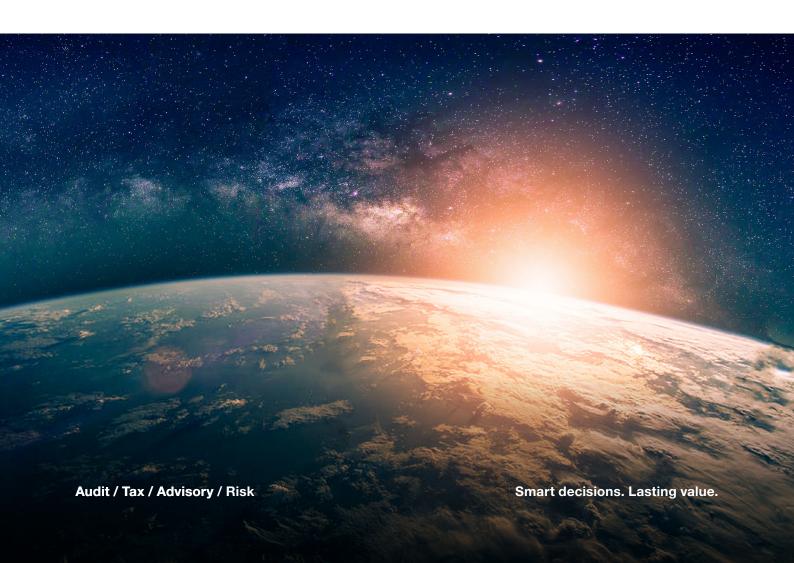




The financial cost of fraud 2021

The latest data from around the world

Jim Gee and Professor Mark Button



Contents







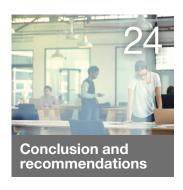


















Foreword

Fraud is a pernicious problem. Its economic effects are clear – private companies are less financially healthy and stable, the quality of public services are 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 the quality of life.

However, in the last 15 to 20 years we have 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 for over 20 years, in many sectors and countries, to accurately measure the cost of fraud.



This report builds on research first undertaken and published in 2009, 2011, 2013, 2015, 2017, 2018 and 2019 considering just what the financial cost of fraud really is. It represents an output of the fruitful collaboration between Crowe UK and the Centre for Counter Fraud Studies at University of Portsmouth (CCFS), Europe's premier fraud research centre.

Rapid changes have taken place in countering fraud over the last 15 to 20 years. Previously, the majority of individuals and organisations would only hope they would never get hit by fraud or only react to it when it did happen, after which losses had been incurred. Investigations would then sometimes take place followed by litigation or a prosecution. Litigation or a prosecution is still be important in 2021, but only taking a reactive approach is rather old fashioned.

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 EU.'

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

As a result, many more exercises to measure losses have taken place. This report documents what has been found over the period from 1997 to 2021. It also compares the cost of fraud and error from 2019 to 2021 to the period prior to the global recession of 2008 to 2009.

Of course, there are still some findings 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.

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 show losses of more than 3% of expenditure, with the 20 year average running at 6% and this figure rising by over 40% since 2007.

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.

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

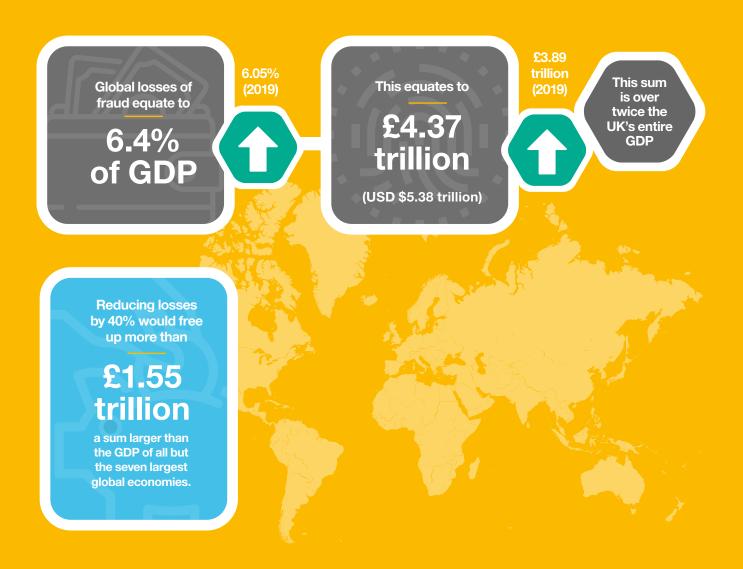


Jim Gee, Partner and National Head of Forensic Services, Crowe UK

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

What is the current financial cost of fraud?

