



The Financial Cost of Fraud 2018

The latest data from around the world

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Foreword

Fraud is a pernicious problem and its economic effects are clear. Private companies are less financially healthy and stable, the quality of public services is reduced, individual citizens have less disposable income and charities are deprived of resources needed for charitable purposes. In every sector of every country, fraud has a serious and detrimental impact on quality of life.

However, the last 15 to 20 years has seen the development of new tools to counter fraud. It used to be thought that the total cost of fraud could not be measured and, because it couldn't be measured, it was therefore very hard to manage. That changed some time ago and this report documents the work that has taken place over the last 20 years – in many sectors and countries – to accurately measure the cost of fraud.

Our Financial Cost of Fraud report builds on research first undertaken and published in 2009 and then subsequently in 2011, 2013, 2015 and 2017, and considers just what the financial cost of fraud really is. It represents an output of the longstanding collaboration between national audit, tax and advisory firm, Crowe U.K. LLP, and the Centre for Counter Fraud Studies at The University of Portsmouth (CCFS), Europe's premier fraud research centre.

Rapid changes have taken place in countering fraud over the last two decades. Previously, it was common to think the only course of action was to hope that it wouldn't happen and then to react when it did (after losses had been incurred) with an investigation followed sometimes by litigation or a prosecution.

Litigation or a prosecution can still be important but in 2018, only taking a reactive approach is rather old fashioned and ineffective.

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 produced an 'Annual Fraud Indicator' each year up to 2013. Since 2014, the Cabinet Office Fraud, Error and Debt Taskforce, at the behest of ministers, has required every government department to undertake loss measurement exercises.

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 European Union (EU)¹."

In the United States (US), 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 programmes and activities, and this was reinforced by the Improper Payments Elimination and Recovery Act of 2010. As a result most major U.S. public sector agencies have been measuring and reporting losses for more than a decade.

¹ European Healthcare Fraud and Corruption Declaration 2004

Now, 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 2017. It also compares the cost of fraud and error between 2016 and 2017 to the period prior to the global recession of 2008 and 2009.

Of course, there are still some estimates published which are not reliable for the purpose of estimating the total cost of fraud. 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 to argue that the impact of fraud on their organisation is less than what this report finds to be the case. More than two thirds of the exercises that were reviewed showed losses of more than 3% of expenditure, with the 19 year average running at 5.95% and this figure rising by over 30% since 2007.

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

Jim Gee

Partner and Head of Forensic and Counter Fraud Services for Crowe U.K. LLP

Visiting Professor and Chair of the Centre for Counter Fraud Studies at University of Portsmouth

“ The evidence revealed in this report that these losses can be, and have been, reduced by up to 40% within 12 months, provides a real opportunity.

Private companies can gain a competitive advantage if the cost of fraud is reduced; public expenditure reductions can be less painful; and the charity sector can increase the resources it has available to deliver on important charitable purposes. ”

1. Introduction

- 1.1 This report renews research first undertaken in 2009, and subsequently in 2011, 2013, 2015 and 2017, collating 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 managed 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 embed strategies to pre-empt and minimise fraud losses in business plans.
- 1.2 The report does not look at detected fraud or the individual cases which have come to light and been prosecuted. As there is no crime which has a 100% detection rate, adding together detected fraud significantly underestimates the problem. 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 does not 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 such surveys sometimes represent a valid survey of opinion, which is very different from a valid estimate of losses.
- 1.4 Instead, this report considers and analyses 633 exercises which have been undertaken around the world during the last 20 years, to accurately measure the financial cost resulting from fraud and error.
- 1.5 That the financial cost 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 reduce 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 had the same focus over the last 15 to 20 years. 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. As a result of this, fraud is now one of the great unreduced business costs.
- 1.8 Now that the total cost of fraud can be measured, it can be managed and reduced using a methodology to do this accurately which has been widely applied across many sectors and countries.
- 1.9 As it is now possible to measure fraud and error losses, proper judgements can be taken about a proportionate level of investment to be made in reducing them. Re-measurement can then assess the financial benefits resulting from their reduction.

