

REPORT TO THE NATIONS

ON OCCUPATIONAL FRAUD AND ABUSE

2016 GLOBAL FRAUD STUDY



Letter from the President



In 1996, Dr. Joseph T. Wells, CFE, CPA, founder and Chairman of the ACFE, directed the publication of the first *Report to the Nation on Occupational Fraud and Abuse*. That study was a truly groundbreaking effort. Analyzing actual case information provided by Certified Fraud Examiners, the report presented statistical data on the cost of occupational fraud, the perpetrators, the victims, and the various methods used to commit these crimes. This was the first study of its kind, and the findings in the 1996 report serve as the foundation for much of what we now know about how occupational fraud and abuse affects organizations.

It might be hard for some readers to understand or recall just how little we knew about occupational fraud twenty years ago, but until the release of the first report, there was virtually no statistical information available on the cost, frequency, methodology, or any other aspect of occupational fraud. Those who worked in the fraud examination field knew the problem was huge, but no one could say precisely how large, and this made it very difficult to explain to organizations and clients what a tremendous threat they faced.

If there is one great contribution the *Report to the Nations* has made to the anti-fraud community, it has been in helping to raise the general level of awareness about fraud risk. We now live in a world where virtually all business and government organizations understand that fraud is a threat they must deal with. That was most certainly not the case in 1996. The challenge of preventing and detecting these crimes is still formidable, but recognizing the threat is the first step, and we are honored to know that information contained in the past eight editions of the report has been used by anti-fraud professionals throughout the world to educate their employers and clients.

On behalf of the ACFE, I am proud to present the 2016 edition of the *Report to the Nations*, our ninth and most extensive study to date. I believe the information contained in this report will be of great value to anti-fraud practitioners, business leaders, government officials, academics, the media, and anyone else with an interest in understanding the tremendous economic threat posed by occupational fraud.

James D. Ratley, CFE

President

Association of Certified Fraud Examiners

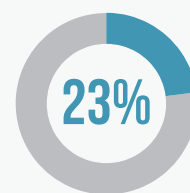
Contents

Executive Summary	4	Perpetrators	48
Introduction	6	Perpetrator’s Position.....	48
The Cost of Occupational Fraud	8	Position of Perpetrator Based on Region.....	50
Projecting Total Fraud Losses Based on Imperfect Data....	8	Perpetrator’s Tenure.....	54
The Fraud Costs We Know.....	8	Perpetrator’s Department	55
Distribution of Losses	9	Schemes Based on Perpetrator’s Department.....	56
How Occupational Fraud Is Committed	10	Perpetrator’s Gender.....	57
Overlap of Fraud Schemes.....	13	Perpetrator’s Gender Based on Region.....	57
Asset Misappropriation Sub-Schemes	14	Median Loss Based on Gender	58
Scheme Types by Region.....	14	Position of Perpetrator Based on Gender.....	58
Corruption Cases by Region	16	Perpetrator’s Age	60
Duration of Fraud Schemes	17	Perpetrator’s Education Level.....	61
Concealment of Fraud Schemes.....	19	The Impact of Collusion	62
Detection of Fraud Schemes	20	Collusion Based on Perpetrators’ Relationship to Victim... 63	
Initial Detection of Occupational Frauds.....	20	Perpetrator’s Criminal and Employment History	66
Initial Detection of Frauds in Small Organizations.....	22	Perpetrator’s Criminal Background.....	66
Detection Method by Region.....	23	Perpetrator’s Employment History	67
Median Loss and Median Duration by Detection Method..	25	Behavioral Red Flags Displayed by Perpetrators.....	68
Source of Tips	26	Behavioral Red Flags Based on Perpetrator’s Position ..69	
Impact of Hotlines.....	27	Behavioral Red Flags Based on Scheme Type	70
Formal Reporting Mechanism Used by Whistleblower....	28	Behavioral Red Flags Based on Perpetrator’s Gender ...71	
Party to Whom Whistleblower Initially Reported	29	Non-Fraud-Related Misconduct	72
Victim Organizations	30	Human Resources-Related Red Flags	73
Type of Organization	30	Case Results	74
Level of Government Organization	31	Criminal Prosecutions	74
Size of Organization	32	Civil Suits.....	76
Methods of Fraud in Small Businesses	33	Recovery of Losses.....	77
Industry of Organization.....	34	Action Taken Against Perpetrator.....	78
Schemes by Industry	36	Fines Against Victim Organization	78
Corruption Cases by Industry	37	Methodology	80
Anti-Fraud Controls at the Victim Organization	38	Analysis Methodology	81
Anti-Fraud Controls at Small Businesses.....	39	Who Provided the Data?	81
Anti-Fraud Controls by Region	40	Primary Occupation.....	81
Effectiveness of Controls.....	43	Nature of Fraud Examination Role	82
Background Checks	45	Experience	82
Internal Control Weaknesses That Contributed to Fraud ..46		Appendix	84
		Index of Figures.....	86
		Fraud Prevention Checklist	88
		Glossary of Terminology	90
		About the ACFE	91

Executive Summary

- The CFEs who participated in our survey estimated that the typical organization loses 5% of revenues in a given year as a result of fraud.
- The total loss caused by the cases in our study exceeded \$6.3 billion, with an average loss per case of \$2.7 million.
- The median loss for all cases in our study was \$150,000, with 23.2% of cases causing losses of \$1 million or more.
- Asset misappropriation was by far the most common form of occupational fraud, occurring in more than 83% of cases, but causing the smallest median loss of \$125,000. Financial statement fraud was on the other end of the spectrum, occurring in less than 10% of cases but causing a median loss of \$975,000. Corruption cases fell in the middle, with 35.4% of cases and a median loss of \$200,000.
- Among the various forms of asset misappropriation, billing schemes and check tampering schemes posed the greatest risk based on their relative frequency and median loss.
- The longer a fraud lasted, the greater the financial damage it caused. While the median duration of the frauds in our study was 18 months, the losses rose as the duration increased. At the extreme end, schemes that lasted more than five years caused a median loss of \$850,000.
- In 94.5% of the cases in our study, the perpetrator took some efforts to conceal the fraud. The most common concealment methods were creating and altering physical documents.
- The most common detection method in our study was tips (39.1% of cases), but organizations that had reporting hotlines were much more likely to detect fraud through tips than organizations without hotlines (47.3% compared to 28.2%, respectively).
- When fraud was uncovered through active detection methods, such as surveillance and monitoring or account reconciliation, the median loss and median duration of the schemes were lower than when the schemes were detected through passive methods, such as notification by police or by accidental discovery.
- In cases detected by tip at organizations with formal fraud reporting mechanisms, telephone hotlines were the most commonly used method (39.5%). However, tips submitted via email (34.1%) and web-based or online form (23.5%) combined to make reporting more common through the Internet than by telephone.
- Whistleblowers were most likely to report fraud to their direct supervisors (20.6% of cases) or company executives (18%).
- Approximately two-thirds of the cases reported to us targeted privately held or publicly owned companies. These for-profit organizations suffered the largest median losses among the types of organizations analyzed, at \$180,000 and \$178,000, respectively.
- Of the cases involving a government victim, those that occurred at the federal level reported the highest median loss (\$194,000), compared to state or provincial (\$100,000) and local entities (\$80,000).
- The median loss suffered by small organizations (those with fewer than 100 employees) was the same as that incurred by the largest organizations (those with more than 10,000 employees). However, this type of loss is likely to have a much greater impact on smaller organizations.
- Organizations of different sizes tend to have different fraud risks. Corruption was more prevalent in larger organizations, while check tampering, skimming, payroll, and cash larceny schemes were twice as common in small organizations as in larger organizations.

\$6.3
BILLION
IN TOTAL LOSSES



OF CASES CAUSED LOSSES OF
\$1 MILLION OR MORE



\$150,000
MEDIAN LOSS PER CASE

- The banking and financial services, government and public administration, and manufacturing industries were the most represented sectors in the fraud cases we examined.
- Although mining and wholesale trade had the fewest cases of any industry in our study, those industries reported the greatest median losses of \$500,000 and \$450,000, respectively.
- As in previous studies, external audits of the financial statements were the most commonly implemented anti-fraud control; nearly 82% of the organizations in our study underwent independent audits. Similarly, 81.1% of organizations had a code of conduct in place at the time the fraud occurred.
- Small organizations had a significantly lower implementation rate of anti-fraud controls than large organizations. This gap in fraud prevention and detection coverage leaves small organizations extremely susceptible to frauds that can cause significant damage to their limited resources.
- While the implementation rates of anti-fraud controls varied by geographical region, several controls—external audits of the financial statements, code of conduct, and management certification of the financial statements—were consistently among the most commonly implemented across organizations in all locations.
- The presence of anti-fraud controls was correlated with both lower fraud losses and quicker detection. We compared organizations that had specific anti-fraud controls in place against organizations lacking those controls and found that where controls were present, fraud losses were 14.3%–54% lower and frauds were detected 33.3%–50% more quickly.
- The most prominent organizational weakness that contributed to the frauds in our study was a lack of internal controls, which was cited in 29.3% of cases, followed by an override of existing internal controls, which contributed to just over 20% of cases.
- The perpetrator’s level of authority was strongly correlated with the size of the fraud. The median loss in a scheme committed by an owner/executive was \$703,000. This was more than four times higher than the median loss caused by managers (\$173,000) and nearly 11 times higher than the loss caused by employees (\$65,000).
- More occupational frauds originated in the accounting department (16.6%) than in any other business unit. Of the frauds we analyzed, more than three-fourths were committed by individuals working in seven key departments: accounting, operations, sales, executive/upper management, customer service, purchasing, and finance.
- The more individuals involved in an occupational fraud scheme, the higher losses tended to be. The median loss caused by a single perpetrator was \$85,000. When two people conspired, the median loss was \$150,000; three conspirators caused \$220,000 in losses; four caused \$294,000; and for schemes with five or more perpetrators, the median loss was \$633,000.
- Fraud perpetrators tended to display behavioral warning signs when they were engaged in their crimes. The most common red flags were living beyond means, financial difficulties, unusually close association with a vendor or customer, excessive control issues, a general “wheeler-dealer” attitude involving unscrupulous behavior, and recent divorce or family problems. At least one of these red flags was exhibited during the fraud in 78.9% of cases.
- Most occupational fraudsters are first-time offenders. Only 5.2% of perpetrators in this study had previously been convicted of a fraud-related offense, and only 8.3% had previously been fired by an employer for fraud-related conduct.
- In 40.7% of cases, the victim organizations decided not to refer their fraud cases to law enforcement, with fear of bad publicity being the most-cited reason.
- Of the cases in our study, 23.1% resulted in a civil suit, and 80.8% of such completed suits led to either a judgment for the victim or a settlement.
- In our study, 8.4% of the victim organizations were fined as a result of the fraud. The proportion of victim organizations fined was highest in the Western Europe (15.6%), Southern Asia (13.6%), and Asia-Pacific (11.7%) regions.

Introduction



Organizations face numerous risks to their success; economic risk, disaster risk, supply-chain risk, regulatory risk, and technology risk all affect organizations in different ways and to varying degrees. While fraud risk is just one of the many entries on this list, it is universally faced by all business and government entities. Any organization with assets is in danger of those resources being targeted by dishonest individuals. And, unfortunately, a notable portion of that threat comes from the very people who have been hired to carry out the organization's operations. It is this risk—the risk of occupational fraud¹—that the first *Report to the Nation on Occupational Fraud and Abuse* was published in 1996 to explore.

In the twenty years since the inaugural report was released, our continuing research on these topics has not only come to represent the largest collection of occupational fraud cases ever analyzed, but has also illuminated

several notable trends in how such fraud is committed, how it is detected, and how organizations combat this threat. The stated goals of the 2016 report are the same as those of its predecessors:

- To summarize the opinions of experts on the percentage of organizational revenue lost to fraud each year
- To categorize the ways in which occupational fraud occurs
- To analyze the characteristics of the individuals who commit occupational fraud
- To examine the characteristics of the organizations that are victimized by occupational fraud

This report contains an analysis of 2,410 cases of occupational fraud that were investigated between January 2014 and October 2015. Figure 1 provides a summary

¹ *Occupational fraud* can be defined as "the use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization's resources or assets."

of where these cases occurred,² as well as the relative losses incurred by the victims in different geographical regions. Readers should note that the number of cases in each region largely reflects the demographics of ACFE membership, as that is the source of our data. Thus, this figure should not be interpreted to mean that occupational fraud is necessarily more or less likely to occur in any particular region.

Figure 1: Geographical Location of Victim Organizations

Region	Number of Cases	Percent of Cases	Median Loss (in U.S. dollars)
United States	1038	48.8%	\$120,000
Sub-Saharan Africa	285	13.4%	\$143,000
Asia-Pacific	221	10.4%	\$245,000
Latin America and the Caribbean	112	5.3%	\$174,000
Western Europe	110	5.2%	\$263,000
Eastern Europe and Western/Central Asia	98	4.6%	\$200,000
Southern Asia	98	4.6%	\$100,000
Canada	86	4.0%	\$154,000
Middle East and North Africa	79	3.7%	\$275,000

The findings presented in this report continue the ACFE's mission of educating anti-fraud professionals, organizational leaders, and the public at large about the threat of occupational fraud and how to effectively prevent and detect it. The 2016 report shows the continuation of numerous trends that we have identified during previous studies, provides information in several new areas, and highlights interesting ways that the occurrence of fraud has evolved over time and varies across regions. We hope readers come away with a clear picture of how occupational fraud is perpetrated and how it affects its victims, as well as the importance of proactive initiatives to combat this risk.

² Geographical location was provided for 2,127 of the cases submitted; see the Appendix on page 84 for a detailed breakdown of these cases by country.



THIS REPORT CONTAINS AN ANALYSIS OF 2,410 CASES
OF OCCUPATIONAL FRAUD THAT WERE INVESTIGATED
BETWEEN JANUARY 2014 AND OCTOBER 2015. THE
FRAUDS IN THIS STUDY TOOK PLACE IN **114 DIFFERENT**
COUNTRIES THROUGHOUT THE WORLD.

The Cost of Occupational Fraud



Anti-fraud professionals, business managers, government and regulatory agencies, and the media each have a vested interest in assessing the total amount of money lost to fraud each year. While many studies have attempted to determine the extent of fraud's financial impact, the challenges in arriving at the true total cost of fraud are numerous. It is impossible to know exactly how much fraud goes undetected or unreported, and even calculations based solely on known fraud cases are likely to be underestimated, as many victims downplay or miscalculate the amount of damage. Nonetheless, attempts to determine the cost of fraud are important, because understanding the size of the problem brings attention to its impact, enables organizations to quantify their fraud risk, and helps management make educated decisions about investing in anti-fraud resources and programs.

Projecting Total Fraud Losses Based on Imperfect Data

To help measure the financial damage caused by fraud, we asked the CFEs who participated in our study to provide us with their best estimate, based on their experience, of what percentage of revenues the typical organization loses in a given year as a result of fraud. The median estimate was that fraud costs organizations

5% of revenues each year. As one way to illustrate the magnitude of this estimate, applying this percentage to the 2014 estimated Gross World Product of \$74.16 trillion results in a projected potential total fraud loss of up to \$3.7 trillion worldwide.³ The limitation of this type of estimate is that it is based solely on the opinions of our survey participants and not on any specific data about actual fraud losses. However, the estimate comes from the collective knowledge of thousands of CFEs who together have tens of thousands of years' experience in the anti-fraud field. Given the impossibility of obtaining loss data on all frauds, including those that are undetected or unreported, this group likely has as much understanding about the harm fraud causes as any other resource available.⁴

The Fraud Costs We Know

But the primary purpose of this study is not to make estimates; our goal is to collect and report actual case data. In terms of hard numbers, the total loss caused by the

³ <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html> (retrieved March 4, 2016)

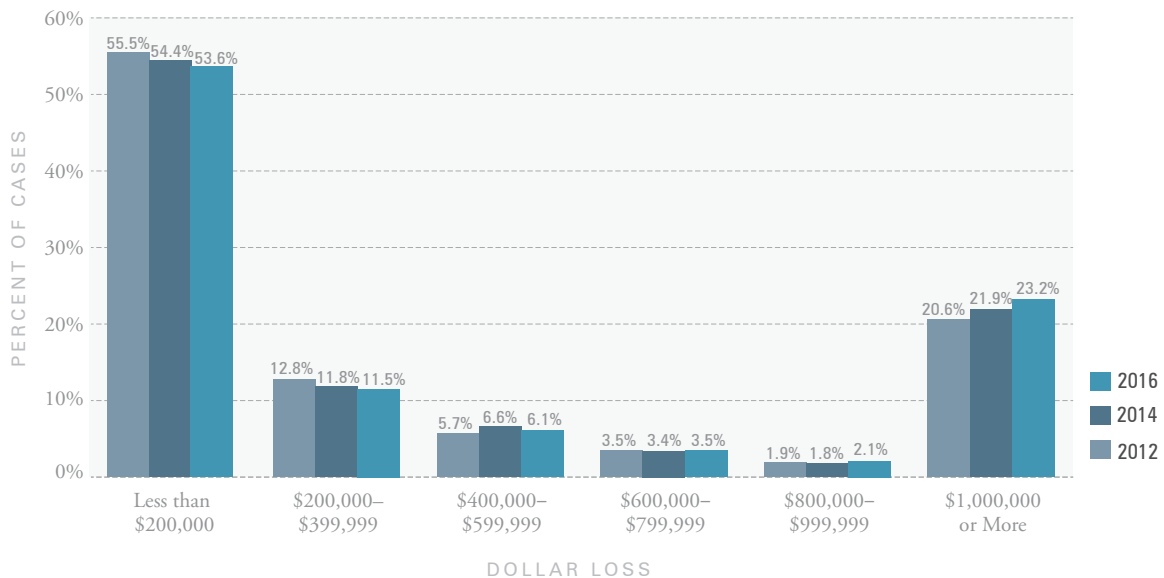
⁴ This 5% estimate is further supported by Jim Gee and Mark Button's report *The Financial Cost of Fraud 2015* (www.pkf.com/media/31640/PKF-The-financial-cost-of-fraud-2015.pdf), which reviews numerous fraud cost calculations computed by various organizations and arrives at an average fraud cost to organizations of 5.6%.

2,410 cases of occupational fraud in our study exceeded \$6.3 billion.⁵ This is an enormous sum, especially considering these cases represent just a tiny sliver of the thousands, or even millions, of frauds that likely took place throughout the world during the period of our survey (January 2014 through October 2015). We cannot determine from this number what global fraud losses truly are, but we can be confident those losses dwarf the known \$6.3 billion, most likely by a factor of hundreds or even thousands. In addition, this \$6.3 billion total only reflects direct losses suffered by the victim organizations; it does not include indirect costs, such as reputational harm or loss of stakeholder relationships, so the true total loss represented by these cases is likely much higher.

Distribution of Losses

Figure 2 shows the overall distribution of the dollar losses caused by the cases in our study; while approximately 54% caused less than \$200,000 in damage, more than 23% resulted in a loss of at least \$1 million.

Figure 2: Distribution of Dollar Losses



The overall average, or mean, loss caused by the frauds in this study was \$2.7 million.⁶ However, throughout this report we use median calculations, rather than the mean, when we report losses. Because the extremely large cases included in our study tend to skew the mean losses disproportionately upward, we believe the median loss better represents a typical fraud case. The median loss for all cases in our study was \$150,000, with a quartile distribution as follows:

25 th Percentile	50 th Percentile	75 th Percentile
\$30,000	\$150,000	\$800,000

Even viewing the losses reported to us through a conservative lens, a typical loss of \$150,000 per fraud can be devastating to many organizations, especially when combined with the indirect fallout that often accompanies a fraud scheme. Through this study, we hope to provide readers from all backgrounds—in the anti-fraud profession, in organizational management, in government and regulatory capacities, and in the media—an understanding of not only the potential scale of fraud’s impact, but also the damage suffered by its organizational victims and their stakeholders.

⁵ The total losses represented in our study were actually significantly higher than \$6.3 billion. However, our survey results included a few cases with losses so large that including them in the total loss figure may have enabled them to be identified. In order to avoid compromising the confidentiality of our survey participants, we have winsorized the top and bottom 1% of the data used in this total loss calculation (i.e., assigned all cases in the top 1% and bottom 1% the same value as the 99th and 1st percentile, respectively). While including those cases would increase the total loss amount figure substantially, we believe it prudent to both ensure these cases remain unidentified and conservatively report loss amounts.

⁶ As with the total loss figure above, the top and bottom 1% of the data were winsorized for purposes of this calculation.

How Occupational Fraud Is Committed



As part of our ongoing research into the methods used to commit fraud, the ACFE has developed the *Occupational Fraud and Abuse Classification System*, also known as the *Fraud Tree*. As reflected in the Fraud Tree graphic shown in Figure 3, there are three primary categories of

occupational fraud: asset misappropriation, corruption, and financial statement fraud.⁷ Each of these categories is broken down into several subcategories.

⁷ For definitions of each of these scheme types, please see the [Glossary of Terminology](#) on page 90.

The Evolution of the Fraud Tree

The Fraud Tree's genesis was in the first ACFE *Report to the Nation on Occupational Fraud and Abuse*, published in 1996. While analyzing the cases reported to us during our inaugural study on occupational fraud, we noted several patterns in the ways occupational fraud is committed. By organizing the cases according to these patterns, we discovered that almost all occupational fraud schemes fall into specific categories that target different functions and operations within a business or government entity. Based on these categories, we created a full classification system of occu-

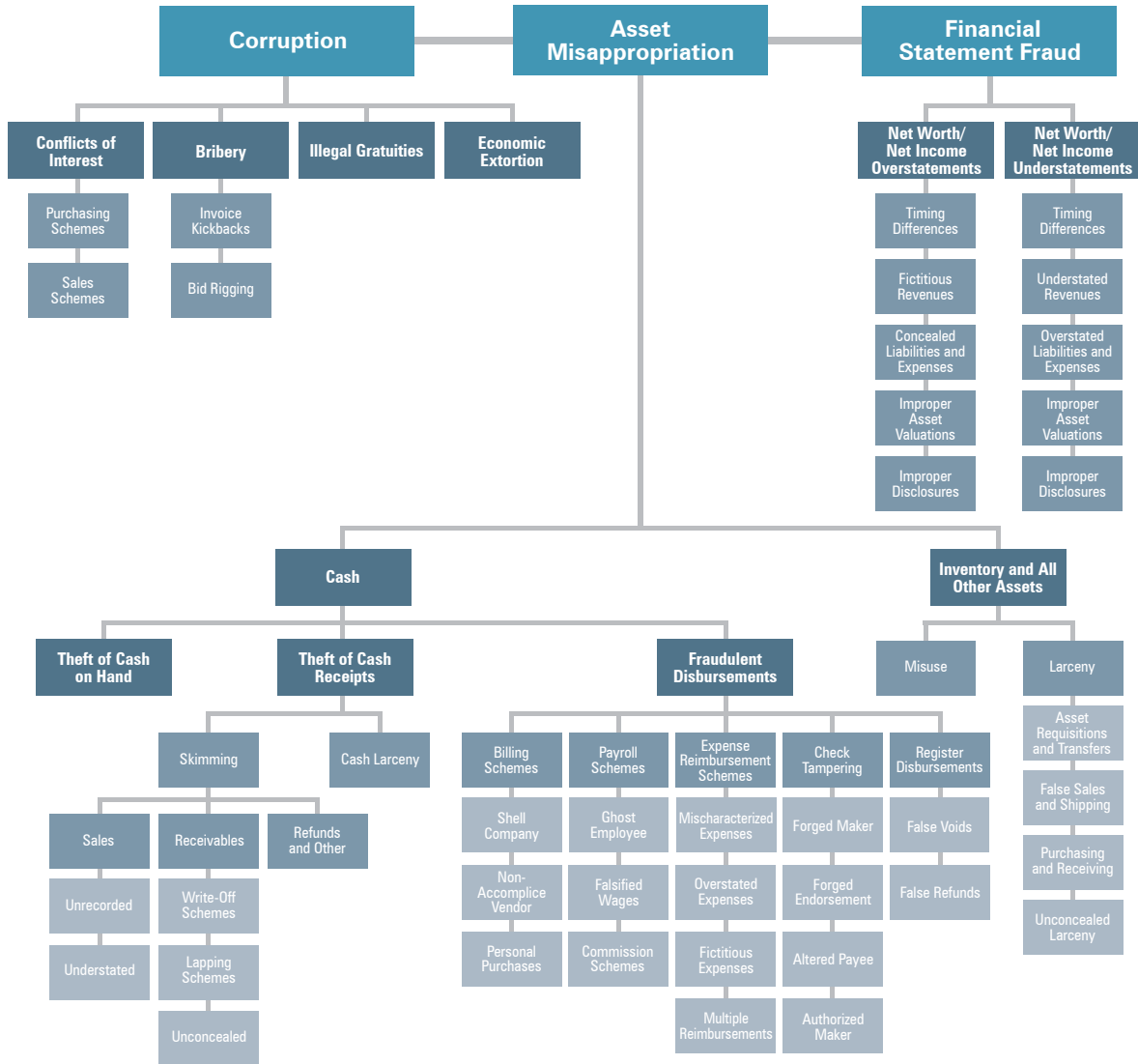
pational fraud schemes to help organizations understand their fraud risks and develop targeted anti-fraud controls.

The ACFE has made minor modifications to the Fraud Tree since its inception to improve its organizational structure and more closely align it with the thousands of cases analyzed over our two decades of research. For example:

- In 2012, we reorganized the schemes that target cash by adding a category called Theft of Cash Receipts, placing Skimming and Cash Larceny as sub-categories of this new group,

How Occupational Fraud Is Committed

Figure 3: Occupational Fraud and Abuse Classification System (Fraud Tree)



and adding another category for Theft of Cash on Hand. This change was intended to better classify the different operational points at which cash can be misappropriated from the victim organization (i.e., at receipt, when kept on hand, or during a disbursement transaction).

- Also in 2012, we renamed and refocused the category that currently appears as Financial Statement Fraud to better reflect the fact that all the schemes in this category involve some form of falsified or manipulated financial statements.
- This year, we modified the second-level category names that

appear under Financial Statement Fraud to clarify that these schemes affect the overall reported financial position and results (i.e., the net worth and net income) of the organization, rather than just the reported assets or revenue.

