain that each individual organisation should be responsible for their own individual loss measurement exercises, conducted to a prescribed standard, and the resultant data be subjected to validation by a mutually appointed third party on a random sample basis, who could be an impartial auditor, being part of the organisation charged with developing information exchange and doctrine. These validated data should then be transferred to the National Fraud Authority who is responsible for collating and publishing these data in the *Annual Fraud Indicator*. I accept that this research has been critical of what have been defined as hybrid reports; however, I maintain that the way forward is the construction of an amalgam of fraud loss data, providing that there is consistency of methodology applied in all measurement exercises.

Increasing Measurement Consistently

Analysis of the questionnaire data suggests there is a need for increased measurement. Firstly, there are organisations from all three sectors

represented within which no fraud measurement takes place. I accept that this may be an organisational decision, based on the perception that no fraud exists, however evidence has been presented within this thesis that when conducting a fraud loss measurement exercise for the first time “fraud losses will be in the region of 5.7 per cent” (Button & Gee, 2013, p. 75). When examining responses from representatives of organisations across all three sectors, 34% indicated that no fraud measurement took place. The sector which requires most attention in terms of increased measurement is the VC sector, where responses indicate that 57% of organisations represented failed to carry out any measurement exercises whatsoever. Nevertheless, this is actually a problem that needs to be addressed across all sectors, but particularly within the aforementioned sector. I maintain that the recommendations contained within the remainder of this chapter, if implemented, will address this issue.

Before closing this section, it is worth pausing to consider opinion on the frequency of measurement. Whilst 74% of respondents indicated annually, this still leaves 26% who do not consider that this is an ideal frequency for measurement exercises. Interestingly, some responses suggested that annually was too infrequent. I embrace this positive attitude, but realistically it is not cost effective, or of value to measure fraud too frequently, specifically because the impact of changes to counter strategies on losses take time to evidence.

In conclusion, when advocating increased measurement, I suggest this should be directed towards those organisations that fail to measure, and those that measure less frequently than yearly. Therefore, as will be discussed within the section arguing for a British Standard of fraud measurement, there needs to be a consistent frequency of measurement, which I suggest should be annually. By adopting this policy, whilst it may be seen as 'no change' by those already measuring annually, overall it would result in more measurement which in turn would generate a more accurate calculation of overall losses.

Mandating Measurement

The research instrument posed the question "does your organisation measure fraud?". The responses, whilst offering some encouragement, did give cause for concern. Chapter 4 presented data outlining the percentage of respondents whose organisation measured fraud. I will now explore the negative percentages as a means of introducing the argument for mandating measurement. The data reveal that within organisations represented by the sample, when extrapolated to sector level, fraud is not measured by 30% (public), 28% (private) and 57% (VC). Should this sample reflect the attitude of the wider population, then I contend that these data offer the support for the arguments presented for the mandating of fraud measurement. Analysis of the free text responses also reveals that there is no measurement within some local and central government departments and within certain organisations within the private sector industries of insurance, retail and

manufacturing. Further evidence was obtained relating to opinion on the importance of measuring fraud, with 96% of questionnaire respondents considering it 'important' or 'very important'. Arguably, this suggests there is support within organisations for a stronger focus on measurement, which in reality, may be only achieved through some form of mandating. I argue this because whilst questionnaire respondents answered favourably to this question, this stance may not be representative of senior influential management within the respondent's organisation.

Having considered views on the general mandating of fraud measurement, this research then analysed the reaction to the principle research argument, which proposes the creation of a statute that mandates fraud measurement. The quantitative research participants indicated significant support for creating a statute, with 76% being in favour. There was also encouraging levels of support from both fraud professionals and academics, however opinion was divided with regards to which sectors this proposed legislation should apply to.

This level of support is encouraging; however there is some division between support for developing a more accurate measure of fraud losses across all three sectors and creating a statute compelling organisations within all of these sectors to conduct measurement exercises to a prescribed standard. I have therefore firstly considered the option of persuasion as an alternative to regulation.

The Art of Persuasion

According to Braithwaite (2006b) “law enforcers should be responsive to how effectively...corporations are regulating themselves before deciding whether to escalate intervention” (p. 886). I have therefore explored whether persuasive tactics could be used to encourage the development of a more accurate measure of fraud. Firstly, when considering the public sector, as discussed within the literature review chapter, historically this has already been attempted by HM Treasury within central government, but with very limited success. A more recent development resulting from the escalating scale of public sector losses to fraud has been the creation of the Cabinet Office’s Fraud, Error and Debt (FED) Taskforce which seeks to “reduce the impact of fraud and error” within the entire public sector (HM Government, 2012, p. 6). Whilst the Cabinet Office may have some authority, as discussed in chapter one, they have not been given sufficient power to compel the public sector to conduct fraud loss measurement exercises and are only able to offer incentives to measure. As a consequence, I suggest that even the issue of persuasive directives may not fully address the limited activity within central and local government. Furthermore, when attempting to influence the public sector to measure fraud, the FED Taskforce are still advocating the measurement of fraud by examining detected cases rather than compelling central government departments to undertake “proactive” fraud loss risk measurement exercises” (p.17).

Equally, the first FED Taskforce publication which discusses areas of priority including “the independent assessment of the accuracy of estimated and reported losses” only makes reference to the consistent estimate of “spend metrics” (Cabinet Office, 2011, p.14). Whilst this criterion is important, the fact that there is no reference to consistent fraud loss measurement gives cause for concern that inconsistencies in the way fraud losses are measured, including what is counted and the methodology employed, will remain across the whole of this sector.

Finally, I return to the empirical evidence offered by the US example, whereby failed attempts at persuasion the US government necessitated the creation of the Improper Payments Information Act of 2002 which requires public agencies to publish statistically valid estimates of the levels of fraud within their programs and activities. I therefore suggest that persuasion is not an option for the UK public sector and regulation through the creation of a statute is the only viable option to obtain consistently accurate fraud loss measurement data.

Moving on to consider the private sector, there is evidence that fraud loss measurement takes place; however this activity does not always take place on a consistent basis, as evidenced within the NFA (2013) *Annual Fraud Indicator* which contains data for the latest year that figures are available, this ranging from 2006 to 2013 (p. 4). This suggests that despite the commendable efforts by the NFA, there are still organisations within the private sector that cannot be persuaded to supply extant data, or fail to

measure regularly. In support of this contention, I draw upon evidence from the regional fraud summits held by the NFA (2009b), within which representations were made that certain industries will only provide fraud loss data if compelled to do so by their regulator or by legislation.

Evidence from the NFA's *Annual Fraud Indicator* also suggests that there is a reluctance to provide fraud loss data. As discussed within chapter one, the fraud loss estimate for the private sector (excluding financial and insurance industries) was obtained through an online questionnaire. Respondents were asked to provide an estimate of fraud against their organisation as a percentage of annual turnover, however "almost half of respondents chose the option 'prefer not to say'" (NFA, 2012, p. 16). This does offer an explanation for the NFA only allocating an average level of confidence to these loss data from all private sector industries (excluding financial services), and again suggests that to obtain a more accurate picture of fraud within this sector, alternative options require consideration. In further support of the argument that persuasion is not a viable option for the private sector, I offer the observations of the NFA (2012) who identify limitations in the private sector fraud loss data resulting from "the potential bias of organisations self selecting to participate" (p. 6). The findings from the 2012 qualitative survey also reveal a lack of knowledge about the extent of fraud losses, with many organisations suggesting it was "too difficult to place a precise figure on an activity they did not know about" (NFA, 2013, p. 20).

Moving on to consider the financial services industry, I suggest that the reluctance to supply current and accurate mortgage fraud data also evidences that persuasive tactics have not worked. As a consequence, the estimate for mortgage fraud is given a poor level of confidence by the NFA and the figure has not changed since 2009 (NFA, 2013, p. 42). I further suggest that in order to control this sector, state intervention as opposed to persuasion may be the only viable option, as evidenced by the necessity for the state to intervene during the banking crisis resulting from irresponsible practices, and the subsequent regulation imposed to control the future activities of these institutions. Of equal concern is the fraud loss data supplied by the insurance industry, which is only given an average confidence rating (NFA, 2013, p. 39). This is because the industry only supplies partial fraud loss data for the general insurance market, and excludes the long term market. Arguably, this again suggests there may be a need to consider alternatives to persuasion to obtain full and accurate fraud loss data.

Finally, I return to the Bribery Act 2010 which I suggest offers empirical evidence that private sector organisations may only comply with government imposed and procedures through regulation. As discussed earlier in this thesis, the aforementioned statute imposes a legal requirement for the implementation of a significant number of internal processes at a cost to the organisation to limit the risks of bribery taking place. It could therefore be suggested that if the state needs to intervene to ensure that profit making organisations put costly measures in place to remove the risk of financial

impropriety through bribery, then why not for fraud losses which reduce profitability?

Moving on to consider the VC sector, it is imperative that this sector further develop an understanding of fraud, but most importantly, acknowledge the importance of accurate measurement. Because the VC sector is still at the early stages embracing the concept of fraud measurement, I suggest there is scope to persuade 'not for profit organisations' to implement fraud loss measurement programmes without resorting to mandating the process. Furthermore, regulating the VC sector may be viewed as too draconian, and thus create resistance to any proposed statute, which may not be so vehement should they be excluded.

To emphasise the importance of fraud loss measurement, and as a consequence, improve the quality of loss data from this sector being fed to the NFA, the government could task a specialist accounting firm, for example BDO, to conduct fraud measurement exercises within a sample of VC sector organisations. Whilst the identity of the organisations involved would remain anonymous, the results of the exercise could be circulated to the 1,599 charities with an income in excess of £100,000 (NFA, 2013, p. 8). Arguably, should the results of these exercises indicate the prevalence of fraud as research suggests, sight of these data will incentivise other 'not for profit' organisations to measure.

Furthermore, I suggest that to improve the accuracy of VC sector loss data, organisations with a minimum turnover of £10 million are persuaded to conduct measurement exercises on a voluntary basis, with a 95% level of statistical confidence but a less stringent accuracy level of +/- 2.5%, but with the aim of improving accuracy levels in time similar to those within the proposed British Standard of Measurement, which will be discussed later in the chapter. A small sample of these proposed voluntary loss measurement exercises could be independently validated on behalf of the NFA and these data submitted to the NFA in confidence. These figures could then be extrapolated to provide a more realistic estimation of fraud losses throughout this sector. Arguably, once the benefits of regular loss measurement are evidenced by those organisations participating, this may in turn persuade more organisations within this sector to undertake loss measurement exercises thus further improving the accuracy of fraud loss data. Until business saving are evidenced, this could be achieved by offering incentives to at least convince charitable organisations that they need to measure fraud. To do this, I suggest that appropriate incentives are offered. These might include the following;

- Increasing the value of 'gift aid' that charities claim back from the government.
- No business tax.
- Free advertising via government networks to generate additional donations.

The next section will discuss the proposals for creating a statute mandating measurement within the public and private sectors.

Creating a Statute

Having discounted the option that the public and private sectors can be persuaded to measure fraud accurately and consistently, I suggest this may only be achieved through mandating measurement and creating a standard to ensure consistency by prescribing what is measured and the methodology employed. I therefore propose that a statute similar to the US IPIA 2002 should be created. The statute should incorporate the proposed British Standard of Measurement, thus ensuring consistency of data accuracy, and stipulate that all organisations encapsulated by this legislation apply the model. Without such a standard to accompany the proposed statute, there would be no guarantee of data consistency; therefore I conclude that the proposed statute and British Standard are interdependent. Consideration has also been given to whether the proposed standard could be pursued independently and I will discuss this in more detail later in the chapter. Initially, I contend that such legislation should be directed towards the public sector at central and local government levels and large private sector organisations.

When considering which private sector organisations should be included in the proposed statute, one option is to include all those with shareholders, thus incorporating public limited companies, private limited companies and private unlimited companies. The statute could then offer shareholders a vote on

whether the business should comply with the statute, but with a caveat that should they vote against, they must inform the regulating authority and details of organisations that fail to comply following a shareholder vote are made public via the National Fraud Authority/Cabinet Office website. However, I have discounted this option because it does not take account of company size and therefore might include businesses without the capacity to fulfil their obligations under the proposed statute.

I therefore advocate inclusion of all private sector organisations excluding those classed as small and medium-sized enterprises (European Commission, 2005), because they may have problems self-regulating in any form (Aalders & Wilthagan, 1997; Ayres and Braithwaite, 1992, p. 121) due to limited capacity. The inclusion criteria for the proposed statute are therefore all private sector organisations with a minimum headcount of 250 and whose annual turnover is \geq €50 million (sterling equivalent) or annual balance sheet is \geq €43 (sterling equivalent) (European Commission, 2005).

The National Fraud Authority could be charged with overseeing the regulation of the statute and funded accordingly. Whilst it may be considered that any savings as a result of conducting these proposed exercises will only benefit a commercially driven enterprise, it is worth remembering that, as previously discussed, certain organisations pass on these losses to their customers. Therefore, a reduction in fraud losses resulting in increased profits could potentially benefit the consumer should these organisations be encouraged to pass on these savings in the form of reduced insurance premiums or bank

charges for example. Secondly, the financial benefits of reducing fraud losses could also have a positive impact on the UK economy due to the anticipated increase in consumer disposable income and increased company profits which could result in expansion, more employment opportunities and increased contributions to HM Treasury through business taxes.

To facilitate the proposed regulatory model, a state funded fraud loss measurement training programme brokered by the National Fraud Authority could be offered to ensure that those businesses without the expertise can recruit and train staff in fraud loss measurement in preparation for the commencement of enforced self regulation. The evidence provided in terms of business returns discussed earlier in this chapter suggests that these additional costs can be met from the potential savings achieved from eliminating the vulnerabilities identified once fraud loss measurement exercises commence. The probable increase in company profits, and the resultant increased revenue to the treasury are offered as justification for this proposed state funded intervention.

I have also considered the potential resistance from the private sector to publishing these data; I accept that as a commercial organisation, representatives of the private sector may be reluctant to comply. To reach a compromise, I suggest that private sector organisations impacted upon by this legislation demonstrate that they have complied with their statutory obligations, offer their data for independent scrutiny on a random sampling basis. This would prevent private sector organisations citing commercial self

interest as an argument against the creation of such a statute. To facilitate this proposal, I advocate the creation of a validation team that examines methodology and signs off any data as being statically valid in accordance with the statute, and produces a certificate of compliance which evidences that fraud has been measured in accordance with proposed standards. These data would then be submitted to the NFA for inclusion in the *Annual Fraud Indicator*, but remain 'commercial in confidence' and only incorporated into the industry specific loss calculation.

In further support of this proposal, I contend that in terms of costs, these will be offset by potential savings as discussed in chapter one and summarised earlier in this chapter, and should certainly be factored into any public sector departmental business plan. In terms of the private sector, these mandating proposals may actually have a positive effect on the economy, by reducing business losses and increasing profitability. Once a British Standard has been created, private sector accounting and auditing organisations could in fact generate income by offering their services as a peripatetic measurement team to private and VC sector organisations that may prefer to invest in an external service rather than employ permanent measurement staff. Any organisation undertaking this function, would of course need to prove themselves as competent, by evidencing compliance with the 'kite mark', and undergo periodic auditing to ensure consistency of standards.

The next section will discuss the proposed regulatory models for each sector including how these will be framed to maximise the potential for compliance.

Regulating the Sectors

Regulating the Sectors

Having reached the conclusion that the proposed statute should incorporate both the public and private sectors, drawing upon the scholarly work reviewed, I have examined the options for a regulatory model to implement this legislation. The primary distinction between public and private sector organisations is ownership (Rainey, Backoff & Levine, 1976, pp. 236-7), with private sector companies being owned by entrepreneurs or shareholders (Boyne, 2002, p. 98) rather than the state, which may necessitate some variance in the models proposed.

Public sector

Regulating the public sector poses less of a problem because the core executive which includes that Treasury and the Cabinet Office (Dunleavy & Rhodes, 1990, p. 4) has a range of “rule making powers” (James, 2005, p. 326) to facilitate implementation and seek compliance. Furthermore, the IPIA provides a working model which can be used to inform the development of the regulatory procedure of the proposed statute. The implementation of IPIA by public sector bodies relies upon independent regulation from within. As discussed in chapter one, each Federal Agency conducts loss measurement exercises and reports their findings to the OMB via the Agency’s Performance and Accountability Report or Annual Financial Report

(Executive Office of the President, 2011, p. 9). In terms of auditing, each agency's Inspector General reviews the organisation's improper payment reporting and accompanying materials to ensure compliance with IPIA.

The regulatory model proposed for ensuring public sector compliance with the proposed UK statute is drawn from the US. I suggest each public sector body is made responsible for conducting fraud loss measurement exercises and reporting findings direct to the NFA via the Cabinet Office. The auditing of central government fraud loss measurement reporting is allocated to the National Audit Office, and that of local government and other public sector bodies such as NHS trusts conducted by the Audit Commission and transferred to the National Audit Office following implementation of the proposed closure of the former. If any public sector organisation is found not to have complied with the statute, a referral is made to the Committee of Public Accounts who will seek an explanation from the organisational head.

To supplement this process, consideration has been given to the imposition of sanctions for non compliance. It is important that these are similar in terms of impact to those applied to the private sector to maintain equality and remove the risk of allegations of unfair treatment. Drawing upon the IPIA, the first option is a letter to the organisational head advocating implementation of the required measurement programme within six months, with the resultant penalty for consistent failure to comply being public disclosure of this material fact. By allowing public scrutiny, I suggest that organisations may be persuaded to comply rather than risk the possibility of adverse publicity and

backlash from taxpayers. The sanction for a second offence would be linked to budgets. As discussed in chapter one, central government departments are allocated funding based upon performance in the previous two years. Failure to comply with the statute could therefore result in a funding freeze until the organisation has demonstrated compliance. Arguably, the potential threat of funding being capped at existing levels should be sufficient motivation for organisational heads to comply.

I maintain the observations discussed in chapter one that direct government regulation is most appropriate when the activities monitored are on a small scale (Peters & Hoornbeek, 2005, p. 96) offer a compelling argument that this option is inappropriate for regulating the proposed statute. It would not be financially viable to create a regulatory agency with the capacity to audit all the departments falling under the jurisdiction of this statute, because of the human resource required to perform this function timeously and to the required standard.

Whilst self regulation does have advantages, including flexibility and the potential for a higher rate of compliance (Coglianese, Healey, Keating & Michael (2004, p. 6), this option was discounted because one major disadvantage is an insufficient level of accountability (p. 8). This is particularly relevant to the proposed statute as it is anticipated there may be some public sector resistance, and self regulation does not facilitate adequate opportunity for the policing of compliance.

Private Sector

When considering the proposed regulatory model for private sector organisations, the IPIA also provides a working model upon which this can be based because many US public services are delivered by 'for profit' organisations, particularly within healthcare. Additionally, I have drawn upon the scholarly work discussed in chapter one that debates how organisations can be motivated to obey the law. I have firstly considered the goal setting of businesses. When framing the legislation and subsequent regulation this needs to play to the primary goal of economic impact in terms of the reduction of business losses resultant from fraud. Compliance with the proposed regulation can be garnered by making businesses aware that through regular fraud loss measurement "private sector companies can be more financially stable, profitable and healthy" (Button & Gee, 2013, p. 73). Similarly, the promotion of business benefits can reinforce legitimacy, which as a consequence, may result in organisations embracing the proposed regulation and willingly comply.

