

the financial cost of fraud what data from around the world shows

Jim Gee, Dr. Mark Button and Graham Brooks



2011 REPORT





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// foreword

Fraud is a challenging problem. Its economic effects are clear – worse public services, less financially stable and profitable companies, diminished levels of disposable income for all of us, charities deprived of resources needed for charitable purposes. In every sector of every country, fraud has a pernicious impact on the quality of life.

However, historically, fraud has been described as 'difficult to cost'¹ and until relatively recently, it has not been possible to quantify these effects. However, the last 10 - 15 years has seen this situation change.

This Report builds on research first undertaken and published in 2009, considering just what the financial cost of fraud really is. It represents another output of the fruitful collaboration between PKF, the leading accountants, and the Centre for Counter Fraud Studies at University of Portsmouth (CCFS), Europe's leading research centre about fraud.

Rapid changes have taken place in recent years. In the UK, from the late 1990s, the Department of Work and Pensions and the NHS started to accurately measure fraud (and error) losses. In 2006, the Government's 'Fraud Review' Report said, 'better measurement is crucial to a properly designed and effective strategic response to fraud and to supporting better management of fraud risks'. The National Audit Office's 2008 'Guide to Tackling External Fraud' said, 'Assessing the scale of loss from fraud is an important first step in developing a strategy for tackling external fraud'. The Government's National Fraud Authority now has a specialist unit devoted to this task, and each year produces an Annual Fraud Indicator. During 2011, the Cabinet Office Counter Fraud Taskforce announced the creation of Counter Fraud Champion posts in every government department, with a specific role 'To measure fraud and error'. Furthermore, the Secretary of State for Communities and Local Government listed measuring exposure to fraud risk as the first point on a list of things for local authorities to do about fraud.

In Europe, the European Healthcare Fraud and Corruption Declaration of 2004, agreed by organisations from 28 countries, called for "The development of a European common standard of risk measurement, with annual statistically valid follow up exercises to measure progress in reducing losses to fraud and corruption throughout the EU."

In America, the Improper Payments Information Act of 2002 provided that public agencies should publish a 'statistically valid estimate' of the extent of fraud and error in their programs and activities, and this has recently been reinforced by the Improper Payments Elimination and Recovery Act of 2010.

As a result, many more exercises to measure losses have taken place than would otherwise be the case, and this Report documents what has been found over the period from 1997 to 2009. It also shows the impact of the recession on losses by comparing and contrasting data from 2008 and 2009 with the prior period.

Of course, there are still some estimates published which are simply not reliable. Counting only those losses which are detected or prosecuted, or surveying those working in the area for their opinion, will never be accepted as a reliable indicator of the real economic cost of fraud. This Report takes the debate much further forward.

It shows that the financial cost of fraud and error can be accurately measured in the same way as other business costs; it shows that this is not unnecessarily costly or difficult; and most important, it shows what the financial cost is likely to be. The volume of data, the total value of the expenditure concerned, the number of different types of expenditure and the different organisations and countries concerned are impressive.

It will take a brave Chief Executive or Director of Finance of any organisation who argues that their losses are outside what this Report finds to be the case – more than two thirds of the exercises reviewed showed losses of more than 3%, with the twelve year average running at more than 5% and average losses rising in the first two years after the start of the recession to over 6%.

The evidence revealed in this Report shows that these losses can be, and have been, reduced by up to 40% within 12 months, and that provides a real opportunity in difficult economic circumstances. Public expenditure reductions can be less painful if the cost of fraud is reduced; private sector companies can be more financially stable, profitable and healthy and the charity sector can increase the resources it has available to deliver on important charitable purposes.

Fraud is the last great unreduced business cost, and this Report shows just how significant that cost is.