1.10 Making organisations more efficient and reducing costs is an ever-present task. 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 that cost.

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 £15.59 trillion, sterling equivalent, points clearly to losses usually being found in the range of 3% to 10%, probably around the average of 5.95% and possibly much higher.



2. Overview of research

- 2.1 Our research has now reviewed 633 loss measurement exercises undertaken over the period from 1997 to 2017. The exercises took place across 40 different types of expenditure in 49 organisations from 10 countries considering losses in expenditure with a total value of £15.59 trillion. The value of the expenditure examined has not been updated to 2017 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, Australasia and Africa. None were found in Asia.
- 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
 - sought and examined information indicating the presence of fraud, error or correctness in each case within that sample
 - been completed and reported
 - been externally validated
 - a measurable level of statistical confidence
 - a measurable level of accuracy.

2.5 A number of caveats have been outlined.

- 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.
- It is also the case that some exercises have separately identified and measured fraud and error, and some have not.
- Sometimes, once such exercises have been completed, the organisations concerned have, mistakenly in the view of the authors 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 to address the issue.
- 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.
- 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.
- 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.

2.6 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

3.1 Crowe's Forensic, Cyber and Counter Fraud Services team have delivered work for organisations in 40 countries.



3.2 The 10 countries in which the authors are aware that fraud loss analysis exercises have taken place are:

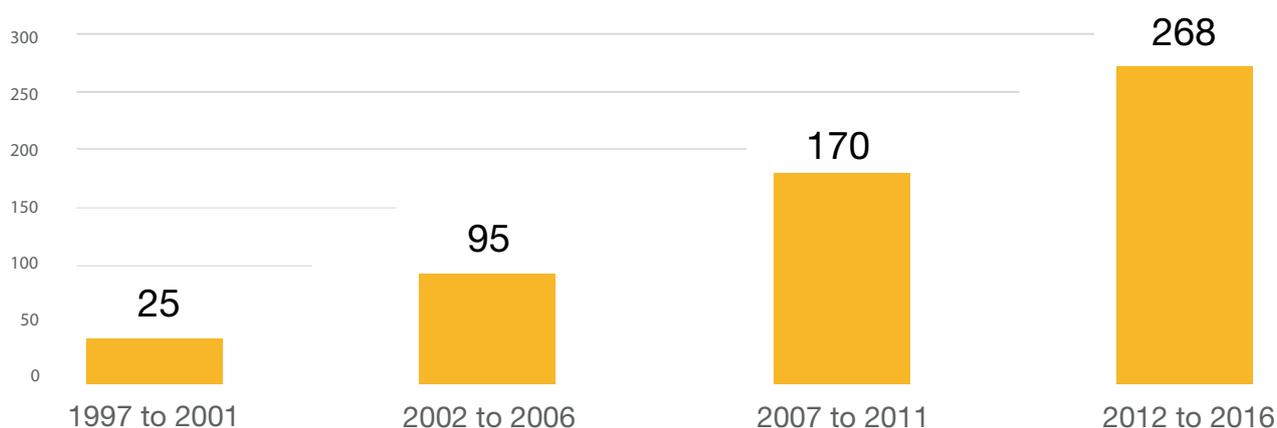
- United Kingdom
- United States of America
- France
- Belgium
- The Netherlands
- Ireland
- Canada
- Australia
- New Zealand
- Zambia.

“ There is a growing understanding that the key to successful loss reduction is to understand the nature and scale of the problem. ”

- 3.3 By value of income or expenditure measured, the US 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 further strengthened this requirement.
- 3.4 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 +/- 1%.

- 3.5 In other countries, while there has not previously 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, 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”
- 3.6 In the UK, the government is on record as requiring this work to be undertaken. Indeed in late 2014, the government’s Cabinet Office Fraud Error and Debt Taskforce, with the agreement of ministers, asked all government departments to undertake ‘random sampling’ loss measurement exercises, and this work has proceeded rapidly since then. This is a major step forward to countering fraud in UK central government.
- 3.7 These developments are part of a consistent trend. Over the period considered by this report, between 1997 and 2017, the growth in the number of loss measurement exercises is marked, with a tenfold increase in prevalence.