Simpson (2002) argues "regulators must have the capacity to convince people that regulatory offences represent shared values" (p. 614). In terms of mandating the measurement of fraud, one option might be to garner public opinion through an awareness campaign concerning the risk that businesses simply accept fraud losses as a foreseeable cost, and may pass these on to customers. By educating the consumer that economic business benefits can be achieved through regular fraud loss measurement, and the subsequent

business savings may result in a reduction of customer costs may generate pressure towards organisations to comply with the regulation. A further consideration is lack of technical knowledge, which can result in resistance to the imposed regulation from organisations. Arguably, the proposed knowledge exchange infrastructure may assist in addressing this issue. In the short term however, there may be a requirement to incorporate some form of assistance to address this within the framing of the legislation.

When regulating the private sector I propose an enforced self regulatory model in which the government write the rules in terms of the measurement process based upon the proposed British Standard, which will be discussed in the next section. This process will assist companies that do not have sufficient expertise to write their own processes. Each individual business then selects all appropriate specified transactions and performs fraud loss measurement exercises using their own staff and appoints an internal compliance group who audit and issue a certificate of compliance. The government appoints a team of inspectors who conduct random audits of companies. Embracing the spirit of market testing, this function could be performed by a contracted private sector accounting company who are overseen by the NFA. Any unacceptable accounting practices within the measurement exercises identified by the independent auditors would constitute a violation of the regulations and the appropriate sanction applied. All fraud loss measurement data are sent to the NFA for inclusion in the *Annual Fraud Indicator* but individual organisational data are not released into the public domain. The advantages of this model are that it is easier and more

efficient to perform than direct government regulation and enables simplified comparable accounting.

When considering the appropriate sanction for non compliance, the nature of what is being imposed necessitates that any proposed penalty should differ to that which might normally be imposed when regulating businesses. The options of incapacitation and restorative justice are not considered appropriate for regulating fraud loss measurement because non compliance may be considered to have limited impact on society compared to legislation perceived as benefiting the common good, for example environmentally friendly based regulation.

I therefore propose a sequence of sanctions based on the lower half of the enforcement pyramid (Braithwaite, 2002a, p. 20) that provides the options of persuasion, warning letter and civil penalty. The decision to adopt this bespoke compliance strategy is informed by Braithwaite's (2006a) contention that "most activity of the regulatory authority should occur at the base of the pyramid" (p. 4). Braithwaite (2002b) further argues that by the adoption of responsive regulation, the regulator is more likely to find softer targets that can be motivated by moderate deterrent penalties or by the shame of being implicated in wrongdoing (p. 110). In terms of non compliance, one essential component of the Improper Payments Information Act 2002 is that details of all organisations that fail to comply are made public. This is a deterrent option that I consider should be incorporated into the proposed statute. The first stage of the process would be a letter advising the business that they have a

set period to comply, and should they fail to do so, their details will be included on a published list of 'non compliers'. The next section will discuss the creation of a British Standard of measurement.

Setting a Standard

As reported, data analysis reveals that within the sample, 69% of confirmatory answers indicate that the respondent's organisation is reactive when measuring, just focusing on detected cases rather than sampling. Equally, as previously outlined, there is a disparity between the VC, public and private sectors in terms of the percentage of measurement exercises conducted annually. This suggests that there needs to be some form of commonality. The previously discussed analysis of questionnaire responses reveals that 74% of all questionnaire respondents indicated that they considered yearly measurement to be appropriate. Another issue identified is what exactly should be measured, due to organisations focusing on different fraud typologies. This can also be addressed by the creation of a British Standard. Firstly, to create data that may be considered accurate, but more importantly to develop data that is comparable on an industry and sector basis, and looking further ahead, on a supra national basis.

I therefore contend that there is a requirement for a prescriptive standard of how fraud should be measured which includes specific direction on the

following:

- Sampling criteria.
- The level of statistical confidence to ensure consistent high standards of accuracy.
- What is measured, thus providing consistency of data and enabling comparability by sector, industry, and fraud typology.
- The frequency of these measurement exercises.

Compliance with these instructions should be mandatory, which may be achieved by incorporating the proposed standard into the previously discussed statute. Government departments that already have prescribed measurement methodology such as DWP and HMRC will be required to amend their processes accordingly. As previously discussed, I suggest that this standard should form the basis for the future development of an international standard, which would then facilitate trans-national comparability.

This research sought to obtain opinion on the feasibility of creating such a standard, and the responses received indicate a high level of support. The lower affirmative response rate to the question on whether this would be adopted by the respondent's organisation leads to the conclusion that the only way to ensure compliance is by incorporation into the mandating legislation, as previously discussed. In further support of this argument, I draw upon the NFA (2010c) document on combating fraud in the public sector, within which

the NFA suggest that to improve measurement accuracy, the public sector should develop “a more comprehensive understanding of fraud losses and the causes of such losses across the whole sector” (p. 5). The creation of a British Standard of measurement would facilitate achievement of this goal across all sectors. Furthermore, the sought after comprehensive understanding can be achieved through the development of a knowledge management infrastructure which will be discussed in the following section.

Having concluded that there is a requirement for a consistent standard of measurement; I have considered what should be prescribed by this benchmark. It is crucial that any standard of measurement should stipulate what is measured and the methodology employed. Furthermore, this standard should advocate a move away from the ineffective outdated and inefficient concept that fraud may only be measured through the examination of prevented and detected cases. I therefore recommend that this proposed standard should incorporate the following criteria:

- Measurement should only include fraud and exclude losses resulting from error.
- All internal and external fraud losses are measured.
- Guidance should be proffered on what typologies should be measured including customer fraud, procurement fraud, payroll fraud, expenses/subsistence fraud, major company expenditure. This would enable cross sector comparative analysis by typology.

- All loss measurement exercises should focus on the risk of losses and not just reported or detected fraud.
- The accuracy level should be +/- 1% with 95% statistical confidence for all government departments and large private sector organisations.
- Due to cost implications, an alternative option is offered to private sector organisations which evidence inadequate financial capacity to apply the higher accuracy standard. The proposed alternative being an accuracy level of +/- 2.5% with 90% statistical confidence, which is less robust in terms of accuracy, but still provides valuable data.
- The measurement methodology should employ statistically valid sampling, with the results being extrapolated to reflect the total extent of estimated losses.
- Measurement exercises should be based upon a standard definition of fraud for this purpose, underpinned by a 'balance of probabilities' determination (*Derry v Peek* 1889) which offers better recovery options, thus contributing to the cost effectiveness of the exercise.
- Measurement exercises should be subjected to independent scrutiny and validation to ensure accuracy, probity and transparency.
- Where private sector organisations do not offer their fraud loss data to the public domain but only to the NFA, following validation a certificate of compliance is issued to evidence that losses have been measured to the prescribed standard.

Consideration has been given to whether a British standard could be created as a standalone option if the proposal for a statute failed to gain ministerial

and subsequent parliamentary support to progress this through the legislative process. There are organisations that currently measure fraud; however as evidenced within the literature review, there are varying standards of accuracy. Therefore, whilst a British Standard would promote consistency of measurement, and if adopted by organisations with poor quality data would contribute to improving the overall picture of fraud losses within the UK, however, without regulation to ensure compliance, there is no guarantee it would be adopted by all organisations. Consequently, as a stand alone option a British Standard may have minimal impact upon improving the quality of fraud loss data, and is therefore considered to be an integral component of the proposed statute mandating measurement.

Knowledge Management

To improve the quality and robustness of fraud loss data collection and reporting there is an urgent need for a steer from academia in the form of developing doctrine. This input would raise the level of expertise in conducting measurement, and would also improve the quality of reporting by offering guidance in the construction of reports that stand up to academic scrutiny. To achieve openness and transparency, they should include a discussion of the data collection methodology, details of the analytical process these data were subjected to, frankness in disclosing any data limitations and a clear and concise written style which presents the facts in a medium that can be understood by fraud professionals, strategists and policy makers. Additional

support from academia could take the form of facilitating a knowledge transfer forum, which will now be discussed.

Analysis of the questionnaire responses regarding the creation of a knowledge management infrastructure indicates a favourable response to this proposal. The answers to the question enquiring if their organisation would participate in such an information exchange matrix were less favourable. That said, I maintain this is a feasible option because the creation of a statute mandating fraud, supplemented by the creation of a British Standard of measurement will address the issue of organisational participation and create a knowledge requirement. The development of such a network could be incorporated into any marketing campaign to promote the benefits of such an infrastructure.

I therefore propose the creation of a knowledge management infrastructure that promotes the development of best practice to ensure compliance with the recommended British Standard of measurement. I recommend that this proposed conduit would take the form of regular three monthly meetings, populated with fraud measurement practitioners from all three sectors. The primary focus of this forum would be to discuss issues relating to compliance with the British Standard. Additionally, the network will discuss best practice, share experiences and disclose any new and innovative processes adopted which have improved the accuracy of measurement, or acted as an enabler to ensure compliance with the proposed British Standard. I also advocate that by regularly reviewing processes, empirical learning can be used to create a

'Manual of Guidance' to support compliance with the British Standard.

Furthermore, this proposed manual will be 'owned' by this forum and updated as and when there are positive developments in measurement processes.

It is vital that this proposed knowledge management infrastructure is seen to be neutral, and should therefore be overseen by an appropriate organisation.

Whilst the NFA might be considered to be the ideal facilitator, the most feasible option for this proposal might be a forum that is sponsored and funded by government, but managed and overseen by an academic institution. This would ensure probity, facilitate the unification of practitioners and academics when developing best practice, and ensure theoretical and practice based input into the creation of any 'manual of guidance'. Before progressing this recommendation, I propose that further research is conducted to identify an appropriate organisation to oversee the creation of the proposed knowledge infrastructure.

I have also considered whether this proposed infrastructure is interdependent of the other two proposed options for change. The development of core doctrine of measurement and best practice would offer support and guidance to those currently measuring fraud losses. However, participation would be voluntary and without the implementation of the proposed statute and British Standard of measurement and taking account of the previously discussed *immoral phlegmatism*, I consider there may be minimal incentive to organisation that do not measure fraud to engage. Consequently, I maintain that this proposal would have limited impact on improving the accuracy of

fraud loss measurement as a standalone option, and should be treated as interdependent upon the other two proposed options for change.

Conclusion

This chapter has outlined the recommendations suggested based upon analysis of all data collected during this research project. I maintain that sufficient opinion has been collected to evaluate the viability of the research argument. I further contend that sufficient encouragement from respondents has been harvested to support the contention that the proposals outlined within this chapter are worthy of development collectively. The option for interdependent development of a standard of measurement and a knowledge exchange infrastructure has been considered, but discounted because to ensure participation there would still be the need for some form of regulation.

I have acknowledged the limitations of these data in terms of generalizability, however I contend that the support proffered for the proposals may be considered to be a barometer of a wider population. In sum, I conclude that the creation of a statute mandating fraud measurement, incorporating a British Standard underpinned by a transferable definition of fraud for measurement purposes, is worthy of development. Therefore, the next step will be to identify an appropriate government minister and canvass support for these proposals. Additionally, this project has evidenced the requirement to establish a knowledge management infrastructure to support the implementation of the aforementioned proposals through the development of core doctrine of

measurement and the production of a manual of guidance. The facilitation of such a forum requires additional research, but at this point, I consider the most suitable option to be an academic institution, thus ensuring impartiality and probity.

The research has also identified the phenomena of *immoral phlegmatism* within all three sectors, which manifests itself in the form of complacency towards vulnerability to fraud and resultant losses. The data garnered however, suggests it is most prevalent within the VC sector, and strategies have been proposed to bring about a sea change of attitude towards fraud losses. In terms of this sector, I have also recommended that further research is conducted into why there is such a complacent attitude to fraud, which in turn would inform the proposed awareness strategy discussed within this chapter.

I close this chapter, and thesis, by summarising the core proposals of this research:

- The creation of statute mandating the accurate measurement of fraud throughout all public and private sector organisations.
- The creation of a British Standard of measurement comprising of two different levels of accuracy.
- The creation of a knowledge management infrastructure to support the development of core fraud loss measurement doctrine.

Postscript: Reflecting on Research

How am I Reflecting?

The purpose of my reflection has been to use the learning experience as a means of 'building reflexive links between past, present and future actions (Crawford, Dickinson & Leitmann, 2002, p. 187). Initially, the most important consideration was to decide exactly which aspects of my research to reflect upon (McNiff & Whitehead, 2002, p.18; Schön, 1991, p. 343). Whilst conducting the project, I reflected on all aspects of the research process "freely and informally" (Fox, Martin & Green, 2007, p. 184), whenever practicable recording field notes for subsequent analysis (Leslie & McAllister, 2002, p.710). I transferred these field notes into a research journal (Potter, 2002, p. 38; Murray, 2006 p. 189), documenting what went well and what I could have done better. Accordingly, this record became an invaluable tool for "researcher development" (Borg, 2001, p. 159). Drawing upon analytic methodology normally applied to descriptive data (Miles and Huberman, 1994, p. 9), I used reflection to update my learning journal (Holly, 1987), seeking to address the learning requirements identified when conducting the small research project which forms part of the taught element of the Professional Doctorate. Furthermore, I have drawn upon reflection in action (Schön, 1983, p. 69; Eraut, 1994, p.147), which enabled me to further develop my researcher skills during the project (Blaxter, Hughes & Tight, 1996, p. 49).

The purpose of this reflection was to identify how best to approach future academic research, as evidenced by Seymour (2001, p. 165) who contends that “it is only by reflecting on our mistakes that we will learn how to do things differently in the future”. Fook (1996, pp. 4-5) offers an interesting observation, when arguing that a reflective approach rejects some of the basic beliefs of positivism, rather affirming “the importance of experiential and interconnected ways of knowing the world” (pp. 4-5). Arguably this contention proffers an accurate description of the research methodology adopted, and the conflict I experienced between philosophical and practitioner researcher considerations, which I will return to later.

My Reflections

I will now discuss my reflection on the project, using a structured approach which considers what I have researched, my behaviour, my feelings about the project, what I learned, its impact on me as a researcher and how this experience will shape future academic research projects (Fox, Martin & Green, 2007, p. 184). Reflecting upon the project aims, and what was researched, I am satisfied they have been achieved, and that the argument that fraud can be measured more accurately has been supported by research participants. The research however, provided interesting reactions to the argument that a statute is required to fully mandate measurement.

On revisiting my actions, I believe the research structure adopted was correct, thus demonstrating my strengths as a researcher through the application of

knowledge gained from practitioner experience. Interviewing academics and fraud practitioners proved a challenging experience. For me, it was essential that I conveyed professionalism, combined with subject and theoretical knowledge, thus demonstrating my researcher credentials to secure participant respect. Having reflected whilst analysing the interview transcripts and recordings, I am satisfied that the necessary data were obtained to critically assess the viability of the research argument. In the spirit of the reflective process however, I am already considering how things might be done differently in the future, for example conducting all qualitative interviews face to face because I found it easier to develop rapport than when speaking to participants by telephone. Also it would have been useful, should access have been obtained, to have interviewed somebody involved in the development and implementation of the IPIA.

One major churn that occurred whilst conducting this research was a personal career change, whereby I moved from being an organised benefit fraud criminal intelligence analyst to an academic. This had always been my intended career path; however, I did underestimate the impact it would have on my research. The requirements of this new role resulted in less time being available to devote to this thesis. Consequently, I had to restructure my project timetable and increase the key milestone dates by 12 months. I have no regrets about my career change, and during Easter 2012, I found myself in a position which may be described as the calm after the storm. By then, I had discharged most of my teaching commitments, thus facilitating the opportunity

to complete the remaining chapters, which in turn finds me sitting at my laptop completing this reflective account.

When reflecting upon my learning experience during this research, I consider the principle achievement has been to successfully address my personal conflict between epistemological considerations and my beliefs and assumptions as a researcher in the practice setting. When commencing this research, I believed epistemological considerations to be a personal weakness within my researcher skills. Whilst employed as a criminal intelligence analyst, I was required to adopt a research method appropriate to the task, the primary objective being to complete the project timeously and within budget. Consequently, this required decision making on method as opposed to methodology, with no consideration of researcher assumptions. These have been factors dictating current research methodology. Accordingly, I believe pragmatism is a justifiable epistemological stance, reflecting my practitioner researcher influence, which has enabled me to adopt a research methodology that embraced a “what and how” approach to research (Cresswell, 2003, p. 12). I suggest that a pragmatic approach respects both acknowledged research paradigms for what they are, whilst also reflecting contemporary thinking, whereby research design is influenced by technical decisions (Bryman, 2006, p. 117).

In conclusion, I believe that these reflections have enabled me to fully evaluate my research and learn from the experience, which in turn will facilitate my personal development as an academic researcher when

embarking on future projects. I am satisfied that by drawing upon this reflective process, I have fully embraced the ethos of professional doctorate study.

'Fraud Expert' Interview Schedule

1. What do you define as fraud, and what evidence is this based upon?
2. How important do you consider the accurate measurement of fraud is in terms of developing and implementing counter fraud strategies?
3. How accurate do you consider current fraud loss data to be?
4. How accurate in terms of statistical confidence do you believe fraud measurement should be?
5. Do you consider public or private sector data to be most reliable?
6. In your opinion, are there any organisations that have a particularly robust fraud measurement mechanism?
7. What impact do you think the creation of a National Fraud Reporting Centre will have on the accurate measurement of fraud?
8. Should figures for the cost of prevention and detection of fraud be included in overall loss figures?
9. Over what frequency do you believe fraud measurement exercises should be conducted?
10. Are there any other improvements to the collection and reporting of national fraud data you can suggest, for example do we need compulsory legislation to ensure organisational compliance?
11. Should there be a 'British Standard' of fraud measurement?
12. Should a fraud measurement agency be created to conduct measurement exercises to ensure consistency?

Dear

I am conducting research into the measurement of fraud, which forms part of the assessment process for my professional doctorate in Criminal Justice Studies. I am undertaking this project in my capacity as a research student with the University of Portsmouth who are sponsoring the research. The purpose of my research is to identify best practice within existing fraud measurement methodology with a view to developing a mechanism for measuring the economic cost of fraud more accurately.

The purpose of this email is to request some of your time (no more than one hour) in order to seek your opinion as someone who has made a significant contribution to the academic debate on fraud measurement. The full details of this request are documented in the attached letter. I also enclose a copy of the interview schedule to provide you with advance notification of the question content.

I am willing to conduct this research at a time and location convenient to you.