Even with these minor changes, however, the general structure of the Fraud Tree still holds, twenty years after its creation. This consistency reflects the notion that, while fraudsters embrace technology and devise new variations on schemes, the mechanisms and approaches employed by occupational fraud perpetrators fall into clear, time-tested categories.

How Occupational Fraud Is Committed

Asset misappropriation is by far the most common of the three primary categories of occupational fraud, consistently occurring in more than 83% of all cases reported to us (see Figure 4). These schemes tend to cause the lowest losses of the three categories, with a median loss of \$125,000 per scheme. On the opposite end of the spectrum is financial statement fraud, which was involved in less than 10% of the cases in our study, but which caused a median loss of \$975,000. Corruption schemes fall in the middle in terms of both frequency and losses. Approximately 35% of the cases we analyzed involved corruption, and these schemes caused a median loss of \$200,000.

Figure 4: Occupational Frauds by Category—Frequency

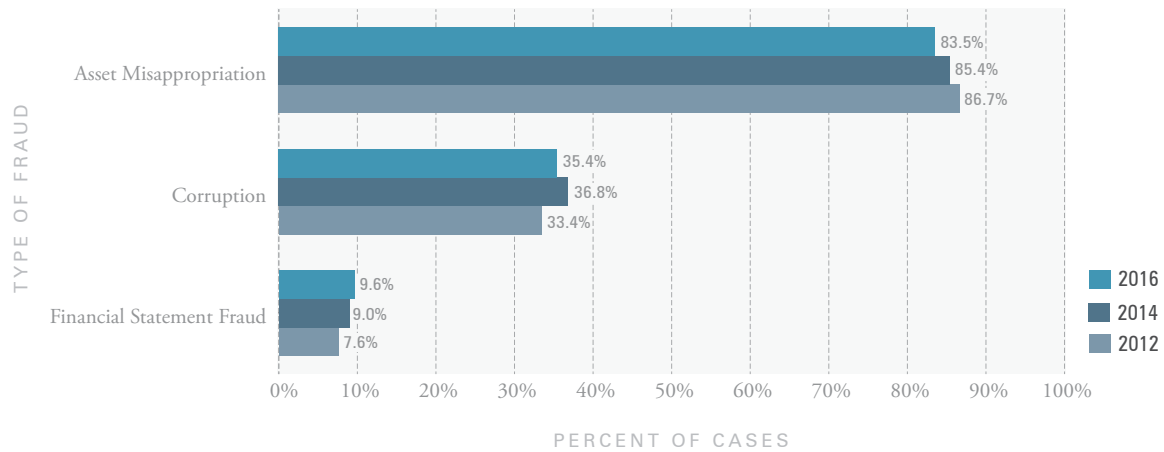
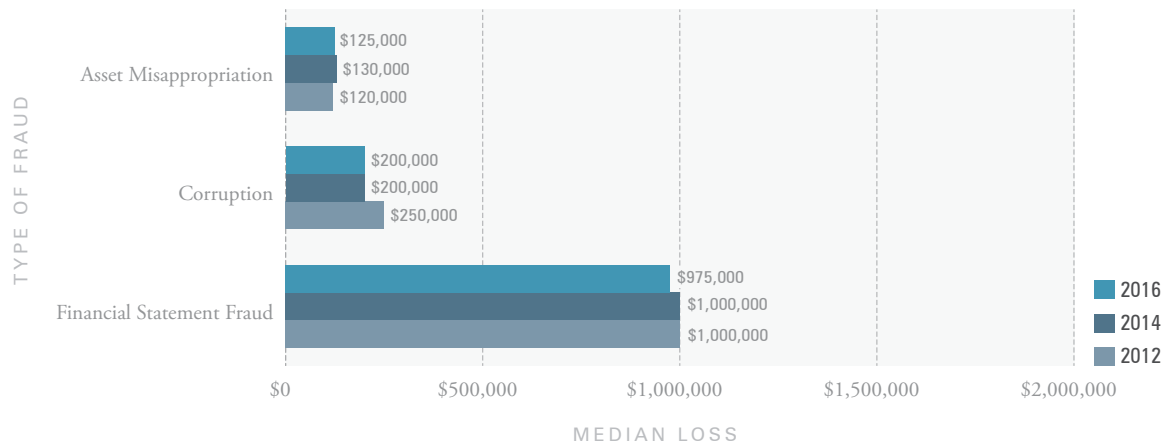


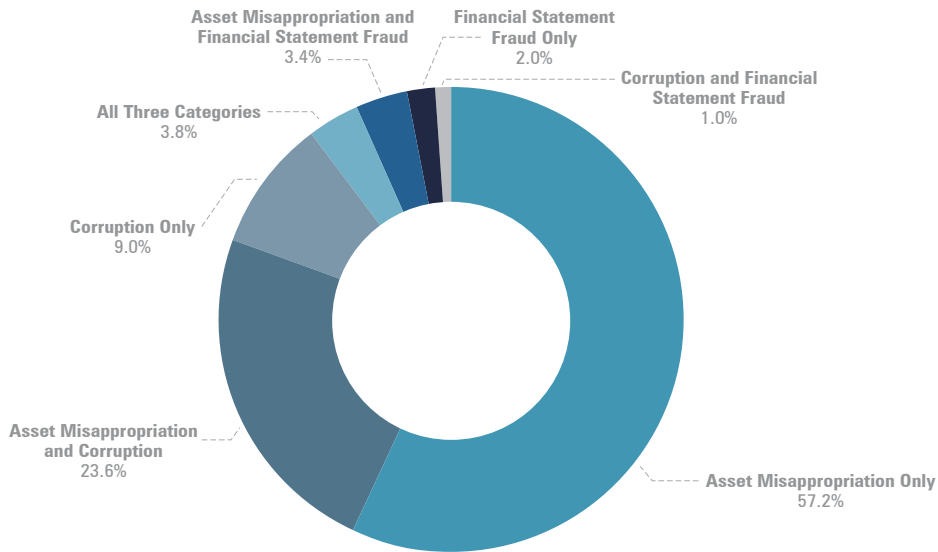
Figure 5: Occupational Frauds by Category—Median Loss



Overlap of Fraud Schemes

Many fraudsters do not limit themselves to a single type of fraud; they steal from their employers wherever the opportunity presents itself. Thus, many of the cases reported to us involved more than one of the three primary categories of occupational fraud. Figure 6 shows the overlap of those categories in the cases we reviewed. Of the 2,284 cases in which the respondent identified the scheme type(s), 727—or 31.8%—involved more than one major fraud category. The most common combination was asset misappropriation and corruption, which were co-perpetrated in 23.6% of cases. In 3.8% of cases, the perpetrator committed all three categories of fraud.

Figure 6: Overlap of Fraud Schemes

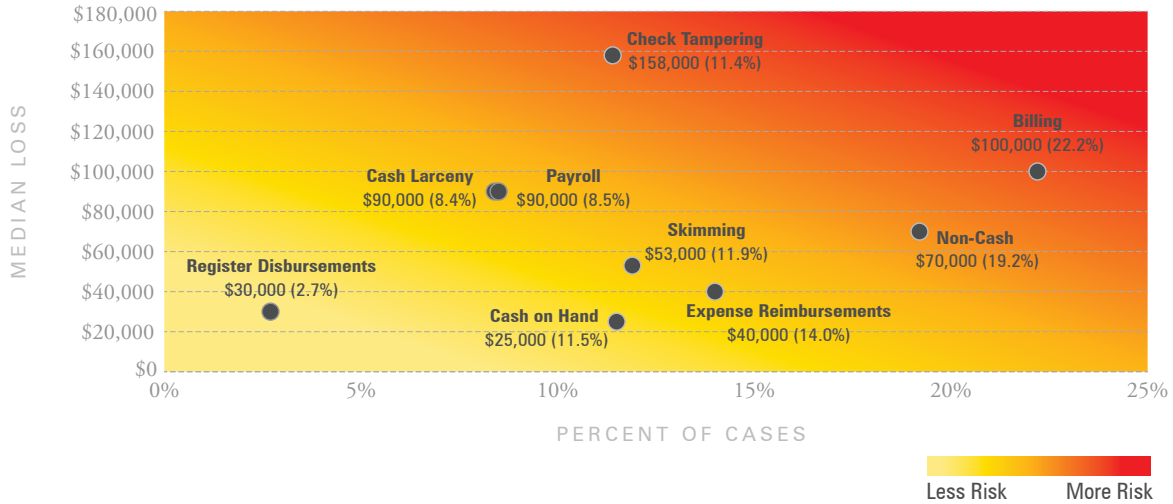


How Occupational Fraud Is Committed

Asset Misappropriation Sub-Schemes

Because such a high percentage of cases (83.5%) involved asset misappropriation, we expanded our analyses of these cases by examining the frequency and median loss of the principal asset misappropriation sub-schemes.⁸ Figure 7 reflects the relative risks posed by each of these sub-schemes, with billing schemes being the most common (22.2% of all cases) and check tampering⁹ being the most costly (median loss of \$158,000).

Figure 7: Frequency and Median Loss of Asset Misappropriation Sub-Schemes



Scheme Types by Region

To help organizations in different regions throughout the world benchmark their fraud occurrences and manage their fraud risks, we analyzed the prevalence of different forms of fraud in each geographic region (this analysis includes the nine asset misappropriation sub-schemes, as well as corruption and financial statement fraud). The results are reflected in Figures 8–16. In every region, corruption was one of the two most common scheme types, with either billing schemes or non-cash misappropriations taking the other top spot.

Figure 8: Scheme Types by Region—United States

Scheme	Number of Cases	Percent of Cases
Billing	289	27.8%
Corruption	258	24.9%
Non-Cash	174	16.8%
Skimming	167	16.1%
Expense Reimbursements	164	15.8%
Check Tampering	154	14.8%
Payroll	131	12.6%
Cash on Hand	125	12.0%
Cash Larceny	102	9.8%
Financial Statement Fraud	93	9.0%
Register Disbursements	29	2.8%

Figure 9: Scheme Types by Region—Sub-Saharan Africa

Scheme	Number of Cases	Percent of Cases
Corruption	138	48.4%
Billing	53	18.6%
Non-Cash	50	17.5%
Cash on Hand	47	16.5%
Skimming	42	14.7%
Cash Larceny	34	11.9%
Check Tampering	33	11.6%
Expense Reimbursements	26	9.1%
Financial Statement Fraud	16	5.6%
Payroll	11	3.9%
Register Disbursements	7	2.5%

⁸ For definitions of each of these sub-scheme types, please see the Glossary of Terminology on page 90.

⁹ For purposes of this report, the term *check tampering* includes manipulation of payments made via both paper-based checks and electronic payment methods.

How Occupational Fraud Is Committed

Figure 10: Scheme Types by Region—Asia-Pacific

Scheme	Number of Cases	Percent of Cases
Corruption	107	48.4%
Non-Cash	49	22.2%
Billing	45	20.4%
Expense Reimbursements	40	18.1%
Financial Statement Fraud	24	10.9%
Cash on Hand	23	10.4%
Check Tampering	22	10.0%
Skimming	20	9.0%
Cash Larceny	17	7.7%
Register Disbursements	10	4.5%
Payroll	6	2.7%

Figure 11: Scheme Types by Region—Latin America and the Caribbean

Scheme	Number of Cases	Percent of Cases
Corruption	51	45.5%
Non-Cash	26	23.2%
Billing	23	20.5%
Financial Statement Fraud	17	15.2%
Expense Reimbursements	16	14.3%
Check Tampering	14	12.5%
Skimming	10	8.9%
Payroll	9	8.0%
Cash on Hand	7	6.3%
Cash Larceny	3	2.7%
Register Disbursements	1	0.9%

Figure 12: Scheme Types by Region—Western Europe

Scheme	Number of Cases	Percent of Cases
Corruption	44	40.0%
Non-Cash	28	25.5%
Billing	21	19.1%
Expense Reimbursements	20	18.2%
Financial Statement Fraud	19	17.3%
Cash on Hand	10	9.1%
Check Tampering	9	8.2%
Payroll	9	8.2%
Cash Larceny	4	3.6%
Skimming	4	3.6%
Register Disbursements	3	2.7%

Figure 13: Scheme Types by Region—Eastern Europe and Western/Central Asia

Scheme	Number of Cases	Percent of Cases
Corruption	54	55.1%
Non-Cash	18	18.4%
Billing	18	18.4%
Financial Statement Fraud	17	17.3%
Cash on Hand	10	10.2%
Expense Reimbursements	10	10.2%
Cash Larceny	7	7.1%
Payroll	6	6.1%
Check Tampering	4	4.1%
Register Disbursements	3	3.1%
Skimming	2	2.0%

Figure 14: Scheme Types by Region—Southern Asia

Scheme	Number of Cases	Percent of Cases
Corruption	66	67.3%
Non-Cash	22	22.4%
Expense Reimbursements	14	14.3%
Billing	12	12.2%
Cash on Hand	9	9.2%
Financial Statement Fraud	8	8.2%
Cash Larceny	7	7.1%
Skimming	7	7.1%
Check Tampering	4	4.1%
Payroll	4	4.1%
Register Disbursements	2	2.0%

Figure 15: Scheme Types by Region—Canada

Scheme	Number of Cases	Percent of Cases
Billing	25	29.1%
Corruption	23	26.7%
Expense Reimbursements	15	17.4%
Non-Cash	14	16.3%
Financial Statement Fraud	11	12.8%
Cash on Hand	10	11.6%
Check Tampering	10	11.6%
Skimming	10	11.6%
Cash Larceny	9	10.5%
Payroll	9	10.5%
Register Disbursements	5	5.8%

How Occupational Fraud Is Committed

Figure 16: Scheme Types by Region—Middle East and North Africa

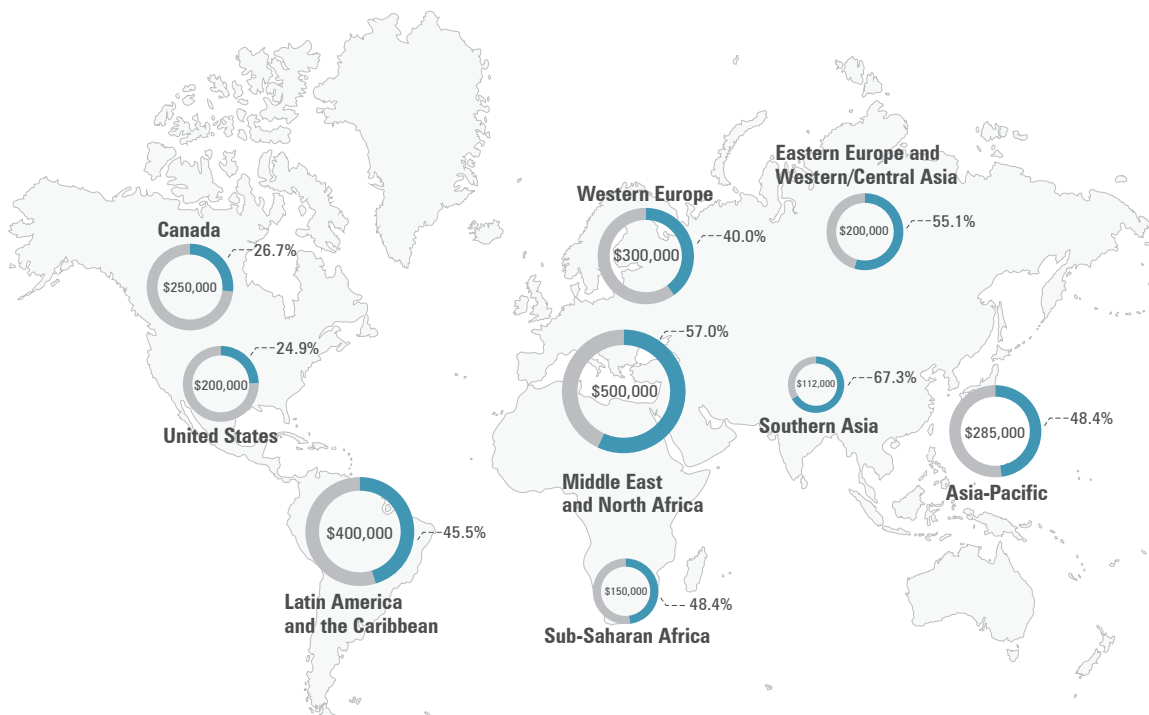
Scheme	Number of Cases	Percent of Cases
Corruption	45	57.0%
Non-Cash	21	26.6%
Cash on Hand	15	19.0%
Billing	12	15.2%
Expense Reimbursements	9	11.4%
Skimming	9	11.4%
Check Tampering	6	7.6%
Financial Statement Fraud	5	6.3%
Cash Larceny	4	5.1%
Payroll	2	2.5%
Register Disbursements	1	1.3%



Corruption Cases by Region

Corruption is a global problem. It is not limited to any particular region, and it affects organizations of all sizes, types, and industries, regardless of whether their operations cross jurisdictional lines. Nonetheless, there are certain places in the world where corruption is a greater risk than in others. We analyzed the corruption cases reported to us by region to highlight the relative risk of corruption worldwide (see Figure 17). Southern Asia had the largest percentage of reported corruption cases in our study, followed by the Middle East and North Africa. However, because this illustration reflects only those cases reported to us by the CFEs who took part in our survey, it is important to note that our data does not necessarily reflect the total amount of corruption that occurs in each region.

Figure 17: Frequency and Median Loss of Corruption Cases by Region*

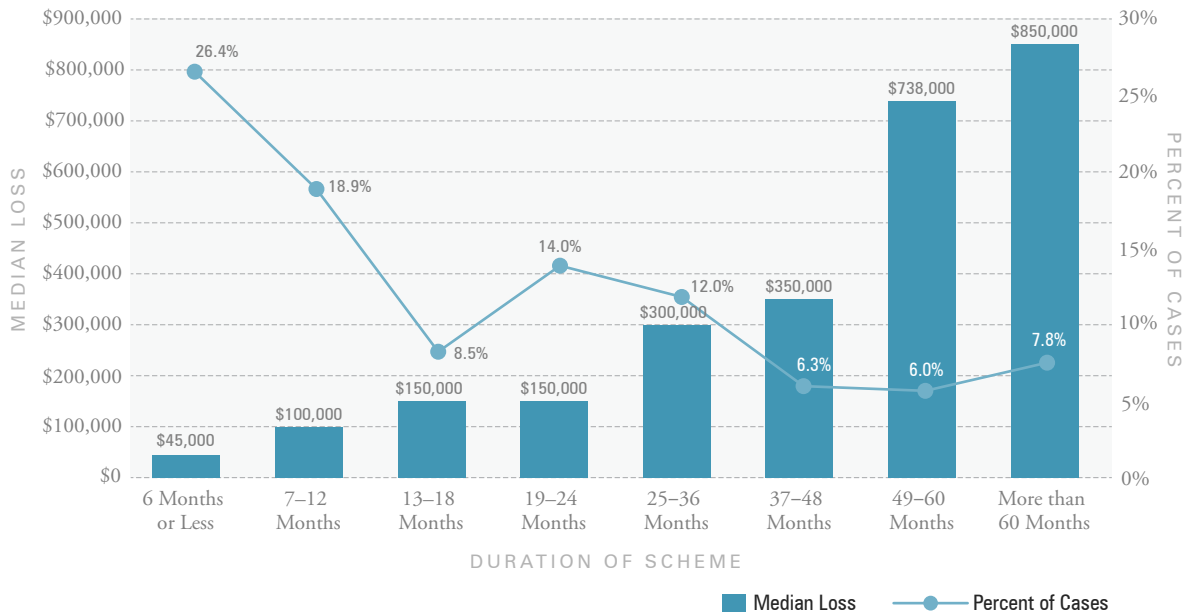



*For each region, the percentage shown indicates the proportion of cases in the region that involved corruption, and the dollar figure represents median loss for the corruption cases in the region.

Duration of Fraud Schemes

In addition to the type of scheme perpetrated, the loss caused by a fraud is also a function of how long it lasts before being detected. As shown in Figure 18, the longer perpetrators are able to go undetected, the more financial harm they are able to cause. The good news is that many fraud losses are mitigated by early detection, as more than one-quarter of cases were uncovered in the first six months. However, the median duration of the frauds in our study was 18 months, and more than 32% lasted at least two years before they were discovered.


Figure 18: Frequency and Median Loss Based on Duration of Fraud





THE LONGER AN OCCUPATIONAL FRAUD SCHEME GOES UNDETECTED, THE GREATER LOSSES TEND TO BE.

THE **MEDIAN DURATION** OF THE FRAUDS IN OUR STUDY WAS **18 MONTHS**.

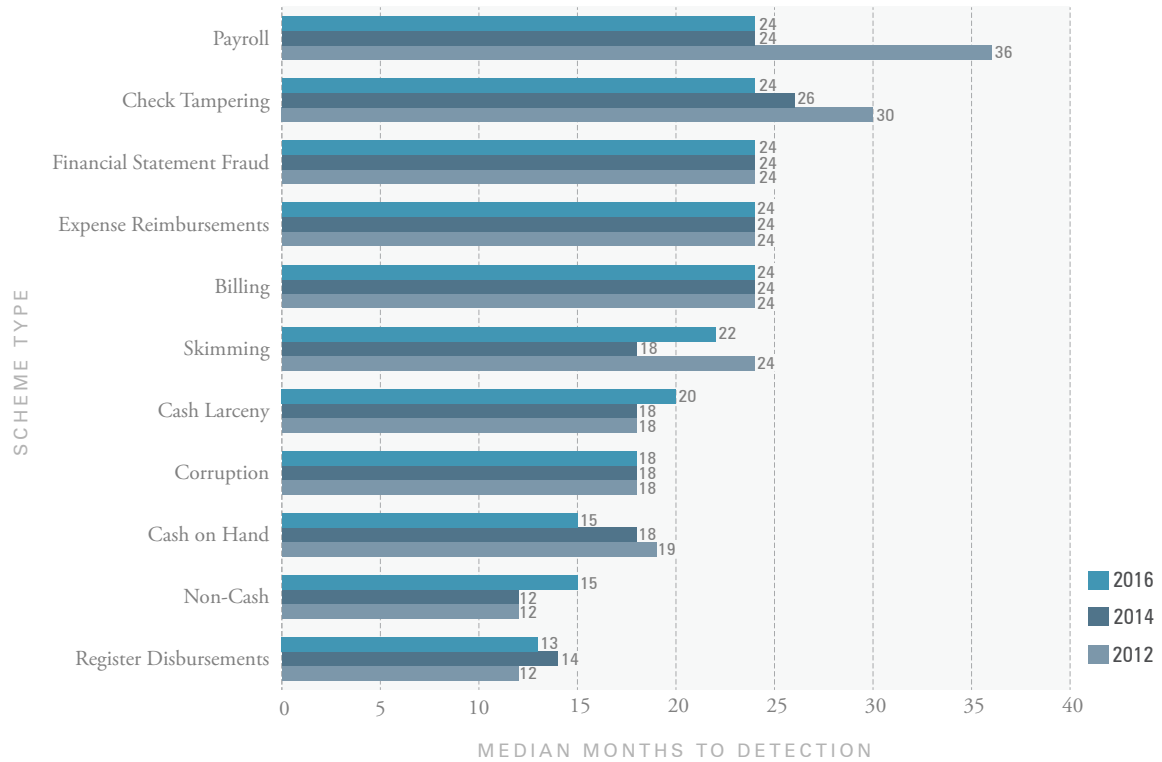


NEARLY **ONE-THIRD OF FRAUDS** LASTED AT LEAST TWO YEARS BEFORE THEY WERE DETECTED.

How Occupational Fraud Is Committed

We also examined the median duration of the different types of frauds. As seen in Figure 19, the typical cash register disbursement scheme was uncovered the most quickly, with a median duration of 13 months. In contrast, payroll, check tampering, financial statement fraud, expense reimbursements, and billing schemes all lasted a median of two years before being detected.

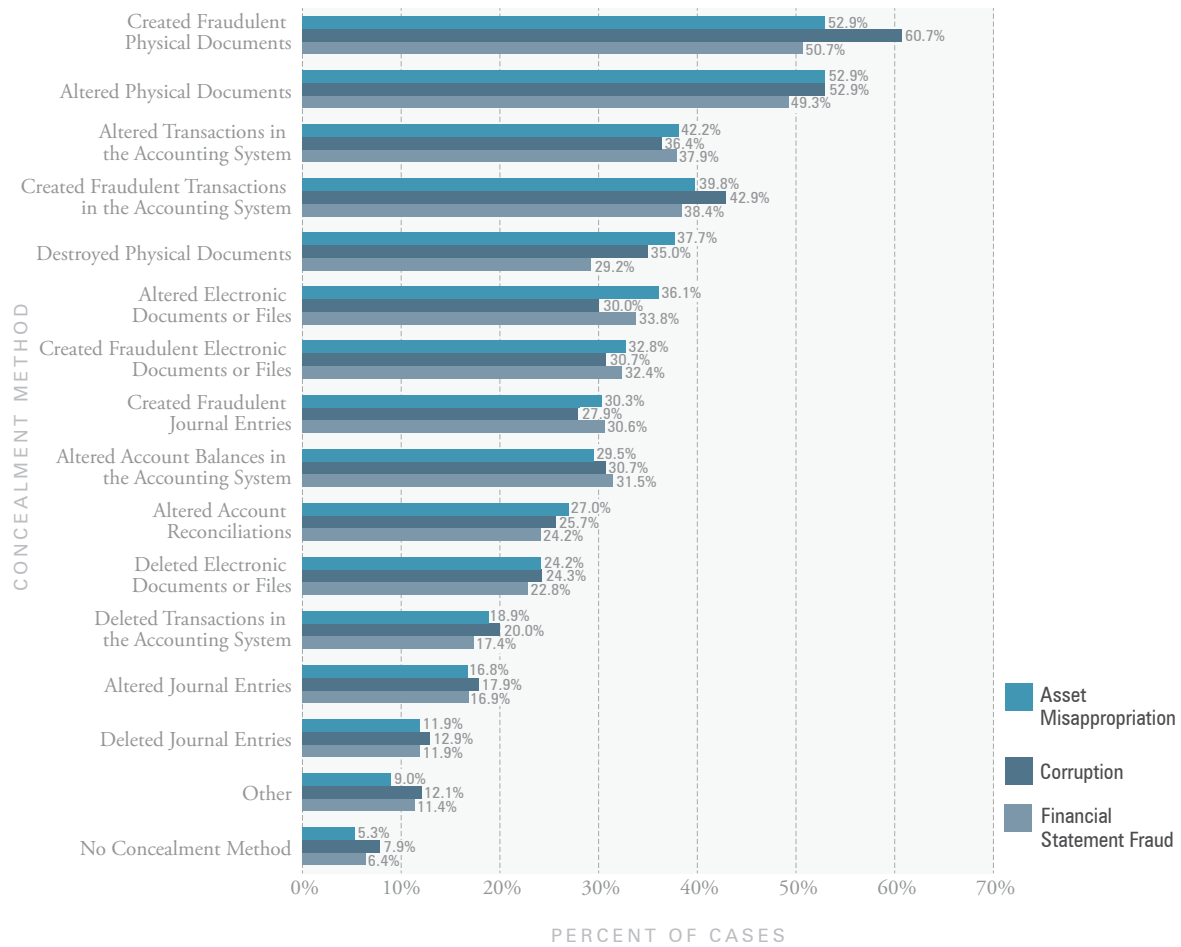
Figure 19: Median Duration of Fraud Based on Scheme Type



Concealment of Fraud Schemes

For the first time in this study, we asked survey respondents what steps the fraudsters took to conceal their schemes. Interestingly, the frequency of various concealment methods did not vary much based on the type of fraud perpetrated. Creating and altering physical documents were the most common concealment methods for all three categories, though the creation of fraudulent documents was slightly more common in corruption cases. Additionally, we found that the vast majority of fraudsters proactively attempted to conceal their schemes; only 5.5% of respondents noted that the perpetrator did not take any steps to hide the fraud.