Jim Gee

Director of Counter Fraud Services, PKF (UK) LLP and Chair of the Centre for Counter Fraud Services, University of Portsmouth

¹ "Counting the costs of crime in Australia: a 2005 update" - The Australian Institute of Criminology

1 // introduction

1 // introduction

- 1.1 This Report renews research first undertaken in 2009, collating the latest, accurate, statistically valid information from around the world about the real financial cost of fraud and error. Once the extent of fraud losses is known, then they can be treated like any other business cost as something to be reduced and minimised in the best interest of the financial health and stability of the organisation concerned. It becomes possible to go beyond reacting to unforeseen individual instances of fraud and to include plans to pre-empt and minimise fraud losses in business plans.
- 1.2 The Report doesn't just look at detected fraud or the individual cases which have come to light and been prosecuted. Because there is no crime which has a 100% detection rate, adding together detected fraud significantly underestimates the problem. It is also the case that if detected fraud losses go up, does that mean that there is more fraud or that there has been better detection; equally, if detected fraud losses fall, does that mean that there is less fraud or worse detection?
- 1.3 The Report also doesn't rely on survey-based information where those involved are asked for their opinions about the level of fraud. These tend to vary significantly according to the perceived seriousness of the problem at the time by those surveyed. While they sometimes represent a valid survey of *opinion*, that is very different from a valid survey of *losses*.
- 1.4 Instead, this Report considers and analyses 203 exercises which have been undertaken around the world during the last ten years, to accurately measure the financial cost resulting from fraud and error.
- 1.5 This is surely the worst aspect of the problem. Yes, fraud is unethical, immoral and unlawful; yes, the individuals who are proven to have been involved should be punished; yes, the sums lost to fraud need to be traced and recovered. However, these are actions which take place after the fraud losses have happened after the resources have been diverted from where they were intended and after the economic damage has occurred.

- 1.6 In almost every other area of business life, organisations know what their costs are – staffing costs, accommodation costs, utility costs, procurement costs and many others. For centuries, these costs have been assessed and reviewed and measures have been developed to **pre-empt** them and improve efficiency. This incremental process now often delivers quite small additional improvements.
- 1.7 Fraud and error costs, on the other hand, have only very rarely had the same focus. The common position has been that organisations have either denied that they had any fraud or planned only to react after fraud has taken place. Because of this, fraud is now one of the great unreduced business costs.
- 1.8 However, a cost can only be reduced if it can be measured, and a methodology to do this accurately has only been developed and implemented over the last decade.
- 1.9 Now that we can measure fraud and error losses, we can make proper judgements about the level of investment to be made in reducing them. Now that we can measure these losses, we can measure the financial benefits resulting from their reduction.
- 1.10 In the current macro-economic climate, with a tough business climate, reducing these losses are one of the least painful ways of reducing business costs. Fraud is an 'unnecessary' cost because much of it can be pre-empted. This Report identifies what the financial cost of fraud and error has been found to be and thus, the 'size of the prize' to be achieved from reducing them.
- 1.11 Of course, there is always more research to be done and any organisation should consider what its own fraud and error costs are likely to be, however, the volume of data which is already available from exercises covering total expenditure of over £5 trillion, sterling equivalent, points clearly to losses usually being found in the range of 3-10%.
- 1.12 We will continue to monitor data as it becomes available and publish further Reports as appropriate.

2 // overview

2 // overview

- 2.1 The original 'Financial Cost of Fraud Report', published in 2009 identified and reviewed 132 exercises to accurately measure fraud and error losses, undertaken across the world between 1997 and 2007. This Report has reviewed a further 71 exercises undertaken during 2008 and 2009. Taking the two together, the research published in this Report covers 32 different types of expenditure totalling over £5 trillion, in 45 organisations from nine countries. The value of the expenditure examined has **not** been uprated to 2011 values. The losses referred to are a percentage loss of expenditure.
- 2.2 This Report is based on extensive global research, building on previously established direct knowledge, to collate information about relevant exercises. The data was then analysed electronically. Exercises were collated from Europe, North America, Australia and New Zealand. None were found in Asia or Africa.
- 2.3 The Report has **excluded** guesstimates, figures derived from detected fraud losses, and figures resulting from surveys of opinion. It has also excluded some loss measurement exercises where it is clear that they have not met the standards described below.
- 2.4 It has included exercises which
 - have considered a statistically valid sample of income or expenditure
 - which have sought and examined information indicating the presence of fraud, error or correctness in each case within that sample
 - which have been completed and reported
 - which have been externally validated
 - which have a measurable level of statistical confidence
 - which have a measurable level of accuracy