Yours sincerely

Martin Tunley
Fraud Investigator (Analyst),
Fraud Investigation Service (Intelligence),
5th Floor, Birmingham City JCP,
65-77 Summer Row,
Birmingham, B3 1LB

Tel 07778 393315 (Mobile)

Mandating the Measurement of Fraud Questionnaire

Your Organisation:

1. Please indicate which sector your organisation falls within (**Please tick**)

Public	Private	Voluntary/ Charitable

2. What is your position in the organisation? (**Optional**).....

3. What is your organisation’s function (e.g. welfare, health, insurance, charity etc.? (**Optional**).....

Fraud Measurement

4. How important do you think the accurate measurement of fraud is? (**Please indicate your response**)

Not important at all Not important Neither important nor not important Important Very important

5. How important do you think it is to measure fraud in the public sector? (**Please indicate your response**)

Not important at all Not important Neither important nor not important Important Very important

6. How important do you think it is to measure fraud in the private sector?

(Please indicate your response)

Not important at all Not important Neither important nor not important Important Very important

7. How important do you think it is to measure fraud in the voluntary/charitable sector? **(Please indicate your response)**

Not important at all Not important Neither important nor not important Important Very important

8. How often do you think fraud should be measured? **(Please indicate your response)**

Annually

Every two years

Other (Please state).....

Fraud and Your Organisation

Before moving on to the questions in this section, if you are unfamiliar with what constitutes a fraud loss measurement exercise, please read below, otherwise please proceed directly to question 9.

For information purposes, a fraud loss measurement exercise consists of the following stages:

1. A statistically valid selection of activity is taken from one or more budgetary areas;
2. Each case within the sample is then examined and evidence of fraud, error or correctness is sought;
3. A judgement is then made based upon your organisation's definition of fraud (this may be the civil law concept of Derry v. Peek 1889, Fraud Act 2006 or other statute), error or correctness;
4. All cases are subjected to rigorous, independent statistical analysis which allows the production of loss figures with a high degree of accuracy for each budgetary area.

9. Does your organisation measure fraud? (**Please tick**)

- Yes (please go to question 10)
- No (please proceed to question 14)

10. How does your organisation measure fraud? (**Please tick all that apply**)

- Received incidents of fraud (Detected) by number of cases
- Received incidents of fraud (Detected) by total monetary value of losses
- Fraud loss measurement exercise by number of suspected cases
- Fraud loss measurement exercise by total monetary value of suspected losses
- Other (please state).....

11. How often does your organisation measure fraud?

(Please tick all that apply)

Type	Annually <input checked="" type="checkbox"/>	Every Two Years <input checked="" type="checkbox"/>	Other (Please state)
Received incidents of fraud by number of cases		
Received incidents of fraud by monetary value of loss		
Loss measurement by number of suspected cases		
Loss measurement by monetary value of suspected losses		
Other.....		

12. What types of fraud does your organisation measure?

(Please tick all that apply)

Type	<input checked="" type="checkbox"/>
Overall Losses	
Customer Fraud	
Procurement Fraud	
Payroll Fraud	
Expenses/Subsistence Fraud	
Major Company Expenditure	
Other Internal Fraud (please state)	
Other Types of Fraud (please state.....)	

13. If your organisation conducts measurement exercises, what is the level of statistical confidence? **(Please tick which applies)**

- Between + or- 1%-4%
- Between + or -5%-9%
- + Or -10% or Above
- No Statistical Confidence
- Do Not Know

Please now proceed to the next section (Question 15)

14. If your organisation does not measure fraud please indicate why (**tick any box that applies**)

- No fraud in organisation
- Do not need to know
- Concern about adverse publicity if results made public
- Protection of shareholder's interests
- Other (please state.....)

British Standard of Fraud Measurement

A British Standard of fraud measurement would specify a methodology for fraud measurement including data collection, data analysis, and frequency of measurement exercises and level of statistical confidence.

15. How important is the creation of a British Standard of Fraud Measurement?

(Please indicate your response)

Not important at all Not important Neither important nor not important Important Very important

16. If a British Standard was created, how likely is it that the benchmark would be adopted by your organisation? **(Please indicate your response)**

Not important at all Not important Neither important nor not important Important Very important

17. If created, which sectors should a British Standard of fraud measurement be applied to **(tick all that apply)**

- Public Sector Organisations
- Private Sector Organisations
- Voluntary/Charitable Organisations

18. If a British Standard of fraud measurement was created, should compliance be mandatory? **(please tick relevant box for each sector)**

Sector	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
Public		
Private		
Voluntary/Charitable		

19. What do you think the arguments against mandating fraud measurements might be? **(Please tick whichever apply)**

- None
- Current Measurement Statistically Valid
- Do Not Need to Measure Fraud Losses So Accurately
- Too Bureaucratic
- Too Costly
- Other (please state.....)

Best Practice and Knowledge Sharing Infrastructure

The measurement of fraud is still being developed and in order to progress more accurate measurement, one option would be the creation of an infrastructure for knowledge management through the sharing of best practice using either the National Fraud Authority or an Academic Establishment such as the Centre for Counter Fraud Studies at the University of Portsmouth as the conduit.

20. How important is the creation of a knowledge management infrastructure for the sharing of fraud measurement best practice? **(Please indicate your response)**

Not important at all Not important Neither important nor not important Important Very important

21. If a Knowledge management infrastructure was created, how likely is it that your organisation would participate? **(Please indicate your response)**

Not likely at all Not likely Neither likely nor unlikely Likely Very likely

The US Improper Payments Information Act 2002

In the US, the increased prevalence of fraud led to Government intervention mandating its measurement in certain public bodies through the Improper Payments Information Act (IPIA) of 2002. This statute also mandates publication of fraud loss data in order to generate public pressure for organisations to address these losses.

22. Do you consider that a similar statute should be created in the UK to mandate fraud measurement? **(please tick relevant box)**

- Yes **(Please proceed to question 24)**
- No

23. If you answered 'NO', why do you not favour such a statute? **(tick whichever apply)**

- Fraud Measurement Should Be Voluntary
- Current Measurement Statistically Valid
- Do Not Need to Measure Fraud Losses So Accurately
- Too Bureaucratic
- Too Costly
- Other (please state.....)

Please proceed on to question 30

24. If fraud measurement was mandated by legislation, should this apply to?

(tick any that apply)

- Public Sector
- Private Sector
- Voluntary/Charitable Sector

25. How regularly do you believe that mandatory measurement exercises should be conducted? **(please tick relevant box)**

- Annually
- Every two years
- Other (Please Specify.....)

26. Should legislation specify what types of fraud are measured? **(please tick relevant box)**

- Yes
- No

27. Should legislation specify what fraud measurement methodology is employed? **(please tick relevant box)**

- Yes
- No

28. Do you believe that any legislation should also mandate the publication of these data? **(please tick relevant box)**

Yes

No

29. What do you perceive the risks of fraud data being made public to be? **(tick any that apply)**

None

Organisational Embarrassment

Ministerial Embarrassment

Commercial Risk

Protection of Shareholder's Interests

Protection of Head of Organisation

Other (Please State.....)

30. If there are any comments you would like to make concerning the measurement of fraud or any of the associated topics detailed within the questionnaire please leave them below:

.....

.....

.....

.....

.....

Websites used for sampling frame

FTSE 100

http://www.ftse.co.uk/objects/csv_to_table.jsp;jsessionid=3243B2A4E4D36EA E47BAEC95F5C4D80C?infoCode=100a&theseFilters=&csvAll=&theseColumns=Mw==&theseTitles=&tableTitle=FTSE100IndexConstituents&dl=&p_encoded=1

FTSE 350

http://www.ftse.co.uk/objects/csv_to_table.jsp;jsessionid=3243B2A4E4D36EA E47BAEC95F5C4D80C?infoCode=350a&theseFilters=&csvAll=&theseColumns=Mw==&theseTitles=&tableTitle=FTSE350IndexConstituents&dl=&p_encoded=1

Public Sector (Central Government)

<http://www.direct.gov.uk/en/DI1/Directories/A-ZOfCentralGovernment/index.htm>

Public Sector (Local Government)

http://www.localgov.co.uk/index.cfm?method=directory.SearchOfficers&orderby=organisation&PersonName=&off_functionid=72966&Officers=1

Charities

<http://www.charitiesdirect.com/>

Association of British Insurers Members

<http://www.abi.org.uk/MemberSearchResults.aspx?searchQuery=>

List of Banks

http://www.fsa.gov.uk/Pages/Library/Other_publications/Banks/index.shtml



PRIVATE and CONFIDENTIAL

Room 422 Dawson Building,
Birmingham City University,
417 Franchise Street,
Perry Barr,
Birmingham,
B42 2SU

0121 331 5272

<Date>

My Ref: MJT/1

Dear Sir or Madam,

Re: Mandating the Measurement of Fraud

I am writing to you concerning research project on the measurement of fraud amongst the largest public, private and voluntary sector organisations which forms part of the assessment process for my Professional Doctorate in Criminal Justice Studies. I am undertaking this project in my capacity as a research student with the University of Portsmouth in collaboration with the Centre for Applied Criminology at Birmingham City University.

As part of this research project I would be obliged if you find time to complete a questionnaire by **Tuesday 31st May 2011**.

This questionnaire is anonymous and should take no more than 15 minutes to complete. It can be accessed via the link is below

<http://www.survey.bris.ac.uk/bcu/fraud>

The proposal for this research has been reviewed and approved by the University Of Portsmouth Faculty Of Humanities Research Ethics Committee. Participants will receive an advance copy of the findings from the project if requested.

I would also like to reassure you that all information will be anonymized in my thesis.

If you require any further information please contact me on 07778 393315 or email me at martin.tunley@bcu.ac.uk

Yours faithfully

Martin Tunley



PRIVATE and CONFIDENTIAL

Room 422 Dawson Building,
Birmingham City University,
417 Franchise Street,
Perry Barr,
Birmingham,
B42 2SU

0121 331 5272
07778 393315 (mobile)

<Date>

My Ref: MJT/1

Dear Sir or Madam,

Re: Mandating the Measurement of Fraud

I am writing to you concerning research project on the measurement of fraud amongst the largest public, private and voluntary sector organisations which forms part of the assessment process for my Professional Doctorate in Criminal Justice Studies. I am undertaking this project in my capacity as a research student with the University of Portsmouth in collaboration with the Centre for Applied Criminology at Birmingham City University.

As part of this research project I would be obliged if you would pass this email which includes a hyperlink to an online questionnaire to the person responsible for fraud measurement and/or audit in your organisation (if your organisation does not possess such an individual please forward this email to the person considered most appropriate) for completion by **Tuesday 31st May 2011**.

This questionnaire is anonymous and should take no more than 15 minutes to complete. It can be accessed via the link is below

<http://www.survey.bris.ac.uk/bcu/fraud>

The proposal for this research has been reviewed and approved by the University Of Portsmouth Faculty Of Humanities Research Ethics Committee. Participants will receive an advance copy of the findings from the project if requested.

I would also like to reassure you that all information will be anonymized in my thesis.

If you require any further information please contact me on 07778 393315 or email me at martin.tunley@bcu.ac.uk

Yours faithfully

Martin Tunley

Bibliography

- Aaker, D. A., Kumar, V. & Day, G.S. (1995). *Marketing Research* (5th ed.). New York: John Wiley and Sons.
- Aalders, M. & Wilthagan, T. (1997). Moving Beyond Command and Control: Reflexivity in the Regulation of Occupational Safety and Health. *Law and Policy*, 19(4), 415-443.
- Aaronovitch, S. (1983). A Marxist View. In M. Friedman, M. Peston, S. Aaronovitch, A. Singh & I. Bruegel, (Eds.), *Money Talks: Five Views of Britain's Economy*. Thames Television International, London, pp. 34-53.
- Adams, I. (2001). *Political Ideology Today* (2nd ed.). Manchester: Manchester University Press.
- Agar, M.H. (1980). *The Professional Stranger*. New York: Academic Press.
- Allen, J., Forrest, S., Levi, M., Roy, H., Sutton, M. & Wilson, D. (2005). *Fraud and Technology Crimes: Findings from the 2002/03 British Crime Survey and 2003 Offending, Crime and Justice Survey*. London: Home Office.
- Alston, M. & Bowles, W. (2003). *Research for Social Workers: An Introduction to Methods* (2nd ed.). London: Routledge.
- Altheide, D. L. & Johnson, J. M. (1994). Criteria for Assessing Interpretive Validity in Qualitative Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, pp. 485-499. Thousand Oaks, CA
- Alvarez, A. (2010). *Genocidal Crimes*. Abingdon: Routledge.
- Ambler, D. E., Massaro, L. & Acre, J.W. (2010). *Sarbanes Oxley Act: Planning and Compliance*. New York: Aspen Publishers.
- Angen, M. J. (2000). Evaluating Interpretive Inquiry: Reviewing the Validity Debate and Opening the Dialogue [Electronic version]. *Qualitative Health research*, 10(3), 378-395.
- Arber, S. (1993). The Research Process. In N. Gilbert (Ed.), *Researching Social Life* (pp.32-50). London: Sage.
- Armstrong, G. (1998). *Football Hooligans: Knowing the Score*. Oxford: Berg.
- Arrow, K. J. (1978). Foreword. In B.A. Weisbrod, J.F. Handler & N.K. Komesar (Eds.), *Public Interest Law: An Economic and Institutional Analysis*, (pp. ix-x). Los Angeles, CA: University of California Press.

Association for Payment Clearing Services (2009). *Fraud: The Facts 2009* [Electronic Version]. London: APACS. Retrieved April 13, 2010, from Card Watch website:
<http://www.cardwatch.org.uk/images/uploads/publications/Fraud%20the%20Facts%202009.pdf>

Association of British Insurers (2009). *General Insurance Claims Fraud*. Research Brief, July. London: Association of British Insurers [Electronic Version]. Retrieved from Association of British Insurers website: on April 13, 2010, from Association of British Insurers website:
http://www.abi.org.uk/Publications/ABI_Publications_GI_Fraud_Research_Brief_30e.aspx

Association of Certified Fraud Examiners (2009). *Insurance Fraud Handbook*. Austin, TX: Association of Certified Fraud Examiners

Atkinson, P., Coffey, A. & Delamont, S. (2003). *Key Themes in Qualitative Research: Continues and Changes*. New York: Altamira Press.

Audit Commission (2009). *Protecting the Public Purse* [Electronic Version]. London: Audit Commission. Retrieved April 27, 2010, from Audit Commission website:
<http://www.audit-commission.gov.uk/SiteCollectionDocuments/AuditCommissionReports/NationalStudies/20090915protectingpublicpurserep.pdf>

Audit Commission (2010). *Protecting the Public Purse*. London: Audit Commission.

Audit Commission (2011). *Protecting the Public Purse*. London: Audit Commission.

Auditing Practices Board (2010). International Standard on Auditing (UK and Ireland 240). Retrieved April 21, 2013, from the Financial Reporting Council website:
<http://www.frc.org.uk/FRC-Documents/APB/The-auditor-s-responsibilities-relating-to-fraud-i.aspx>

Ayres, I. & Braithwaite, J. (1992). *Responsive Regulation: Transcending the Deregulation Debate*. New York: Oxford University Press.

Babbie, E. (1997). *The Practice of Social Research*. Belmont, CA: Wadsworth.

Babbie, E. (2007). *The Practice of Social Research* (11th ed.). Belmont, CA: Thomson Wadsworth.

Babbie, E. (2008). *The Basics of Social Research* (4th ed.). Belmont, CA: Thomson Wadsworth.

Baldwin, R. and Cave, M. (1999). *Understanding Regulation: Theory, Strategy and Practice*. Oxford: Oxford University Press.

Barclay, G. (Ed.). (1995). *Digest 3: Information on the Criminal Justice System in England and Wales*. London: HMSO.

Baruch, Y. (1999). Response Rate in Academic Studies-A Comparative Analysis [Electronic version]. *Human Relations*, 52(4), 421-438.

Baum, F. (2002). *The New Public Health*. Oxford: Oxford University Press.

BDO (2010). *FRAUDTRACK 7: Perspectives of Fraud*. Leeds: BDO.

Bell, J. (1999). *Doing Your Research Project*. Buckingham: Open University Press.

Benbasat, I., Goldstein, D. & Mead, M. (1987). The Case Research Strategy in Studies Information Systems. *MIS Quarterly*, 11(3), 369-386.

Benefit Fraud Inspectorate (1998). *Securing the System: A Report by the Director General*. London: Department of Social Security.

Belli, P. (1997). The Comparative Advantage of Government: A Review. Policy Research Working Paper 1834. World Bank, Washington, DC.

Benton, D. C. & Cormack, D. F. S. (2000). Gaining Access to the Research Site. In *The Research Process in Nursing* (4th ed.)(pp. 129-140). Oxford: Blackwell.

Bernard, H. R. (1995). *Research Methods in Anthropology: Qualitative and Quantitative Approaches* (2nd ed.). Walnut Creek, CA: AltaMira Press.

Biderman, A. D. & Reiss, A. J. Jr (1967). On Exploring the Dark Figure of Crime. *Annals of the American Academy of Political and Social Science*, 374, 1-15.

Bitner, R. (2008). *Greed, Fraud and Ignorance: A Subprime Insider's Look at the Mortgage Collapse*. Colleyville, Texas: LTV Media LLC.

Blaikie, N. (2000). *Designing Social Research*. Oxford: Blackwell.

Blunt, G. & Hand, D. J. (2007). *Estimating the Iceberg: How Much Fraud is there in the UK?* Retrieved December 16, 2008 from Imperial College London website:
<http://qfrmc.imaa.ic.ac.uk/qfrmc/23nov07/talks/gordon/.pdf>

Bogden, R.C. & Bicklen, S.K. (1992). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston: Allyn & Bacon.

- Bolling, K., Grant, C. & Donovan, J. (2008). *2007-08 British Crime Survey (England and Wales) Technical Report Volume 1*. London: Home Office.
- Bottomley, A. K. & Coleman, C. A. (1981). *Understanding Crime Rates*. Farnborough: Saxon House.
- Bottomley, K. & Coleman, C. (1995). The Police. In M. A. Walker (Ed.), *Interpreting Crime Statistics*, (pp. 44-60). Oxford: Clarendon Press.
- Boyne, G. (2002). Public and Private Management: What is the Difference? *Journal of Management Studies*, 39(1), 97-122.
- Boynton, P.M. & Greenhalgh, T. (2004). Selecting, Designing and Developing your Questionnaire [Electronic Version] *British Medical Journal*, 328, 1312-1315.
- Boyzatis, R. E. (1998). *Transforming Qualitative Information: Thematic Analysis and Code Development*. Thousand Oaks, CA: Sage.
- Brace, I. (2007). *Questionnaire Design: How to Plan, Structure and Write Survey Material for Effective Market Research* (2nd ed.). London: Kogan Page.
- Bradbury, H. & Reason, P. (2001). Conclusion: Broadening the Bandwidth of Validity: Issues and Choice-Points for Improving the Quality of Action Research. In P. Reason & H. Bradbury (Eds.), *Handbook of Action Research: Participative Inquiry and Practice* (pp. 447-455). London: Sage.
- Braithwaite, J. (1982). Enforced Self-Regulation: A New Strategy for Corporate Crime Control. *Michigan Law Review*, 80(7), 1466-1507.
- Braithwaite, J. (1985). *To Punish or Persuade: Enforcement of Coal Mine Safety*. Albany, NY: State University of New York Press.
- Braithwaite, J. (1990). Convergence in Models of Regulatory Strategy. *Current Issues in Criminal Justice*, 59-66.
- Braithwaite, J. (2002a). Rewards and Regulation. *Journal of Law and Society*, 29(1), 12-26.
- Braithwaite, J. (2002b). *Restorative Justice and Responsive Regulation*. Oxford: Oxford University Press.
- Braithwaite, J. (2006b). Responsive Regulation and Developing Economies. *World Development*, 34(5), 884-898.
- Braithwaite, J. & Makkai, T. (1991). Testing an Expected Utility Model of Corporate Deterrence. *Law and Society Review*, 25, 7-40.