Figure 20: Concealment Method by Scheme Type



Detection of Fraud Schemes



Most fraudsters do not undertake their schemes expecting they will get caught. When people choose to engage in occupational fraud, they typically know that they are risking their careers, reputations, and freedom by engaging in such misconduct. Therefore, increasing the likelihood that a scheme will be detected is a pillar of fraud prevention.

In addition to identifying patterns in how fraud is committed, we analyzed how occupational fraud schemes were initially detected. The overall frequency with which each detection method uncovered a fraud was generally consistent with previous reports, though we found that the frequency tended to vary based on an organization's size and location.

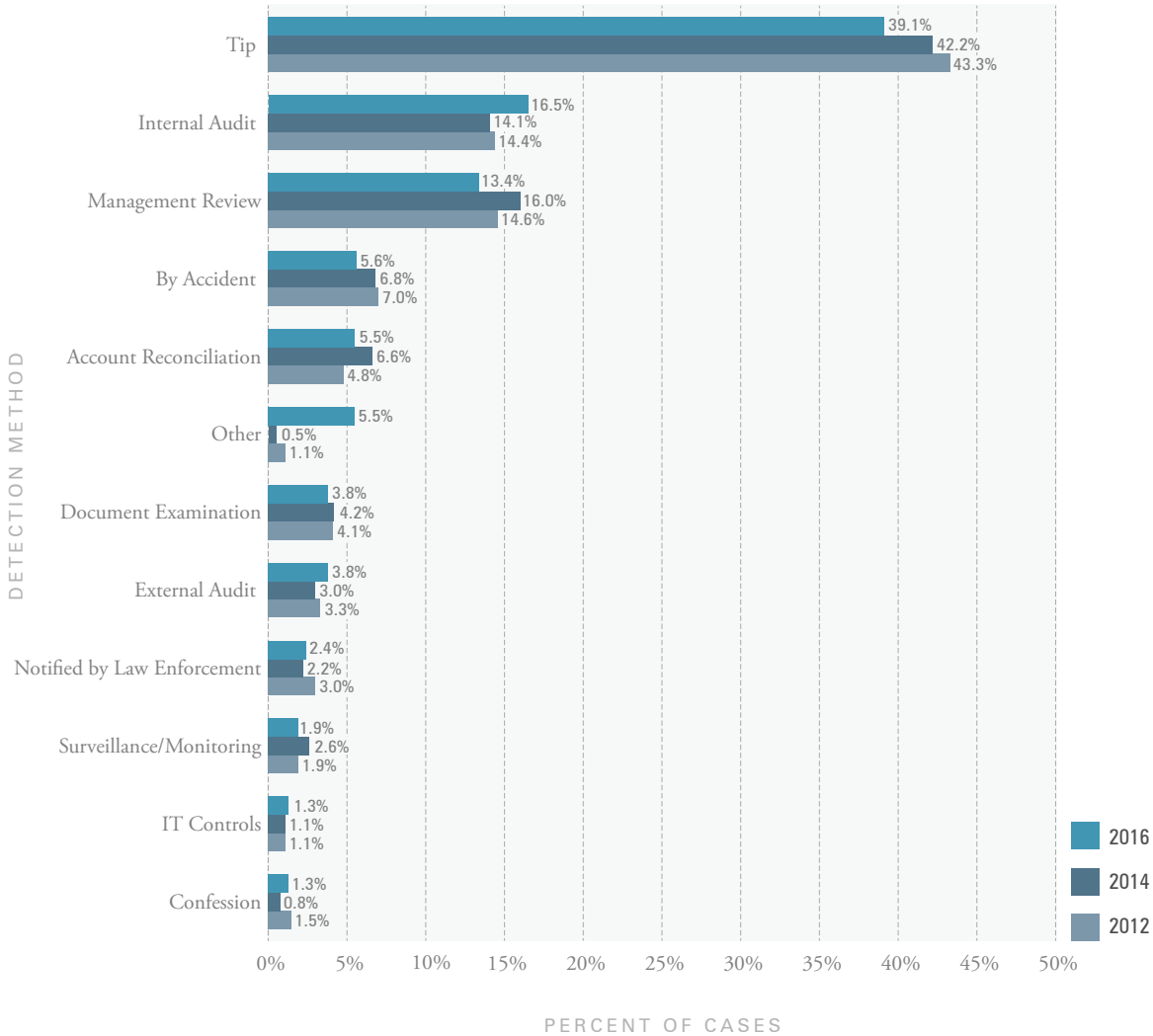
Also, by examining the relationship between detection methods and other factors, we identified ways for

anti-fraud professionals to enhance fraud detection at their own or their clients' organizations. For instance, by comparing the magnitude and duration of fraud schemes to the detection method, we determined that some detection methods tend to be associated with less costly frauds. Additionally, we found evidence that organizations can benefit from being proactive in detecting fraud.

Initial Detection of Occupational Frauds

Figure 21 shows the overall frequency of how schemes were initially detected, including a comparison from our 2014 and 2012 reports. As in previous years, tips were the most common detection method by a wide margin, accounting for 39.1% of cases. In the 2016 data, internal audit (16.5%) edged out management review (13.4%) as the second-most common detection method.

Figure 21: Initial Detection of Occupational Frauds



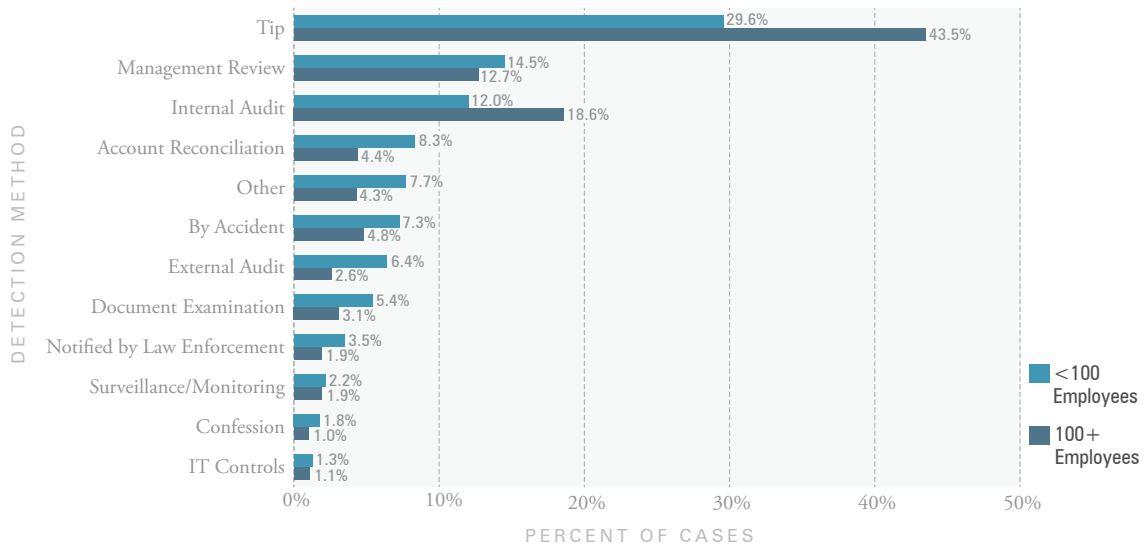
Detection of Fraud Schemes

Initial Detection of Frauds in Small Organizations

Our data shows that detection methods varied substantially between small organizations (i.e., those with fewer than 100 employees) and larger organizations. The starkest variation occurred with tips; small and larger organizations detected fraud via tip in 29.6% and 43.5% of cases, respectively. Similarly, internal audit was the detection method for 12% of cases at small organizations but 18.6% at larger organizations.

One possible explanation for these disparities is that the controls and procedures an organization has in place affect how fraud schemes are caught. Figure 48 on page 39 shows that most small organizations do not have a reporting hotline (25.7%), while the majority of larger organizations do (74.1%). Internal audit departments are also less likely to exist at smaller organizations than at larger ones (38.6% and 88.3%, respectively). In place of tips, small organizations tend to detect more frauds through management review, account reconciliation, accident, external audit, and document examination.

Figure 22: Detection Method by Size of Victim Organization



Detection Method by Region

Each of the following tables shows initial detection methods for a particular geographic region. While tips are consistently the top detection method in every region, they are especially common in Southern Asia (53.1% of cases), Eastern Europe and Western/Central Asia (47.4%), and Asia-Pacific (45.2%). Internal audit was the second-most-common initial detection method in every region except Canada and the United States, where management review came in second.

Figure 23: Detection Method by Region—United States

Detection Method	Percent of Cases
Tip	37.0%
Management Review	14.3%
Internal Audit	14.1%
By Accident	7.2%
Account Reconciliation	6.1%
Other	5.5%
Document Examination	4.8%
External Audit	4.0%
Notified by Law Enforcement	2.5%
Surveillance/Monitoring	1.9%
IT Controls	1.5%
Confession	1.2%

Figure 24: Detection Method by Region—Sub-Saharan Africa

Detection Method	Percent of Cases
Tip	37.3%
Internal Audit	16.2%
Management Review	10.2%
Account Reconciliation	7.4%
By Accident	5.3%
Other	4.9%
Document Examination	4.9%
External Audit	4.9%
IT Controls	3.2%
Notified by Law Enforcement	2.1%
Surveillance/Monitoring	2.1%
Confession	1.4%

Figure 25: Detection Method by Region—Asia-Pacific

Detection Method	Percent of Cases
Tip	45.2%
Internal Audit	15.8%
Management Review	13.1%
External Audit	5.9%
Account Reconciliation	5.0%
Notified by Law Enforcement	4.5%
Other	4.1%
By Accident	2.7%
Document Examination	1.4%
Surveillance/Monitoring	0.9%
IT Controls	0.9%
Confession	0.5%

Figure 26: Detection Method by Region—Latin America and the Caribbean

Detection Method	Percent of Cases
Tip	36.9%
Internal Audit	19.8%
Management Review	17.1%
Other	8.1%
Account Reconciliation	4.5%
By Accident	3.6%
Document Examination	2.7%
External Audit	2.7%
Surveillance/Monitoring	2.7%
Confession	1.8%
Notified by Law Enforcement	0.0%
IT Controls	0.0%

Detection of Fraud Schemes

Figure 27: Detection Method by Region—
Western Europe

Detection Method	Percent of Cases
Tip	40.9%
Internal Audit	16.4%
Management Review	11.8%
Other	8.2%
Document Examination	4.5%
External Audit	4.5%
By Accident	3.6%
Surveillance/Monitoring	3.6%
Notified by Law Enforcement	2.7%
Account Reconciliation	1.8%
Confession	1.8%
IT Controls	0.0%

Figure 29: Detection Method by Region—
Southern Asia

Detection Method	Percent of Cases
Tip	53.1%
Internal Audit	21.9%
Management Review	9.4%
Account Reconciliation	5.2%
By Accident	4.2%
Surveillance/Monitoring	3.1%
Other	1.0%
External Audit	1.0%
Confession	1.0%
Document Examination	0.0%
Notified by Law Enforcement	0.0%
IT Controls	0.0%

Figure 31: Detection Method by Region—
Middle East and North Africa

Detection Method	Percent of Cases
Tip	39.2%
Internal Audit	25.3%
Management Review	11.4%
Account Reconciliation	5.1%
Other	5.1%
By Accident	3.8%
Document Examination	3.8%
Surveillance/Monitoring	3.8%
External Audit	1.3%
Notified by Law Enforcement	1.3%
IT Controls	0.0%
Confession	0.0%

Figure 28: Detection Method by Region—
Eastern Europe and Western/Central Asia

Detection Method	Percent of Cases
Tip	47.4%
Internal Audit	20.6%
Management Review	12.4%
Other	6.2%
Account Reconciliation	4.1%
By Accident	2.1%
Confession	2.1%
Document Examination	1.0%
External Audit	1.0%
Notified by Law Enforcement	1.0%
Surveillance/Monitoring	1.0%
IT Controls	1.0%

Figure 30: Detection Method by Region—
Canada

Detection Method	Percent of Cases
Tip	32.6%
Management Review	20.9%
Internal Audit	16.3%
Other	9.3%
By Accident	7.0%
Account Reconciliation	3.5%
Document Examination	3.5%
External Audit	2.3%
Notified by Law Enforcement	2.3%
IT Controls	1.2%
Confession	1.2%
Surveillance/Monitoring	0.0%

Median Loss and Median Duration by Detection Method

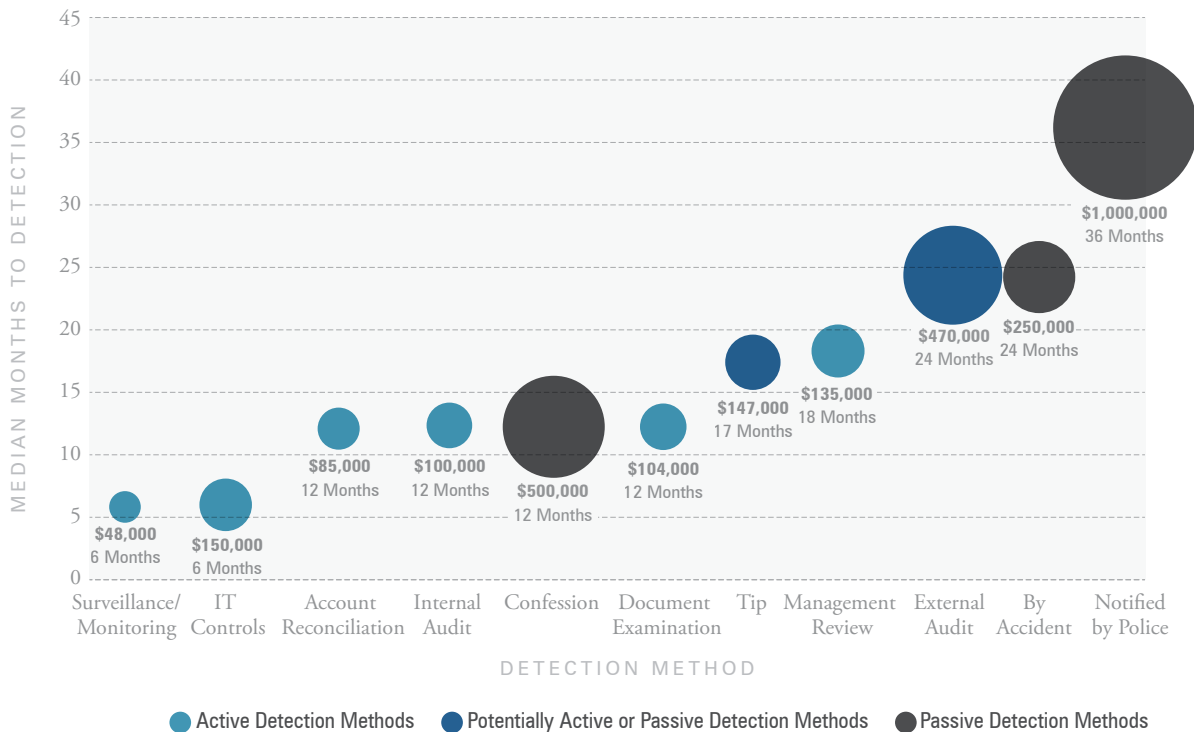
Our data suggests a relationship between the manner in which fraud is initially detected and the amount of financial harm the scheme causes. Figure 32 illustrates the relationship among the detection method, median loss, and median duration of occupational frauds. The detection methods are organized left-to-right in ascending order of duration, and the circles represent the size of the median loss. Additionally, the data points are color coded to indicate whether the detection method is primarily *active*, *passive*, or *potentially active* or *passive*.

An active detection method involves a deliberate search for misconduct at the direction of someone within the organization or an internal control or process that is instrumental in searching for fraud. In contrast, passive detection occurs when the organization learns of the fraud by accident, confession, or unsolicited notification by another party. Some detection methods could potentially be active or passive, depending on the circumstances. For example, tips might often be passive, but organizations that effectively promote reporting mechanisms actively cultivate such tips. Additionally, while the typical external audit is not primarily designed to look for fraud, an organization might procure an external audit in response to a suspected fraud, so external audits could be considered either active or passive, depending on the circumstances.

Our data shows that, generally speaking, frauds that are detected through active methods tend to be caught sooner and cause smaller losses than frauds that are detected passively. Of all detection methods, notification by law enforcement had both the highest associated median loss (\$1 million) and longest median duration (36 months). Of the active detection methods, the highest median loss (for IT controls) was \$150,000, while the longest median duration (for management review) was 18 months.

Thus, organizations might be able to reduce the duration and cost of fraud by implementing controls or processes that will increase the likelihood of active detection, such as active management review, attentive account reconciliation, and surveillance or monitoring techniques.

Figure 32: Median Loss and Median Duration by Detection Method



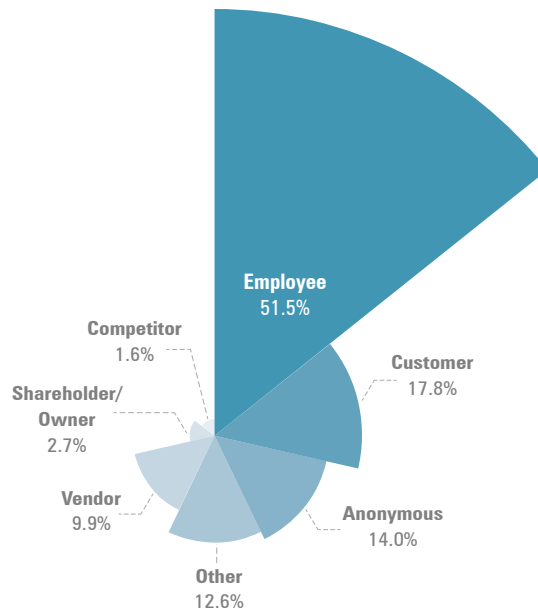
Detection of Fraud Schemes

Source of Tips

As tips are the most common detection method (see Figure 21 on page 21), it is helpful to know who is likely to report fraud to the organization. Employees, who provided 51.5% of tips, are generally the focus of reporting mechanisms at most organizations. However, anti-fraud professionals should remember that more than 40% of all tips came from non-employees. Customers (17.8%), vendors (9.9%), and other parties were significant sources of tips. Thus, some organizations might cultivate more tips by promoting fraud reporting mechanisms to multiple audiences.

Additionally, 14% of tips came from anonymous sources. Some jurisdictions restrict organizations from promoting anonymous reporting mechanisms, but organizations who choose not to have them risk losing sources who are not comfortable revealing their identity.

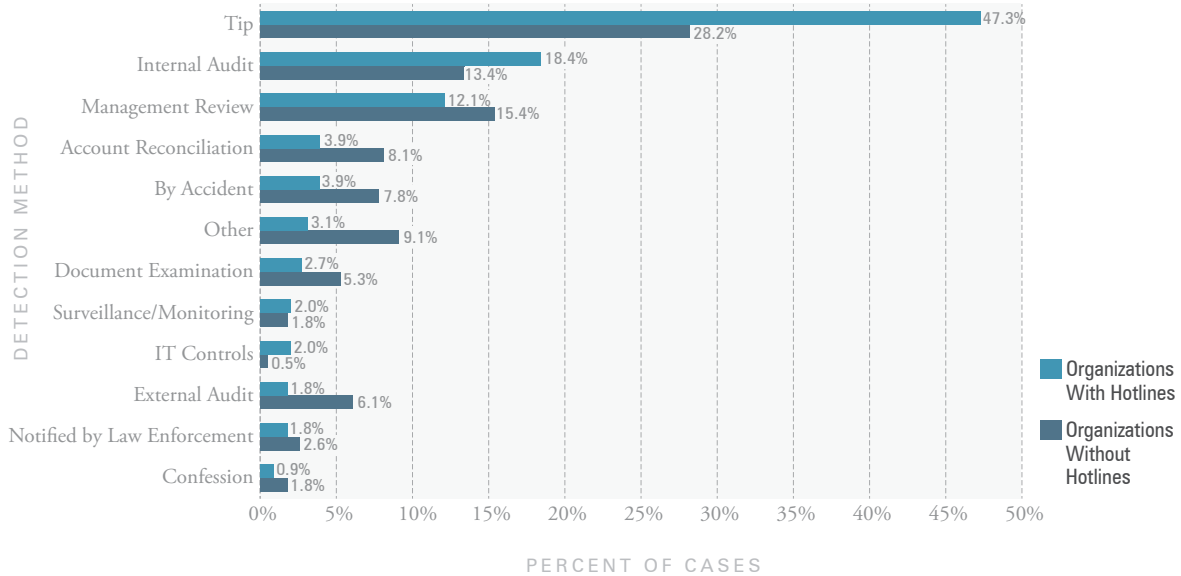
Figure 33: Source of Tips




Impact of Hotlines

One way to determine the effectiveness of reporting hotlines is to compare the percentage of cases that were initially detected via tip in organizations with and without hotlines. Figure 34 shows that while tips were the most common detection method regardless of whether a hotline was in place, schemes were detected by tip in 47.3% of cases at organizations that had hotlines, but in only 28.2% of cases at organizations without them.

Figure 34: Impact of Hotlines






**MORE THAN 40% OF ALL TIPS
CAME FROM NON-EMPLOYEES,
SUCH AS CUSTOMERS AND
VENDORS.**

PERCENT OF CASES DETECTED BY TIP

WITH HOTLINES



47%

WITHOUT HOTLINES



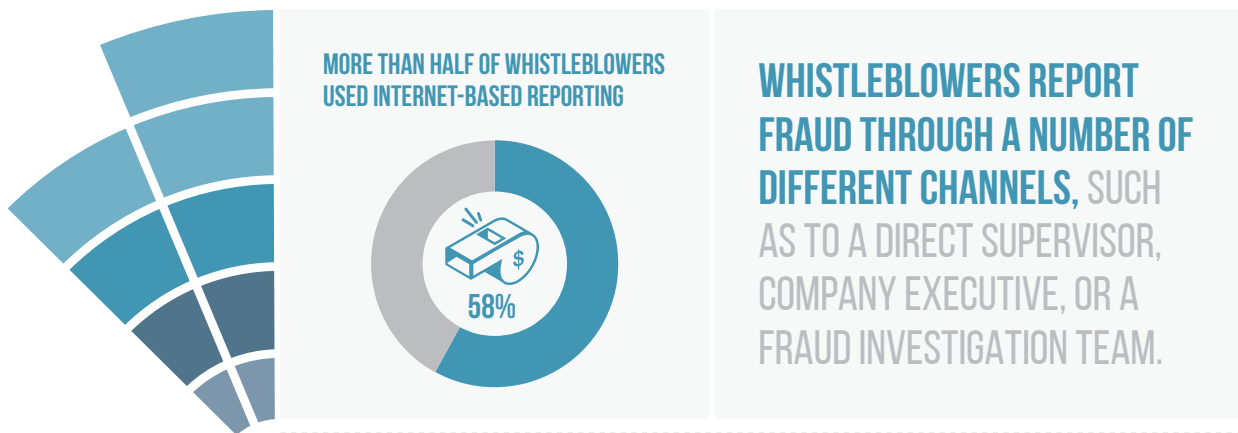
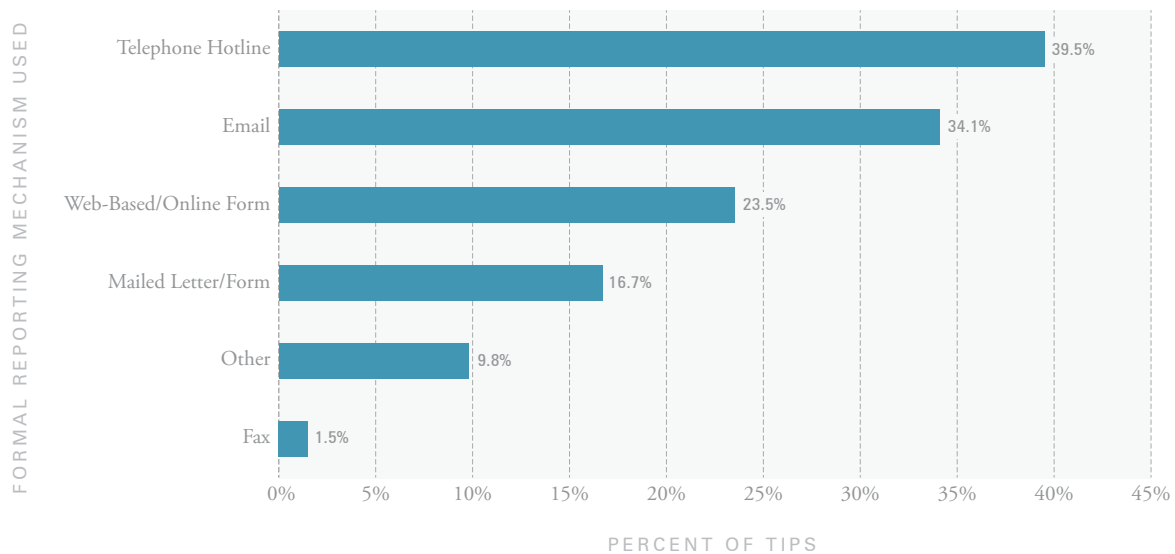
28%

Detection of Fraud Schemes

Formal Reporting Mechanism Used by Whistleblower

Our research has consistently established tips as a major source for detecting fraud, and the presence of hotlines can have a substantial impact on reporting (see Figure 34 on page 27). To understand how tips are received, we asked respondents to specify the formal reporting mechanism(s) used by the whistleblower. Figure 35 shows that while telephone hotlines are the most common (39.5% of tips received), more than half of complaints were submitted via the Internet (i.e., email and Web-based or online forms combined). The data suggests that organizations might benefit from offering multiple channels for reporting fraud.