Global stats



UK stats

For the UK, Fraud losses equate to

£137
billion
each year.

Due to COVID-19 there has been a 19.8% increase in fraud in England and Wales.

Reducing losses by 40% would free up almost

£55 billion

each year. This sum is greater than what the UK government have spent on defence (£50.6 billion) in 2019 to 2020.

Fraud and error losses in any organisation should currently be expected to be at least 3%, probably almost 6.5% and possibly more than 10%.

There has been an increase in average losses from 4.57% to

8.58% for the period of 2019 to 2020.

88%

1. Introduction

- This report renews research first undertaken in 2009, 2011, 2013, 2015, 2017, 2018 and 2019 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 doesn't 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. 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?

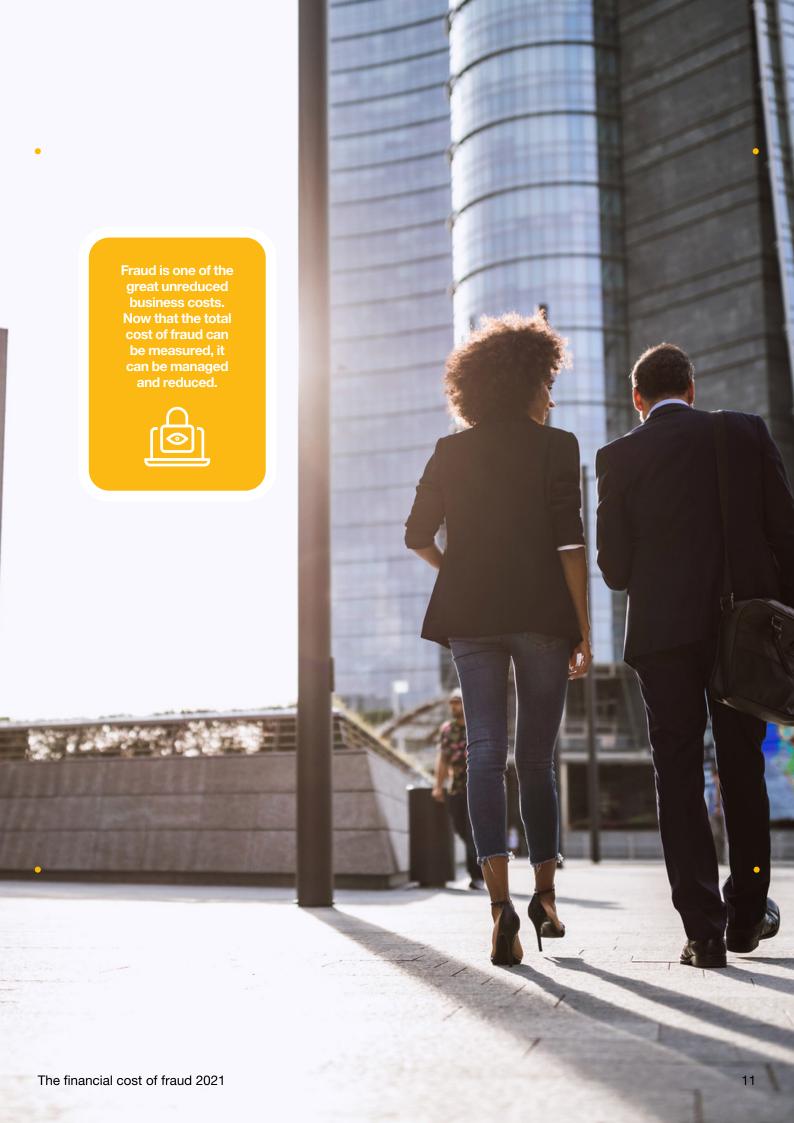
- 1.3 The report also doesn't rely on survey-based information where those involved are asked for their opinions about the level of fraud. These tend to vary significantly according to the perceived seriousness of the problem at the time by those surveyed. While such surveys sometimes represent a valid opinion, it is very different from a valid estimate of losses.
- 1.4 Instead, this report considers and analyses 807 exercises which have been undertaken around the world during more than 20 years, to accurately measure the financial cost resulting from fraud and error.
- 1.5 That 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.