Braithwaite, V. (2006a). Ten Things you need to know about Regulation but Never Wanted to Ask. *Regulatory Institutions Network, Occasional Paper No 8*, December 2006.

Braithwaite, V., Braithwaite, J., Gibson, D. & Makkai, T. (1994). Regulatory Style, Motivational Postures and Nursing Home Compliance. *Law and Policy*, 16, 363-394.

Brand, S. & Price, R. (2000). *The Economic and Social Costs of Crime*. Home Office Research Study 217. London: Home Office.

Branley, D. (2004). Making and Managing Audio Recordings. In C. Seale (ed.) *Researching Society and Culture* (2nd ed.)(pp. 209-224). London: Sage.

Brannen, J. (1992). Combining qualitative and quantitative methods: an overview. In J. Brannen (Ed.), *Mixing methods: Qualitative and Quantitative Research* (pp. 153-189). Hants, England: Avebury Press.

Brannen, J. (2005). *Mixed Methods Research: A Discussion Paper* [Electronic Version]. NCRM Methods Review Papers, NCRM/005. Economic & Social Research Council National Centre for Research Methods. Retrieved February 01, 2008 from Bournemouth University website:
<http://www.bournemouth.ac.uk/cap/documents/MethodsReviewPaperNCRM-005.pdf>

Brink, P. J. (1991). Issues of Reliability and Validity. In J.M. Morse (Ed.), *Qualitative Nursing Research: A Contemporary Dialogue*, (pp. 164-186). Newbury Park, CA: Sage.

Bristol Online Survey (n.d.). *Viewing your Survey Results*. Retrieved April 18, 2011 from Bristol Online Survey website:
http://www.survey.bris.ac.uk/tour_4.html

British Broadcasting Company (2009). Recession Fuels Insurance Fraud. Retrieved August 11, 2010, from the BBC website:
<http://news.bbc.co.uk/1/hi/business/8000630.stm>

British Retail Consortium (2009). *Retail Crime Survey 2009*. London: British Retail Consortium. Retrieved May 06, 2010 from British Retail Consortium website:
<http://www.brc.org.uk/election2010/downloads/BRC%20Retail%20Crime%20Survey%202009.pdf>

British Society of Criminology (2006). *Code of Ethics for Researchers in the Field of Criminology*. Retrieved May 07 2011 from British Society of Criminology website: <http://www.britisocrim.org/codeofethics.htm>

British Standards Institute (2000). *A Guide to the Application of Statistical Methods to Quality and Standardization*. BS 600:2000. London: British Standards Institute

British Standards Institute (2002). *Sampling Procedures for Inspection by Attributes-Part 5: Procedures for assessment of Declared Quality Levels*. BS6001-5:2002. London: British Standards Institute

British Standards Institute (n.d.). *Standards and Publications*. Retrieved June 24, 2011 from British Standards Group website, <http://www.bsigroup.co.uk/Standards-and-Publications/>

British Standards Institute Case Study (n.d.). *BSI 10500 Case Study: Specification for an Anti-Bribery Management System*. Retrieved May 10, 2013 from British Standards Group website: <http://www.bsigroup.co.uk/Documents/bs-10500/resources/case%20studies/BSI-BS10500-Case-Study-BalfourBeatty-UK-EN.pdf>

Brooks, G., Button, M. & Frimpong, K. (2009). Policing Fraud in the Private Sector: A Survey of the FTSE 100 Companies in the UK [Electronic Version]. *International Journal of Police Science and Management*, 11(4), 493-504.

Brooks, G., Button, M. & Gee, J. (2012). The Scale of Health-care Fraud: A Global Evaluation. *Security Journal*, 25(1), 76-87.

Brown, A. & Dowling, P. (1998). *Doing Research/Reading Research: A Mode of Interrogation for Education*. London: Falmer Press.

Brugha, T. S. (1995). *Social Support and Psychiatric Disorder: Research Findings and Guidelines for Clinical Practice*. Cambridge: Cambridge University Press.

Bryman, A. (1984). The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology? [Electronic Version]. *The British Journal of Sociology*, 35(1), 75-92.

Bryman, A. (1988). *Quantity and Quality in Social Research*. London: Routledge.

Bryman, A. (2004). *Social Research Methods* (2nd ed.). Oxford: Oxford University Press.

Bryman, A. (2006). Paradigm Peace and the Implications for Quality. *International Journal of Social Research Methodology* [Electronic version]. 9(2), 111-126.

Bryman, A. (2007). The Research Question in Social Research: What is its Role? *International Journal of Social Research Methodology* [Electronic version]. 10(2), 5-20.

Bryman, A. (2008). *Social Research Methods* (3rd ed.). Oxford: Oxford University Press.

- BSI Group (n.d.). *BS10500 Anti Bribery*. Retrieved on May 09, 2013 from BSI Group website: <http://www.bsigroup.co.uk/en-GB/BS-10500-Anti-Bribery/>
- Budd, T., Sharp, C. & Mayhew, P. (2005). *Offending in England and Wales: First Results from the 2003 Crime and Justice Survey*. Research Study No. 275. London: Home Office.
- Burby, R. J. & Patterson, R. G. (1993). Improving Compliance with State Environmental Regulations. *Journal of Policy Analysis and Management*, 12(4), 753-772.
- Burke Johnson, R. & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come [Electronic Version]. *Educational Researcher*, 33(7), 14-26.
- Burnard, P. (1991). A Method of Analysing Interview Transcripts in Qualitative Research. *Nurse Education Today*, 11(6), 461-466.
- Burnard, P. (2004). Writing a Qualitative Research Report [Electronic Version]. *Nurse Education Today*, 24, 174-179.
- Burrows, J., Turling, R., Mackie, A., Lewis, R. & Taylor, G. (2000). *Review of Police Forces' Crime Recording Practices*. Home Office Research Study 204. London: Home Office.
- Burt, J. E. & Barber, G. M. (1996). *Elementary Statistics for Geographers* (2nd ed.). New York: The Guilford Press.
- Button, M. & Gee, J. (2013). *Countering Fraud for Competitive Advantage: The Professional Approach to Reducing the Last Great Hidden Cost*. Chichester: John Wiley.
- Button, M., Gee, J. & Brooks, G. (2012). Measuring the Cost of Fraud: An Opportunity for the New Competitive Advantage. *Journal of Financial Crime*, 19(1), 65-75.
- Button, M., Johnston, L. & Frimpong, K. (2008). The Fraud Review and the Policing of Fraud: Laying the Foundations for a centralized Fraud Police or Counter Fraud Executive? *Policing*, 2(2), 241-250.
- Byars, R. S. & Love, J. L. (1973). *Quantitative Social Science research on Latin America*. Illinois: University of Illinois Press.
- Cabinet Office (2011). *Eliminating Public Sector Fraud: The Counter Fraud Taskforce Interim Report*. London Cabinet Office.
- Caldwell, L. & Mou, S. (1995). *Integrating Social Science and Ecosystem Management: A National Challenge*. Darby, PA: Diane Publishing Company.

Cardilli, M. C. (2003). Regulation Without Borders: The Impact of Sarbanes-Oxley on European Companies. *Fordham International Law Journal*, 27(2), 785-822.

Centers for Medicare and Medicaid Services. (2012). *Medicare Fee-for-Service 2011 Improper Payments Report*. Retrieved January 09, 2013 from the Centers for Medicare & Medicaid Services website:
<http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/CERT/Downloads?MedicareFFS2011CERTReport.pdf>

Centers for Medicare and Medicaid Services. (n.d.). *Payment Error Rate Measurement (PERM)*. Retrieved January 09, 2013 from Centers for Medicare and Medicaid Services website:
<http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/PERM/index.html>

Chadee, D. & Ditton, J. (2005). Fear of Crime and the Media: Assessing the Lack of Relationship. *Crime, Media, Culture*, 1(3), 322-332.

Channel Four News (2009). FactCheck: Bailout Spin? Retrieved July 21, 2010 from Channel Four website:
http://www.channel4.com/news/articles/business_money/factcheck+bailout+spin/290

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. London: Sage.

Cho, J. & Trent, A. (2006). Validity in Qualitative Research Revisited. *Qualitative Research*, 6(3), 319-340.

Cicourel, A. (1964). *Method and Measurement in Sociology*. London: Macmillan.

CIFAS (2011). *Fraudscape: Depicting the UK's Fraud Landscape*. London: CIFAS.

CIFAS (2012). *Fraudscape: Depicting the UK's Fraud Landscape*. London: CIFAS. Retrieved July 12, 2012, from CIFAS website:
<https://www.cifas.org.uk/secure/contentPORT/uploads/documents/reports/Confidential-%20Fraudscape%202011.pdf>

Clinard, M. & Yeager, P. (1980). *Corporate Crime*. Somerset NJ: Transaction Publishers.

Coffey, A. & Atkinson, P. (1996). *Making Sense of Qualitative Data*. London: Sage.

- Coglianesi, C., Healey, T. J., Keating, E. K. & Michael, M.L. (2004). *The Role of Government in Corporate Governance*. Regulatory Policy Program, Centre for Business and Government. Retrieved from Harvard University website on February 19, 2013. Available at:
<http://www.hks.harvard.edu/m-rcbg/research/rpp/reports/RPPREPORT8.pdf>
- Cohen, S. (1972). *Folk Devils and Moral Panics: The Creation of the Mods and Rockers*. London: MacGibbon and Kee.
- Cohen, S. (1980). *Folk Devils and Moral Panics* (2nd ed.). London: Martin Robertson.
- Cohen, S. (2002). *Folk Devils and Moral Panics* (30th anniversary ed.). London: Routledge.
- Coleman, C. & Moynihan, J. (1996). *Understanding Crime Data: Haunted by the Dark Figure*. Buckingham: Open University Press.
- Colton, D. & Covert, R. W. (2007). *Designing and Constructing Instruments for Social Research and Evaluation*. San Francisco, CA: Jossey-Bass.
- Committee of Public Accounts (2004). *32nd Report: HM Customs and Excise Standard Report*, HC284. London: The Stationery Office.
- Coyne, I. T. (1997). Sampling in Qualitative Research. Purposeful and Theoretical Sampling: Merging or Clear Boundaries [Electronic version]. *Journal of Advanced Nursing*, 26, 623-630.
- Craig, R. J. (2005). The Clinical Process of Interviewing. In R.J. Craig (Ed.) *Clinical and Diagnostic Interviewing* (2nd ed) (pp. 21-41). Lanham MD: Jason Aronson.
- Creswell, J. (1998). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3), 124-130.
- Crocker, O. L., Chiu, J. S. L. & Charney, C. (1984). *Quality Circles a Guide to Participation and Productivity*. Ontario: Methuen.
- Cryer, P. (1996). *The Research Student's Guide to Success*. Buckingham: Open University Press.

Cullinan, C. (2004). Enron as a Symptom of Audit Process Breakdown: Can the Sarbanes-Oxley Act Cure the Disease? *Critical Perspectives on Accounting*, 15, 853-864.

Daily Telegraph. 2009. *IMF Puts Total Cost of Crisis at £7.1 Trillion*. Retrieved from Daily Telegraph website on 15 December 2009. Available from: <http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/5995810/IMF-puts-total-cost-of-crisis-at-7.1-trillion.html>

David, M. & Sutton, C. D. (2004). *Social Research: The Basics*. London: Sage.

Davies, H., Nutley, S. & Smith, P. (2000). Learning from the Past, Prospects for the Future. In H.T.O. Davies, S. M. Nutley & P.C. Smith (Eds.), *What Works? Evidence Based Policy and Practice in Public Services* (pp. 351-366). Bristol: The Policy Press.

Denscombe, M. (2003) *The Good Research guide: For Small Scale Research Projects* (2nd ed.). Maidenhead: Open University Press.

Denscombe, M. (2010) *The Good Research Guide: For Small Scale Social Research Projects* (4th ed.). Maidenhead: Open University Press.

Denzin, N. K. (1988). *The Research Act: A Theoretical Introduction to Sociological Methods*, (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Department for Work and Pensions (2005). *Fraud Error and Other Incorrectness in Disability Living Allowance*. London: DWP.

Department for Work and Pensions (2007). *Fraud and Error in the Benefits System April 2005 to March 2006*. Department for Work and Pensions: London.

Department for Work and Pensions (2008). *Fraud and Error in the Benefits System: April 2007 to March 2008*. London: DWP.

Department for Work and Pensions (2012). *Fraud and Error in the Benefits System: Preliminary 2011/12 Estimates (Great Britain) Revised Edition*. Leeds: DWP

Departmental Committee on Criminal Statistics (1967). *Report of the Departmental Committee on Criminal Statistics*. Cmd 3448. London: Her Majesty's Stationery Office.

de Vaus, D. A. (1996). *Surveys in Social Research* (4th ed.). University College of London Press.

de Vaus, D. A. (2001). *Research Design in Social Research*. London: Sage.

de Vaus, D. (2002). *Surveys in Social Research* (5th ed.). Oxford: Routledge.

De Vay, D. L. (2006). *The Effectiveness of the Sarbanes-Oxley Act of 2002 in Preventing and Detecting Fraud in Financial Statements*. Boca Raton, FL: Dissertation.Com.

Dillman, D. A. (1983). Mail and Other Self Administered Questionnaires. In P. H. Rossi, J. D. Wright and A. B. Anderson (Eds.), *Handbook of Survey Research* (pp. 359-377). Orlando: Academic Press.

Doig, A. (2006). *Fraud*. Cullompton: Willan.

Doig, A., Johnson, S. & Levi, M. (2001). New Public Management, Old Populism and the Policing of Fraud [Electronic Version]. *Public Policy and Administration*, 16(1), 91-113.

Doig, A., Jones, B. & Wait, B (1999). The Insurance Industry Response to Fraud [Electronic Version]. *Security Journal*, 12, 19-30.

Doig, A. & Levi, M. (2009). Inter-agency Work and the UK Public Sector Investigation of Fraud 1996-2006: Joined up Rhetoric and Disjointed Reality. *Policing and Society*, 19(3), 199-215.

Doig, A. & Macaulay, M. (2010). Decades, Directions and the Fraud Review: Addressing the Future of Public Sector Fraud? *Public Money and Management*, 28(3), 185-192.

Driver and Vehicle Licensing Agency (2009). *Annual Report and Accounts*. Swansea: DVLA.

Duffy, B. Hall, S. & Williams, M. (2005). *Who Do You Believe? Trust in Government Information*. London: MORI.

Duffy, M. E. (1987). Methodological Triangulation: A Vehicle for Merging Quantitative and Qualitative Research Methods. *Image: Journal of Nursing Scholarship*, 19, 130-133.

Dunleavy, P. & Rhodes, R. A. W. (1990). Core Executive Studies in Britain. *Public Administration*, 68(1), 3-28.

Ebklom, P. (2004). Shared Responsibilities, Pooled Resources-Mapping Partnerships. In P. Ekblom & A. Wyvekens (Eds.) *A Partnership Approach to Crime Prevention*, (pp. 9-54). Strasbourg: Council of Europe Publishing.

Eraut, M. (1994). *Developing Professional Knowledge and Competence*. Lewes: Falmer Press.

Ernst & Young (1996). *Fraud the Unmanaged Risk*. London: Ernst & Young.

Ernst & Young (2000). *Fraud: Risk and Prevention*. London: Ernst & Young.

Ernst & Young (2006). *Fraud Risk in Emerging Markets. 9th Global Survey* [Electronic Version]. Retrieved April 27, 2010, from Ernst and Young website: [http://www.ey.com/Global/Assets.nsf/Ireland_EOY_E/Thought_Leadership_Fraud_Survey/\\$file/EY_Fraud_Survey_June2006.pdf](http://www.ey.com/Global/Assets.nsf/Ireland_EOY_E/Thought_Leadership_Fraud_Survey/$file/EY_Fraud_Survey_June2006.pdf)

Ernst & Young (2012). *Growing Beyond: A Place for Integrity*. London: Ernst & Young. Retrieved July 17, 2012 from Ernst and Young Website: <http://www.ey.com/GL/en/Services/Assurance/Fraud-Investigation---Dispute-Services/Global-Fraud-Survey---a-place-for-integrity>

Erwin, G. J. & Blewett, C. N. (1998). *Computing for a Small Business*. Cape Town: Juta and Co Ltd.

Erzberger, C. and Kelle, U. (2003). Making Inferences in Mixed Methods: The Rules of Integration. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 457-490). Thousand Oaks, CA: Sage.

Esty, D. C. & Geradin, D. (2001). *Regulatory Competition and Economic Integration: Comparative Perspectives*. Oxford: Oxford University Press.

Etienne, J. (2011). Compliance Theory: A Goal Framing Approach. *Law and Policy*, 33(3), 305-333.

European Commission (2005). *The New SME Definition: User Guide and Model Declaration*. Retrieved April 25, 2013 from Europa website: http://ec.europa.eu/enterprise/policies/sme/files/sme_definition/sme_user_guide_en.pdf

Executive Office of the President (2011). *Memorandum for the Heads of Executive Departments and Agencies: Issuance of Revised Parts I and II to Appendix C of OMB Circular A-123*. Retrieved April 25, 2013 from Whitehouse website: <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-16.pdf>

Ezzy, D. (2002). *Qualitative Analysis: Practice and Innovation*. London: Routledge.

Fairman, R. & Yapp, C. (2005). Enforced Self-Regulation, Prescription, and Conceptions of Compliance within Small Businesses: The Impact of Enforcement. *Law and Policy*, 27(4), 491-519.

Fan, S. (2008). *Public Expenditures, Growth and Poverty: Lessons from Developing Countries*. Baltimore, MA: John Hopkins University Press,

Farrall, S., Bannister, J., Ditton, J. & Gilchrist, E. (1997). *Open and Closed Question*. Social Research Update, Issue 17. Retrieved February 13, 2010, from University of Surrey website: <http://sru.soc.surrey.ac.uk/SRU17.html>

Farrell, S., Yeo, N. & Ladenberg, G. (2007). *Blackstone's Guide to the Fraud Act 2006*. Oxford: Oxford University Press.

Fenton, M. V. & Morris, D. J. (2003). The Integration of Holistic Nursing Practices and Complementary and Alternative Modalities Into Curricula of Schools of Nursing. *Alternative Therapies*, 9(4), 62-67.

Federal Housing Finance Agency Office of Inspector General (2013). *FHFA's Controls to detect and Prevent Improper Payments*. Retrieved April 25, 2013 from Federal Housing Agency website:
<http://fhfaoig.gov/Content/Files/FHFA's%20Controls%20to%20Detect%20and%20Prevent%20Improper%20Payments.pdf>

Ferguson, N. (2008). *The Ascent of Money: A Financial History of the World*. New York: Penguin.