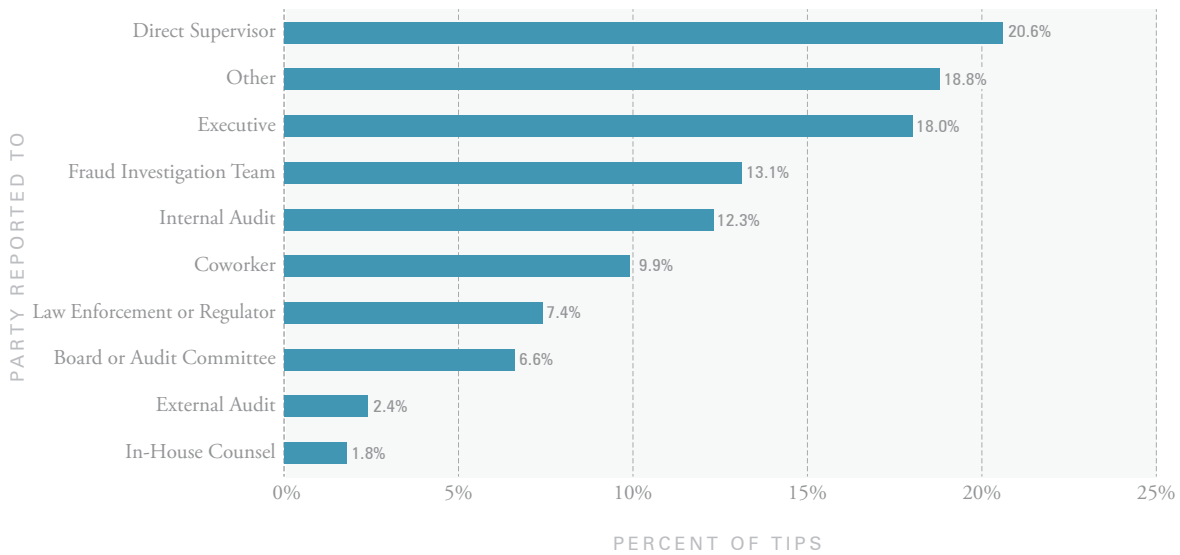
Figure 35: Formal Reporting Mechanism Used by Whistleblower



Party to Whom Whistleblower Initially Reported

A question that frequently emerges when organizations develop and promote reporting mechanisms is: Who should receive reports about fraud? To help provide some insight into this issue, we asked our survey participants to whom the whistleblowers in their cases reported their suspicions. Figure 36 shows that whistleblowers’ direct supervisors were the party most commonly reported to (20.6%). Additionally, executives (18%), fraud investigation teams (13.1%), and internal audit departments (12.3%) each received a significant number of whistleblower reports. In reviewing the “other” category, many of the survey responses indicated that human resources or the owner of the organization were the party to whom the fraud was reported.

Figure 36: Party to Whom Whistleblower Initially Reported



Whistleblower Reports Vary Based on Department Where Fraud Occurs

Our findings indicate that the party to whom whistleblowers report tends to differ based on the perpetrator’s department. Figure 37 includes the top three parties reported to for each department that made up 5% or more of the total responses. Throughout the organization, direct supervisors or executives are common parties who receive tips. However, when perpetrators were executives or in upper management, whistleblowers were most likely to report to

the board of directors or audit committee (22.2%) and second-most likely to report to law enforcement (20.4%). One explanation for this trend could be fear of retaliation from executives, making internal reporting to a direct supervisor risky. Additionally, reporting to internal audit was common when perpetrators worked in departments typically made up of junior staff, such as operations (18.6%) and customer services (16.7%), but not in other departments.

Figure 37: Top Three Parties to Whom Tips Were Reported Based on Perpetrator’s Department

Operations	Accounting	Sales	Customer Service	Purchasing	Finance	Executive/Upper Management
Direct Supervisor (25.3%)	Executive (38.0%)	Direct Supervisor (26.4%)	Direct Supervisor (28.6%)	Executive (26.7%)	Direct Supervisor (21.1%)	Board or Audit Committee (22.2%)
Internal Audit (18.6%)	Direct Supervisor (27.1%)	Executive (20.8%)	Coworker (23.8%)	External Audit (26.7%)	Coworker (21.1%)	Law Enforcement or Regulator (20.4%)
Fraud Investigation Team or Executive (Both 15.7%)	Fraud Investigation Team (10.1%)	Fraud Investigation Team (17.0%)	Internal Audit (16.7%)	Direct Supervisor or Fraud Investigation Team (Both 16.7%)	Executive (21.1%)	Executive (18.5%)

Victim Organizations



As part of our survey, we asked respondents to provide demographic information regarding the victim organization, such as entity type, size, and industry. Using this data, we analyzed the frequency and median loss of fraud cases at various categories of victim organizations, as well as the types of schemes committed within different industries.

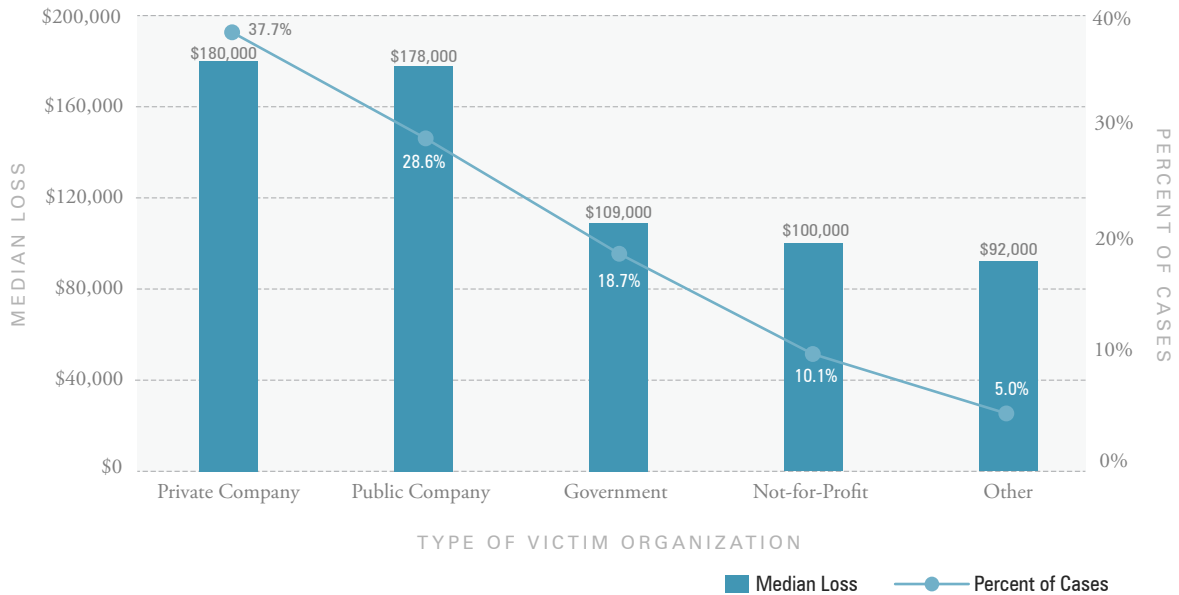
Additionally, we asked respondents what mechanisms the organization had in place to fight fraud when the scheme occurred. From these responses, we looked more closely at controls by victim size and region. This information enabled us to explore whether the presence

of specific anti-fraud controls corresponded with trends in median fraud losses and the time it took to detect schemes in organizations.

Type of Organization

Figure 38 depicts both the median loss and percent of cases based on the type of organization that was victimized. Privately held and publicly owned companies combined represented two-thirds of the cases reported to us. These organizations also suffered the greatest median losses (\$180,000 and \$178,000, respectively), which is consistent with our previous studies.

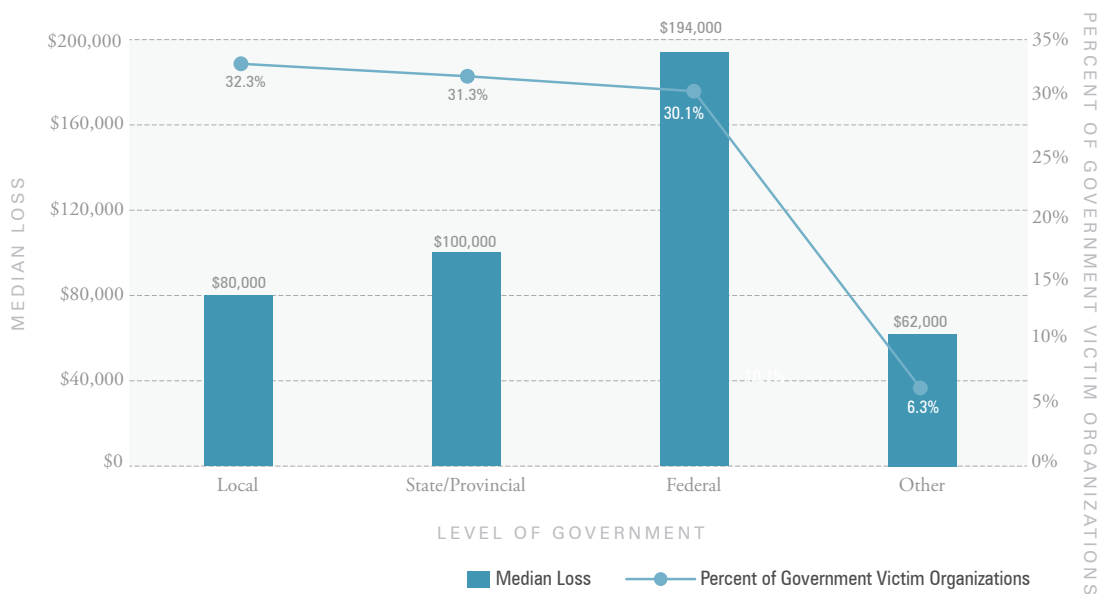
Figure 38: Type of Victim Organization—Frequency and Median Loss



Level of Government Organization

Because different levels of government vary in their operations and resources available to fight fraud, we further analyzed the government organizations that were victimized by the frauds in our study. Figure 39 shows the frequency of schemes for each level of government, as well as their respective median losses. Local, state/provincial, and federal governments accounted for approximately the same amount of cases (around 30% each). However, the highest median losses occurred at the federal level (\$194,000); median losses at the state/provincial and local levels were significantly smaller (\$100,000 and \$80,000, respectively).

Figure 39: Level of Government—Frequency and Median Loss



Victim Organizations

Size of Organization

Small organizations (defined as organizations with fewer than 100 employees for purposes of this report) were the most common victims in our study, at approximately 30%, while large organizations (those with more than 10,000 employees) accounted for the fewest cases, at 20.5%. Although both categories of organizations suffered a median loss of \$150,000, it is important to consider that small businesses would likely feel the impact of such a loss much more than large organizations.

Figure 40: Size of Victim Organization—Frequency

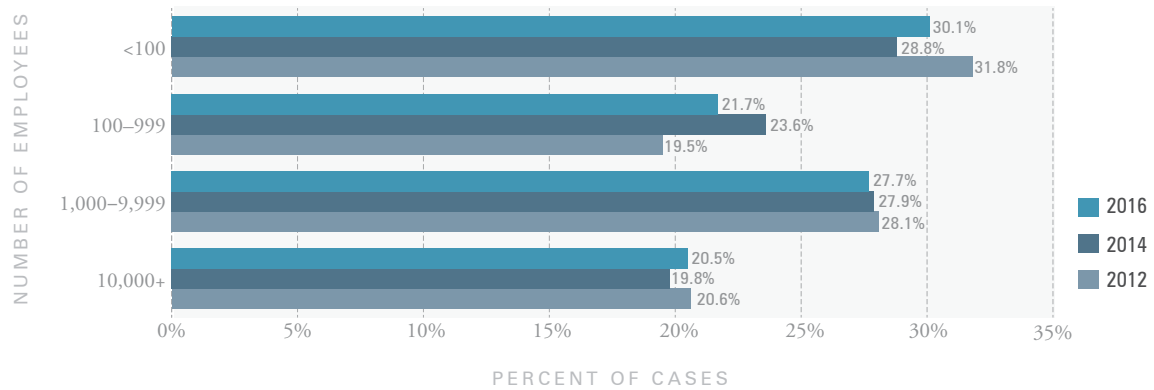
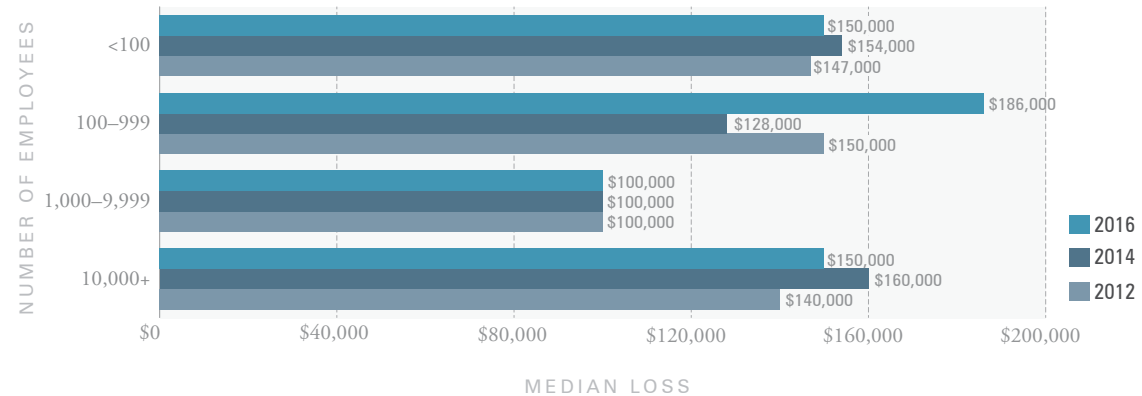


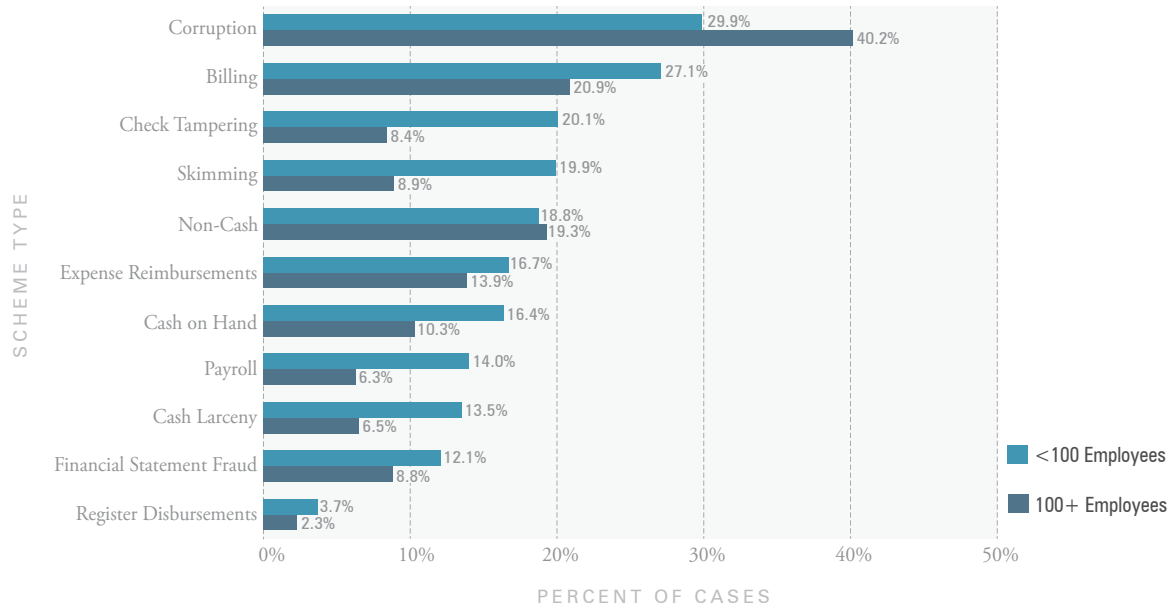
Figure 41: Size of Victim Organization—Median Loss



Methods of Fraud in Small Businesses

Figure 42 illustrates which fraud schemes small businesses were most susceptible to and which schemes occurred more often in larger organizations. Corruption was more prevalent in larger organizations (40.2% of cases) than in small businesses (29.9% of cases). In contrast, check tampering, skimming, payroll, and cash larceny schemes all occurred over twice as frequently in small businesses as in larger organizations.

Figure 42: Scheme Type by Size of Victim Organization

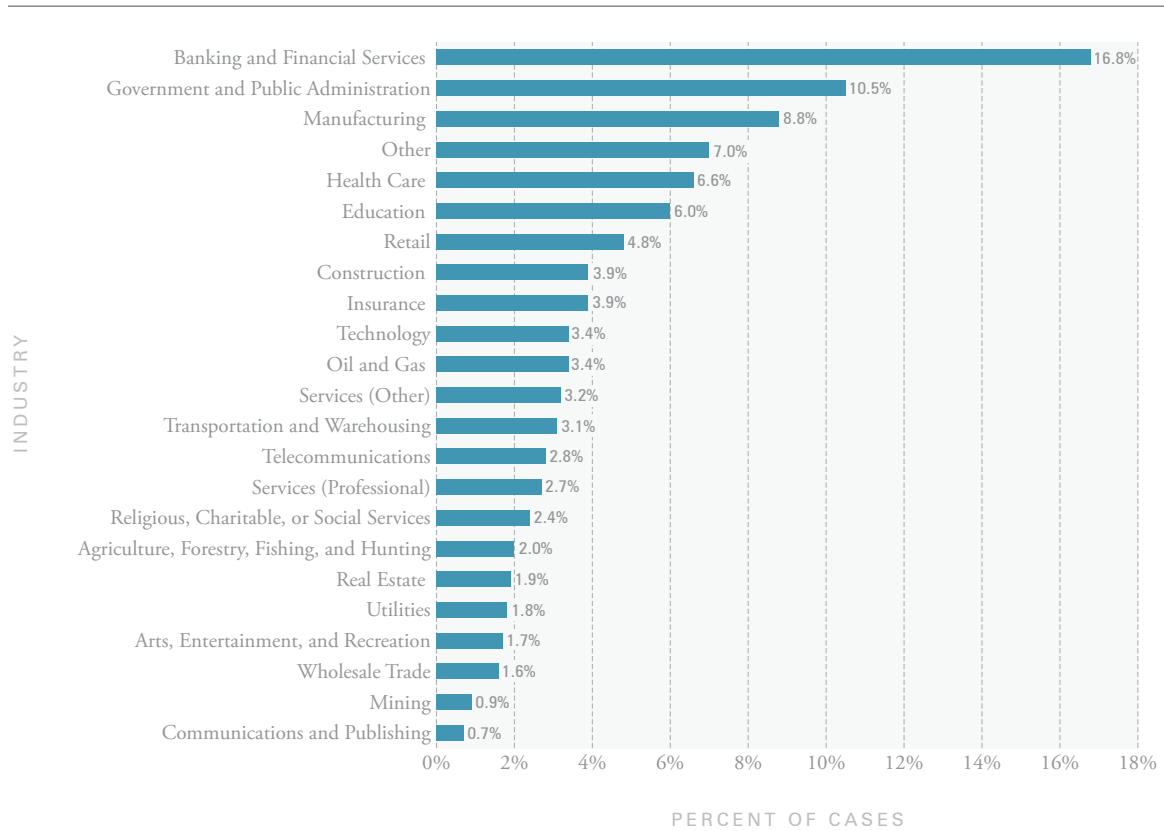


Victim Organizations

Industry of Organization

Figure 43 categorizes the cases reported to us by industry of the victim organization and Figure 44 displays the median loss of the various industries. Banking and financial services, government and public administration, and manufacturing were the most represented sectors in the fraud cases we examined. Conversely, industries with the lowest frequency of fraud cases included communications and publishing, mining, and wholesale trade. While this data shows the distribution of cases from our survey, it does not necessarily suggest that certain industries are more at risk of fraud than others. Our data was collected through a survey of Certified Fraud Examiners (CFEs), so this distribution primarily reflects the industries for which CFEs typically provide services.

Figure 43: Industry of Victim Organizations



Although mining and wholesale trade had among the fewest cases of any industry, those industries suffered the greatest median losses at \$500,000 and \$450,000, respectively. Other industries with significant median losses included professional services; agriculture, forestry, fishing, and hunting; and oil and gas. Banking and financial services reported the highest number of cases and had a median loss of \$192,000. Other highly represented industries with middle-of-the-road median losses included manufacturing (\$194,000), health care (\$120,000), and government and public administration (\$133,000). The education sector had the smallest median loss of \$62,000, but a significant number of reported cases.

Figure 44: Industry of Victim Organizations (Sorted by Median Loss)

Industry	Number of Cases	Percent of Cases	Median Loss
Mining	20	0.9%	\$500,000
Wholesale Trade	36	1.6%	\$450,000
Services (Professional)	60	2.7%	\$310,000
Agriculture, Forestry, Fishing, and Hunting	44	2.0%	\$300,000
Oil and Gas	74	3.4%	\$275,000
Construction	86	3.9%	\$259,000
Technology	74	3.4%	\$235,000
Communications and Publishing	16	0.7%	\$225,000
Real Estate	41	1.9%	\$200,000
Manufacturing	192	8.8%	\$194,000
Telecommunications	62	2.8%	\$194,000
Banking and Financial Services	368	16.8%	\$192,000
Transportation and Warehousing	68	3.1%	\$143,000
Government and Public Administration	229	10.5%	\$133,000
Health Care	144	6.6%	\$120,000
Insurance	85	3.9%	\$107,000
Utilities	40	1.8%	\$102,000
Other	153	7.0%	\$100,000
Services (Other)	70	3.2%	\$100,000
Retail	104	4.8%	\$85,000
Religious, Charitable, or Social Services	52	2.4%	\$82,000
Arts, Entertainment, and Recreation	37	1.7%	\$75,000
Education	132	6.0%	\$62,000

Victim Organizations

Schemes by Industry

Figure 45 is a heat map that represents the frequency of schemes in each industry that had at least 50 reported cases. Boxes are shaded based on the respective level of occurrence, with red boxes indicating extremely high-frequency risks and light yellow denoting the least common schemes. Billing, corruption, and non-cash misappropriation schemes were among the most common types of fraud in several industries. Conversely, certain schemes tended to be particularly high-risk in specific industries, such as skimming in educational organizations or check tampering in professional services firms and religious or charitable organizations.

Figure 45: Frequency of Schemes Based on Industry

Industry/Scheme	Banking and Financial Services	Government and Public Administration	Manufacturing	Health Care	Education	Retail	Construction	Insurance	Oil and Gas	Technology	Services (Other)	Transportation and Warehousing	Telecommunications	Services (Professional)	Religious, Charitable, or Social Services
Cases	368	229	192	144	132	104	86	85	74	74	70	68	62	60	52
Billing	9.5%	25.3%	32.8%	31.3%	34.1%	15.4%	27.9%	17.6%	20.3%	29.7%	22.9%	22.1%	12.9%	26.7%	25.0%
Cash Larceny	11.1%	7.9%	5.2%	9.7%	13.6%	12.5%	8.1%	4.7%	4.1%	5.4%	15.7%	4.4%	1.6%	13.3%	9.6%
Cash on Hand	17.9%	10.5%	8.3%	11.1%	17.4%	11.5%	7.0%	4.7%	9.5%	8.1%	22.9%	5.9%	4.8%	20.0%	13.5%
Check Tampering	9.5%	9.2%	13.5%	14.6%	7.6%	9.6%	10.5%	17.6%	4.1%	5.4%	18.6%	10.3%	6.5%	31.7%	25.0%
Corruption	37.5%	38.4%	48.4%	30.6%	31.8%	32.7%	36.0%	28.2%	48.6%	44.6%	28.6%	51.5%	41.9%	16.7%	28.8%
Expense Reimbursements	5.4%	15.7%	22.9%	20.1%	15.9%	8.7%	20.9%	9.4%	10.8%	27.0%	12.9%	8.8%	19.4%	16.7%	25.0%
Financial Statement Fraud	12.0%	7.9%	10.9%	13.2%	5.3%	5.8%	17.4%	7.1%	6.8%	12.2%	17.1%	5.9%	9.7%	11.7%	3.8%
Non-Cash	10.6%	14.8%	30.2%	13.2%	17.4%	32.7%	22.1%	5.9%	17.6%	18.9%	22.9%	29.4%	38.7%	10.0%	13.5%
Payroll	3.8%	13.5%	11.5%	9.7%	7.6%	3.8%	16.3%	5.9%	8.1%	2.7%	11.4%	7.4%	3.2%	11.7%	13.5%
Register Disbursements	2.7%	1.7%	5.7%	2.1%	1.5%	8.7%	1.2%	0.0%	0.0%	1.4%	5.7%	2.9%	3.2%	1.7%	1.9%
Skimming	6.8%	14.0%	8.3%	12.5%	25.0%	17.3%	15.1%	10.6%	8.1%	5.4%	21.4%	11.8%	6.5%	18.3%	19.2%



Corruption Cases by Industry

Figure 46 displays the total number of cases in each industry, along with the percentage of those cases categorized as corruption schemes. Although mining only had 20 total cases reported, 11 of those cases (55%) involved corruption, which was the highest percent of corruption cases in any industry. Other industries with fairly high proportions of corruption schemes included the transportation and warehousing, oil and gas, and manufacturing sectors. In contrast, professional services (e.g., medical, legal, and accounting services) reported the fewest number of corruption cases, with only 16.7% of cases.