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- 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. Because 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 Because 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 £25.9 trillion (sterling equivalent) clearly points to losses usually being found in the range of 3% to 10%, probably around the average of 6.4% and possibly much higher.
- 1.12 We will continue to monitor data as it becomes available and publish further reports as appropriate.



2. Overview

- 2.1 Our research has now reviewed 807 loss measurement exercises undertaken from 1997 to 2020. 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 £25.9 trillion. The value of the expenditure examined has not been uprated to 2020 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
 - have sought and examined information indicating the presence of fraud, error or correctness in each case within that sample
 - have been completed and reported
 - have been externally validated
 - have a measurable level of statistical confidence
 - 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 and measured fraud and error, and some have not.

- 2.8 Sometimes, once such exercises have been completed, the organisations concerned have mistaken the view of the authors of this report and 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 can be made to address the issue.
- 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 We 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

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

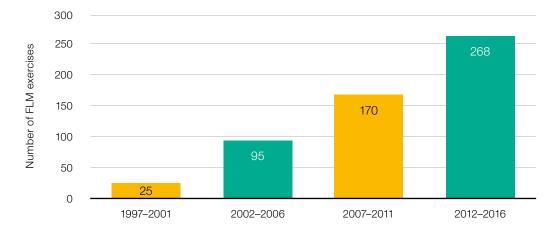


3.2 By value of income or expenditure measured, the United States has undertaken the greatest amount of work in this area. This is a direct reflection of the Improper Payments Information Act of 2002 (IPIA) which requires designated major US public authorities to estimate the annual amount of

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 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 +/- 1%.
- 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, 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 on record as requiring this work to be undertaken. Indeed in late 2014, the government's Fraud Error and Debt Taskforce, with the agreement of Ministers, asked all government departments to undertake 'random sampling' loss measurement exercises. This work has proceeded rapidly since then, resulting in a major step forward to countering fraud in UK central government.
- 3.6 These developments are part of a consistent trend. In each of the five year periods between 1997 and 2016 the growth in the number of loss measurement exercises was marked, with a tenfold increase in prevalence, as shown in the graph below.
- 3.7 In the four years since 2017 there have been 249 exercises completed and this is projected to reach 311 by the end of the five year period.
 - 2 Appendix C to Office of Management and Budget Circular A-123.
 - 3 European Healthcare Fraud and Corruption Declaration 2004.

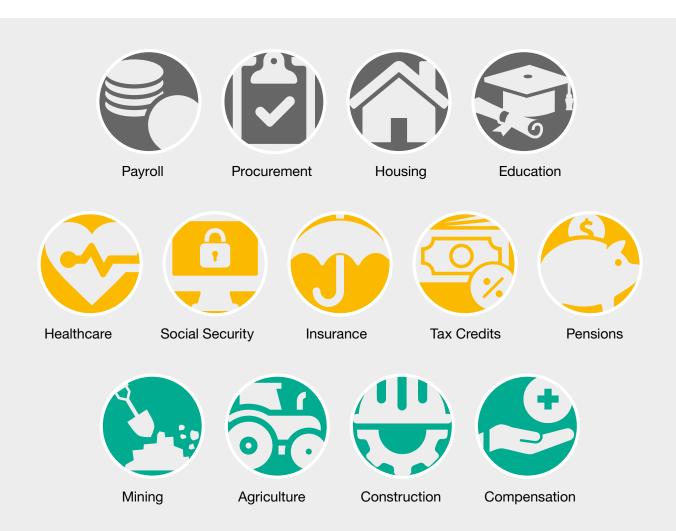
Number of Fraud Loss Measurement (FLM) exercises against time





4. Types of income and expenditure and the nature of the figures

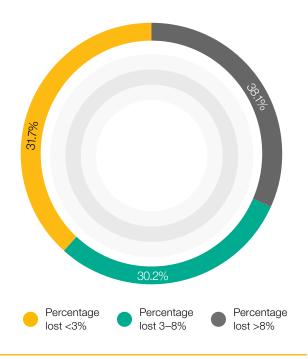
4.1 The types of income and expenditure where losses have been measured include:



- 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

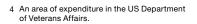
5.1 The range of percentage losses across all the exercises reviewed between 1997 and 2020 were found to be between 0.02% and 63.96%⁴, with average losses of 6.42% (68.25% of the exercises showed loss figures of more than 3%).