Field, S. (1990). *Trends in Crime and their Interpretation: A Study of Recorded Crime in Post War England and Wales*. Home Office Research Study No. 119, London: Her Majesty's Stationery Office.

Fielding, N. (1993). Qualitative Interviewing. In N. Gilbert (Ed.) *Researching Social Life* (p.p. 135-153). London: Sage.

Fielding, N. G. & Lee, R. M. (Eds.) (1991). *Using Computers in Qualitative Research*. London: Sage.

Financial Fraud Action UK (2012). *Fraud the Facts 2012: The Definitive Overview of Payment Industry Fraud and Measures to Prevent it*. London: Financial Fraud Action UK

Financial Services Authority (2003). *Developing our Policy on Fraud and Dishonesty*. Discussion Paper 26. London: Financial Services Authority. Retrieved February 19, 2010, from Financial Services Authority website:
<http://www.fsa.gov.uk/pubs/discussion/dp26.pdf>

Fink, A. (1995). *How to Sample in Surveys*. Thousand Oaks, CA: Sage.

Finlay, L. (2002). "Outing" the Researcher: The Provenance, Process and Practice of Reflexivity. *Qualitative Health Research*, 12, 531-545.

Fitzgerald, J. D. & Cox, S. M. (1987). *Research Methods in Criminal Justice*. Chicago: Nelson Hall.

Fleming, M. (2009). *FSA's Scale & Impact of Financial Crime Project (Phase One): Critical Analysis*. London: The Financial Services Authority. Retrieved November 18, 2009 from the Financial Services Authority website:
<http://www.fsa.gov.uk/pubs/occpapers/op37.pdf>

Fleury, J. (1991). The Qualitative Generation of Wellness Motivation Theory. *Nursing Research*, 40, 286-291.

Fleury, J. (1993). Preserving Qualitative Meaning in Instrument Development. *Journal of Nursing Measurement*, 1, 135-144.

Fleury, J. (1998). The Index of Self Regulation: Development and Psychometric Analysis. *Journal of Nursing Measurement*, 6, 3-17.

Foreign & Commonwealth Office (2010). *Resource Accounts 2009-10*. HC74. London: The Stationery Office.

Foreman, E. K. (1991). *Survey Sampling Principles*. New York: Marcel Dekker.

Foresight Crime Prevention Panel (2006). *Just Around the Corner*. London: Department of Trade and Industry. Retrieved May 26, 2009, from Foresight Crime Prevention Panel website: http://www.foresight.gov.uk/Crime%20Prevention/Just_Around_the_Corner_March_2000.pdf

Foster, K. (1994). *The coverage of the Postcode Address File a sampling frame*, *Survey Methodology*. Bulletin, 34, pp. 9-18. London: Office for Population, Censuses and Surveys.

Foucault, M (1977). *Discipline and Punish: The Birth of the Prison*. London: Allen Lane

Foucault, M. (1979). On Governmentality. *Ideology and Consciousness*, 6, 5-22.

Foucault, M. (2000). *Power: Essential Works of Foucault, 1954–1984* (Volume 3). J. D. Faubion (Ed.). (R. Hurley, Trans). London: Penguin Books.

Fox, M., Martin, P. & Green, G. (2007). *Doing Practitioner Research*. London: Sage.

Fraud Advisory Panel (1999). *Studies of Published Literature on the Nature and Extent of Fraud in the Public and Private Sector*. London: Fraud Advisory Panel.

Fraud Advisory Panel (2006a). *Victims of Fraud*. London: Fraud Advisory Panel.

Fraud Advisory Panel (2006b). *Fraud Bill: Guidance for Industry*. London: Fraud Advisory Panel.

Fraud Advisory Panel (2009). *Fraud in the Charitable Sector*. London: Fraud Advisory Panel. Retrieved April 06, 2010 from Fraud Advisory Panel Website: http://www.fraudadvisorypanel.org/newsite/pdf_show.php?id=103

- Fraud Review Team, (2006). *Fraud Review: Final Report*. London: Fraud Review Team. Retrieved August 01, 2006, from Attorney General's Office website: <http://www.lso.gov.uk/pdf/fraudreview.pdf>.
- Frazer, L. & Lawley, M. (2000). *Questionnaire Design and Administration: A Practical Guide*. Brisbane: John Wiley & Sons Australia.
- Freeman, C. & Tyrer, P. J. (2006). *Research Methods in Psychiatry* (3rd ed.). London: Royal College of Psychiatrists.
- Frensch, F. (2007). *Social Side of Mergers and Acquisitions*. Berlin: Deutscher Universitats-Verlag.
- Friedman, H. H., Friedman, L. W. & Kass-Shraibman, F. (2008). Ethical Imperatives of CEOs: Creating the Virtuous Corporation. *Journal Of Business Systems, Governance and Ethics*, 3(4), 31-42.
- Gaines III, E. R. (2012). Preparing for the Inevitable Medicare and Medicaid RAC Reviews. *Emergency Medicine News*, April 2012. Retrieved January 15, 2013 from Emergency Medicine News website: http://journals.lww.com/em-news/Citation/2012/04051/Preparing_for_the_inevitable_Medicare_and_Medicaid.2.aspx
- Gannon, R. & Doig, A. (2010). Ducking the Answer? Fraud Strategies and Police Resources. *Policing and Society*, 20(1), 39-60.
- Gee, J. (2007). Measuring Fraud. *Fighting Fraud*. Issue 22, 7-9. London: KPMG. Retrieved May 28, 2009 from IP Risk and Security Forum website: <http://www.iprisk.co.uk/iprisk2009/documents/Fighting%20Fraud%2022%20FINAL%20web.pdf>
- Gee, J. (2009a). *Mobilising the Honest Majority to Fight Health-Sector Fraud*. Bulletin World Health Organisation, 87, 254-255. Retrieved April 27, 2010, from Scielo Public Health website: http://www.scielosp.org/scielo.php?pid=S0042-96862009000400007&script=sci_arttext&tlng=en
- Gee, J. (2009b, August/September). A New Approach for a New Era. *Fraud Intelligence*. Retrieved April 26, 2010, from Fraud Economics website: http://www.fraudeconomics.co.uk/assets/uploads/files/Fraud_Intelligence_-_Jim_Gee_-_A_New_Approach_for_a_New_Era_-_August_2009.pdf
- Gee, J. (2009c, November). Out of the Ashes. *Public Finance*. Retrieved April 27, 2010, from CIPFA website: <http://opinion.publicfinance.co.uk/2009/11/out-of-the-ashes/>

Gee, J (2010a). Fraud: Measure it to Manage it [Electronic Version]. *International Accountant*, 52, 12-13. Retrieved April 26, 2010 from Zmags website:
<http://viewer.zmags.com/htmlCat/index.php?zoom=1&imgid=&mid=rsfwqd&pageid=0>

Gee, J (2010b). Bad Medicine. *Public Finance*, January 29-February 4, 24-25.

Gee, J. & Helwig, R. (2008). International Healthcare Fraud. *Fighting Fraud*, 25, 18-20. Retrieved April 27, 2010 from KPMG website:

<http://www.kpmg.fi/Binary.aspx?Section=174&Item=5241>

Gee, J., Button, M. & Bassett, P. (2011). *Fraud Loss Measurement: A Short Guide to the Methodology and Approach*. Portsmouth: University of Portsmouth Centre for Counter Fraud Studies and London: PKF Forensic Services.

Gee, J., Button, M. & Brooks, G. (2009a). *The Financial Cost of Fraud*. London: Macintyre Hudson and Portsmouth: University of Portsmouth Centre for Counter Fraud Studies. Retrieved April 26, 2010, from Macintyre Hudson website:

<http://www.macintyreHUDSON.co.uk/sites/www.macintyreHUDSON.co.uk/files/The%20financial%20cost%20of%20fraud%20report.pdf>

Gee, J., Button, M. & Brooks, G. (2010a). *The Financial Cost of UK Public Sector Fraud*. Macintyre Hudson: London and University of Portsmouth Centre for Counter Fraud Studies: Portsmouth. Retrieved April 26, 2010, from Macintyre Hudson Website:

http://www.macintyreHUDSON.co.uk/sites/www.macintyreHUDSON.co.uk/files/The%20Financial%20Cost%20of%20UK%20Public%20Sector%20Fraud%20Report.pdf?utm_campaign=100426%2BFinancial%2Bcost%2Bof%2Bpublic%2Bsector%2Bfraud&utm_source=emailCampaign&utm_medium=email

Gee, J., Button, M. & Brooks, G. (2010b). *The Financial Cost of Healthcare Fraud*. Macintyre Hudson: London and University of Portsmouth Centre for Counter Fraud Studies: Portsmouth. Retrieved April 26 2010 from Fraud Economics Website:

http://fraudeconomics.co.uk/assets/uploads/files/The_Financial_Cost_of_Healthcare_Fraud.pdf

Gee, J., Button, M. & Cook, I. R. (2011). *The Resilience to Fraud of the UK Public Sector*. PKF (LLB): London and University of Portsmouth Centre for Counter Fraud Studies: Portsmouth.

Genn, H. (1993). Business Responses to the Regulation of Health and Safety in England. *Law and Policy*, 15, 219-233.

Ghatak, S. (2008). The Whole Extent of the Evil Origin of Crime Statistics in the United States. *Journal of Historical Sociology*, 21(1), 31-54.

Giddens, A. (1993). *Sociology* (2nd ed.). Cambridge: Polity Press.

- Gilbert, N. (1993). Research Theory and Method. In N. Gilbert (Ed.), *Researching Social Life* (pp. 18-31). London: Sage.
- Gillham, B. (2007). *Developing a Questionnaire* (2nd ed.). London: Continuum.
- Glaser, B. G. (1978). *Theoretical Sensitivity*. Mill Valley, CA: Sociology Press.
- Glaser, B. G. & Strauss, A.L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.
- Glass, G. V., McGraw, B. & Smith, M. L. (1981). *Meta-analysis in Social Research*. London: Sage.
- Gordon, G. R. & Willox Jr, N. A. (2005). Using Identity Authentication and Eligibility Assessment to Mitigate the Risk of Improper Payment. *Journal of Economic Crime Management*, 3(1), 1-24.
- Grasmick, H. G. & Bursik, R. J. Jr. (1990). Conscience, Significant Others and Rational Choice: Extending the deterrence Model. *Law and Society Review*, 24, 837-861.
- Green, J. & Thorogood, N. (2004). *Qualitative Methods for Health Research*. London: Sage.
- Greene, J. C. & Caracelli, V.J. (2003). Making Paradigmatic Sense of Mixed Methods Practice. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 91-110). Thousand Oaks, CA: Sage.
- Grinyer, A. (2002). The Anonymity Of Research Participants: Assumptions, Ethics and Practicalities. *Social Research Update*, Issue 36. Department of Sociology, University of Surrey. Retrieved February 13, 2010 from University of Surrey website: www.surrey.ac.uk/sru/SRU36.html
- Guba, E. G. & Lincoln, Y. S (1981). *Effective Evaluation: Improving the Usefulness of Evaluation Results Through Responsive and Naturalistic Approaches*. San Francisco, CA: Jossey-Bass.
- Gunn, O. (2004). Why Do We Have Separate Courses in Macro and Micro and Macro Economics, in Fullbrook, E. (Ed.), *A Guide to What's Wrong with Economics*, Anthem Press, London, pp.115-125
- Gunningham, N. & Grabosky, P. (1998). *Smart Regulation: Designing Environmental Policy*. Oxford: Oxford University Press.
- Gunningham, N. & Kagan, R. A. (2005). Regulation and Business Behaviour. *Law and Policy*, 27(2), 213-218.

- Gunningham, N., Kagan, R. A. & Thornton, D. (2003). *Shades of Green: Business, Regulation and Environment*. Stanford, CA: Stanford University Press.
- Gupta, P. P. & Leech, T. (2006). Making Sarbanes–Oxley 404 work: Reducing cost, increasing effectiveness. *International Journal of Disclosure and Governance*, 3(1), 27-48.
- Guttman, L. (1944). A Basis for Scaling Qualitative Data. *American Sociological Review*, 9, 139-150.
- Haines, F. (1997). *Corporate Regulation: Beyond 'Punish or Persuade'*. Oxford: Oxford University Press.
- Harden, A. & Thomas, J. (2005). Methodological Issues in Combining Diverse Study Types in Systematic Reviews [Electronic Version]. *International Journal of Social Research Methodology*, 8(3), 257-271.
- Hatch, G. & McMurtry, V. A. (2009). *Improper Payments Information Act of 2002: Background, Implementation, and Assessment*. Congressional Research Service, RL34164. Retrieved on July 30, 2010 from Congressional Reports Service website:
http://assets.opencrs.com/rpts/RL34164_20091008.pdf
- Hatch, G. & McMurtry, V. A. (2010). *Improper Payments Information Act of 2002: Background, Implementation, and Assessment*. Congressional Research Service, RL34164, October 04, 2010.
- Hek, G. & Moule, P. (2006). *Making Sense of Research: An Introduction for Health and Social Care Practitioners* (3rd ed.). London: Sage.
- Hellwig, M. (2008). *Systematic Risk in the Financial Sector: An Analysis of the Sub-prime Mortgage Financial Crisis*. Preprints of the Max Planck Institute for Research on Collective Goods, No. 2008, 43.
- Hencke, D., Sparrow, A. (2009). Gordon Brown Defends Rescue of Northern Rock after NAO Report. Retrieved July 21, 2010 from the Guardian website:
<http://www.guardian.co.uk/politics/2009/mar/20/northern-rock-mandelson/print>.
- Her Majesty's Government (2009). *Putting the Frontline First: Smarter Government*. London: The Stationery Office. Retrieved May 21st, 2010, from Her Majesty's Government website:
<http://www.hmg.gov.uk/media/52788/smarter-government-final.pdf>
- Her Majesty's Government (2012). *Tackling Fraud and Error in Government: A Report of the Fraud, Error and Debt Taskforce*. London: Cabinet Office.
- Her Majesty's Revenue and Customs (2006) *Child and Working Tax Credits: Error and Fraud Statistics 2003-04*. London: HMRC.

Her Majesty's Revenue and Customs (2007). *Measuring Indirect Tax Losses-2007*. London: HMRC.

Her Majesty's Revenue and Customs (2009). *Measuring Tax Gaps 2009*. London: HMRC.

Her Majesty's Revenue and Customs (2010). *Measuring Tax Gaps 2010*. London: HMRC.

Her Majesty's Treasury (1989). *Government Accounting*. London: HMSO.
Her Majesty's Treasury (1995). *Fraud Report 1994-95*. London: HMSO.

Her Majesty's Treasury (1997). *Managing the Risk of Fraud: A Guide for Managers*. London: HM Treasury.

Her Majesty's Treasury (2003). *Managing the Risk of Fraud: Assurance Control and Risk*. London: HM Treasury.

Her Majesty's Treasury (2009a). *2008-2009 Fraud Report: An Analysis of Reported Fraud in Government Departments*. London: Her Majesty's Treasury.

Her Majesty's Treasury (2009b). *Fraud in Government Departments 2009*. Dear Accounting Officer Letter (03/09). London: HM Treasury.
Retrieved May 23, 2012 from:
<http://www.hm-treasury.gov.uk/d/dao0309.pdf> 2011

Herden, B (2010). *Fighting Fraud in the UK*. London: National Fraud Authority.
Retrieved May 06, 2010, from the Financial Times website:
<http://www.ftbusiness.com/spotlighton/images/contentpage/berhard%20herdan%20-%20presentation.pdf>

Heritage, J. (1984). *Garfinkel and Ethnomethodology*. Cambridge: Polity Press.

Hermerinta-Peltomaki, L. & Nummela, N. (2004). First the Sugar. Then the Eggs...Or the Other Way Round? Mixing Methods in International Business Research. In R. Marsham Piekkara & C. Welch (Eds.), *Handbook of Qualitative Research Methods for International Business* (pp. 162-182). Cheltenham: Edward Elgar Publishing.

Hersen, M., Turner, S.M. & Beidel, D.C. (2007). *Adult Psychopathology and Diagnosis* (5th ed.). New Jersey: John Wiley.

Hewson, C., Yule, P., Laurent, D. & Vogel, C. (2003). *Internet Research Methods*. London: Sage.

Higson, A. (1999) *The Fraud Advisory Working Party Paper: Why is Management Reticent to Report Fraud? An Exploratory Study*. Retrieved May, 01, 2013 from Fraud Advisory Panel website:
https://www.fraudadvisorypanel.org/pdf_show.php?id=28

Hoare, J. (2007). Deceptive Evidence: Challenges in Measuring Fraud. In M. Hough & M. Maxwell (Eds.), *Surveying Crime in the 21st Century* (pp. 263-279). Cullompton: Willan.

Hoinville, G. & Jowell, R. C. (1987). *Survey Research and Practice*. London: Heinemann.

Hollingsworth, C., Frush, D. P., Cross, M. & Lucaya, J. (2003). Helical CT of the Body: A Survey of Techniques Used for Pediatric Patients. *American Journal of Radiography*, 180, 401-406.

Holt, M. F. (2008). *The Sarbanes-Oxley Act: Costs, Benefits and Business Impacts*. Oxford: CIMA Publishing.

Home Office (1971). *Instructions for the Preparation of Statistics Relating to Crime*. London: HMSO.

Home Office (2005) *The Economic and Social Costs of Crime Against Individuals and Households 2003-04*. London: Home Office.

Home Office (2013). *Crime Against Businesses: Headline Findings from the 2012 Commercial Victimisation Survey*. London: Home Office. Retrieved April 10, 2013 from Gov.UK website:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/147935/crime-business-prem-2012-pdf.pdf

Hood, C. C. (1983). *The Tools of Government*. London: Macmillan

Hough, M., Maxfield, M., Morris, B. & Simmons, J. (2007). The British Crime Survey after 25 Years: Progress, Problems and Prospects. In M. Hough & M. Maxfield (Eds.), *Surveying Crime in the 21st Century*, (pp. 7-31). Monsey, NY: Criminal Justice Press.

Hough, M. & Mayhew, P. (1983). *The British Crime Survey*. Home Office Research Study No. 76. London: HMSO.

House, E. R. & Howe, K. R. (1999). *Values in Evaluation and Social Research*. Thousand Oaks, CA: Sage.

House of Commons Treasury Committee (2009). *Banking Crisis: Dealing with the Failure of the UK Banks: Government, UK Financial Investments Ltd and Financial Services Authority Responses to the Seventh Report from the Committee*. Seventh Special Report of Session 2008-09. HC956, The Stationery Office, London.