- 2.5 There are a number of caveats.
- 2.6 Some of the exercises have resulted in estimates of the fraud frequency rate, some of the percentage of expenditure lost to fraud, and some have measured both.
- 2.7 It is also the case that, some exercises have separately identified measured fraud and error and some have not.
- 2.8 Sometimes, once such exercises have been completed, the organisations concerned have, mistakenly in the view of the author of this Report, decided not to publish their results. Transparency about the scale of the problem is a key factor in its solution, because attention can be focused and a proportionate investment made.
- 2.9 In some cases, those directly involved in countering fraud have decided, confidentially, to provide information about unpublished exercises for wider consideration. In those cases, while the overall figures have been included in the findings of this Report, no specific reference has been made to the organisations concerned.
- 2.10 The authors of this Report are also aware of a very small number of other exercises which have been completed, but which have not been published and where nothing is known of the findings.
- 2.11 Finally, it is important to emphasise that this research will never be complete. More evidence becomes available each year. However, the preponderance of the evidence does point clearly in one direction, as is explained later.
- 2.12 While it is necessary to make these caveats clear, the importance of the evidence collated in this Report should not be underestimated. It shows that losses to fraud and error represent a significant, damaging and, crucially, unnecessary business cost.

3 // data from around the world

3 // data from around the world

- 3.1 The nine countries in which the authors are aware that fraud loss analysis exercises have taken place are:
 - the UK;
 - the United States;
 - France;
 - Belgium;
 - The Netherlands;
 - Ireland;
 - Canada;
 - Australia;
 - New Zealand.
- 3.2 By value of income or expenditure measured, the United States has undertaken the greatest amount of work in this area. This is a direct reflection of the Improper Payments Information Act of 2002 (IPIA) which requires designated major US public authorities to estimate the annual amount of payments made where fraud and error are present, and to report the estimates to the President and Congress with a progress report on actions to reduce them. The Improper Payments Elimination and Recovery Act of 2010 has further strengthened this requirement.
- 3.3 The guidance relating to the original IPIA stated "The estimates shall be based on the equivalent of a statistical random sample with a precision requiring a sample of sufficient size to yield an estimate with a 90% confidence interval of plus or minus 2.5%"². This remains the case although many US agencies undertake work to the higher standard often found in the UK and Europe 95% statistical confidence and +or- 1%.

- 3.4 In other countries, while there has not hitherto been any legal requirement, there is a growing understanding that the key to successful loss reduction is to understand the nature and scale of the problem. For example, in Europe, the European Healthcare Fraud and Corruption Declaration of 2004, agreed by organisations from 28 countries called for "The development of a European common standard of risk measurement, with annual statistically valid follow up exercises to measure progress in reducing losses to fraud and corruption throughout the EU."³
- 3.5 In the UK, the Government is clearly on the record as requiring this work to be undertaken. In January of 2011, the Government's Cabinet Office Counter Fraud Taskforce, announced the appointment of Counter Fraud Champions for every major Government Department with a specific role 'to measure fraud and error' and subsequently, the Secretary of State for Communities and Local Government cited measuring exposure to fraud risk as the number one task for local authorities to do about fraud – an entirely logical point, as without knowledge about the nature and scale of a problem, it is clearly impossible to apply the right solution.

² Appendix C to Office of Management and Budget Circular A-123

³ European Healthcare Fraud and Corruption Declaration 2004

4 //

types of income and expenditure and the nature of the figures

4 // types of income and expenditure and the nature of the figures

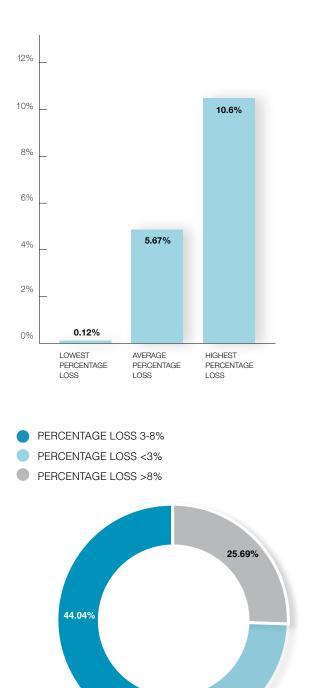
- 4.1 Types of income and expenditure where losses have been measured include:
 - payroll
 - procurement
 - housing
 - education
 - social security
 - healthcare
 - insurance
 - tax credits
 - pensions
 - agriculture
 - construction
 - compensation