Number of loss measurement exercises



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

4.1 The 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



Mining

4.2 The key figures which have been produced concern the percentage loss rate (PLR: the proportion of expenditure lost to fraud and error).

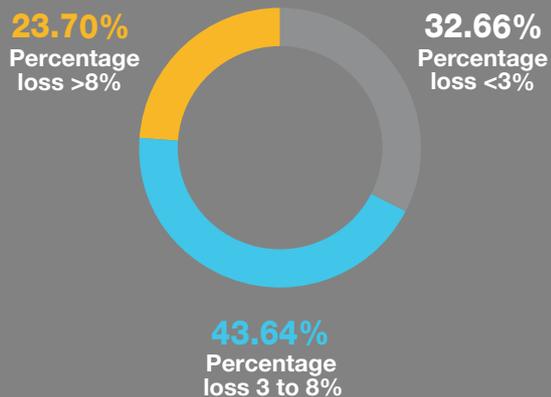
4.3 There is more research still to be done and it is intended that this report will be updated on a regular basis.



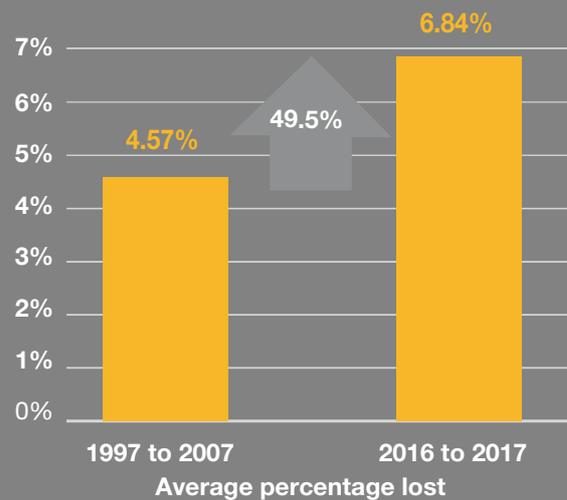
5. Fraud and error losses

- 5.1 The range of percentage losses across all the exercises reviewed between 1997 and 2017 was found to be between 0.02 and 27.15%, with average losses of 5.95% (66.3% of the exercises showed loss figures of more than 3%).
- 5.2 Since the start of the global recession in 2008, there has been an increase in average losses from 4.57% to 6.84% for the period 2016 to 2017 – an increase of 49.5%.

Percentage of measurement exercises where losses were found to be at stated levels



Increasing losses since 2007



“ The global average loss rate for the entire period of the research, when taken as a proportion of global GDP for 2017, equates to £3.24 trillion — a sum more than three quarters greater than the UK’s entire GDP. ”

- 5.3 The reasons for these increases, whether over the last two years or over the longer period since 2007, seem to go beyond the economic cycle. Previous research has suggested some evidence that certain frauds increase during recessions and plateau or decrease slightly during periods of economic growth.⁴
- 5.4 This does not explain why the cost of fraud has continued to increase since economies have returned to growth. Further research will be needed but it may be that longer term social and technological factors are an underlying cause of the growth of fraud, in addition to the effect of the economic cycle.
- 5.5 Such factors might include:
- greater individualisation (less adherence to collective moral and ethical 'norms')
 - greater complexity of processes and systems (it is becoming easier to disguise fraud amidst this complexity)
 - more transactions being undertaken by computer and fewer face-to-face transactions (fraudsters feeling more distant from the victims of their dishonesty and thus less concerned about any response)
 - the increasing pace of change in business (with controls struggling to keep up).
- 5.6 The evidence demonstrates that organisations which have undertaken repeated exercises to measure losses in the same areas of expenditure have reduced the losses over time. This suggests that organisations that know the extent of their fraud losses are better at reducing the losses.
- 5.7 The global average loss rate for the entire period of the research (5.95%), when taken as a proportion of the global Gross Domestic Product (GDP) for 2017 (USD 75.278 trillion or £54.381 trillion)⁵, equates to £3.24 trillion (USD 4.48 trillion), a sum more than three quarters greater than the UK's entire GDP. Even reducing such losses by 40%, which individual organisations have achieved, would free up more than £1.3 trillion – a sum greater than the GDP of 183 countries.
- 5.8 In the UK, applying that global average loss rate to GDP⁶ would imply total losses of £110 billion each year. Reducing such losses by 40% would free up more than £44 billion each year. This sum is equivalent to what the UK Government spent on defence or education in 2017.
- 5.9 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 almost 6% and possibly more than 10%. 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').
- 5.10 Crowe and the Centre for Counter Fraud Studies (CCFS), in parallel research, have developed Europe's most comprehensive database of fraud resilience information, with data recorded concerning more than 1300 organisations from almost every economic sector. By combining the data which underpins this report and organisation-specific information about fraud resilience, Crowe and CCFS are able to predict:
- the likely scale of losses
 - the key improvements which would reduce them
 - the related cost of making those improvements.
- 5.11 Crowe and CCFS can also accurately measure losses or train client organisations to do so. The practical experience of Crowe specialists, combined with the academic rigour of CCFS researchers, provides an unparalleled expert resource.