Figure 46: Corruption Cases by Industry

Industry	Total Number of Cases	Number of Corruption Cases	Percent of Cases Involving Corruption
Mining	20	11	55.0%
Transportation and Warehousing	68	35	51.5%
Oil and Gas	74	36	48.6%
Manufacturing	192	93	48.4%
Technology	74	33	44.6%
Telecommunications	62	26	41.9%
Wholesale Trade	36	15	41.7%
Government and Public Administration	229	88	38.4%
Banking and Financial Services	368	138	37.5%
Communications and Publishing	16	6	37.5%
Other	153	57	37.3%
Agriculture, Forestry, Fishing, and Hunting	44	16	36.4%
Construction	86	31	36.0%
Utilities	40	14	35.0%
Real Estate	41	14	34.1%
Retail	104	34	32.7%
Education	132	42	31.8%
Health Care	144	44	30.6%
Arts, Entertainment, and Recreation	37	11	29.7%
Religious, Charitable, or Social Services	52	15	28.8%
Services (Other)	70	20	28.6%
Insurance	85	24	28.2%
Services (Professional)	60	10	16.7%

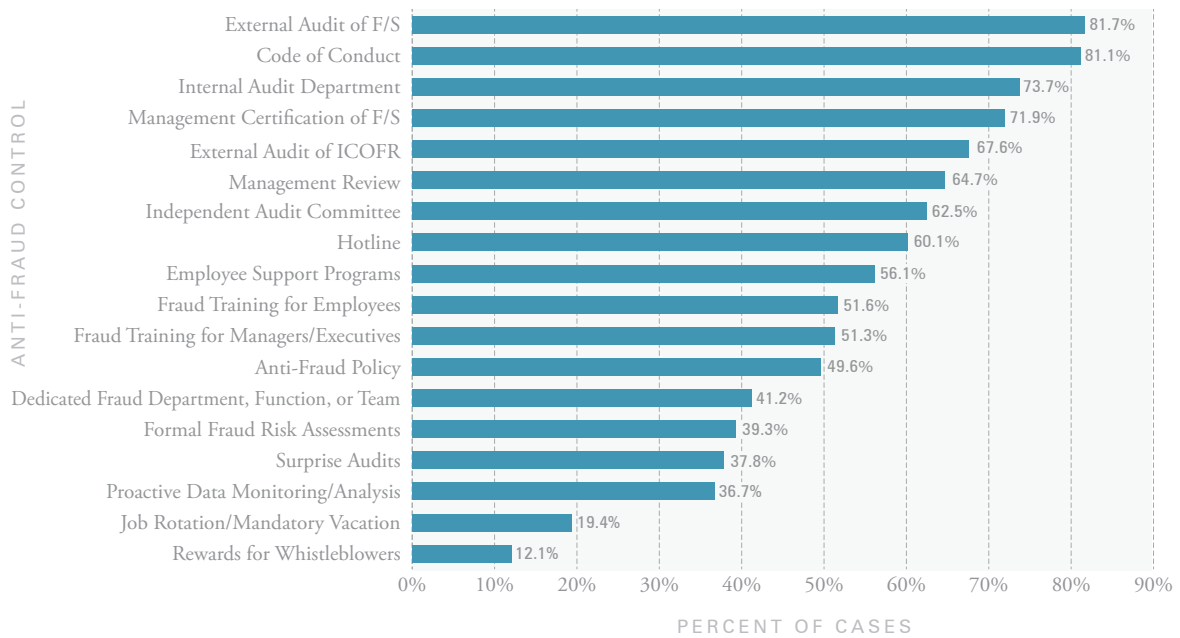
Victim Organizations

Anti-Fraud Controls at the Victim Organization

While the presence of internal controls does not provide guaranteed protection against fraud, it can help to both mitigate losses and deter some potential fraudsters by enhancing the perception of detection. Consequently, enacting internal controls specifically designed to prevent and detect fraud is a vital part of a fraud risk management program.

Many organizations find it useful to benchmark their anti-fraud controls against their peers, both in terms of what mechanisms are being employed and the effectiveness of those approaches. To help with this endeavor, we asked respondents about the anti-fraud controls in place at the victim organization at the time the fraud occurred. As shown in Figure 47, almost 82% of victim organizations underwent external audits of their financial statements by independent audit firms. Despite being the most common anti-fraud control analyzed, such audits are not designed specifically to find fraud and were responsible for detecting less than 4% of the frauds in our study (see Figure 21 on page 21). Conversely, hotlines were only present in 60.1% of the victim organizations, and yet we know that tips are consistently and overwhelmingly the most common method by which frauds are detected.

Figure 47: Frequency of Anti-Fraud Controls



The following key applies to Figures 47 and 48:

External Audit of F/S = Independent External Audits of the Organization's Financial Statements

Management Certification of F/S = Management Certification of the Organization's Financial Statements

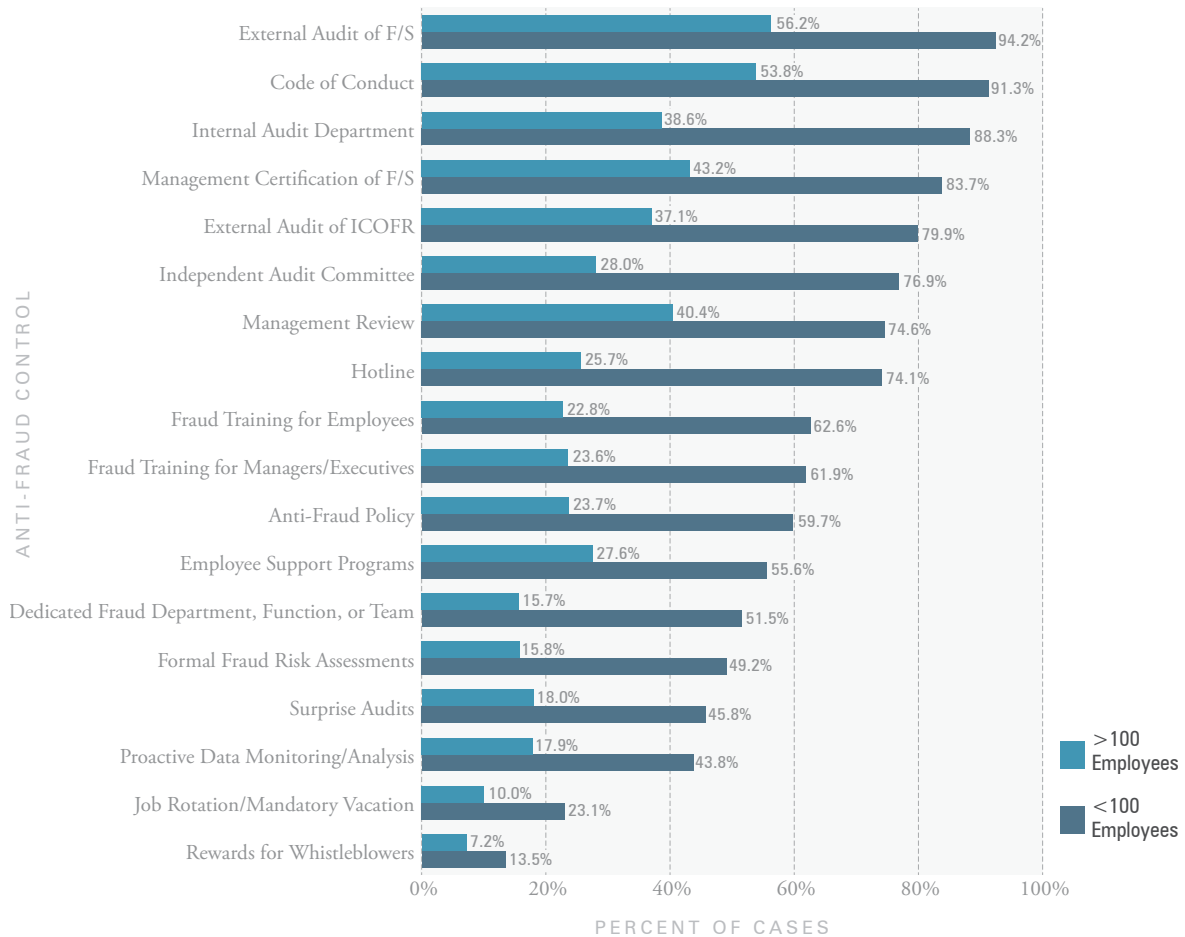
External Audit of ICOFR = Independent External Audits of the Organization's Internal Controls Over Financial Reporting

Anti-Fraud Controls at Small Businesses

When it comes to fighting fraud, many small businesses face an uphill battle. These entities not only incur losses as large as bigger organizations (see Figure 41 on page 32), but they typically have fewer resources with which to combat this threat. The combination of these factors leaves small businesses particularly vulnerable to occupational fraud. In addition, the working environment and limited staff size in many small businesses often relies upon, and even requires, an increased level of trust among the individuals performing daily operational tasks. As most anti-fraud professionals know, trust is not an internal control. In fact, trust in the wrong person can lead to disaster.

Figure 48 illustrates the frequency with which small businesses enact anti-fraud controls, compared to their larger counterparts. While it is understandable that small businesses do not have the resources necessary to invest in some of the more expensive internal controls noted, several controls—such as a code of conduct, management review procedures, and fraud training for staff members—can be implemented with minimal investment. Small businesses are uniquely susceptible to fraud in many ways, but there are opportunities for improvement in the measures they use to mitigate this risk.

Figure 48: Frequency of Anti-Fraud Controls by Size of Victim Organization



Trends in the Implementation of Anti-Fraud Controls

The general implementation rates of anti-fraud controls have remained notably consistent throughout our studies, although we have seen a slight uptick in the prevalence of each control over the last six years.* The most notable changes have been in the implementation rates of hotlines and fraud training for employees, which have increased approximately 9% and 8%, respectively, since 2010.

On the other end of the spectrum, the percentage of organizations that undergo external audits of their financial statements has remained relatively flat, with less than a 1% increase over the same period.

Figure 49: Change in Implementation Rates of Anti-Fraud Controls

Control	2010 Implementation Rate	2016 Implementation Rate	Change from 2010–2016
Hotline	51.2%	60.1%	8.9%
Fraud Training for Employees	44.0%	51.6%	7.6%
Anti-Fraud Policy	42.8%	49.6%	6.8%
Code of Conduct	74.8%	81.1%	6.3%
Management Review	58.8%	64.7%	5.9%
Surprise Audits	32.3%	37.8%	5.6%
Fraud Training for Managers/Executives	46.2%	51.3%	5.2%
Independent Audit Committee	58.4%	62.5%	4.1%
Management Certification of Financial Statements	67.9%	71.9%	4.0%
Rewards for Whistleblowers	8.6%	12.1%	3.5%
Job Rotation/Mandatory Vacation	16.6%	19.4%	2.8%
External Audit of Internal Controls over Financial Reporting	65.4%	67.6%	2.2%
Employee Support Programs	54.6%	56.1%	1.5%
External Audit of Financial Statements	80.9%	81.7%	0.8%

**For this analysis, we only included those controls with categories that have been consistently included in our studies since 2010. Formal fraud risk assessments and proactive data monitoring/analysis were added to our study in 2012 and 2014, respectively. And prior to 2014, internal audit department and dedicated fraud department, function, or team were combined into a single control category. Thus, these controls are omitted from the table above.*

Anti-Fraud Controls by Region

Regional variations in the implementation rates of anti-fraud controls provide both an interesting perspective regarding what organizations around the world are doing to manage fraud risk and helpful benchmarks for organizations' anti-fraud programs. Figures 50–58 reflect the frequency of anti-fraud controls reported in the cases based on the geographical region of the victim organization.

For all regions, external audits of the financial statements, code of conduct, and management certification of the financial statements were among the five most common controls. Internal audit departments also ranked among the top five for all regions except Canada, where it was the sixth most common control. On the opposite end of the spectrum, both job rotation/mandatory vacations and rewards for whistleblowers were at the very bottom of the list for every region.

In addition to this consistency, there were also some notable differences in the implementation rates of controls in the different jurisdictions. For example, employee support programs are among the most common controls in Canada and the United States (with implementation rates of 77% and 66%, respectively), but were among the least common controls in Southern Asia, Eastern Europe and Western/Central Asia, and the Middle East and North Africa. And while rewards for whistleblowers was the least common control across all regions, the implementation rate varied widely—from just 1.1% of organizations in Eastern Europe and Western/Central Asia to about 20% of organizations in both Southern Asia and Sub-Saharan Africa.

Figure 50: Frequency of Anti-Fraud Controls—United States

Control	Percent of Cases
Code of Conduct	74.6%
External Audit of Financial Statements	74.2%
Employee Support Programs	66.0%
Management Certification of Financial Statements	64.1%
Internal Audit Department	61.4%
External Audit of Internal Controls over Financial Reporting	59.8%
Management Review	57.3%
Hotline	54.5%
Independent Audit Committee	53.8%
Fraud Training for Managers/Executives	50.5%
Fraud Training for Employees	49.3%
Anti-Fraud Policy	45.2%
Formal Fraud Risk Assessments	36.5%
Dedicated Fraud Department, Function, or Team	36.4%
Proactive Data Monitoring/Analysis	35.5%
Surprise Audits	31.8%
Job Rotation/Mandatory Vacation	16.1%
Rewards for Whistleblowers	12.7%

Figure 52: Frequency of Anti-Fraud Controls—Asia-Pacific

Control	Percent of Cases
External Audit of Financial Statements	88.2%
Code of Conduct	85.2%
Internal Audit Department	83.6%
Management Certification of Financial Statements	80.2%
External Audit of Internal Controls over Financial Reporting	74.5%
Management Review	72.3%
Independent Audit Committee	68.1%
Hotline	65.7%
Fraud Training for Employees	53.3%
Fraud Training for Managers/Executives	50.8%
Employee Support Programs	48.3%
Anti-Fraud Policy	46.8%
Dedicated Fraud Department, Function, or Team	44.4%
Surprise Audits	41.8%
Proactive Data Monitoring/Analysis	34.4%
Formal Fraud Risk Assessments	32.6%
Job Rotation/Mandatory Vacation	24.6%
Rewards for Whistleblowers	7.8%

Figure 51: Frequency of Anti-Fraud Controls—Sub-Saharan Africa

Control	Percent of Cases
Code of Conduct	91.9%
Internal Audit Department	91.6%
External Audit of Financial Statements	88.8%
Management Certification of Financial Statements	79.9%
External Audit of Internal Controls over Financial Reporting	77.6%
Management Review	70.8%
Independent Audit Committee	69.6%
Hotline	67.7%
Anti-Fraud Policy	59.2%
Fraud Training for Employees	55.0%
Fraud Training for Managers/Executives	55.0%
Surprise Audits	52.8%
Employee Support Programs	50.9%
Formal Fraud Risk Assessments	48.2%
Dedicated Fraud Department, Function, or Team	47.7%
Proactive Data Monitoring/Analysis	38.5%
Job Rotation/Mandatory Vacation	27.8%
Rewards for Whistleblowers	20.0%

Figure 53: Frequency of Anti-Fraud Controls—Latin America and the Caribbean

Control	Percent of Cases
Code of Conduct	84.8%
External Audit of Financial Statements	82.2%
Internal Audit Department	80.7%
Management Certification of Financial Statements	70.3%
Hotline	68.5%
Management Review	68.0%
Independent Audit Committee	67.6%
External Audit of Internal Controls over Financial Reporting	66.7%
Fraud Training for Employees	54.4%
Fraud Training for Managers/Executives	53.9%
Anti-Fraud Policy	51.0%
Employee Support Programs	46.1%
Dedicated Fraud Department, Function, or Team	44.0%
Formal Fraud Risk Assessments	38.1%
Surprise Audits	31.0%
Proactive Data Monitoring/Analysis	26.7%
Job Rotation/Mandatory Vacation	17.0%
Rewards for Whistleblowers	6.1%

Victim Organizations

Figure 54: Frequency of Anti-Fraud Controls—
Western Europe

Control	Percent of Cases
External Audit of Financial Statements	88.8%
Code of Conduct	83.7%
Internal Audit Department	80.7%
Management Certification of Financial Statements	76.9%
External Audit of Internal Controls over Financial Reporting	75.8%
Independent Audit Committee	75.7%
Management Review	74.7%
Hotline	63.8%
Anti-Fraud Policy	54.9%
Fraud Training for Employees	54.4%
Fraud Training for Managers/Executives	52.5%
Employee Support Programs	51.2%
Formal Fraud Risk Assessments	49.0%
Dedicated Fraud Department, Function, or Team	45.8%
Proactive Data Monitoring/Analysis	37.1%
Surprise Audits	27.4%
Job Rotation/Mandatory Vacation	17.7%
Rewards for Whistleblowers	6.1%

Figure 56: Frequency of Anti-Fraud Controls—
Southern Asia

Control	Percent of Cases
External Audit of Financial Statements	96.5%
Internal Audit Department	94.7%
Management Certification of Financial Statements	91.6%
Code of Conduct	89.0%
External Audit of Internal Controls over Financial Reporting	86.7%
Independent Audit Committee	82.6%
Management Review	79.8%
Hotline	70.5%
Fraud Training for Managers/Executives	61.2%
Anti-Fraud Policy	58.1%
Surprise Audits	57.1%
Fraud Training for Employees	54.9%
Dedicated Fraud Department, Function, or Team	53.8%
Proactive Data Monitoring/Analysis	44.7%
Formal Fraud Risk Assessments	44.6%
Employee Support Programs	34.6%
Job Rotation/Mandatory Vacation	23.5%
Rewards for Whistleblowers	20.3%

Figure 55: Frequency of Anti-Fraud Controls—
Eastern Europe and Western/Central Asia

Control	Percent of Cases
Code of Conduct	90.9%
External Audit of Financial Statements	88.2%
Internal Audit Department	82.8%
Management Certification of Financial Statements	75.0%
Independent Audit Committee	70.3%
Management Review	70.1%
External Audit of Internal Controls over Financial Reporting	69.4%
Hotline	65.6%
Anti-Fraud Policy	61.4%
Fraud Training for Employees	60.5%
Fraud Training for Managers/Executives	56.8%
Dedicated Fraud Department, Function, or Team	50.0%
Formal Fraud Risk Assessments	45.3%
Proactive Data Monitoring/Analysis	39.0%
Surprise Audits	35.3%
Employee Support Programs	28.6%
Job Rotation/Mandatory Vacation	17.6%
Rewards for Whistleblowers	1.1%

Figure 57: Frequency of Anti-Fraud Controls—
Canada

Control	Percent of Cases
External Audit of Financial Statements	83.3%
Management Certification of Financial Statements	79.7%
Code of Conduct	79.2%
Employee Support Programs	77.0%
External Audit of Internal Controls over Financial Reporting	65.8%
Internal Audit Department	64.7%
Management Review	61.5%
Independent Audit Committee	59.2%
Hotline	52.5%
Anti-Fraud Policy	39.0%
Dedicated Fraud Department, Function, or Team	38.6%
Fraud Training for Employees	38.0%
Proactive Data Monitoring/Analysis	37.2%
Formal Fraud Risk Assessments	35.5%
Fraud Training for Managers/Executives	35.4%
Surprise Audits	31.1%
Job Rotation/Mandatory Vacation	16.2%
Rewards for Whistleblowers	8.0%

Figure 58: Frequency of Anti-Fraud Controls—Middle East and North Africa

Control	Percent of Cases
External Audit of Financial Statements	95.9%
Internal Audit Department	90.9%
Management Certification of Financial Statements	82.4%
Code of Conduct	81.1%
External Audit of Internal Controls over Financial Reporting	80.6%
Independent Audit Committee	75.7%
Management Review	73.2%
Hotline	62.2%
Surprise Audits	61.6%
Anti-Fraud Policy	50.7%
Fraud Training for Employees	47.9%
Proactive Data Monitoring/Analysis	46.5%
Dedicated Fraud Department, Function, or Team	44.6%
Fraud Training for Managers/Executives	44.4%
Formal Fraud Risk Assessments	41.7%
Employee Support Programs	25.4%
Job Rotation/Mandatory Vacation	24.6%
Rewards for Whistleblowers	14.9%



Effectiveness of Controls

While the presence of anti-fraud controls helps deter some potential frauds, measuring the preventive value of individual controls is extremely difficult, if not impossible. However, anti-fraud professionals often need to make a business case to management for additional resources to address fraud risks. To help illustrate the potential return on investment for individual anti-fraud controls, we have examined the comparative median fraud loss and time to detection for frauds in organizations based on whether they had each of the 18 anti-fraud controls in place at the time the fraud occurred (see Figures 59 and 60 on page 44).

Across the board, the presence of anti-fraud controls was correlated with lower losses and quicker fraud detection. The 36.7% of victim organizations that were using proactive data monitoring and analysis techniques as part of their anti-fraud program suffered fraud losses that were 54% lower and detected the frauds in half the time compared to organizations that did not use this technique. Management review and the presence of a hotline were both similarly correlated with regard to lower losses (50% reduction) and decreased time to detect the scheme (50% reduction), and most of the other controls showed similar reductions, as well.

The two controls that most stood out in these comparisons, however, were external audits of the financial statements (which was the most implemented control) and rewards for whistleblowers (which was the least implemented control). These two controls fell toward the bottom of the list with regard to both measures of effectiveness. While they were correlated with lower fraud losses and durations, the correlation was notably smaller for both measures than the other controls analyzed.

Victim Organizations

Figure 59: Median Loss Based on Presence of Anti-Fraud Controls

Control	Percent of Cases	Control in Place	Control Not in Place	Percent Reduction
Proactive Data Monitoring/Analysis	36.7%	\$92,000	\$200,000	54.0%
Management Review	64.7%	\$100,000	\$200,000	50.0%
Hotline	60.1%	\$100,000	\$200,000	50.0%
Management Certification of Financial Statements	71.9%	\$104,000	\$205,000	49.3%
Surprise Audits	37.8%	\$100,000	\$195,000	48.7%
Dedicated Fraud Department, Function, or Team	41.2%	\$100,000	\$192,000	47.9%
Job Rotation/Mandatory Vacation	19.4%	\$89,000	\$170,000	47.6%
External Audit of Internal Controls over Financial Reporting	67.6%	\$105,000	\$200,000	47.5%
Fraud Training for Managers/Executives	51.3%	\$100,000	\$190,000	47.4%
Fraud Training for Employees	51.6%	\$100,000	\$188,000	46.8%
Formal Fraud Risk Assessments	39.3%	\$100,000	\$187,000	46.5%
Employee Support Programs	56.1%	\$100,000	\$183,000	45.4%
Anti-Fraud Policy	49.6%	\$100,000	\$175,000	42.9%
Internal Audit Department	73.7%	\$123,000	\$215,000	42.8%
Code of Conduct	81.1%	\$120,000	\$200,000	40.0%
Rewards for Whistleblowers	12.1%	\$100,000	\$163,000	38.7%
Independent Audit Committee	62.5%	\$114,000	\$180,000	36.7%
External Audit of Financial Statements	81.7%	\$150,000	\$175,000	14.3%

Figure 60: Median Duration of Fraud Based on Presence of Anti-Fraud Controls

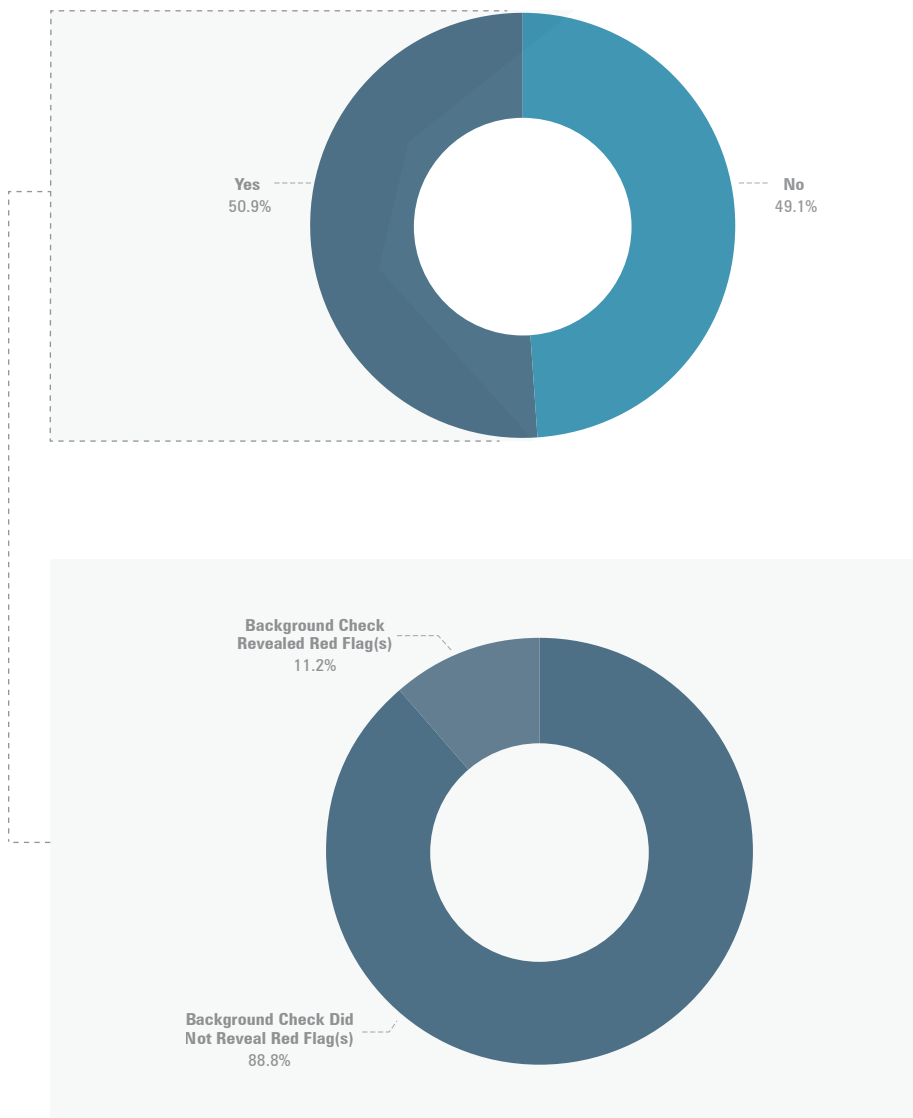
Control	Percent of Cases	Control in Place	Control Not in Place	Percent Reduction
Surprise Audits	37.8%	12 Months	24 Months	50.0%
Proactive Data Monitoring/Analysis	36.7%	12 Months	24 Months	50.0%
Dedicated Fraud Department, Function, or Team	41.2%	12 Months	24 Months	50.0%
Hotline	60.1%	12 Months	24 Months	50.0%
Formal Fraud Risk Assessments	39.3%	12 Months	24 Months	50.0%
Management Review	64.7%	12 Months	24 Months	50.0%
Independent Audit Committee	62.5%	12 Months	24 Months	50.0%
Internal Audit Department	73.7%	12 Months	24 Months	50.0%
External Audit of Internal Controls over Financial Reporting	67.6%	12 Months	24 Months	50.0%
Management Certification of Financial Statements	71.9%	12 Months	24 Months	50.0%
Code of Conduct	81.1%	13 Months	24 Months	45.8%
Job Rotation/Mandatory Vacation	19.4%	10 Months	18 Months	44.4%
Anti-Fraud Policy	49.6%	12 Months	21 Months	42.9%
Fraud Training for Employees	51.6%	12 Months	20 Months	40.0%
Fraud Training for Managers/Executives	51.3%	12 Months	20 Months	40.0%
Rewards for Whistleblowers	12.1%	11 Months	18 Months	38.9%
External Audit of Financial Statements	81.7%	15 Months	24 Months	37.5%
Employee Support Programs	56.1%	12 Months	18 Months	33.3%

Background Checks

We also asked survey respondents whether the victim organization ran a background check on the perpetrator before he or she was hired. The responses were fairly evenly split, with approximately 51% of organizations having conducted background checks and about 49% not having done so.