- 4.2 The key figures which have been produced concern the percentage loss rate (PLR i.e. the proportion of expenditure lost to fraud and error).
- 4.3 There is more research still to be done and it is intended that this Report will be updated on a regular basis.

5 // fraud and error losses

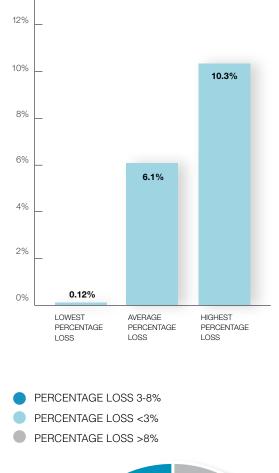
5 // fraud and error losses

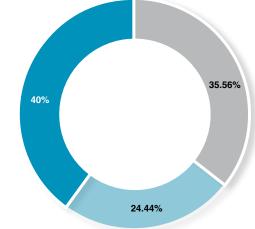
5.1 The range of percentage losses across all the exercises reviewed between 1997 and 2009 was found to be between 0.12 and 10.60% with average losses of 5.67% (69% of the exercises showed losses figures of more than 3%).



30.28%

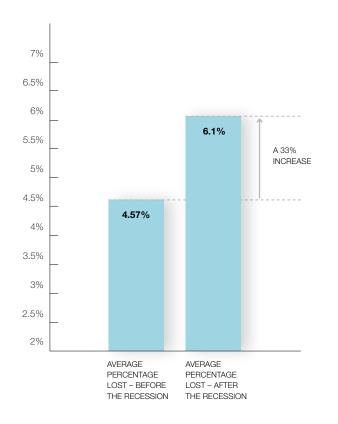
5.2 Just considering those exercises undertaken in 2008 and 2009 after the onset of the recession shows average losses increasing to 6.1% (with 75% of them showing losses figures of more than 3%). This represents a steep rise on the prevailing average loss rate for the prior period (4.57%).





5 // fraud and error losses

5.3 The rise in average losses (a 33% increase) coincides with the onset of the recession and reflects similar increases in fraud and forgery reported during the recessions of 1980-81 and 1990-91.



5.4 Where organisations have undertaken repeated exercises to measure their losses in the same areas of expenditure, then the evidence also shows that this has helped to reduce them.

- 5.5 The global average loss rate of 6.1% for the post-recession period, when taken as a proportion of the global Gross Domestic Product (GDP) for 2009 (\$58.26 trillion or £36.3 trillion), equates to £2.22 trillion, a sum equivalent to the UK's entire GDP. Even reducing such losses by 40%, which individual organisations have achieved, would free up almost £900 billion, more than two and a half times the value of the European Financial Stability Facility, currently being used to prevent a second recession.
- 5.6 On the basis of the evidence, it is clear that fraud and error losses in any organisation should currently be expected to be at least 3%, probably more than 5% and possibly more than 9%⁴. It would be wrong to go too much further in terms of predicting where in this range, losses for an individual organisation, will be, without some organisation-specific information about the strength of arrangements to protect it against fraud (its 'fraud resilience').
- 5.7 PKF and the CCFS, in parallel research, have developed Europe's most comprehensive database of fraud resilience information, with data recorded concerning almost 400 organisations from almost every economic sector. By combining the data which underpins this report and organisation-specific information about fraud resilience, we are able, for the first time, to;
 - predict the likely scale of losses
 - the key improvements which would reduce them and the related cost.
- 5.8 We can also accurately measure losses or train client organisations to do this if engaged to do so. The practical experience of PKF specialists combined with the academic rigour of CCFS researchers provides an unparalleled expert resource.