⁴ Gill, M. (2011) Fraud and Recessions: Views from Fraudsters and Fraud Managers. *International Journal of Law, Crime and Justice*, 39, 204-214.

⁵ International Monetary Fund figures

⁶ International Monetary Fund figures estimate UK GDP for 2016 to be \$2.565 trillion or £1.85 trillion



6. Conclusion and recommendations

6.1 This is the fifth report in an area where, for too long, the accurate measurement of losses was considered either impossible or too difficult. It no longer is. In many areas loss measurement has become routine. Losses to fraud and error can now be treated as a business cost like any other, to be measured, managed and minimised.

6.2 It is also the case that work to measure losses is highly cost-effective. Efforts to reduce losses are helped by greater knowledge about the scale of the problem. The data shows that organisations which re-measure the same area of expenditure have consistently lower loss rates.

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 20 year period covered by this report include:

- a major mining company which reduced losses across its procurement expenditure by over 51% over a two year period⁷
- 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 period⁸
- the U.S. Department of Education, which reduced its losses across a \$12 billion grant program by 35% between 2001 and 2005⁹
- the U.S. Department of Agriculture, which reduced its losses across a \$12 billion program by 28% between 2002 and 2004¹⁰
- the UK's Department of Work and Pensions which successfully reduced its losses in Income Support and Job Seekers Allowance by 50% between 1997/98 and 2005/06¹¹
- the U.S. Department for Veterans Affairs which successfully reduced its losses across a \$4 billion program by more than 46% in 2010 and 2011¹²
- the U.S. Department of Agriculture (again) successfully reduced its losses across an \$8 billion program by more than 22%¹³
- the UK's Department of Work and Pensions (again) achieved a significant reduction of more than 24% in losses in respect of Job Seekers Allowance¹⁴.

6.4 Even during the two years after the start of the recession in 2008, when losses generally were increasing rapidly, two of the organisations included in our 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.

1. Losses to fraud and error can be measured cost effectively.
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 near to 6% and possibly more than 10%.
3. Losses can be significantly reduced when accurate information about their nature and extent is available.

“ In the current economic climate, not to consider the financial benefits of making relatively painless reductions in losses to fraud and error is foolhardy. ”

⁷ This was a confidential project undertaken by one of the authors of this report

⁸ UK NHS Counter Fraud and Security Management Service – 1999 – 2006 Performance Statistics

⁹ U.S. Department of Education Performance and Accountability Reports 2001 – 2005

¹⁰ U.S. Department of Agriculture Performance and Accountability Reports 2002 – 2004

¹¹ UK Department of Work and Pensions – Fraud and Error in the Benefit System April 2005 to March 2006

¹² Department for Veterans Affairs – Performance and Accountability Report 2012

¹³ Department of Agriculture – Performance and Accountability Report 2011

¹⁴ Department of Work and Pensions – Fraud and Error in the Benefit System – 2011/2012 Estimates (Revised Edition)

7. About the authors

Jim Gee is a Partner and Head of Forensic and Counter Fraud Services at Crowe. He is also Visiting Professor at the University of Portsmouth and Chair of the Centre for Counter Fraud Studies, Europe's leading centre for research into fraud and related issues, and Chair of the UK Fraud Costs Measurement Committee, a cross-sector body which, each year, develops and publishes the UK Annual Fraud Indicator.