More than 88% of the background checks conducted did not reveal any prior misconduct or red flags, which underscores our findings that the majority of perpetrators are not career criminals—that is, they are usually first-time offenders (see [Figure 92 on page 66](#) and [Figure 93 on page 67](#)) and typically do not take a job with the intention to defraud their employer. However, roughly 11% of the background checks conducted did uncover at least one red flag (e.g., prior criminal activity, employment issues, or financial problems) regarding the perpetrator—meaning that the organizations who hired these individuals knew or should have known about potential issues but hired the person anyway.

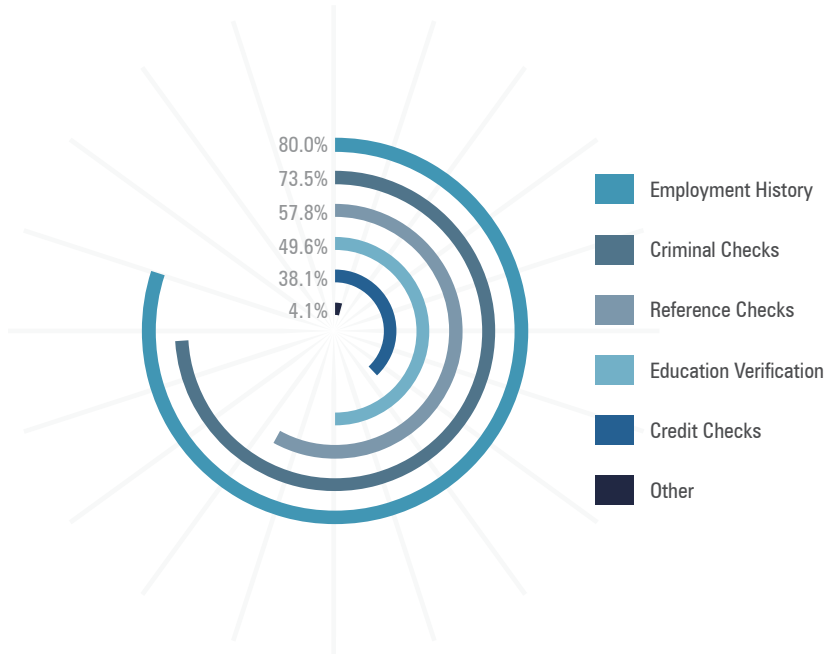
Figure 61: Background Check Run on Perpetrator Before Being Hired



Victim Organizations

Of the background checks that were run, most included checks of the perpetrators' employment and criminal history (80% and 73.5%, respectively). Additionally, more than half (57.8%) included a check of the future perpetrators' references, and nearly 50% involved an education verification.

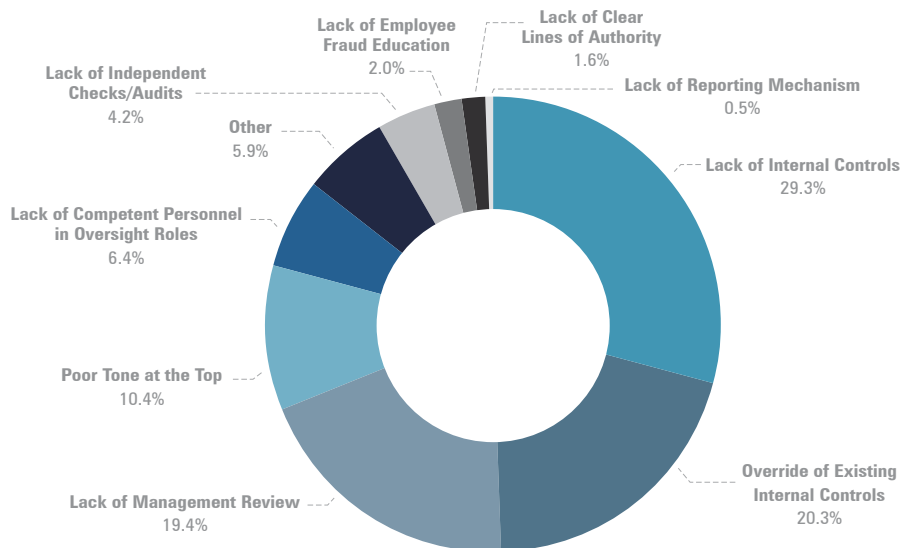
Figure 62: Type(s) of Background Checks Run on Perpetrator Before Being Hired



Internal Control Weaknesses That Contributed to Fraud

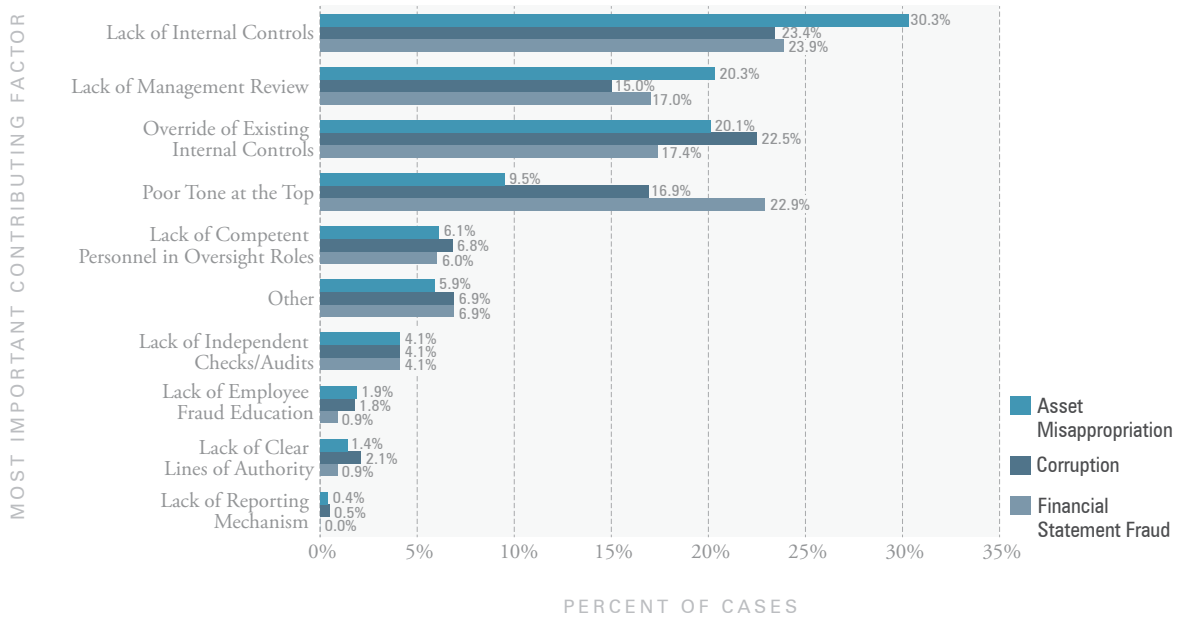
Even in hindsight it can be difficult to pinpoint the exact system breakdowns that allowed a fraud to occur. However, learning from past incidents of fraud is necessary to better prevent and detect fraud schemes in the future. Consequently, we asked survey respondents for their perspective on the internal control weaknesses at the victim organization that contributed to the fraudster's ability to perpetrate the scheme. Their responses are shown in Figure 63. More than 29% cited a clear lack of internal controls as the primary issue, with another 20.3% stating that internal controls were present but had been overridden by the perpetrator.

Figure 63: Primary Internal Control Weakness Observed by CFE



We also wanted to see whether the internal control weaknesses varied by the type of fraud scheme perpetrated. Our findings, shown in Figure 64, are interesting, if not surprising. Organizations that lacked internal controls were more susceptible to asset misappropriation schemes, while corruption schemes more often involved an override of existing controls. Further, a poor tone at the top was much more likely to contribute to a financial statement fraud scheme than either of the other two categories of occupational fraud.

Figure 64: Primary Internal Control Weakness by Scheme Type



Perpetrators



We asked participants to provide information about the fraudsters they investigated, including factors related to the perpetrator's employment (level of authority, department, and tenure at the victim organization) and general demographic information (age, gender, and education level).¹⁰ We also compared cases with single perpetrators to those involving collusion among two or more people. Finally, we asked respondents to tell us about various behavioral red flags and prior misconduct that might have been warning signs of fraudulent conduct.

¹⁰ In cases where more than one fraudster was involved, the data on perpetrators relates to the *principal perpetrator*, which we defined as the person who worked for the victim organization and who was the primary culprit.

Perpetrator's Position

Since the first edition of the report in 1996, the perpetrator's level of authority has been strongly correlated with the size of the fraud, and that was true again in our 2016 data. Only 18.9% of frauds in our current study were committed by owners/executives, but the median loss in these cases was \$703,000. Employees and managers were much more likely to commit occupational fraud, but as Figure 65 shows, the losses in these schemes were much lower—though still substantial. The correlation between authority and loss most likely occurs because high-level fraudsters tend to have greater access to their organizations' assets than lower-level employees, as well as a better ability to evade or override anti-fraud controls.

Figure 65: Position of Perpetrator—Frequency and Median Loss

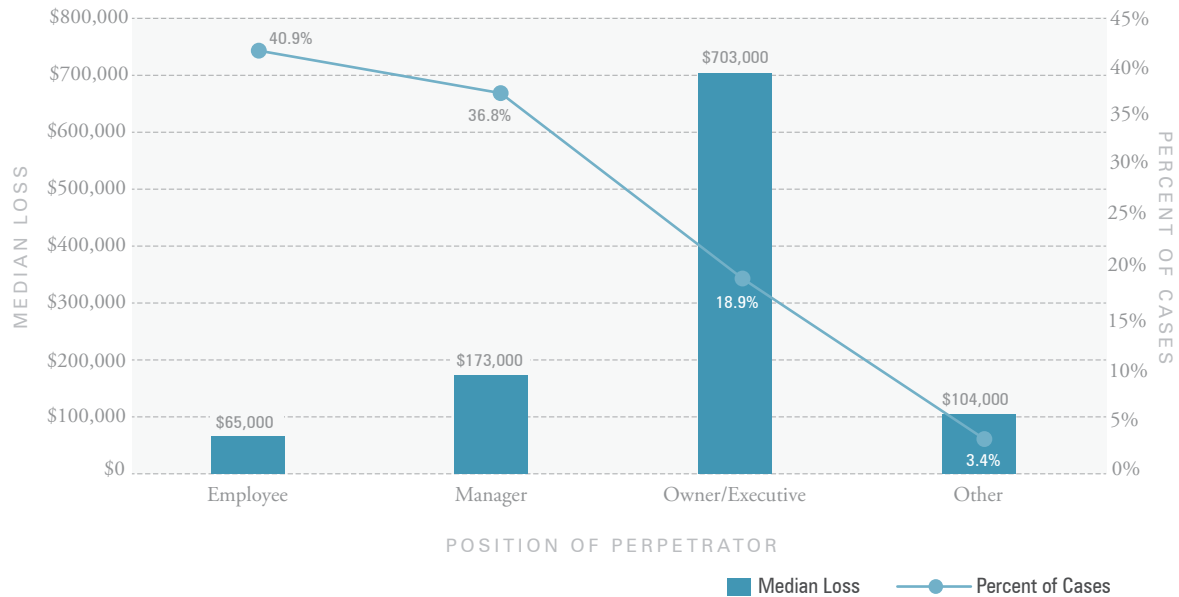


Figure 66 shows a correlation between the fraudster’s level of authority and the duration of the occupational fraud scheme. Because high-level fraudsters are generally better equipped to override or circumvent anti-fraud controls, we would expect their schemes to be harder to detect, and thus to last longer. The typical fraud committed by an employee in our study lasted one year before it was detected, whereas the typical fraud committed by an owner/executive lasted twice as long. Frauds committed by managers had a median duration of 18 months.

Figure 66: Median Duration of Fraud Based on Position

Position	Median Months to Detect
Employee	12
Manager	18
Owner/Executive	24
Other	18

Perpetrators

Position of Perpetrator Based on Region

Figures 67–75 show the frequency and median loss of occupational fraud schemes sorted by perpetrator position in each geographical region of our study. Generally speaking, this data follows the trend from the global dataset; in every region, losses rose along with authority.

Figure 67: Frequency and Median Loss Based on Position of Perpetrator—United States

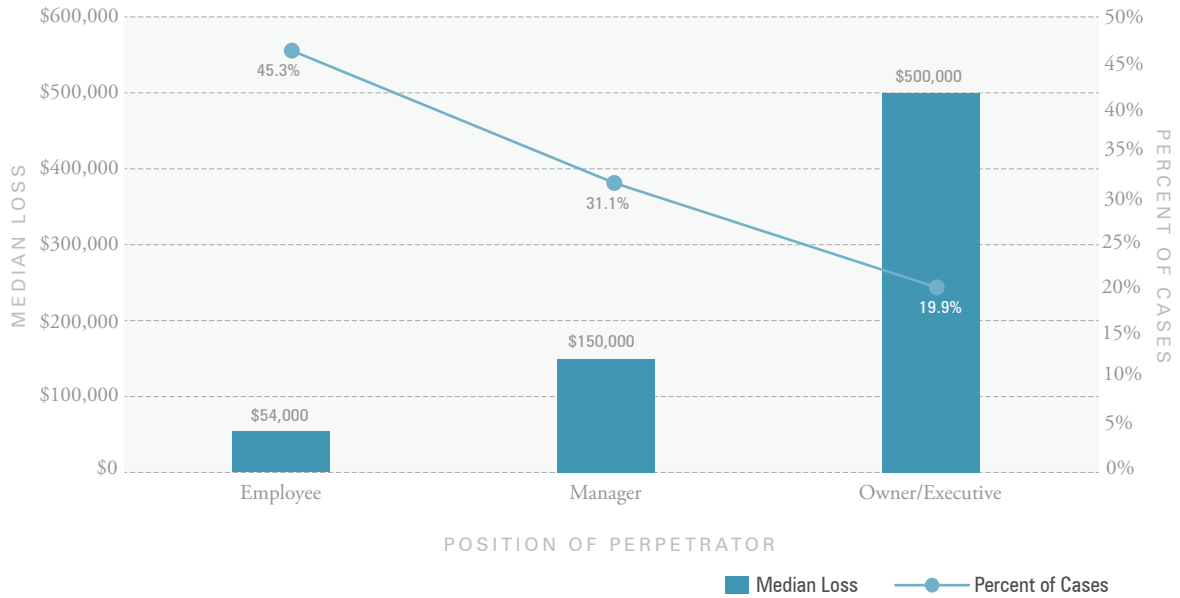


Figure 68: Frequency and Median Loss Based on Position of Perpetrator—Sub-Saharan Africa

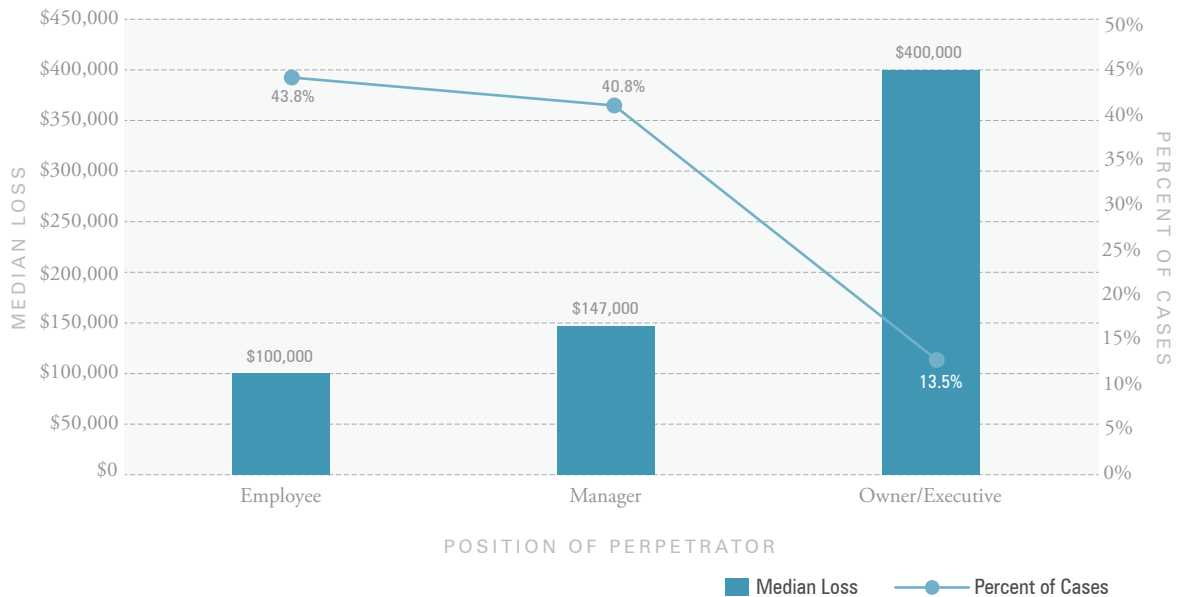


Figure 69: Frequency and Median Loss Based on Position of Perpetrator—Asia-Pacific

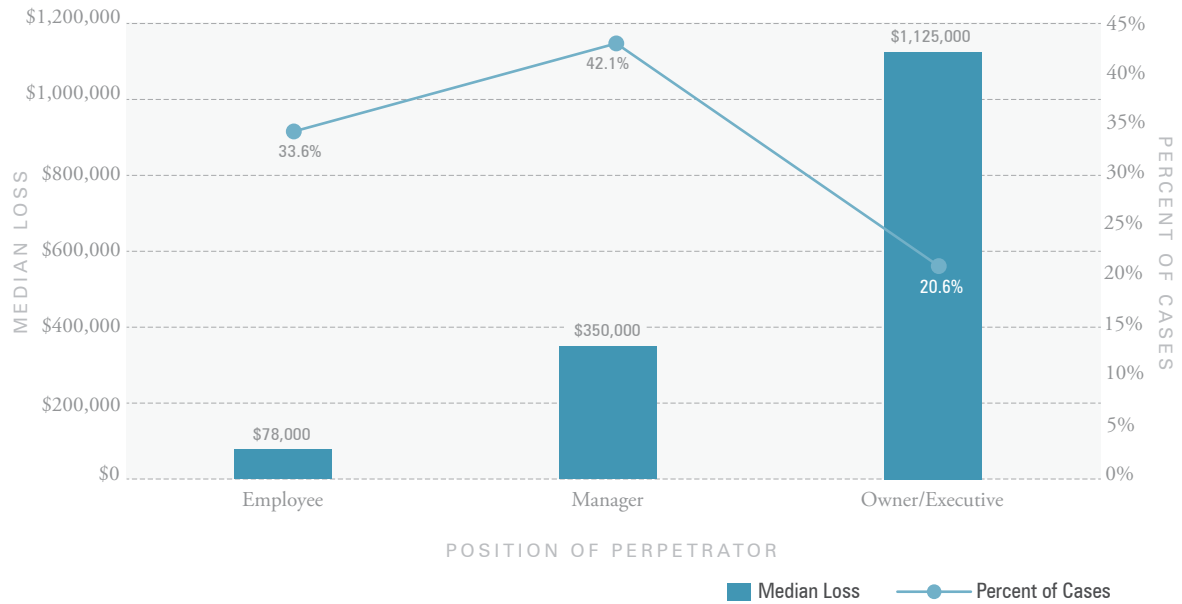
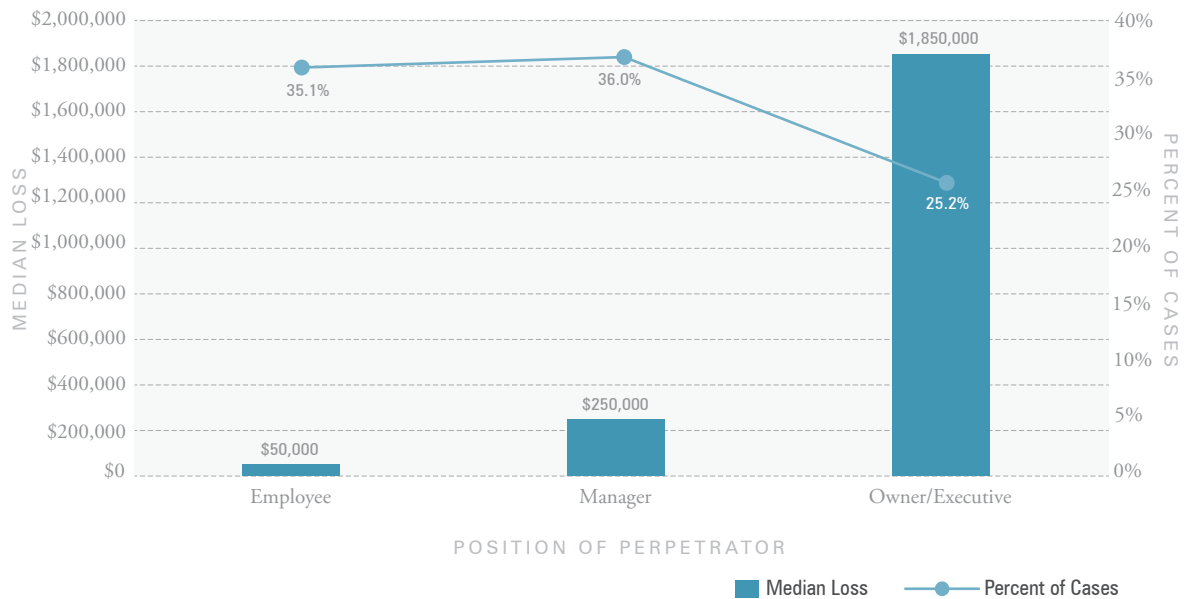


Figure 70: Frequency and Median Loss Based on Position of Perpetrator—Latin America and the Caribbean



Perpetrators

Figure 71: Frequency and Median Loss Based on Position of Perpetrator—Western Europe

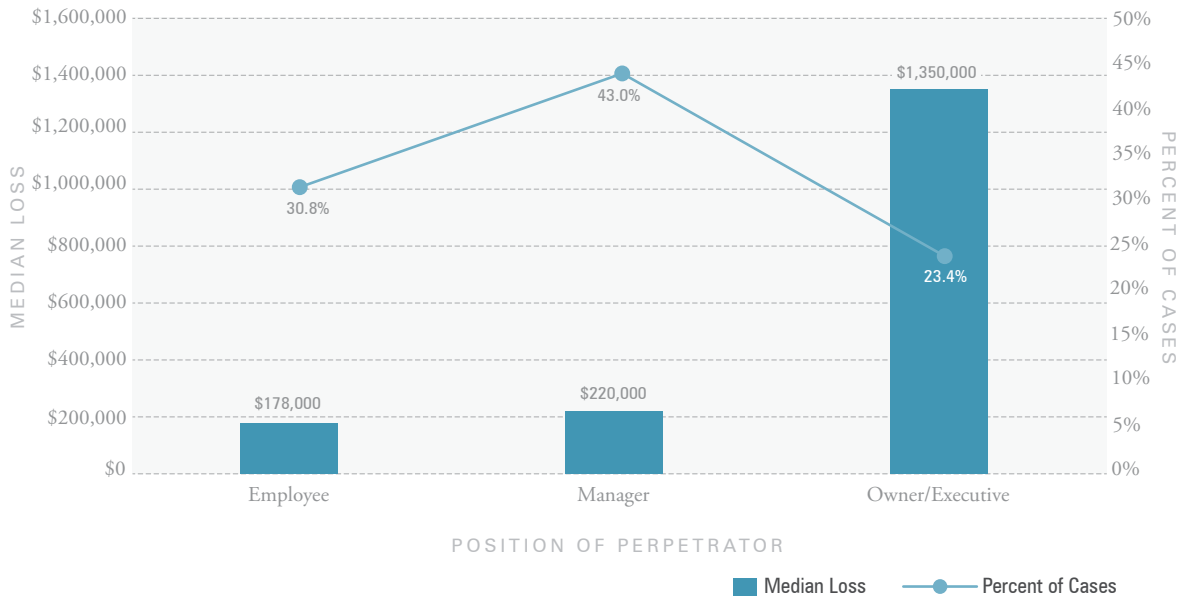


Figure 72: Frequency and Median Loss Based on Position of Perpetrator—Eastern Europe and Western/Central Asia