*Most of the exercises measuring losses have not published data distinguishing between losses to fraud and error. Where this has happened, the data reveals that three quarters of the losses have been caused by fraud and one quarter by error.

6 //

conclusion and recommendations

6 // conclusion and recommendations

- 6.1 This is the second Report in an area where, for too long, the accurate measurement of losses has been considered either impossible or too difficult. It proves that this is wrong. Losses to fraud and error can now be treated as a business cost like any other to be tracked and reduced.
- 6.2 It is also the case, that work to measure losses can be highly cost-effective. The extent to which efforts to reduce losses are helped by greater knowledge about the problem is shown by the significantly lower average level of losses where they have been re-measured over a period of time, in the same area of expenditure.
- 6.3 Where losses have been measured, and the organisations concerned have accurate information about their nature and extent, there are examples, especially in the UK and US where losses have been substantially reduced. The best examples over the 12 year period covered by this Report include:
- 6.3.1 the UK's National Health Service (the second largest organisation in the world) between 1999 and 2006 where losses were reduced by up to 60%, and by up to 40% over a shorter period⁴;
- 6.3.2 the US Department for Education, which reduced its losses across a \$12 billion dollar grant program by 35% between 2001 and 2005⁵;

- 6.3.3 the US Department of Agriculture, which reduced its losses across a \$12 billion dollar program by 28% between 2002 and 2004⁶;
- 6.3.4 the UK's Department of Work and Pensions which has successfully reduced its losses in Income Support and Job Seekers Allowance by 50% between 1997/98 and 2005/06⁷
- 6.4 Even during the two years after the start of the recession two of the organisations included in this research reported very significant reductions in their losses – one by 33% and the other by 19% - within a single year in each case.
- 6.5 Three things are clear:
- 6.5.1 Losses to fraud and error can be measured and cost effectively;
- 6.5.2 On the basis of the evidence it is likely that losses in any organisation and any area of expenditure will be at least 3%, probably more than 5% and possibly more than 9%;
- 6.5.3 And with the benefit of accurate information about their nature and extent, they can be reduced significantly.
- 6.6 In a troubled economic climate, not to consider the financial benefits of making relatively painless reductions in losses to fraud and error seems foolhardy.

⁴ UK NHS Counter Fraud and Security Management Service - 1999 - 2006 Performance Statistics

 $^{\scriptscriptstyle 5}$ US Department of Education Performance and Accountability Reports 2001 – 2005

⁶ US Department of Agriculture Performance and Accountability Reports 2002 – 2004 ⁷ UK Department of Work and Pensions – Fraud and Error in the Benefit System April 2005 to March 2006



what is the financial cost of fraud to your organisation?



Fraud is a challenging problem. Its economic effects are clear – worse public services, less financially stable and profitable companies, diminished levels of disposable income for all of us except the fraudsters. However, historically, fraud has been described as 'difficult to cost' and, until relatively recently, it has not been possible to quantify these effects. However, over the last decade the situation has changed.

Of course, there are still some estimates published which are simply not reliable. Counting only those losses which are detected, or surveying those working in the area for their opinion, will never be accepted as a robust measure of the real financial cost of fraud.

The most recent global study, undertaken by Jim Gee, PKF's Director of Counter Fraud Services, with the University of Portsmouth, reported the latest, accurate, statistically valid information from around the world about the real financial cost of fraud and error. It reviewed 203 exercises to accurately measure fraud and error losses, covering 32 different types of expenditure, in 45 organisations from nine countries with a total of expenditure valued just over £5 trillion sterling equivalent. It found, across this massively representative sample, average losses of 5.67%.

Financial benefits of 2% of expenditure within 12 months

Once the extent of fraud losses is known then they can be treated like any other business cost – something to be reduced and minimised in the best interest of the financial health and stability of the organisation concerned. PKF offers a service to do just that – to measure and reduce such losses, with reductions of up to 40% within 12 months possible and a 12:1 return on the cost of the work. It becomes possible to go beyond reacting to unforeseen individual instances of fraud and to include plans to pre-empt and minimise fraud losses in business plans.