During more than 25 years as a counter fraud specialist, Jim has advised Ministers, Parliamentary Select Committees and the Attorney-General, as well as national and multi-national companies, major public sector organisations and some of the most prominent charities. To date Jim has worked with clients from 40 countries. He specialises in helping organisations to reduce the cost and incidence of fraud through strengthening the resilience to fraud of relevant processes and systems.



Jim Gee

Partner and Head of Forensic and Counter Fraud Services for Crowe U.K. LLP

Visiting Professor and Chair of the Centre for Counter Fraud Studies at University of Portsmouth

Professor Mark Button is Director of the Centre for Counter Fraud Studies at the Institute of Criminal Justice Studies, University of Portsmouth. Mark has written extensively on counter fraud and private policing issues, publishing many articles, chapters and completing eight books with one forthcoming.

Some of his most significant research projects include leading the research on behalf of the National Fraud Authority and ACPO on fraud victims; the Nuffield Foundation on alternatives to criminal prosecution, the Department for International Development on fraud measurement, Acromas (AA and Saga) on 'Cash-for-Crash fraudsters', the Midlands Fraud Forum and Eversheds on 'Sanctioning Fraudsters'.

Mark has also acted as a consultant for the United Nations Office on Drugs and Crime and on Civilian Private Security Services. Mark also holds the position of Head of Secretariat of the Counter Fraud Professional Accreditation Board. He is a former director of the Security Institute. Before joining the University of Portsmouth Mark was 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 Button

Director of the Centre for Counter Fraud Studies at the Institute of Criminal Justice Studies, University of Portsmouth

8. About Crowe and the Centre for Counter Fraud Studies

Crowe UK

Crowe is a national audit, tax and advisory firm. Its Forensic and Counter Fraud Services are designed to help clients whatever the problem, wherever the place. We help clients to react to an adverse event or to better protect themselves against such events in the future.

We have delivered such services across most continents, and in some of the most difficult countries in which to operate.

We offer a full range of forensic services including:

- counter fraud services which focus on measuring, managing and minimising fraud as a business cost
- cybercrime and data protection
- expert investigation and litigation support
- professional counter fraud training
- professional mentoring
- business intelligence services – undertaking due diligence work across the world
- advice on combating bribery and corruption
- advanced data analytics.

Our aim is to deliver significant financial benefits for clients which far exceed our fees. Crowe's Forensic and Counter Fraud Services team are specialists with a high-level national and international track record built up over many years. We have advised clients of all different types and sizes, including governments, major national and international companies and high profile charities. Our staff hold professional qualifications and have many years of practical experience.

We adopt a business approach to fraud, cyber and forensic issues, making sure your organisation is as financially healthy and stable as possible, for now and the future.

For more on Crowe UK visit

www.crowe.co.uk

The Centre for Counter Fraud Studies

The Centre for Counter Fraud Studies (CCFS) is one of the specialist research centres of the Institute of Criminal Justice Studies, formed in 2009 to accommodate the growing interest in counter fraud that has occurred within the Institute over the last 10 years. The Centre aims to collate and present the widest possible range of information regarding fraud and the solutions applied to it, and to undertake and publish further research where needed. Additionally, the Centre's Fraud and Corruption Hub gathers the latest thinking, publications, news and research in one central resource for counter fraud professionals.

For more on CCFS visit

www.port.ac.uk/centre-for-counter-fraud-studies



Start the conversation

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We are trusted by thousands of clients for our specialist advice, our ability to make smart decisions and our readiness to provide lasting value. Our broad technical expertise and deep market knowledge means we are well placed to offer insight and pragmatic advice to all the organisations and individuals with whom we work. Close working relationships are at the heart of our effective service delivery.

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