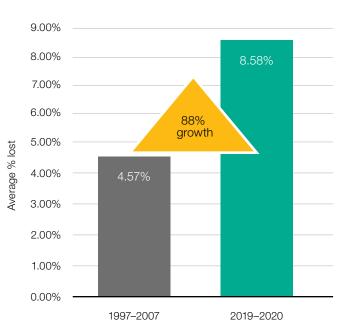


5.2 Since the start of the global recession in 2008, there has been an increase in average losses from 4.57% to 8.58% for the period of 2019 to 2020 – an increase of 88%.

And remember, this is before the advent of COVID-19.

We describe the impact of this later in the report.





- 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.⁵
- 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 belief that we should all be bound by common moral and ethical 'norms')
 - greater complexity of processes and systems (it's becoming easier to disguise fraud amidst this complexity, which itself is harder to understand)
 - most transactions are now being undertaken by computer and there are fewer face to face transactions (fraudsters feeling more distant from the victims of their dishonesty and thus less concerned about any response)

- a perception that many societal 'role models' (be they Members of Parliament, senior executives or other public figures) are dishonest, weakening the anti-fraud culture
- 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 (6.42%), when taken as a proportion of the global Gross Domestic Product (GDP) for 2020 (\$83.85 trillion or £68.04 trillion⁶), equates to £4.37 trillion (\$5.38 trillion). This sum is over twice the UK's entire GDP. Even reducing such losses by 40%, which individual organisations have achieved, would free up more than £1.55 trillion a sum larger than the GDP of all but the seven largest global economies.

⁵ Gill, M. (2011) Fraud and Recessions: Views from Fraudsters and Fraud Managers. International Journal of Law, Crime and Justice, 39, 204-214.

⁶ International Monetary Fund figures.

- 5.8 In the UK, applying that global average loss rate to GDP⁷ would imply total losses of £137 billion each year (although more detailed UK-focused, sector by sector research makes this total even larger at nearer £190 billion⁸). Reducing such losses by 40% would free up almost £55 billion each year. This sum is greater than what the UK government have spent on defence (£50.6 billion⁹) in 2019 to 2020.
- 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 6.5% 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. This cannot be done without some organisationspecific information about the strength of arrangements to protect it against fraud (its 'fraud resilience').

5.10 Crowe UK and the 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 UK and CCFS are able to predict:



the likely scale of losses



the key improvements which reduce them



the related cost of making those improvements.

5.11 Crowe UK and CCFS can also accurately measure losses or train client organisations to do so. The practical experience of Crowe UK specialists, combined with the academic rigour of CCFS researchers, provides an unparalleled expert resource.

- 7 International Monetary Fund figures estimate UK GDP for 2020 to be \$2.64 trillion or £2.14 trillion.
- 8 Annual Fraud Indicator 2017.
- 9 UK Defence Spending Analysis, Charts Tables (ukpublicspending.co.uk).



6. The position since COVID-19

6.1 Since the advent of COVID-19 we have seen a surge in fraud. This has included both COVID-19 specific fraud and general economic crisis-driven fraud.

6.2 Examples of COVID-19 specific fraud

- Fraudsters have pretended to be undertaking research for the World Health Organisation (WHO). They claim to provide the victim with a list of active infections in their area but to access this information the victim needs to either click on a link which redirects them to a credential-stealing web page.
- Emails asking for donations to buy 'medical preparations and supplies' for the NHS to cope with coronavirus.
- Other scams purporting to be official messages from the government include texts telling people they have been fined £250 for leaving their home more than once during lockdown.

- Fraudsters have been providing articles about the virus outbreak with a link to a fake company website where victims are encouraged to click to subscribe to a daily newsletter for further updates.
- Fraudsters have been sending investment scheme and trading advice encouraging people to take advantage of the coronavirus downturn.
- Fraudsters have purported to be from HMRC offering a tax refund and directing victims to a fake website to harvest their personal and financial details. The emails often display the HMRC logo making it look reasonably genuine and convincing.

6.3 Examples of economic crisis driven fraud

- Employees who have either been made redundant already, or think that they will be, stealing client data and intellectual property to ingratiate themselves with prospective future employers.
- Fraudulent invoices submitted by under pressure suppliers for goods and services which either haven't ever been ordered or have never been delivered.
- Senior managers, unbeknown to their employers under financial pressure, using their authority to manipulate accounts and misdirect money.
- Mandate fraud, where bank account details are changed to misdirect money.