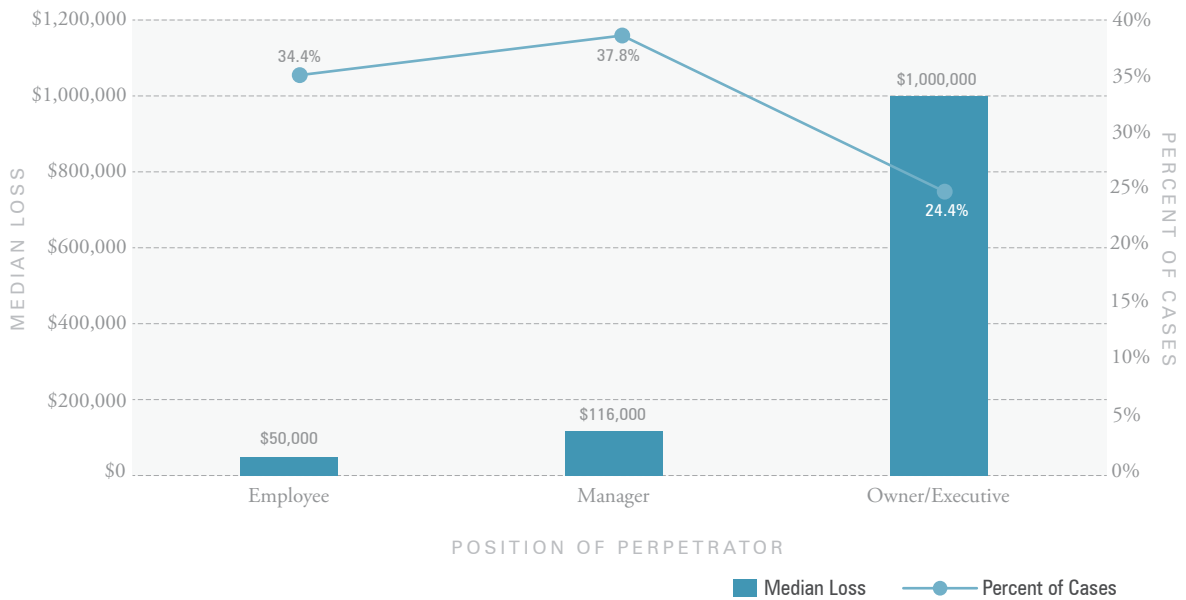


Figure 73: Frequency and Median Loss Based on Position of Perpetrator—Southern Asia

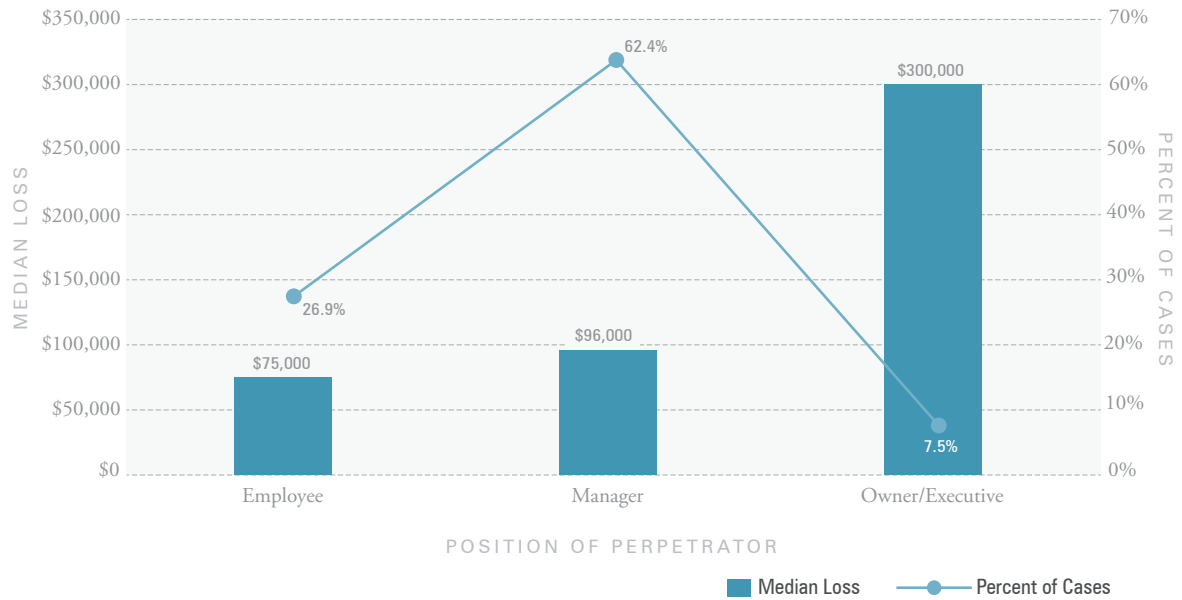
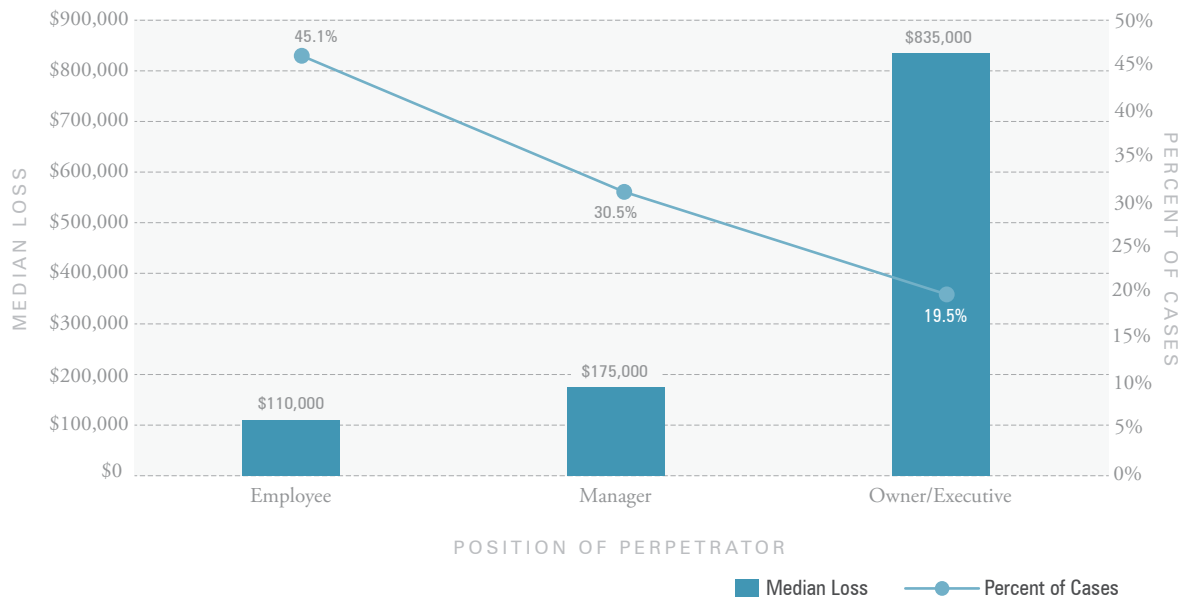
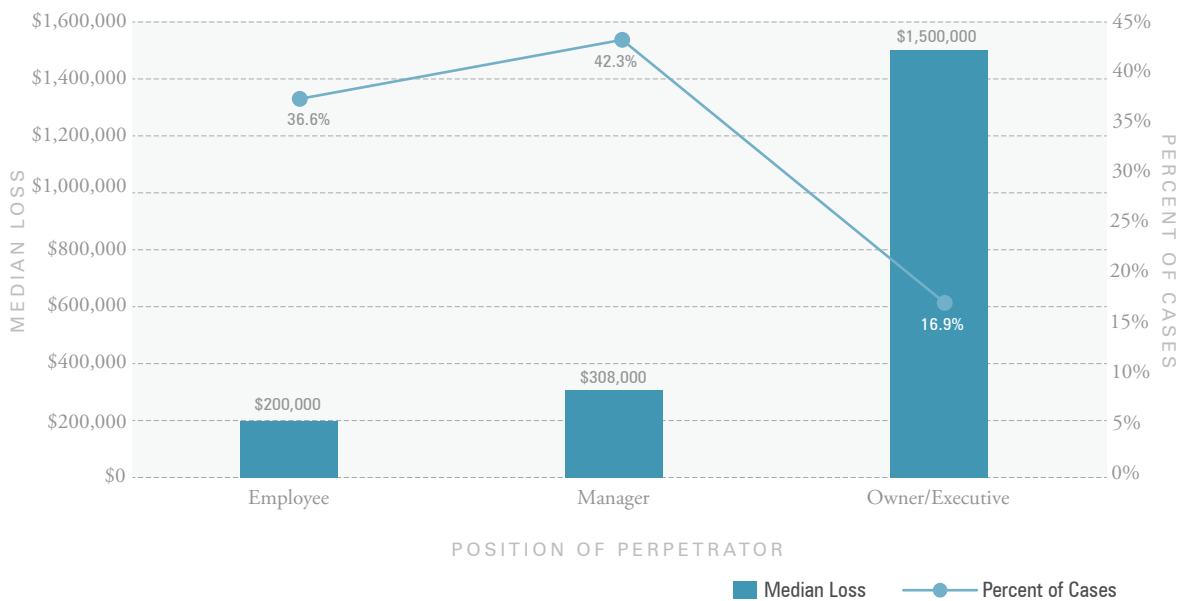


Figure 74: Frequency and Median Loss Based on Position of Perpetrator—Canada



Perpetrators

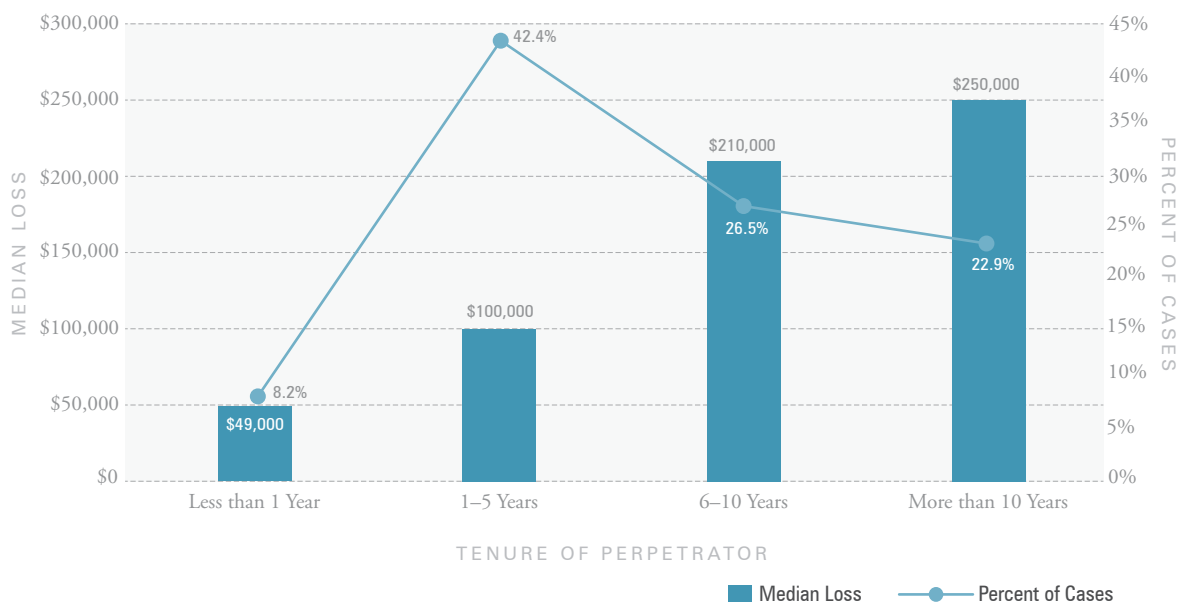
Figure 75: Frequency and Median Loss Based on Position of Perpetrator—Middle East and North Africa



Perpetrator's Tenure

In addition to the correlation between fraud losses and the fraudster's level of authority, fraud losses also tend to increase the longer a fraudster has worked for the victim organization, as shown in Figure 76. Perpetrators with between six and ten years' tenure caused a median loss of \$210,000, and those with more than ten years' tenure caused a median fraud loss of \$250,000. In cases where the fraudster had been employed by the victim for five years or fewer, losses were significantly lower. At least in part, this trend reflects the fraudster's position of authority. As shown in [Figure 65 on page 49](#), employees generally cause much smaller losses than managers or executives. Approximately one-half of the fraudsters with five or fewer years of tenure were classified as employees, whereas less than one-third of the fraudsters with six or more years of tenure were employees. In other words, people who stay at an organization for a long period of time often move up to higher levels of authority, which in turn gives them the opportunity to commit larger frauds.

Figure 76: Tenure of Perpetrator—Frequency and Median Loss

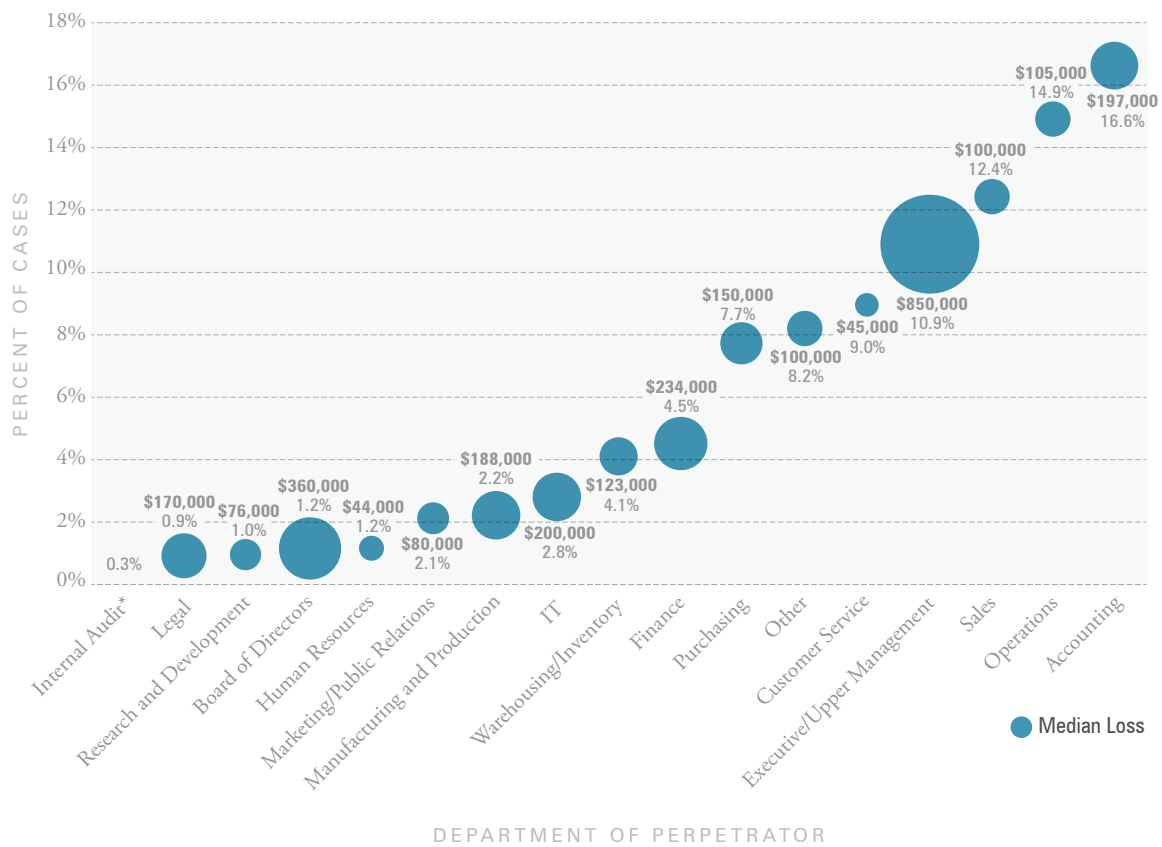


Perpetrator's Department

Figure 77 shows where fraudsters worked within the victim organizations in our study. The height of each bubble along the vertical axis represents the percentage of frauds that originated in each department, and the size of the bubble represents the median loss for those frauds. For example, we see that more frauds came from the accounting department (16.6%) than anywhere else and that the median loss in those cases (\$197,000) was slightly larger than the typical scheme. Fraudsters who worked as executives or upper management, conversely, caused much larger losses than anyone else (\$850,000) and accounted for about 11% of all cases.

Overall, a little more than three-fourths (76%) of occupational frauds came from seven key departments: accounting, operations, sales, executive/upper management, customer service, purchasing, and finance.

Figure 77: Department of Perpetrator—Frequency and Median Loss



*Internal Audit category had insufficient responses for median loss calculation.

Perpetrators

Schemes Based on Perpetrator's Department

Figure 78 shows how frequently various types of occupational fraud were committed within different departments. We analyzed all departments that had at least 75 reported cases to show what types of fraud might present the greatest risk within different areas of a typical organization. Boxes are shaded based on the respective level of occurrence, with red boxes indicating extremely high-frequency risks and light yellow denoting the least common schemes. Corruption accounted for at least 20% of cases in every department, but was a particularly high risk in purchasing (68.9% of cases) and executive/upper management (50.9%). Billing schemes rated as a significant risk in five departments, including executive/upper management, where they accounted for 36.8% of cases. This data may be helpful in developing effective risk-based anti-fraud controls that are tailored to specific departments or functions within an organization.

Figure 78: Frequency of Schemes Based on Perpetrator's Department

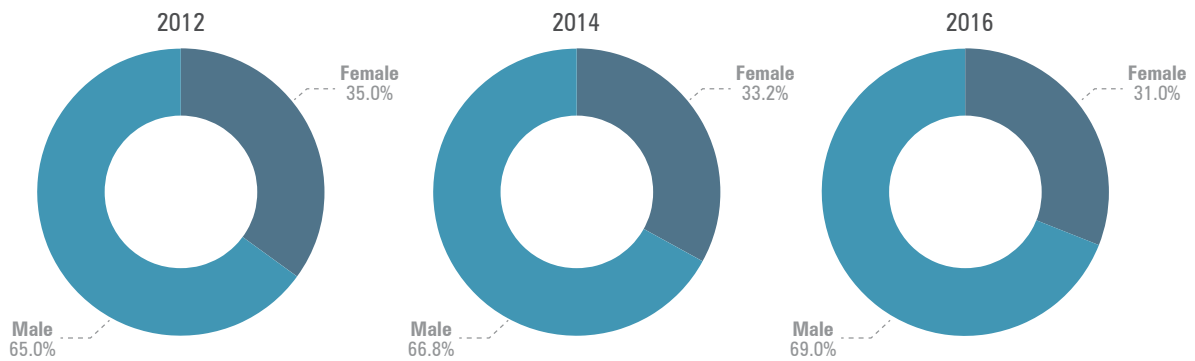
Department/ Scheme	Accounting	Operations	Sales	Executive/Upper Management	Customer Service	Purchasing	Finance	Warehousing/ Inventory
Cases	348	312	260	228	189	161	94	86
Billing	27.0%	21.5%	14.2%	36.8%	9.5%	25.5%	24.5%	9.3%
Cash Larceny	14.9%	7.7%	8.1%	10.1%	14.3%	3.7%	18.1%	0.0%
Cash on Hand	15.5%	13.8%	6.5%	12.3%	18.5%	13.0%	22.3%	5.8%
Check Tampering	30.5%	9.3%	2.7%	13.6%	7.4%	6.2%	24.5%	1.2%
Corruption	21.6%	34.9%	34.6%	50.9%	25.4%	68.9%	37.2%	32.6%
Expense Reimbursements	15.8%	12.2%	14.2%	23.7%	5.8%	14.9%	14.9%	3.5%
Financial Statement Fraud	12.9%	5.4%	7.3%	30.3%	3.7%	3.1%	23.4%	9.3%
Non-Cash	7.2%	19.6%	20.4%	24.6%	16.4%	18.6%	13.8%	57.0%
Payroll	21.6%	6.4%	1.5%	10.1%	3.7%	5.0%	7.4%	2.3%
Register Disbursements	3.2%	4.2%	5.0%	1.8%	3.2%	4.3%	3.2%	0.0%
Skimming	17.5%	12.8%	11.9%	11.8%	16.9%	7.5%	12.8%	5.8%



Perpetrator's Gender

Among the cases in our 2016 study, 69% of fraud perpetrators were male and 31% were female. This is consistent with gender distributions we have encountered in past studies; females have been responsible for between 30% and 35% of frauds in every study since we began collecting global data (see Figure 79). To some extent, this probably reflects the labor force itself. Men make up a larger portion of the global workforce than women, so we might expect them to commit a larger portion of occupational frauds.¹¹ However, workforce participation does not account for all the gender differences in occupational fraud. Our study also explored how the perpetrator's gender correlates with differences in loss, scheme type, and behavioral indicators of fraud (see pages 58–59 and 71).

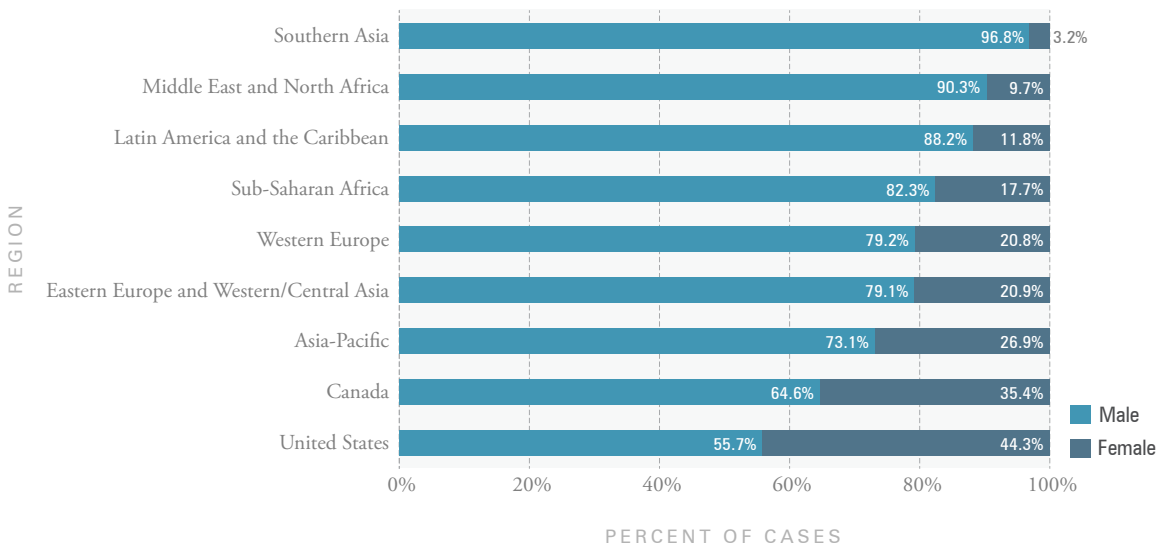
Figure 79: Gender of Perpetrator—Frequency



Perpetrator's Gender Based on Region

Figure 80 shows the gender distribution of fraud perpetrators based on the region in which the fraud occurred. The largest imbalance was in Southern Asia, where nearly 97% of fraudsters were male, while the United States had the most even distribution between males and females: men accounted for 55.7% of frauds, and women were responsible for 44.3%.

Figure 80: Gender of Perpetrator Based on Region



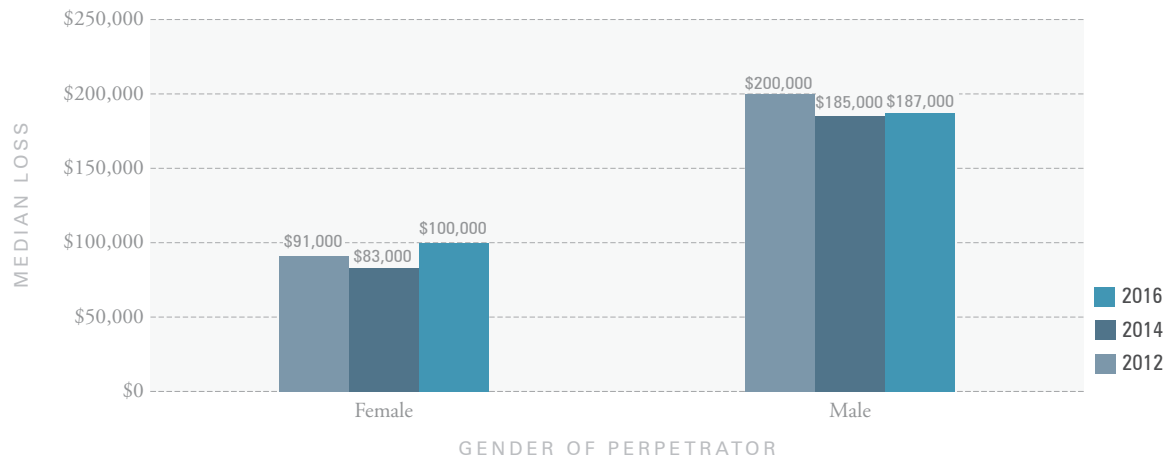
¹¹ A 2013 report by the World Bank estimated that females make up 40% of the global labor force. The World Bank, *Gender at Work: A Companion to the World Development Report on Jobs* (www.worldbank.org/content/dam/Worldbank/Event/Gender/GenderAtWork_web2.pdf)

Perpetrators

Median Loss Based on Gender

Males not only are responsible for a larger number of frauds than females, but they also generally cause larger losses. In our 2016 data, the median loss caused by a male fraudster was \$187,000, while the median loss caused by a female was \$100,000. As Figure 81 shows, we have consistently seen a large gap between male and female median fraud losses.