- Houston, D. J. (2000). Public Service Motivation: A Multivariate Test. *Journal of Public Administration Research and Theory*, 10, 713-728.
- Hsieh, H.-F. & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15 (9), 1277-1288.
- Iglehart, J. K. (2001). The Centers for Medicare and Medicaid Services. *The New England Journal of Medicine*. 345(26), 1920-1924.
- Iglehart, J. K. (2009). Finding Money for Health Care Reform: Rooting out Waste, Fraud and Abuse. *New England Journal of Medicine*, 361(3), 229-231.
- International Monetary Fund (2000). *World Economic Outlook, May 2000: Asset Prices and the Business Cycle*. Washington, DC: International Monetary Fund Publication Services.
- Jack B, & Clarke A. (1998) The Purpose and use of Questionnaires in Research [Electronic version]. *Professional Nurse*, 14(3) 176-179.
- James, O. (2005). The Rise of Regulation of the Public Sector in the United Kingdom. *Sociologie du Travail*, 47, 323-339.
- Jansson, K (2007) *British Crime Survey: Measuring Crime for 25 Years*. London: Home Office. Retrieved June 01, 2010 from <http://rds.homeoffice.gov.uk/rds/pdfs07/bcs25.pdf>
- Johnson, M. & Rogers, K. M. (2007). The Fraud Act 2006: The E-Crime Prosecutor's Champion or the Creator of a New Inchoate Offence? [Electronic version]. *International Review of Law Computers*, 21(3), 295-304.
- Jones, G. & Levi, M. (2000). *The Value of Identity and the Need for Authenticity*. DTI Office of Science and Technology Crime Foresight Panel Essay for *Turning the Corner*. Retrieved 29/05/2009 from Cardiff University Website: <http://www.cf.ac.uk/sosci/resources/levi-identity.pdf>
- Jones, S. (2001). *Criminology*, (2nd ed.). London: Butterworths.
- Jupp, V. (1989). *Methods of Criminological Research*. London: Routledge.
- Kagan, R. and Scholz, J. (1984). The Criminology of the Corporation and Regulatory Enforcement Strategies. In K. Hawkins & J. Thomas (Eds.), *Enforcing Regulation*, (pp. 67-96). Boston: Kluwer Nijhoff Publishing.
- Kahn, R. & Canell, C. (1957). *The Dynamics of Interviewing*. New York: John Wiley.
- Kaplan, A. (1964). *The Conduct of Enquiry: Methodology for Behavioural Science*. San Francisco: Chandler.

Kastman Breuch, L. A., Olsen, A.M. & Frantz, A. B. (2002). Considering Ethical Issues in Technical Communication Research. In L. J. Gurak & M. M. Lay (Eds.), *Research in Technical Communication* (pp. 1-22). Westport, CT: Praeger Publishers.

Keenan, D. C. (2007). *Smith and Keenan's English Law: Text and Cases* (15th ed.). Harlow: Pearson Education Limited.

Kelle, U. (1997). *Computer Assisted Analysis of Qualitative Data*. Papers in Social Research Methods, Qualitative Series No. 4. London: London School of Economics Methodology Unit. Retrieved March 11, 2010 from London School of Economics website:

<http://www2.lse.ac.uk/methodologyInstitute/pdf/QualPapers/UKELLE.pdf>

Kent, G. (1996). Informed Consent. In *The Principled Researcher* (pp. 18-24). Unpublished Manuscript, Social Science Division, The Graduate School, University of Sheffield.

Kiesler, S. & Sproull, L. S. (1986). Response Effects in the Electronic Survey. *Public Opinion Quarterly*, 50, 402-413.

King, N. (1994). The Qualitative Research Interview. In C. Cassell & G. Symon (Eds.), *Qualitative Methods in Organizational Research*, (pp.14-36). London: Sage.

King, N. & Horrocks, C. (2010). *Interviews in Qualitative Research*. London: Sage.

Kirk, D. (2008). *Opinion: Fighting Fraud* [Electronic Version]. *The Journal of Criminal Law*, 72, 335-337.

Kirk, J. & Miller, M. (1986). *Reliability and Validity in Qualitative Research*. London: Sage.

Kleinman, A., Yan, Y., Jun, J., Lee, s., Zhang, E., Tianshu, P., Fei, W. & Jinhua, G. (2011). *Deep China: The Moral Life of the Person, What Anthropology and Psychiatry Tell Us about China Today*. Berkeley, LA: University of California Press.

Klenke, K. (2008). *Qualitative research in the Study of Leadership*. Bingley: Emerald Group publishing Limited.

Koch, T. (2006). Establishing Rigour in Qualitative Research: The Decision Trail. *Journal of Advanced Nursing*, 53(1), 91-103.

Koffman, L. (1996). *Crime Surveys and Victims of Crime*. Cardiff: University of Wales Press.

KPMG (2010). *Fraud Barometer*. Retrieved June 02, 2010 from KPMG website:
http://www.kpmg.co.uk/email/01Jan10/183902/RRD_183902_Yorkshire_page2.html

KPMG (2011). *Who is the Typical Fraudster?* London: KPMG International.

KPMG Government Institute. (2011). *A Practical Look at How Government Agencies Can Reduce Improper Payments*. Washington: KPMG LLP

KPMG (2012). *Fraud Barometer*. Retrieved July 17, 2012, from KPMG website:
<http://www.kpmg.com/uk/en/issuesandinsights/articlespublications/newsreleases/pages/fraud-barometer-boom-time-for-fraudsters-as-austerity-bites.aspx>

Krippendorff, K. (1980). *Content Analysis*. London: Sage.

Krippendorff, K. (2004). *Content Analysis: An Introduction to its Methodology* (2nd ed.). Thousand Oaks, CA: Sage.

KROLL (2009). *Global Fraud Report: Annual Edition 2009/2010*
Retrieved June 22, 2010, from Kroll website:
http://www.kroll.com/library/fraud/FraudReport_English-UK_Apr10.pdf

KROLL (2012). *Global Fraud Report: Annual Edition 2011/2012*
Retrieved June 22, 2010, from Kroll website:
<http://www.krolladvisory.com/fraud-report-2011/selected-articles/>

Kuhn, T. S. (1970). *The Structure of Scientific Revolutions* (2nd ed.). Chicago: University of Chicago Press.

Kumar, R. (2005). *Research Methodology: A Step by Step Guide for Beginners* (2nd ed.). London: Sage.

Kvale, S. & Brinkmann, S (2009). *Interviews: Learning the Craft of Qualitative Research Interviewing* (2nd ed.). Thousand Oaks, CA: Sage.

Langdridge, D. (2004). *Introduction to Research Methods and Data Analysis in Psychology*. Harlow: Pearson Education.

Lapadat, J. & Lindsay, A. (1999). Transcription in Research and Practice: From Standardization of Technique to Interpretive Positioning. *Qualitative Inquiry*, 5, 64-86.

LeCompte, M. D. & Preissle, J. (1993). *Ethnography and Qualitative Design in Educational Research* (2nd ed.). New York: Academic Press.

Lee, R. M. C. (1993). *Doing Research on Sensitive Topics*. London: Sage.

- Legard, R., Keegan, J. & Ward, K. (2003) *In-depth Interviews*. In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice: A Guide for Social Science Students and Researchers* (pp. 138-169). London: Sage.
- Leininger, M. (1994). Evaluation Criteria and Critique of Qualitative Research. In J. Morse (Ed.), *Critical Issues in Qualitative Research Methods* (pp. 95-115). Thousand Oaks, CA: Sage.
- Levi, M. (1987). *Regulating Fraud: White Collar Crime and the Criminal Process*. London: Tavistock Publications Ltd.
- Levi, M. (1988). *Of Rule and Revenue*. Berkeley: University of California Press.
- Levi, M. (2001). Business, Cities and Fears about Crimes [Electronic Version]. *Urban Studies*, 38(5-6), 849-868.
- Levi, M. (2008). Organized Fraud and Organizing Frauds: Unpacking research on Networks and Organization. *Criminology and Criminal Justice*, 8(4), 389-419.
- Levi, M. & Burrows, J. (2008). Measuring the Impact of Fraud in the UK: A Conceptual and Empirical Journey [Electronic version]. *British Journal of Criminology*, 48, 293-318.
- Levi, M., Burrows, J., Fleming, M.H. & Hopkins, M. (with the assistance of Matthews, K.) (2007). *The Nature, Extent and Economic Impact of Fraud in the UK*. London: ACPO.
- Lewis, J. (2009). Redefining Qualitative Methods: Believability in the Fifth Moment. *International Journal of Qualitative Methods*, 8(2), 1-14.
- Lichtman, M. (2010). *Qualitative Research in Education: A Users Guide* (2nd ed.). Thousand Oaks, CA: Sage.
- Likert, R. (1932). A Technique for the Measurement of Attitudes. *Archives of Psychology*, 140.
- Lincoln, Y. S. (1995). Emerging Criteria for Qualitative and Interpretive Research. *Qualitative Inquiry*, 3, 275-289.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Enquiry*. Beverley Hills: Sage.
- Litvak, K. (2006). *The Effect of the Sarbanes-Oxley Act on Non-US Companies Cross-Listed in the US*. Law and Economics Research Paper No. 55. Texas: University of Texas School of Law.
- Litwin, M. S. (1995). *How to Measure Survey Reliability and Validity*. Thousand Oaks, CA: Sage.

- Livingstone, T. (2009). Multi-Billion Pound Bank Bail-Out 'No Blank Cheque'. Retrieved July 21, 2010, from the Wales Online website: <http://www.walesonline.co.uk/news/wales-news/2009/01/20/multi-billion-pound-bank>.
- Lofland, J. (1971). *Analyzing Social Settings*. Belmont, CA: Wadsworth.
- Lofland, J. & Lofland, L. (1995). *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis* (3rd ed.). Belmont, CA: Wadsworth.
- Luborsky, M. R. & Rubinstein, R. L. (1995). Sampling in Qualitative Research. *Research on Aging*, 17(1), 89-113.
- Lumby, J. (1998). Transforming Nursing through Reflective Practice. In C. Johns & D. Freshwater (Eds.), *Transforming Nursing Through Reflective Practice* (pp. 91-102). Oxford: Blackwell.
- Maguire, M. (1994). Crime Statistics, Patterns and Trends: Changing Perceptions and their Implications. In M. Maguire, R. Morgan, & R. Reiner (Eds.), *The Oxford Handbook of Criminology*, (pp. 233-291). Oxford: Oxford University Press.
- Maguire, M. (2007). Crime Data and Statistics. In M. Maguire, R. Morgan, & R. Reiner (Eds.), *The Oxford Handbook of Criminology* (4th ed.) (pp. 241-301). Oxford: Oxford University Press.
- Maguire, M. (2012). Criminal Statistics and the Construction of Crime. In M. Maguire, R. Morgan, & R. Reiner (Eds.), *The Oxford Handbook of Criminology* (5th ed.) (pp. 206-244). Oxford: Oxford University Press.
- Makkai, T. & Braithwaite, J. (1993). The Limits of the Economic Analysis of Regulation: An Empirical Case and a Case for Empiricism. *Law and Policy*, 15(4), 271-291.
- Mallin, C. A. (2010). *Corporate Governance* (3rd ed.). Oxford: Oxford University Press.
- Mann, D. & Sutton, M. (1998). Net Crime: More Change in the Organisation of Thieving. *British Journal of Criminology*, 38, 202-229.
- Marshall, C. & Rossman, G.B. (1995). *Qualitative Research* (2nd ed.). Thousand Oaks, CA: Sage.
- Marshall, G. (2005). The Purpose, Design and Administration of a Questionnaire for Data Collection. *Radiography*, 11(2), 131-136.
- Mason, J. (1994). Linking Qualitative and Quantitative Data Analysis. In A. Bryman & R. Burgess (Eds.), *Analyzing Qualitative Data* (pp. 89-110). London: Routledge.

- Mason, J. (1996). *Qualitative Researching*. London: Sage.
- Mason, J. (2002). *Qualitative Researching* (2nd ed.). London: Sage.
- Mattick, K. & Bligh, J. (2005). An E-Resource to Coordinate Research Activity with the Readiness for Interprofessional Learning Scale (RIPLS). *Journal of Interprofessional Care*, 19(6), 604-613.
- Maxcy, S. J. (2003). Pragmatic Threads in Mixed Methods Research in the Social Sciences: The Search for Multiple Modes of Enquiry and the End of the Philosophy of Formalism. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 51-89). Thousand Oaks, CA: Sage.
- Maxfield, M G. & Babbie, E. (2001). *Research Methods for Criminal Justice and Criminology* (3rd ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Maxfield, M., Hough, M. & Mayhew, P. (2007) Surveying Crime in the 21st Century: Summary and Recommendations. In M. Hough & M. Maxwell (Eds.), *Surveying Crime in the 21st Century* (pp. 303-316). Willan, Cullompton.
- Maxwell, J. (1992). Understanding and Validity in Qualitative Research. *Harvard Educational Review*, 62(3), 279-300.
- May, P. (2005). Compliance Motivations: Perspectives of Farmers, Homebuilders and Marine Facilities. *Law and Policy*, 27, 317-347.
- May, T. (2001). *Social Research: Issues, Methods and Process* (3rd ed.). Buckingham: Open University Press.
- May, T. (2011). *Social Research: Issues, Methods and Process* (4th ed.). Maidenhead: Open University Press.
- McLaughlin, D., McKenna, H., Leslie, J., Robinson, J. & Moore, K. (2006). Illicit Drug Users in Northern Ireland: Perceptions and Experiences of Health and Social Care Professionals [Electronic Version]. *Journal of Psychiatric and Mental Health Nursing*, 13, 682-686.
- McLaughlin, H. (2007). *Understanding Social Work Research*. London: Sage.
- McLean, B. & Elkind, P. (2003). *The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron*. New York: Penguin Books.
- Mertens, D. (2003). Mixed Methods and the Politics of Human Research: The Transformative-Emancipatory Perspective. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 135-164). Thousand Oaks, CA: Sage.
- Mertens, D. M. & McLaughlin, J. A. (2004). *Research and Evaluation Methods in Special Education*. Thousand Islands: Corwin Press.

Merton, R. & Kendall, P. (1946). The Focused Interview. *American Journal of Sociology* [Electronic version], 51(6), 541-557.

Miles, M.B. and Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Source-Book* (2nd Ed.). London: Sage.

Miller, J. & Glassner, B. C. (1997). The Inside and Outside: Finding Realities in Interviews. In D. Silverman (Ed.) *Qualitative Research: Theory, Method and Practice* (pp. 99-112). London: Sage.

Miller, W.L. & Crabtree, B.F. (1994). Clinical Research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 340-352). Thousand Oaks, CA: Sage.

Milton, N. R. (2007). *Knowledge acquisition in Practice: A Step by Step Guide*. London: Springer Verlag.

Ministry of Defence (2011). *New group set up to tackle crime against the Armed Forces*. Retrieved 21 June, 2011 from:
<http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/NewGroupSetUpToTackleCrimeAgainstTheArmedForces.htm>

Ministry of Justice (2011). *The Bribery Act 2010: Quick Start Guide*. London: Ministry of Justice.

Mirrlees-Black, C. & Ross, A. (1995). *Crime against Retail and Manufacturing Premises: Findings from the 1994 Commercial Victimization Survey*. Home Office Research Study 146. London: Home Office.

Mishcon de Reya (2005). *Protecting Corporate Britain from Fraud*. London: Mishcon de Reya.

Mishler, E. G. (1990). Validation in Inquiry-Guided Research: The Role of Exemplars in Narrative Studies. *Harvard Educational Review* 60, 415-422.

Mistry, V. and Usherwood, R.C. (1996) Total Quality Management, British Standard accreditation, Investors In People and academic libraries.. *Information Research*, 1(3), Retrieved June 24, 2011 from Information and Research website: <http://InformationR.net/ir/1-3/paper9.html>

Mitchell, E. S. (1986). Multiple Triangulation: A Methodology for Nursing Science. *Advances in Nursing Science*, 8(3), 18-26.

Mitchell, M. L. & Jolley, J. M. (2009). *Research Design Explained* (7th ed.). Belmont, CA: Wadsworth.

Moeller, R. R. (2004). *Sarbanes Oxley and the New International Auditing Rules*. Hoboken, NJ: John Wiley and Sons.

- Moilanen, P. (2000). Interpretation, Truth and Correspondence. *Journal for the Theory of Social Behaviour* [Electronic version]. 30(4), 377-390.
- Moran-Ellis, J., Alexander, V.D., Cronin, A., Dickinson, M., Fielding, J., Sloney, J. & Thomas, H. (2006). Triangulation and Integration: Processes, Claims and Implications. *Qualitative Research*, 6(1), 45-59.
- Morris, C. R. (2008). *The Trillion Dollar Meltdown*. New York: Public Affairs.
- Morse, J. M. (1991a). Strategies for Sampling. In J. Morse (Ed.), *Qualitative Nursing Research: A Contemporary Dialogue* (pp. 117-131). Newbury Park CA: Sage.
- Morse, J. M. (1991b). Approaches to Qualitative-Quantitative Methodological Triangulation [Electronic version]. *Nursing Research*, 40, 120-123.
- Morse, J. M. (1999). Myth #93: Reliability and Validity are not Relevant to Qualitative Inquiry [Electronic Version]. *Qualitative Health research*, 9(6), 717-718.
- Morse, J. M. (2003). Principles of Mixed Methods and Multimethod Research Design. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 189-208). Thousand Oaks, CA: Sage.
- Morse, J. M. (2006). Insight, inference, evidence, and verification: Creating a legitimate discipline [Keynote address]. *International Journal of Qualitative Methods*, 5(1), Article 8. Retrieved 30/01/2010 from http://www.ualberta.ca/~iiqm/backissues/5_1/PDF/morse.pdf
- Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research [Electronic Version]. *International Journal of Qualitative Methods* 1 (2), Article 2.
- Morse, J. M. & Field, P.A. (1995). *Nursing Research: The Application of Qualitative Approaches* (2nd ed.). Cheltenham: Nelson Thornes.
- Morse, J.M. & Mitcham, C. (2002). Exploring Qualitatively-Derived Concepts: Inductive-Deductive Methods [Electronic Version]. *International Journal of Qualitative Methods*, 1(4), Article 3.
- Morse, J.M., Swanson, J.M. & Kuzel, A.J. (Eds.) (2001). *The Nature of Qualitative Evidence*. Thousand Oaks, CA: Sage.
- Moser, C. A. & Kalton, G. (1971) *Survey Methods in Social Investigation* (2nd ed.).Aldershot, Ashgate.