In almost every other area of business life, organisations know what their costs are – staffing costs, accommodation costs, utility costs, procurement costs and many others. Fraud and error costs, on the other hand, have only rarely had the same focus. Because of this, fraud is now one of the great unreduced business costs.

...we can provide the answers

Now that we can measure fraud and error losses, we can make proper judgements about the level of investment to be made in reducing them. Now that we can measure these losses, we can measure the financial benefits resulting from their reduction. In the current tough business climate, reducing these losses is one of the least painful ways of reducing business costs. We can help client organisations to do that as well as providing specialist training for staff to allow ongoing in-house measurement of the problem.

Find out more

The cost of PKF's fraud loss measurement reduction service varies. We provide a comprehensive Report indicating the losses suffered by a client organisation so that you can make an informed judgement on how much it is cost-effective to spend in reducing them. We can complete this work within as little as three months.

To find out more please ring **020 7065 0557** or email **jim.gee@uk.pkf.com**



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if you don't know about your fraud and error problem, how can you apply the right solution?



Meeting Government expectations

Government now expects public sector organisations to measure the cost of their losses to fraud and error. Both the Cabinet Office Counter Fraud Taskforce and the Secretary of State for Communities and local Government have made this clear since the start of 2011. This is because knowing the nature and extent of your losses is the first step to reducing them - something which can represent a less painful way to cut expenditure.

Let us train you to find out

In March PKF, the accountants and business advisers, and the Centre for Counter Fraud Studies at University of Portsmouth published the first guide to the accurate measurement of the financial cost of fraud. This followed the UK Government's creation of Counter Fraud Champion posts in every government Department, with a specific role 'To measure fraud and error'. The UK, Europe and China joined together to produce this Guide in English and Chinese.

By combining specialist experience ...

PKF are the first to offer professional, academically accredited training enabling students to accurately assess the financial cost of fraud and error in their organisations. We work with University of Portsmouth and Buchanan & Darby Associates to deliver this training.

Fraud represents a significant cost to all organisations, with the latest global research showing that it averages 5.67% of expenditure (but can be reduced by as much as 40% within 12 months). Jim Gee, our Director of Counter Fraud Services, lead this research with University of Portsmouth across 203 exercises in 45 organisations from nine countries and across 32 types of expenditure with a total value of £5 trillion sterling equivalent - a massive dataset from which robust research was possible.

... we can provide assistance

We offer a two day training course for managers and a second two day course for practitioners. The courses cover the nature and history of accurate loss measurement, how to scope, understand and prepare, selecting a representative data sample, identifying relevant comparator information, reviewing the data sample, determining the presence of fraud and related weaknesses, statistical analysis and reporting. We tailor the content of the courses to reflect the responsibilities of those attending. The training is also academically accredited and successful attendance results in the award of academic credits which can allow access to further study.

The cost of the Fraud Loss Measurement training is £745 per person.

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Jim Gee is Director of Counter Fraud Services at PKF (UK) LLP, the top ten accountancy and business services firm and Chair of the Centre for Counter Fraud Studies at University of Portsmouth. During more than 25 years as a counter fraud specialist, he led the team which cleaned up one of the most corrupt local authorities in the UK - London Borough of Lambeth - in the late 1990s; he advised the House of Commons Social Security Select Committee on fraud and Rt. Hon, Frank Field MP during his time as Minister of State for Welfare Reform: between 1998 and 2006 he was Director of Counter Fraud Services for the Department of Health and CEO of the NHS Counter Fraud Service, achieving reductions in losses of up to 60% and financial benefits equivalent to a 12:1 return on the costs of the work. Between 2004 and 2006 he was the founding Director-General of the European Healthcare Fraud and Corruption Network; and he has since worked as a senior advisor to the UK Attorney-General on the UK Government's Fraud Review. He has also worked with a range of private sector companies and charities as well as delivering counter fraud and regulatory services to organisations both in this country and internationally. His work has taken him to more than 30 countries to counter fraud and he has recently been advising the Chinese Government about how to measure, pre-empt and reduce the financial cost of fraud.