- 6.4 The risks to organisations are both internal and external. Possible economic pressures may lead people to radically re-evaluate loyalties and to rationalise behaviour which, in normal times, they would not consider appropriate. Previous recessions have seen a new generation of fraudsters created where the 'normal' dishonest minority is enlarged by those determined to protect their income and assets no matter what. This is particularly the case because of some over-extending with a post-Brexit surge of expenditure, house buying and investment, all of which came to an abrupt halt with the advent of COVID-19.
- 6.5 The impact of this has been seen in the latest Office for National Statistics crime statistics¹⁰ which have shown a 19.8% increase in the incidence of fraud in England and Wales.
- 6.6 It is likely that this will impact on the cost of fraud and error, and we will see what this is in the next Financial Cost of Fraud report in 2022.

¹⁰ ONS CSEW statistics for the 12 months up to the end of March 2020 versus the same statistics for the 12 months up to the end of September 2020.

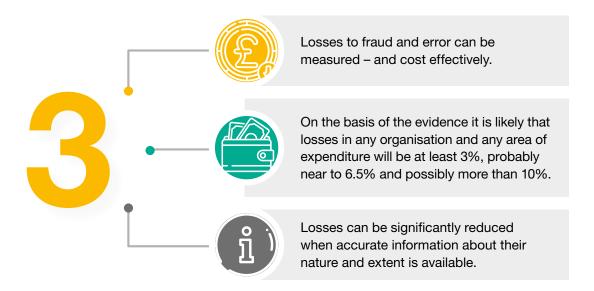
7. Conclusion and recommendations

- 7.1 This is the eighth report since 2009 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.
- 7.2 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.

7.3 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.



7.4 Three things are clear.



7.5 In any economic climate, not to consider the financial benefits of making relatively painless reductions in losses to fraud and error is foolhardy. Doing so can mean more money for better public services, more profitable companies and charities better able to fulfil their charitable purposes.

8. About the authors



Jim Gee,

Partner and National Head of Forensic Services, Crowe UK

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

Jim is a Partner and National Head of Forensic Services at Crowe UK. 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 forensic 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 he has worked with clients from 41 countries.

Jim specialises in helping organisations to reduce the cost and incidence of fraud through strengthening the resilience to fraud of relevant processes and systems.



Professor Mark Button,

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

Mark 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 Mark's 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 he was a Research Assistant to the Rt. Hon. Bruce George MP specialising in policing, security and home affairs issues. Mark 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.

9. Crowe UK's Forensic Services and the Centre for Counter Fraud Studies



Crowe's Forensic 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.

Our aim is to deliver significant financial benefits for clients which far exceed our fees.

Crowe's 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 people hold professional qualifications and have many years of practical experience.

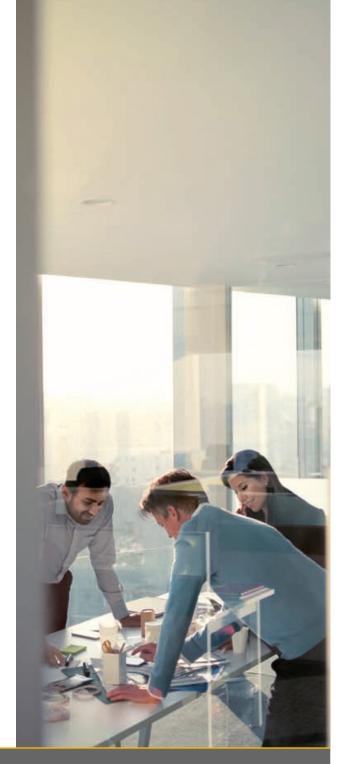
We adopt a business approach to fraud, cyber and forensic issues, making sure your organisation is as financially healthy and stable as possible, for now and the future.



We offer a full range of forensic services

- Fraud investigations
- Forensic accounting
- Financial crime
- Cybercrime protection
- Whistleblowing
- Corporate intelligence
- Counter fraud advisory
- Training and mentoring.

For more on Crowe UK visit: www.crowe.co.uk





The Centre for Counter Fraud Studies, University of Portsmouth

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 ten 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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About Us

Crowe UK is a leading audit, tax, advisory and risk firm with a national presence to complement our international reach. We are an independent member of Crowe Global, one of the top 10 accounting networks in the world. With exceptional knowledge of the business environment, our professionals share one commitment, to deliver excellence.

We are trusted by thousands of clients for our specialist advice, our a bility 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 businesses of all sizes, professional practices, non profit organisations, pension funds and private clients.

We work with our clients to build something valuable, substantial and enduring. Our aim is to become trusted advisors 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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