- Mosher, C. J., Miethe, T. D. & Hart, T. C. (2011). *The Mismeasure of Crime* (2nd ed.). Thousand Oaks, CA: Sage.
- Mumford, E. (2006) Researching People Problems: Some Advice to a Student. *Information Systems Journal*, 16(4), 383-389.
- Murphy, A., & Topyan, K. (2005). Corporate governance: a critical survey of key concepts, issues, and recent reforms in the US. *Employee Responsibilities and Rights Journal*, 17(2), 75-89.
- Murray Thomas, R. (2003). *Blending Qualitative and Quantitative Research Methods in Theses and Dissertations*. Thousand Oaks, CA: Corwen Press.
- Nardi, P. M. (2006). *Doing Survey Research: A Guide to Quantitative Methods* (2nd ed.). New York: Pearson.
- National Audit Office (1998). *Appropriation Accounts 1996-97: Class XII, Vote 1-Central Government Administered Social Security Benefits and other payments*. London: The Stationary Office. Retrieved 21/03/2004 from The National Audit Office Website: <http://www.nao.org.uk/pn/appr19.htm>
- National Audit Office (2006). *International Benchmark of Fraud and Error in Social Security Systems*. London: The Stationery Office.
- National Audit Office, (2008a). *Good Practice in Tackling External Fraud*. London: National Audit Office.
- National Audit Office (2008b). *Department for Work and Pensions: Progress in Tackling Benefit Fraud*. Report by the Comptroller and Auditor General. HC102, Session 2007-2008. London: The Stationery Office.
- National Audit Office (n.d.). *A Practical Guide to Sampling*. London: National Audit Office. Retrieved April 27, 2010, from www.nao.org.uk/publications/samplingguide.pdf
- National Commission on the Causes of the Financial and Economic Crisis in the United States (2011) *The Financial Crisis Inquiry Report*. USA: Pacific Publishing Studio.
- National Economic Research Associates (2000). *The Economic Cost of Fraud: A Report for the Home Office and the Serious Fraud Office*. London: Home Office.
- National Fraud Authority (2009a). *Fraud Focus*. Edition 4, December 2009. London: National Fraud Authority. Retrieved May 06, 2010, from National Fraud Authority website: http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/Documents/Fraud_Focus_Ed_4_December_2009.pdf

National Fraud Authority (2009b). *Regional Fraud Summits*. London: National Fraud Authority. Retrieved April 06, 2010, from National Fraud Authority website:

http://www.islo.gov.uk/nfa/GuidetoInformation/Documents/NFA_Regional%20Fraud_Summits_Report_%20July_2009.pdf

National Fraud Authority (2010a). *Annual Fraud Indicator*. London: National Fraud Authority. Retrieved May 06, 2010, from National Fraud Authority website:

http://www.attorneygeneral.gov.uk/nfa/GuidetoInformation/Documents/NFA_fraud_indicator.pdf

National Fraud Authority (2010b). *Fraud Focus*. Edition 5, February 2010. London: National Fraud Authority. Retrieved May 06, 2010, from National Fraud Authority website:

http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/Documents/Fraud%20Focus_Ed_5_ED_FEB_2010.pdf

National Fraud Authority (2010c). *A Fresh Approach to Combating Fraud in the Public Sector: The Report of the Smarter Government Public Sector Fraud Taskforce*. London: National Fraud Authority. Retrieved April 06, 2010 from National Fraud Authority website:

<http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/NewsRelease/Documents/A%20fresh%20approach%20to%20combating%20fraud%20in%20the%20public%20sector%20doc.pdf>

National Fraud Authority (2011a). *Annual Fraud Indicator*. London: National Fraud Authority. Retrieved May 27, 2011, from National Fraud Authority website:

<http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/Documents/AFI%202011.pdf>

National Fraud Authority (2011b). *Achievements in 2010/11 Annual Fraud Indicator*. London: National Fraud Authority. Retrieved June 27, 2011, from National Fraud Authority website:

<http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/Documents/NFA%20an%20review%202011.pdf>

National Fraud Authority (2011c). *Fraud Focus*. Edition 11, February 2011. London: National Fraud Authority. Retrieved May 06, 2010, from National Fraud Authority website:

<http://www.attorneygeneral.gov.uk/nfa/WhatAreWeSaying/Documents/FF%20Feb%202011.pdf>

National Fraud Authority (2012). *Annual Fraud Indicator*. London: National Fraud Authority.

National Fraud Authority (2013). *Annual Fraud Indicator*. London: National Fraud Authority.

National Fraud Strategic Authority (2008). *Business Plan 2008/09*. London: National Fraud Authority

National Fraud Strategic Authority (2009). *The National Fraud Strategy*. London: National Fraud Authority. Retrieved May 17, 2010, from National Fraud Authority website:
<http://www.attorneygeneral.gov.uk/nfa/GuidetoInformation/Documents/National%20Fraud%20Strategy.pdf>

National Health Service (1999) *Countering Fraud in the NHS*. Wetherby: Department of Health. Retrieved August 17, 2009 from Department of Health website:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4014376.pdf

National Health Service Counter Fraud and Security Management Service (2001a). *Countering Fraud in the NHS: Identifying the nature and scale of the problem*. London: Department of Health
Retrieved May 28, 2009 from NHS Counter Fraud website:
http://www.nhsbsa.nhs.uk/CounterFraud/Documents/identify_nature_scale.pdf

National Health Service Counter Fraud and Security Management Service (2001a). *Countering Fraud in the NHS: Protecting your NHS*. Retrieved June 02, 2010 from NHS Counter Fraud website
http://www.nhsbsa.nhs.uk/CounterFraud/Documents/countering_fraud_nhs.pdf

National Health Service Counter Fraud and Security Management Service (2007). *Countering Fraud in the NHS: Protecting Resources for Patients. 1999-2006 Performance Statistics*. NHSCFMS: London.

National Healthcare Anti-Fraud Association. (2010). *The Problem of Healthcare Fraud*. New York: NHCCA Resource Centre.

National Statistician (2011). *National Statistician's Review of Crime Statistics: England and Wales*. London: Office of National Statistics.

Neef, D., Siesfeld, G. A. & Cefola, J. (1998). *The Economic Impact of Knowledge*. Woburn, MA: Butterworth Heinemann.

Neuendorf, K. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage Publications.

Newburn, T. (2007). *Criminology*. Cullompton: Willan.

Newell, R. (1993). Questionnaires. In N. Gilbert (Ed.) *Researching Social Life* (pp. 94-115). London: Sage.

- Newell, R. & Burnard, P. (2006). *Research for Evidence Based Practice*. Oxford: Blackwell.
- Nicholas, S., Kershaw, C. & Walker, A. (2007). *Crime in England and Wales 2006/07*. London: Home Office.
- Nielson, V. L. & Parker, C. (2012). Mixed Motives: Economic, Social and Normative Motivations in Business Compliance. *Law and Policy*, 34(4), 428-462.
- Norwich Union (2005). *The Fraud Report: Shedding Light on Hidden Crime*. Norwich: Norwich Union.
- Oakley, A. (2000). *Experiments in Knowing: Gender and Method in the Social Sciences*. Cambridge: Polity Press.
- Office of Fair Trading (2006). *Fraud Review Final Report: A Consultation Response by the Office of Fair Trading*. London: Office of Fair Trading.
- Office for National Statistics (2012). *Crime in England and Wales-Quarterly First Release, March 2012*. London: Office for National Statistics.
- Ojo, M. (2011). Co-operative and Competitive Enforced Self Regulation: The Role of Governments, Private Actors and Banks in Corporate Responsibility. *Journal of Financial Regulation and Compliance*, 19(2), 139-155.
- Onwuegbuzie, A. J. & Leech, N. L. (2007). Validity and Qualitative Research: An Oxymoron [Electronic version]. *Quality and Quantity*, 41, 233-249.
- Oppenheim, A. N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement* (2nd ed.). London: Continuum.
- Padgett, D. K. (1998). *Qualitative Methods in Social Work Research: Challenges and Rewards*. Thousand Oaks, CA: Sage.
- Parker, C. (2006). The “Compliance” Trap: The Moral Message in Responsive Regulatory Enforcement. *Law and Society Review*, 40(3), 591-622.
- Patterson, A. & Thorpe, K. (2006). Public Preparations. In A. Walker, C. Kershaw & S. Nicholas (Eds.), *Crime in England and Wales 2005-06*, (pp. 33-46). London: Home Office.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, CA: Sage.
- Payment Accuracy (n.d. a) About Improper Payments. Retrieved February 25, 2013 from United States Payment Accuracy website:
<http://www.paymentaccuracy.gov/about-improper-payments>

Payment Accuracy (n.d. b) Government-Wide Payment Accuracy Targets. Retrieved February 25, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.gov/tabular-data/govt-wide-projections>

Payment Accuracy (n.d. c) Success Stories. Retrieved February 25, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.gov/content/success-stories>

Payments Accuracy (n.d. d). *Medicare Fee-For Service*. Retrieved February 25, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.gov/programs/medicare-fee-service>

Payments Accuracy (n.d. e). *Medicare Advantage*. Retrieved February 25, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.gov/programs/medicare-advantage-part-c>

Payments Accuracy (n.d. f). *Medicaid*. Retrieved February 25, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.gov/programs/medicaid>

Payments Accuracy (n.d. g). *Recaptured Payment Errors to Government Contractors*. Retrieved March 05, 2013 from United States Payment Accuracy website: <http://www.paymentaccuracy.usaspending.gov/content/agency-payment-recapture>

Payne, B. K. (2006). Problems Controlling Fraud and Abuse in the Home Health Care Field: Voices of Fraud Control Directors. *Journal of Financial Crime*, 13(1), 77-91.

Payne, B. K. (2012). *White Collar Crime: A Text/Reader*. Thousand Oaks, CA: Sage.

Payne, G. & Payne, J. (2004) *Key Concepts in Social Research*. London: Sage.

Peck, E. & Secker, J. (1999). Quality Criteria for Qualitative Research: Does Context Make a Difference? *Qualitative Health Research*, 9(4), 552-558.

Perino, M. (2002). Enron's Legislative Aftermath: Some Reflections on the Deterrence Aspects of the Sarbanes-Oxley Act of 2002. *St. John's Law Review*, 76(4), 671-698.

Peters, B. G. & Hoornbeek, J. A. (2005). The Problem of Policy Problems. In P. Eliadis, M. M. Hill & M. P. Howlett (Eds.), *Designing Government: From Instruments to Governance*, pp. 77-106 Quebec: McGill-Queens University Press

- Philips, L. (2010). *Fraud Experts Question Accuracy of Statistics*. Public Finance. Retrieved April 26 2010 from Public Finance Website: <http://www.publicfinance.co.uk/news/2010/01/fraud-experts-question-accuracy-of-statistics/>
- Pierre, S. A. (2000). Psychiatry and Citizenship: The Liverpool Black Mental Health Service User's Perspective [Electronic Version]. *Journal of Psychiatric and Mental Health Nursing*, 7, 249-257.
- Plasvic, A. (2007). Introduction and Background. *Fighting Fraud*. Issue 22, 3-6. London: KPMG. Retrieved May 28, 2009 from IP Risk and Security Forum website: <http://www.iprisk.co.uk/iprisk2009/documents/Fighting%20Fraud%2022%20FINAL%20web.pdf>
- Poland, B. (1995). Transcription Quality as an Aspect of Rigour in Qualitative Research. *Qualitative Inquiry*, 1, 290-310.
- Poland, B. D. (2003). Transcription Quality. In J. A. Holstein & J. F. Gubrium (Eds.), *Inside Interviewing: New Lenses, New Concerns* (pp. 267-287). Thousand Oaks, CA: Sage.
- Policastro, C. & Payne, B. K. (2013). An Examination of Deviants in the Durable Medical Equipment (DME) Field: Characteristics, Consequences, and Responses to Fraud. *Deviant Behaviour*, 34, 191-207.
- Polit, D. F. & Beck, C. T. (2003). *Nursing Research: Principles and Methods* (7th ed.). London: Lippincot Williams & Wilkins.
- Polit, D. & Hungler, B. (1999) *Nursing Research: Principles and Methods*. Sixth Edition. Philadelphia: Lippincott.
- Politics.co.uk (2007). Darling Defends Northern Rock Bail-Out. 19 November, 2007. Retrieved August 16, 2010, from the Politics UK website: [http://www.politics.co.uk/news/economy-and-finance/darling-defends-northern-rock-bail-out-\\$481758.htm](http://www.politics.co.uk/news/economy-and-finance/darling-defends-northern-rock-bail-out-$481758.htm)
- Pontell, H. N., Jesilow, P. D. & Geis, G. (1982). Policing Physicians: Practitioner Fraud and Abuse in a Government Medical Program. *Social Problems*, 30(1), 117-126.
- Porter, M. E. (1990). *The Competitive Advantage of Nations*. London: Macmillan.
- President's Commission on Law Enforcement and the Administration of Justice (1967). *Task Force Report: Crime and its Impact: An Assessment*. Washington, DC: US Government Printing Office.
- PriceWaterhouseCoopers (2010). *Fraud in the Public Sector*. London: PriceWaterhouseCoopers.

- PriceWaterhouseCoopers (2011). *Combating Cybercrime to Protect UK Organisations: Global Economic Crime Survey*. Retrieved April 24, 2013 from PriceWaterhouseCoopers website: <http://www.pwc.co.uk/forensic-services/publications/global-economic-crime-survey-2011-uk-report.jhtml>
- Proctor, M. (1993). Measuring Attitudes. In N. Gilbert (Ed.) *Researching Social Life* (pp. 117-134). London: Sage.
- Punch, K. (1998). *Introduction to Social Research: Quantitative and Qualitative Approaches*. London: Sage.
- Pyett, P. M. (2003). Validation of Qualitative Research in the Real World. *Qualitative Health Research*, 13(8), 1170-1179.
- Rafaeli, A., Dutton, J., Harquail, C. V. & Mackie-Lewis, S. (1997). Navigating by Attire: The Use of Dress by Female Administrative Employees. *Academy of Management Journal*, 40, 9-45.
- Rainey, H., Backoff, R. & Levine, C. (1976). Comparing Public and Private Organisations. *Public Administration Review*, 36(2), 233-244.
- Ratcliffe, J. (2008). *Intelligence Led Policing*. Cullompton: Willan Publishing.
- Reason, P. & Rowan, J. (1981). Issues of Validity in New Paradigm Research. In P. Reason & J. Rowan (Eds.) *Human Inquiry: A Sourcebook of New Paradigm Research* (pp. 239-250). New York: John Wiley and Sons.
- Reddy, W. & McCarthy, S. (2006). Sharing Best Practice. *International Journal of Health Care Quality Assurance*, 19(7), 504-598.
- Rennison, C. M. & Rand, M. (2007). Introduction to the National Crime Victimization Survey. In J. P. Lynch & L. A. Addington (Eds.). *Understanding Crime Statistics: Revisiting the Divergence of the NCVS and UCR*, (pp.17-54). New York: Cambridge University Press.
- Rescher, N. (1977). *Methodological Pragmatism: A Systems Theoretic Approach to the Theory of Knowledge*. New York: New York University Press.
- Re Velle, J. B. (2004). *Quality Essentials: A Reference Guide from A to Z*. Milwaukee: American Society for Quality.
- Review Group (2006). *Crime Statistics: An Independent Review*. London: Home Office. Retrieved May 06, 2010 from Home Office website: <http://rds.homeoffice.gov.uk/rds/pdfs06/crime-statistics-independent-review-06.pdf>
- Risjord, M., Moloney, M. & Dunbar, S. (2001). Methodological Triangulation in Nursing Research [Electronic Version]. *Philosophy of the Social Sciences*, 31(1), 40-59.

Ritchie, J., Lewis, J. & Elam, G. (2003). Designing and Selecting Samples. In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice: A Guide for Social Science Students and Researchers* (pp. 77-108). London: Sage.

Ritchie, J., Spencer, L. & O'Connor, W. (2003). Carrying Out Qualitative Analysis. . In J. Ritchie & J. Lewis (Eds.), *Qualitative Research Practice: A Guide for Social Science Students and Researchers* (pp. 219-262). London: Sage.

Roberts, J. & Hough, M. (Eds.). (2002). *Changing Attitudes to Punishment: Public Opinion Around the Globe*. Cullompton: Willan.

Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner Researchers* (2nd ed.). Oxford: Blackwell.

Rogers, R. (2001). *Handbook of Diagnostic and Structured Interviewing*. New York: Guilford Press.

Rose-Ackerman, S. (1988). Progressive Law and Economics-and the New Administrative Law. *Yale Law Journal*, 98, 341-368.

Rosenfeld, R. (2007). *Explaining the Divergence between UCR and NCVS Aggravated Assault Trends*. In J. P. Lynch & L. A. Addington (Eds.). *Understanding Crime Statistics: Revisiting the Divergence of the NCVS and UCR*, (pp.251-268). New York: Cambridge University Press.

Rossmann, G. & Rallis, S. (2003). *Learning in the Field: An Introduction to Qualitative Research* (2nd ed.). Thousand Oaks, CA: Sage.

Rowan, M & Huston, P. (1997). Qualitative Research Articles: Information for Authors and Peer Reviewers [Electronic version]. *Canadian Medical Association Journal*, 157(10) 1442-1446.

Rowland, D. & Garfield, R. (2000). Health Care for the Poor: Medicaid at 35. *Health Care Financing Review*, 22(1), 23-34.

RSM Robson Rodes (2004). *Economic Crime Survey*. London: RSM Robson Rodes

Rubinstein, M. (1994). Implied Binomial Trees. *Journal of Finance*, 49, 771-818.

Ruona, W. E. A. (2005). Analyzing Qualitative Data. In R. A. Swanson & E. F. Holton III (Eds.), *Research in Organizations: Foundations and Methods of Inquiry* (pp. 233-263). San Francisco, CA: Berrett Koehler Publishers.

Russell, N. (1998). *Dealing with Fraud: A Survey of UK Companies*. London: Neville Russell.

Ryan, D. & Coughlan, D. (2009). Inward Labour Mobility in the Irish Health- and Social-Care Sector [Electronic Version]. *British Journal of Nursing*, 18(3), 192-197.

Ryan, G. W. (2004). Using a Word Processor to Tag and Retrieve Blocks of Text. *Field Methods*, 16(1), 109-130.

Sainsbury, R. (1996). Rooting out fraud - innocent until proven fraudulent. *Poverty* April 1996, pp.17-20.

Sainsbury, R. (1998). Putting Fraud into Perspective. *Benefits*, 21, 2-6.

Sainsbury, R. (1999). Safeguarding Social Security: towards controlling the uncontrollable problem of social security fraud. *Journal of Social Security Law*, Vol.6, Issue 2, pp.47-49.

Sainsbury, R. (2001). Getting the Measure of Fraud. *Poverty*, Winter 108, Winter 2001.

Sainsbury, R. (2003). Understanding Social Security Fraud. In J. Millar (Ed.), *Understanding Social Security: Issues for Policy and Practice* (pp 277 – 295). Bristol: Policy Press.

Saks, M. & Allsop, J. (2007). *Researching Health: Qualitative, Quantitative and Mixed Methods*. London: Sage.

Sandelowski, M. (1986). The Problem of Rigour in Qualitative Research. *Advances in Nursing Science*, 8(3), 125-130.

Sankey, H. (2008). *Scientific Realism and the Rationality of Science*. Aldershot: Ashgate Publishing.

Sapsford, R. (2006). Research and Information on the Net. In R. Sapsford & V. Jupp (Eds.), *Data Collection and Analysis* (2nd ed.)(pp. 124-137)

Schatzman, L. & Strauss, A. (1973). *Field Research: Strategies for A Natural Sociology*. Englewood Cliffs, NJ: Prentice Hall.

Scheuer, S. (1999). *Motivation—aktørmotiver i arbejdslivet*. København: Handelshøjskolens Forlag.

Schick, A. (2007). *The Federal Budget: Politics, Policy, Process* (3rd ed.). Washington, DC: Brookings Institution Press.

Schmitt, F. F. (1995). *Truth: A Primer*. Boulder: Westview.

Schmidt, M. J. & Hollenson, S. (2006). *Marketing Research: An International Approach*. London: Pearson Education.