Dr Mark Button is a Reader at University of Portsmouth and Director of the Centre for Counter Fraud Studies. Mark Button is a Reader in Criminology and Associate Head Curriculum at the Institute of Criminal Justice Studies, University of Portsmouth. He has also recently founded the Centre for Counter Fraud Studies of which he is Director. He has written extensively on counter fraud and private policing issues, publishing many articles, chapters and completing four books with one forthcoming: Private Security (published by Perpetuity Press and co-authored with the Rt. Hon. Bruce George MP), Private Policing (published by Willan), Security Officers and Policing (Published by Ashgate), Doing Security (Published by Palgrave), and Understanding Fraud: Issues in White Collar Crime (to be published by Palgrave in early 2010 and co-authored). He is also a Director of the Security Institute, and Chairs its Academic Board, and a member of the editorial advisory board of 'Security Journal'. Mark founded the BSc (Hons) in Risk and Security Management, the BSc (Hons) in Counter Fraud and Criminal Justice Studies and the MSc in Counter Fraud and Counter Corruption Studies at Portsmouth University and is Head of Secretariat of the Counter Fraud Professional Accreditation Board (CFPAB). Before joining the University of Portsmouth he worked as a Research Assistant to the Rt. Hon. Bruce George MP specialising in policing, security and home affairs issues. He completed his undergraduate studies at the University of Exeter, his Masters at the University of Warwick and his Doctorate at the London School of Economics. Mark has recently been working on a research project funded by the National Fraud Authority and ACPO looking at victims of fraud.

Graham Brooks is Course Leader for the Counter Fraud and Corruption MSc. at the University of Portsmouth. He was previously the Course Leader for the Counter Fraud and Criminal Justice Studies BA from June 2007 to March 2009. and Head of Secretariat for the Counter Fraud Professional Accreditation Board from September 2007 to March 2009. He is also a member of the Centre for Counter Fraud Studies at the University of Portsmouth. Graham has published papers on many aspects of fraud and corruption. However, he has a special interest in fraud and corruption in sport and the effect gambling has on the integrity of all sports. A book on Fraud and Corruption in Sport, (published by Palgrave in 2012) is forthcoming which addresses these issues. Graham completed his undergraduate degree at Leeds Metropolitan University in Social Policy, and has a MPhil in Criminology from Cambridge University.

// about PKF and the centre for counter fraud studies



Accountants & business advisers

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PKF (UK) LLP is one of the leading firms of accountants and business advisers in the UK offering counter fraud, forensic accounting, expert witness and litigation support services on a national and international basis including:

- fraud resilience checks
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- asset tracing and confiscations
- business intelligence
- forensic IT, including data mining, data imaging and recovery
- fraud and financial investigations

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The Centre for Counter Fraud Studies at University of Portsmouth

The University of Portsmouth's Centre for Counter Fraud Studies (CCFS) was founded in June 2009 and is one of the specialist research centres in the University's Institute of Criminal Justice Studies. It was founded to establish better understanding of fraud and how to combat it through rigorous research. The Institute of Criminal Justice Studies is home to researchers from a wide cross-section of disciplines and provides a clear focus for research, knowledge transfer and educational provision to the counter fraud community. The Centre for Counter Fraud Studies makes its independent research findings available to support those working in counter fraud by providing the latest and best information on the effectiveness of counter fraud strategies.

www.port.ac.uk/departments/academic/ icjs/CentreforCounterFraudStudies

// notes

about PKF

PKF (UK) LLP is one of the UK's leading firms of accountants and business advisers and specialises in advising the management of developing private and public businesses. We pride ourselves on creating and sustaining supportive relationships where objective and timely advice enables our clients to thrive and develop.

Our clients benefit from an integrated approach based on understanding the key issues facing small and medium-sized businesses. This enables us to meet their needs at each stage of development and allows them to focus on building the value of their businesses.

The principal services we provide include assurance and advisory; consultancy; corporate finance; corporate recovery and insolvency; forensic and taxation. We also offer financial services through our FSA authorised company, PKF Financial Planning Limited.

We have particular expertise in the following sectors:

- Hotel consultancy
- Healthcare • Mining & resource
- Not-for-profit
- Pensions · Professional practices
- Public sector
- Real estate & construction

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