- Schofield, W. (2006). Survey Sampling. In R. Sapsford & V. Jupp (Eds.), *Data Collection and Analysis* (pp. 26-55). London: Sage.
- Scotland, Baroness (2007, November 21) Interview [Radio Broadcast] London: BBC Radio 4.
- Scott, D., Brown, A., Lunt, I. & Thorne, L. (2004). *Professional Doctorates: Integrating Professional and Academic Knowledge*. Maidenhead: Open University Press.
- Seale, C. (1999). *The Quality of Qualitative Research*. London: Sage.
- Seale, C. & Filmer, P. (1998). Doing Social Surveys. In C. Seale (Ed.) *Researching Society and Culture*. pp. 125-145. London: Sage.
- Sellitz, C., Jahoda, M. & Deutsch, M. (1965). *Research Methods in Social Relations*. London: Methuen.
- Selznick, P. (1992). *The Moral Commonwealth: Social Theory and the Promise of Community*. Berkeley, CA: University of California Press.
- Sheatsley, P. (1983). Questionnaire Construction and Item Writing. In P. Rossi, J. Wright, & A. Anderson (Eds.) *Handbook of Survey Research*. pp. 195-230, New York: Academic Press.
- Sherman, J. (2011). *Shut Up and Cut, Councils Tell Charities*. The Times, April 01, 2011.
- Shury, J., Speed, M., Vivian, D., Kuechel, A. & Nicholas, S. (2005). *Crime against Retail and Manufacturing Premises: Findings from the 2002 Commercial Victimization Survey*. London: Home Office.
- Silverman, D. (1993). *Interpreting Qualitative Data*. London: Sage
- Silverstone, H. and Davia, H. R. (2005). *Fraud 101: Techniques and Strategies for Detection*. New York: Wiley.
- Simmons, J. (2000). *Review of Crime Statistics: A Discussion Document*. London: Home Office.
- Simmons, J. & Dodd, T. (2003). *Crime in England and Wales 2002/2003*. London: Home Office.
- Simpson, S. (2002). *Corporate Crime, Law and Social Control*. Cambridge: Cambridge University Press.

Skinner, H., Biscope, S., Poland, B. & Goldberg, E. (2003). How Adolescents use Technology for Health Information: Implications for Health Professionals from Focus Group Studies. *Journal of Medical Internet Research*, 5(4), e32. Retrieved May 12, 2011 from Journal of Medical Internet Research website: <http://www.jmir.org/2003/4/e32/>

Smith, A. (2006). *Crime Statistics: An Independent Review*. London: Home Office.

Spalek, B (2007). *Knowledgeable Consumers? Corporate Fraud and Its Devastating Impacts*. London: Harm and Society Foundation. Retrieved March 29, 2010, from Centre for Crime and Justice Studies website: http://www.crimeandjustice.org.uk/opus309/KC_Final_version_200807.pdf

Sparrow, M. K. (2000). *License to Steal: How Fraud Bleeds America's Healthcare System*, (Updated ed.). Colorado: Westview Press

Spradley, J. P. (1979). *The Ethnographic Interview*. New York: Holt, Rinehart and Winston.

Sproull, L. S. (1986). Using Electronics Mail for Data Collection in Organizational Research [Electronic version]. *Academy of Management Journal*, 29, 159-169.

Stake, R. (1994). Case Studies. In N. Denzin & Y. Lincoln (Eds.) *Handbook of Qualitative Research* (pp. 435-454). London: Sage.

Statistics Commission (2005). *Crime Statistics: User Perspectives*. Interim Report. London Statistics Commission.

Statistics Commission (2006). *Crime Statistics: User Perspectives*. Report No. 30. London Statistics Commission.

Stockdale, A. (2002). *Tools for Digital Audio recording in Qualitative Research*. Social Research Update, Issue 38. Retrieved February 13, 2010, from University of Surrey Website: <http://sru.soc.surrey.ac.uk/SRU38.html>

Stone, D. H. (1993). Designing a Questionnaire. *British Medical Journal*, 307, 1264-1266.

Strauss, A. L. & Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London: Sage

Strauss, A. & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (2nd ed.). Thousand Oaks, CA: Sage.

Sturges, J. E. & Hanrahan, K. J. (2004). Comparing Telephone and Face-to-Face Qualitative Interviewing: A Research Note. *Qualitative Research*, 4, 107-118.

Sudman, S. (1983). Applied Sampling. In P. Rossi, J. Wright, & A. Anderson (Eds.), *Handbook of Survey Research*. pp. 145-194, New York: Academic Press.

Summers, B. (2008). The Fraud Act 2006: Has it had any Impact? [Electronic Version]. *Amicus Curiae*, 75, 10-18.

Sunstein, C. (1990). *After the Rights Revolution: Reconceiving the Regulatory State*. Cambridge, Mass: Harvard University Press.

Sutherland, E.H. (1940). White Collar Criminality. *American Sociological Review*, 5, 1-12.

Sutherland, E. H. & Cressey, D. R. (1960). *Principles of Criminology*. Philadelphia: Lippincott.

Sutton, M. (2007). Improving National Crime Surveys: With a Focus Upon Strangely Neglected Offenders and Their Offences, Including Fraud, High-Tech Crimes, and Handling Stolen Goods. In M. Hough & M. Maxwell (Eds.) *Surveying Crime in the 21st Century* (pp. 243-261). Cullompton: Willan.

Sweeney, J., O'Donoghue, T. & Whitehead, C (2004). Traditional Face-to-Face and Web-based Tutorials: A Study of University Students' Perspectives on the Roles of Tutorial Participant. *Teaching in Higher Education*, 9(3), 311-323.

Tackett, J., Woolf, F. & Claypole, G. (2004). Sarbanes-Oxley and Audit Failure: A Critical Examination. *Managerial Auditing Journal*, 19(3), 340-350.

Tashakkori, A. and Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Applied Social Research Methods 46. Thousand Oaks CA: Sage.

Tashakkori, A. & Teddlie, C. (2003a). The Past and Future of Mixed Methods Research: From Data Triangulation to Mixed Methods Designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 671-701). Thousand Oaks, CA: Sage.

Tashakkori, A. & Teddlie, C. (2003b). Glossary. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 703-718). Thousand Oaks, CA: Sage.

Tate, S. & Dobson, S. (2000). Clinical Supervision: What will it Offer to the Development of Practice Nurses. In L. Carey (Ed.), *Practice Nursing* (pp. 205-231). Bailliere Tindall: London.

- Teddlie, C. & Tashakkori, A. (2003). Major Issues and Controversies in the use of Mixed Methods in the Social and Behavioural Sciences. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social and Behavioural Research* (pp. 3-50). Thousand Oaks, CA: Sage.
- Teddlie, C. & Tashakkori, A. (2006). A General Typology of Research Designs Featuring Mixed Methods. *Research in the Schools*, 13(1), 12-18.
- Thach, E. (1995). 'Using Electronic Mail to Conduct Survey Research' [Electronic version]. *Educational Technology*, March-April, 27-31.
- Thomas, A. B. (2004). *Research Skills for Management Studies*. London: Routledge.
- Thomas, D. & Loader, B. D. (Eds.) (2003). *Cyber Crime*. London: Routledge.
- Thomas, J. R., Nelson, J. K. & Silverman, S. J. (2011). *Research Methods in Physical Activity* (6th ed.). Champaign, IL: Human Kinetics.
- Thrusfield, M. (2007). *Veterinary Epidemiology* (3rd ed.). Oxford: Blackwell.
- Thurstone, L. L. & Chave, E. J. (1929). *The Measurement of Attitude*. Chicago: University of Chicago Press.
- Tobin, G. A. & Begley, C.M. (2004). Methodological Rigour within a Qualitative Framework [Electronic Version]. *Journal of Advanced Nursing*, 48(4), 388-396.
- Trauth, E. M. & O'Connor, B. (1991). A Study of the Interaction Between Information Technology and Society: An Illustration of Combined Qualitative Research Methods. *Information Systems Research: Contemporary Approaches and Emergent Traditions*, 131-144.
- Trickett, J. (2010). George Osborne's Cuts Risk Economic Death Spiral. Retrieved August 12, 2010 from the Guardian website: <http://www.guardian.co.uk/commentisfree/2010/may/17/george-osborne-austerity-measures/print>
- Tuckett, A. (2004). Qualitative Research Sampling-the Very Real Complexities [Electronic Version]. *Nurse Researcher*, 12(1), 47-61.
- Tunley, M. (2010a). Uncovering the Iceberg: Mandating the Measurement of Fraud in the United Kingdom, *International Journal of Law, Crime and Justice* (2010), xx, doi:10.1016/j.ijlcrj.2011.05.007. Retrieved 21 June, 2011 from: <http://www.sciencedirect.com/science/article/pii/S1756061611000541>

Tunley, M. (2010b). Need, Greed or Opportunity? An Examination of who Commits Benefit Fraud and Why They Do It [Electronic Version]. *Security Journal*, Advance Online Publication, 15 November 2010, 1-18. Retrieved 21 June, 2011 from:

<http://www.palgrave-journals.com/sj/journal/vaop/ncurrent/abs/sj20105a.html>

Tunley, M. (2011). Counterblast: Another Case of Old Wine in New Bottles? The Coalition's Misguided Strategy to Reduce Benefit Fraud. *The Howard Journal of Criminal Justice*, 50(3), July 2011, 314-317.

TV Licensing (2009). *Delivering more for Less*. TV Licensing: Bristol.

Tyler, T. & Blader, S. (2000). *Cooperation in Groups: Procedural Justice, Social Identity and Behavioral Engagement*. Philadelphia, PA: Psychology Press.

Tyler, T. & Huo, Y. (2001). *Trust and the Rule of Law: A Law-abidingness Model of Social Control*. New York: Russell Sage.

United States Child Care Bureau. (2007). *Measuring Improper Authorizations for Payment in the Child Care Program*. Retrieved August 10, 2010 from United States Childcare Bureau website:

http://www.acf.hhs.gov/programs/ccb/ccdf/ipi/data_final/data_final.doc

United States Department of Agriculture (2002). *Performance and Accountability Report FY 2002*. Retrieved May 02, 2013 from US Department of Agriculture website:

<http://www.ocfo.usda.gov/usdarpt/par2002/pdf/par2002.pdf>

United States Department of Agriculture (2003). *Annual Report for Fiscal Year 2003: Report on Performance and Accountability*. Retrieved May 02, 2013 from US Department of Agriculture website:

<http://www.ocfo.usda.gov/usdarpt/par2003/pdf/par2003.pdf>

United States Department of Agriculture (2004). *Performance and Accountability Report FY 2004*. Retrieved May 02, 2013 from US Department of Agriculture website:

<http://www.ocfo.usda.gov/usdarpt/par2004/pdf/par2004.pdf>

United States Energy and Commerce Committee Subcommittee on Health (2012). *Hearing on Examining Options to Combat Health Care Waste, Fraud and Abuse*. November 28, 2012. Washington: US Energy and Commerce Committee.

United States General Accounting Office (2001). *Strategies to Manage Improper Payments: Learning from Public and Private Sector Organizations*. Retrieved July 30, 2010 from United States Government Accountability Office website: <http://www.gao.gov/new.items/d0269g.pdf>

United States Government Accountability Office (2009). *Improper Payments: Progress Made, but Challenges Remain in Estimating and Reducing Improper Payments*, GAO-09-628T. Retrieved July 30, 2010, from the US Government Accountability Office website: <http://www.gao.gov/new.items/d09628t.pdf>

United States Government Accountability Office. (2012). *Improper Payments: Remaining Challenges and Strategies for Governmentwide Reduction Efforts*. GAO-12-573T. Washington: The United States Government Accountability Office.

United States Government Accountability Office. (n.d.). *Efforts to Address Governmentwide Improper Payments Could Result in Significant Cost Savings*. Retrieved March 05, 2013 from United States Government Accountability Office website:
http://www.gao.gov/modules/ereport/handler.php?1=1&path=/ereport/GAO-11-318SP/data_center_savings/General_government/Efforts_to_address_governmentwide_improper_payments_could_result_in_significant_cost_savings

United States Government Info (n.d.). *About the Office of Inspector General*. Retrieved April 25, 2013 from US Government Information website:
<http://usgovinfo.about.com/od/thepresidentandcabinet/a/oig.htm>

United States Office of Management and Budget (2001). *The Presidents Management Agenda-Fiscal Year 2002*. Retrieved August 11, 2010 from the US Office of Management and Budget website:
<http://www.cio.gov/Documents/mgmt.pdf>

United States Office of Management and Budget (2003a). *Implementation Guidance for the Improper Payments Information Act of 2002. PL 107-300*. Retrieved on August 09, 2010 from the White House website:
<http://www.whitehouse.gov/sites/default/files/omb/assets/omb/memoranda/m03-13-attach.pdf>

United States Office of Management and Budget (2003b). *Improper Payments Information Act of 2002 (P.L. 107-300), Memorandum for Heads of Executive Departments and Agencies, M-03-13*. Retrieved on July 30, 2010 from the White House website:
http://www.whitehouse.gov/omb/memoranda_m03-13/

United States Office of Management and Budget (2006). *Requirements for Effective Measurement and Remediation of Improper Payments, Appendix C to OMB Circular A-123*. Retrieved July 30, 2010, from the White House website: http://www.whitehouse.gov/omb/circulars/a123/a123_appx-c.pdf

United States Office of Management and Budget (2008). *Improving the Accuracy and Integrity of Federal Payments*. Retrieved on July 30, 2010 from the White House website:
http://www.whitehouse.gov/sites/default/files/omb/financial/fia/2007_ipia_final.pdf

United States Office of Management and Budget (2009). Improving the Accuracy and Integrity of Federal Payments. Retrieved July 30, 2010 from the US Office of Management and Budget website:

<http://www.cfoc.gov/index.cfm?function=specdoc&id=Improving%20the%20Accuracy%20and%20Integrity%20of%20Federal%20Payments&structure=Council%20Documents&category=Improper%20Payments>

United States Office of Management and Budget (2010). Memorandum for Heads of Executive Departments and Agencies, M-10-13. Retrieved June 06, 2010, from the White House website:

http://www.whitehouse.gov/omb/assets/a123/a123_appx-c.pdf

United States Social Security Administration. (2010). *Social Security Legislative Bulletin*. Bulletin Number 111-47, July 23, 2010. Retrieved on December 19, 2012 from US Social Security website:

http://www.ssa.gov/legislation/legis_bulletin_072310.html

Vallabhaneni, R. (2008). *Corporate Management, Governance, and Ethics Best Practices*. John Wiley & Sons, Hoboken, NJ.

Vincent-Jones, P. (2006). *New Public Contracting: Regulation, Responsiveness, Rationality*. Oxford: Oxford University Press.

Vogt, W. P. (2005). *Dictionary of Statistics and Methodology: A Nontechnical Guide for the Social Sciences*. Thousand Oaks, Ca: Pine Forge.

von Solms, B. (2000). Information Security-The Third Wave? *Computers and Security*, 19, 615-620.

Wainright, D. (1997). Can Sociological Research be Qualitative, Critical and Valid? [Electronic Version]. *Qualitative Report*, 3(2) 1-18.

Walker, A., Kershaw, C. & Nicholas, S. (2006). *Crime in England and Wales 2005/2006*. London: Home Office.

Walker, M. A. (1995). Statistics of Offences. In M. A. Walker (Ed.), *Interpreting Crime Statistics*, (pp. 4-23). Oxford: Clarendon Press.

Walker, S. (2011). *Sense and Nonsense about Crime, Drugs, and Communities* (7th ed.). Belmont, CA: Wadsworth.

Walklate, S. (2000). Researching Victims. In R. D. King & E. Wincup (Eds.), *Doing Research on Crime and Justice* (pp.183-201). Oxford: Oxford University Press.

Walters, R. (2005). Boycott, Resistance and the Role of the Deviant Voice. *Criminal Justice Matters*, No. 62, 1, 6-7.

Weber, R. P. (1985). *Basic Content Analysis*. Sage University Paper Series on Quantitative Applications in the Social Sciences, 49. London: Sage.

Whelan, P. (2007). A Principled Argument for Personal Criminal Sanctions as Punishment under EEC Cartel Law. *Competition Law Review*, 4, 7-40.

White House (2010a). *Fact Sheet: The Improper Payment Elimination and Recovery Act and the Administration's Effort to Cut Wasteful Improper Payments*. Retrieved June 15, 2011 from the White House website:
<http://www.whitehouse.gov/the-press-office/president-obama-sign-improper-payments-elimination-and-recovery-act>

White House (2010b). *Cutting Down on Waste and Fraud Through Payment Recapture Audits*. March 10, 2010. Retrieved March 04, 2013, from the White House website:
<http://whitehouse.gov/the-press-office/president-obama-announces-new-effort-crack-down-waste-and-fraud>

White House (n.d.). *Implementation Guidance for Improper Payments Act of 2012*. Retrieved February 18, 2010 from the White House website:
<http://www.whitehouse.gov/omb/memoranda/m03-13-attach.pdf>

Whittemore, R., Chase, S. K. & Mandle, C.L. (2001). Validity in Qualitative Research. *Qualitative Health Research*, 11(4), 522-537.

Wiersma, W. (1975). *Research Methods in Education*. Illinois: Peacock.

Williams, A. (2003). How to Write and Analyse a Questionnaire [Electronic Version]. *Journal of Orthodontics*, 30, 245-252.

Williams, M. (2003). *Making Sense of Social Research*. London: Sage.

Wilson, D., Patterson, A., Powell, G. & Hembury, R. (2006). *Fraud and Technology Crimes: Findings from the 2003/04 British Crime Survey, the 2004 Offending Crime and Justice Survey and Administrative Sources*. London: Home Office.

Wilson, M. & Sapsford, R. (2006). Asking Questions. In R. Sapsford & V. Jupp (Eds.), *Data Collection and Analysis* (2nd ed.)(pp. 93-123). London: Sage.

Winter, S. & May, P. J. (2001). Motivation for Compliance with Environmental Regulations. *Journal of Policy Analysis and Management*, 20, 675-698.

Wolcott, H. (1990). On seeking and Rejecting Validity in Qualitative Research. In E.W. Eisner & A. Peshkin (Eds.), *Qualitative Inquiry in Education: The Continuing Debate* (pp. 121-152). New York: Teachers College Press.

Words and Phrases. (1959). *Words and Phrases*. Minnesota: West Publishing Company.

Wyant, C. (2003). Executive Certification Requirements in the Sarbanes-Oxley Act of 2002: A Case for Criminalizing Effective Recklessness. *Seattle University Law Review*, 27, 561-584.

Young, J. (1992). Ten Points of Realism. In J. Young & R. Matthews (Eds.), *Rethinking Criminology: The Realist Debate*, (pp. 24-68). London: Sage.

Yun, G. W. & Trumbo, C. W. (2000). Comparative Response to a Survey Executed by Post, E-mail and Web Form [Electronic version]. *Journal of Computer Mediated Communication*, 6.

Zeisel, J. (1984). *Inquiry by Design: Tools for Environment-Behaviour Research*. Cambridge: Cambridge University Press.

Zhang, Y. & Wiersema, M. F. (2009). Stock Market Reaction to CEO Certification: The Signaling Role of CEO Background. *Strategic Management Journal*, 30, 693-710.