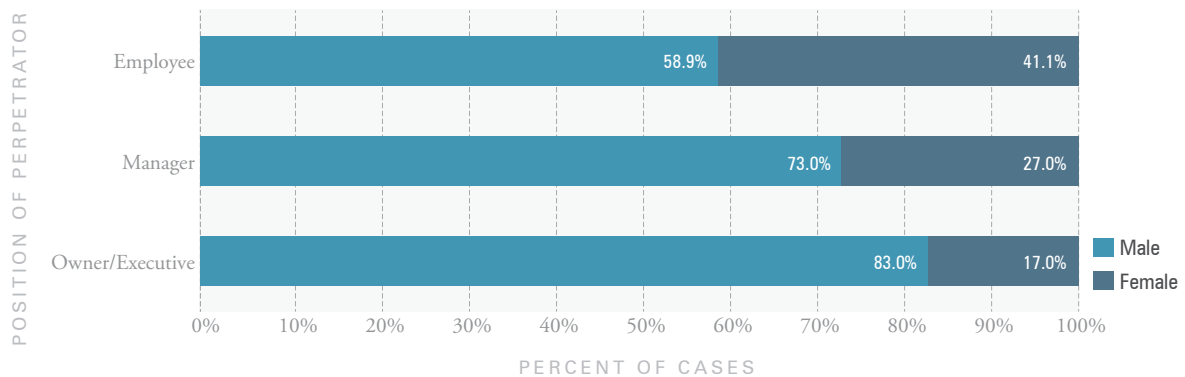
Figure 81: Gender of Perpetrator—Median Loss



Position of Perpetrator Based on Gender

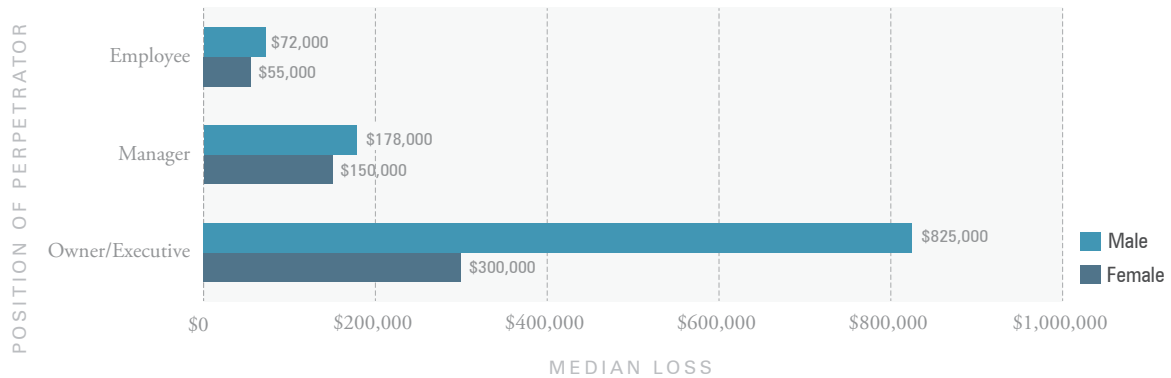
One possible explanation for the gender disparity in fraud losses could be related to position of authority. As shown in Figure 65 on page 49, higher levels of authority are correlated with larger fraud losses (e.g., owner/executives tend to commit larger frauds than managers, and managers tend to commit larger frauds than employees). As Figure 82 shows, the proportion of male fraudsters increases as we move up the organizational chart. Only 58.9% of employee-level fraudsters were male, but that figure rose to 73% among managers and 83% among owner/executives. Given this distribution, we would expect the median fraud loss for males to be quite a bit higher than for females.

Figure 82: Position of Perpetrator Based on Gender



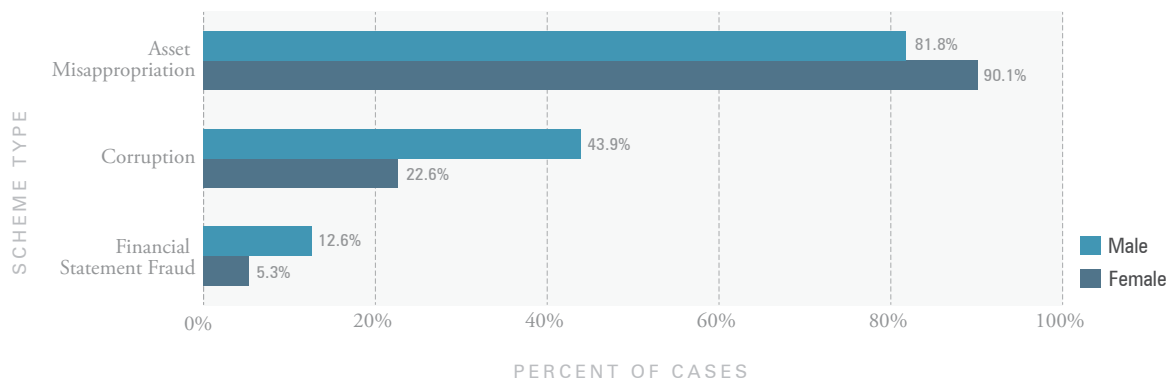
But interestingly, when we break this analysis down further to compare losses at each level of authority, males still tend to cause significantly higher losses than females (see Figure 83). At the employee level, the median loss for a male fraudster was \$72,000 versus \$55,000 for a female; this represents a 30.9% increase. At the manager level, frauds committed by men were 18.6% larger than those committed by females, and at the owner/executive level, frauds by men were 175% larger. This is comparable to our findings in 2014 and 2012.

Figure 83: Position of Perpetrator—Median Loss Based on Gender



In addition to differences in frequency and loss, our data also indicates a discrepancy in the types of fraud committed by males and females. According to Figure 84, 43.9% of male perpetrators committed corruption and 12.6% committed financial statement fraud. Conversely, only 22.6% of female perpetrators committed corruption and only 5.3% committed financial statement fraud. Corruption and financial statement fraud tend to cause much higher losses than asset misappropriation (see Figure 5 on page 12), so this discrepancy in the type of fraud committed might also help explain why frauds committed by males tend to be much larger.

Figure 84: Frequency of Schemes Based on Gender

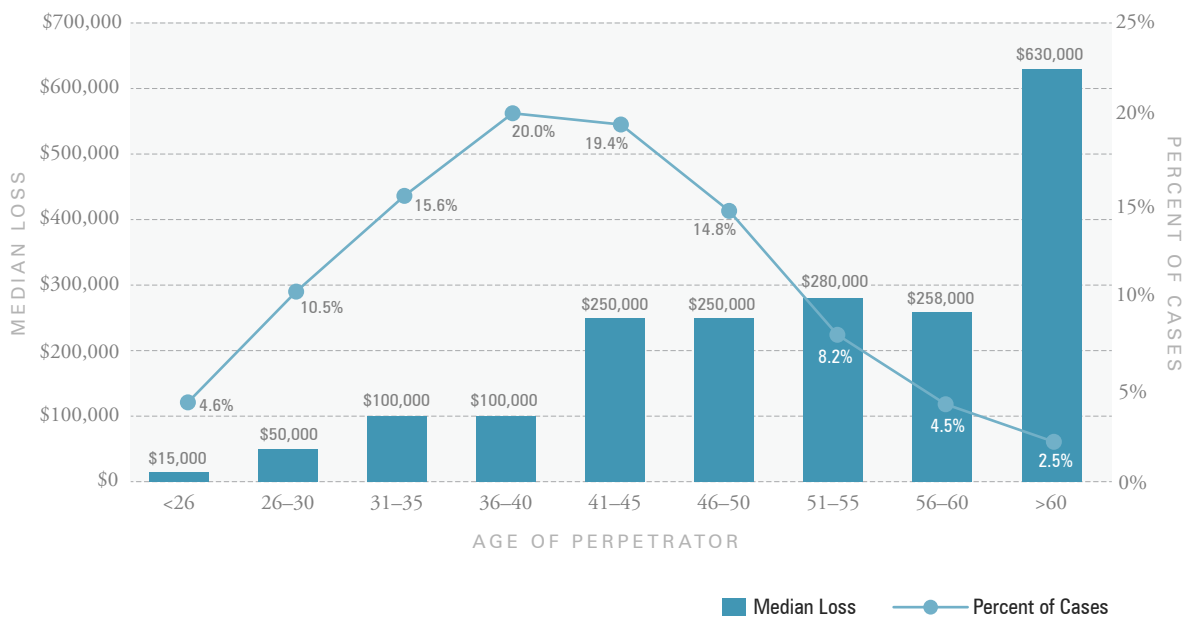


Perpetrators

Perpetrator's Age

Figure 85 presents the frequency and median loss of fraud schemes based on the perpetrator's age. The frequency distribution shows that 55% of fraudsters were between the ages of 31 and 45. Losses, however, generally rose with the age of the fraudster. Fewer than 3% of frauds were committed by people over the age of 60, but these cases had a median loss of \$630,000, which was much higher than any other age range. Also, our data showed a line of demarcation right around the age of 40. In all ranges at or below the age of 40, the highest median loss was \$100,000. In all ranges above the age of 40, the median loss was \$250,000 or higher.

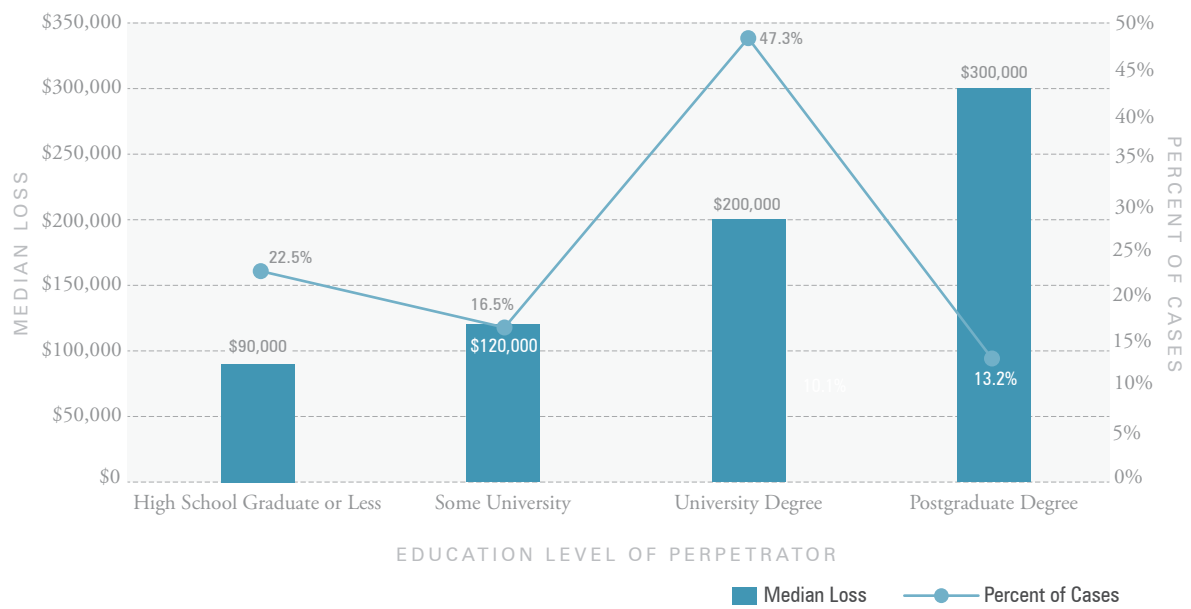
Figure 85: Age of Perpetrator—Frequency and Median Loss



Perpetrator’s Education Level

Losses also tend to correlate with education, as shown in Figure 86. Fraud perpetrators with a university degree caused a median loss of \$200,000, and those with a postgraduate degree caused a median loss of \$300,000. These figures were significantly higher than the losses caused by less educated fraudsters. This discrepancy might be another factor that is heavily influenced by the fraudster’s position of authority. More than 70% of those with university or postgraduate degrees in our study were either managers or owner/executives, while those without a university degree were much more likely to have lower-level jobs.

Figure 86: Education Level of Perpetrator—Frequency and Median Loss

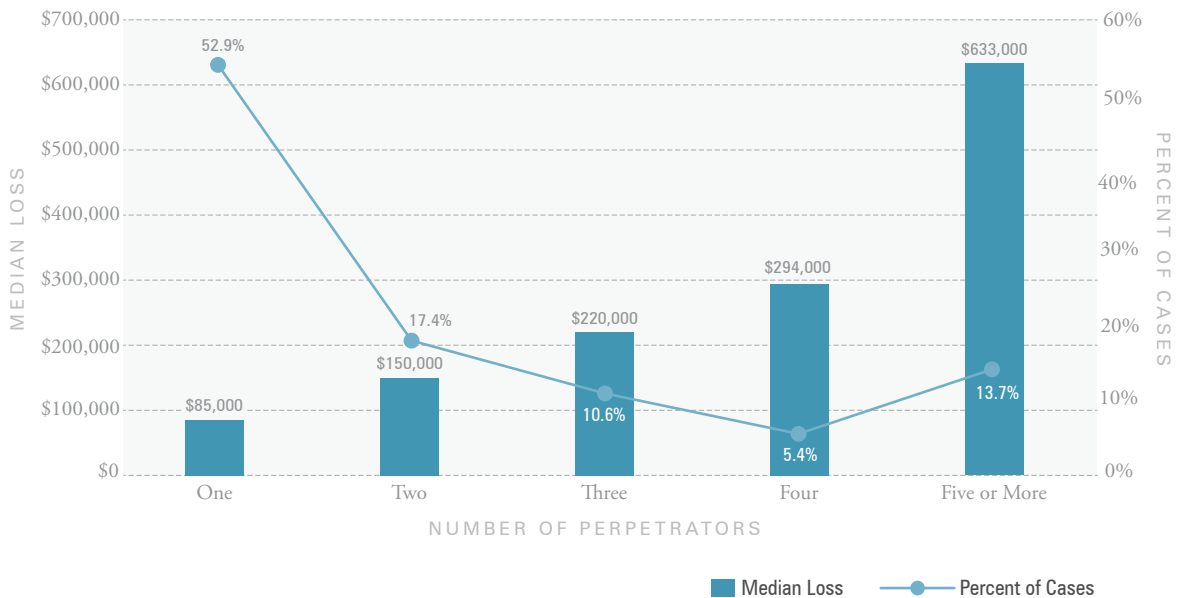


Perpetrators

The Impact of Collusion

Nearly half of the cases in our study involved multiple perpetrators colluding with one another to commit fraud, and the greater the number of fraudsters involved, the higher losses tended to be (see Figure 87).

Figure 87: Number of Perpetrators—Frequency and Median Loss



One possible reason for the increase in losses associated with multiple perpetrators is that many anti-fraud controls work on the basis of separation of duties and independent checks. When multiple fraudsters work together, they might be able to undermine the process of independently verifying transactions or other mechanisms designed to uncover fraud. However, when we looked at the duration of frauds (see Figure 88), we found that schemes with multiple perpetrators did not last significantly longer than single-perpetrator frauds, which was also true in our 2014 study. That would indicate that collusion schemes, while more costly, were not necessarily more difficult to detect.

Another explanation for the larger losses in schemes with multiple perpetrators could simply be that with more fraudsters involved, the perpetrators needed to steal more because their proceeds were being split more ways. In other words, with more perpetrators expecting a payout, the conspirators needed to steal more to satisfy everyone involved in the crime.

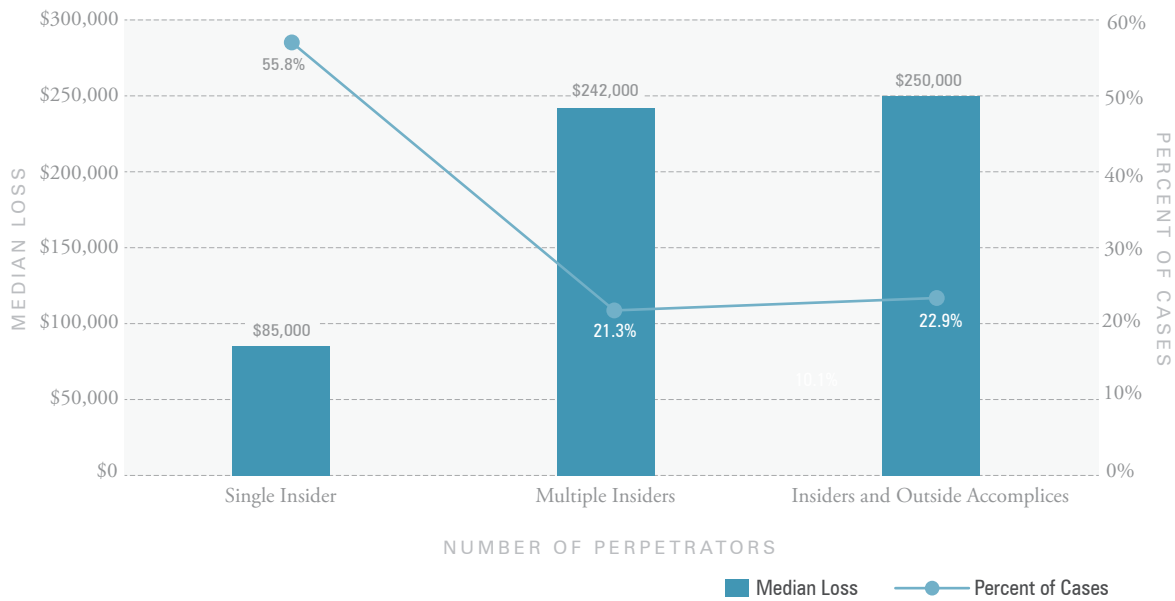
Figure 88: Median Duration of Fraud Based on Number of Perpetrators

Number	Median Months to Detect
One	16
Two or More	18

Collusion Based on Perpetrators' Relationship to Victim

Given the impact collusion appears to have on the size of occupational fraud, we wanted to see if this impact varied based on who was colluding. Specifically, we compared frauds in which all the perpetrators worked for the victim organization to frauds in which an insider conspired with an outside accomplice at one of the victim's customers or vendors. We wanted to see if it was more common for insiders to conspire with one another or to work with an outside party, and we also wanted to examine whether there were differences in the types of fraud committed or the size of the losses depending on the group involved. As Figure 89 shows, insider collusion and third-party collusion were practically identical both in terms of frequency and median loss.

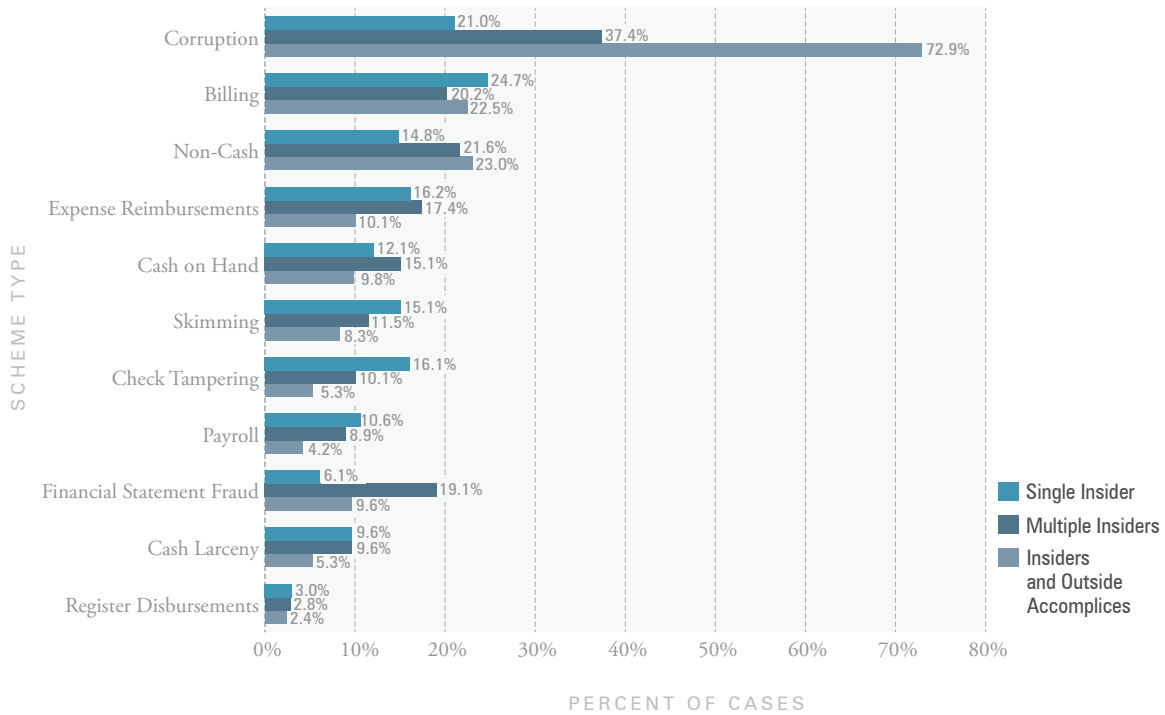
Figure 89: Collusion—Frequency and Median Loss Based on Perpetrators' Relationship to Victim



Perpetrators

However, when we compared the schemes that were committed based on the perpetrators' relationship to the victim, we did find some differences. Obviously, corruption schemes were most common when an insider colluded with a customer or vendor. We also found that financial statement fraud was much more likely to be committed by a group of insiders than by a single individual or with the help of a customer or vendor. Non-cash misappropriations were also more likely to be committed by multiple perpetrators than a lone individual.

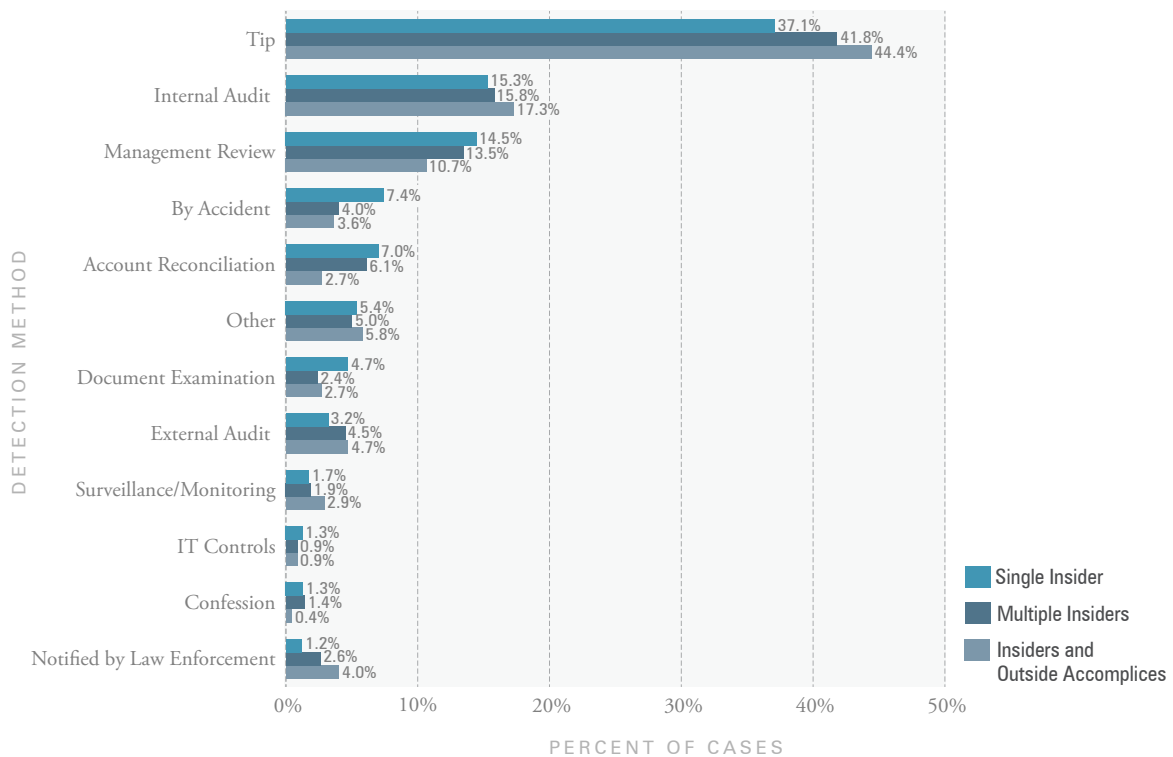
Figure 90: Scheme Type Based on Perpetrators' Relationship to Victim



Finally, we examined how frauds were detected based on the perpetrators' relationship to the victim. We expected to see noticeable differences in this data because the way a single perpetrator conceals occupational fraud should differ from the way a group of perpetrators conceal their crime. Generally speaking, a group of fraudsters would be in a much better position to override controls, falsify independent checks, or verify fraudulent transactions. Because of this, we expected that these schemes would tend to be detected by different means than frauds committed by individuals. With regard to outside accomplices, we would expect that collusion with a customer or vendor would produce different red flag indicators than other types of fraud, again leading to different forms of detection.

Our analysis did show some small differences in the way frauds were caught, based on the perpetrators' relationship to the victim, but generally speaking there was not a great deal of variation (see Figure 91). Frauds involving multiple perpetrators were more likely to be caught by a tip than single-perpetrator schemes. Conversely, a perpetrator acting alone was slightly more likely to be detected by standard internal controls (e.g., management review and account reconciliation) than multiple-perpetrator schemes. Otherwise, the means of detection did not appear to vary much regardless of who or how many perpetrators were involved in the fraud.

Figure 91: Detection Method by Perpetrators' Relationship to Victim



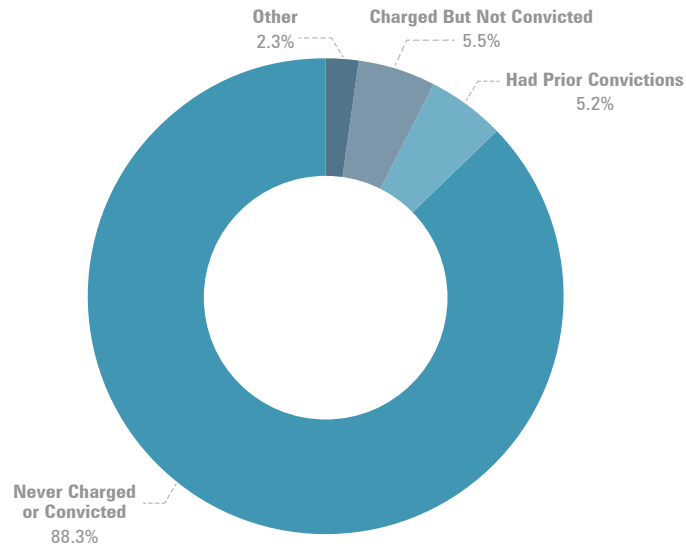
Perpetrators

Perpetrator's Criminal and Employment History

Perpetrator's Criminal Background

Only 5.2% of the fraudsters in our study had previously been convicted of a fraud-related offense (see Figure 92). This has been a consistent finding since our first report in 1996; the vast majority of occupational fraudsters have no history of fraud convictions.

Figure 92: Criminal Background of Perpetrator



THE VAST MAJORITY OF OCCUPATIONAL FRAUDSTERS ARE FIRST-TIME OFFENDERS.

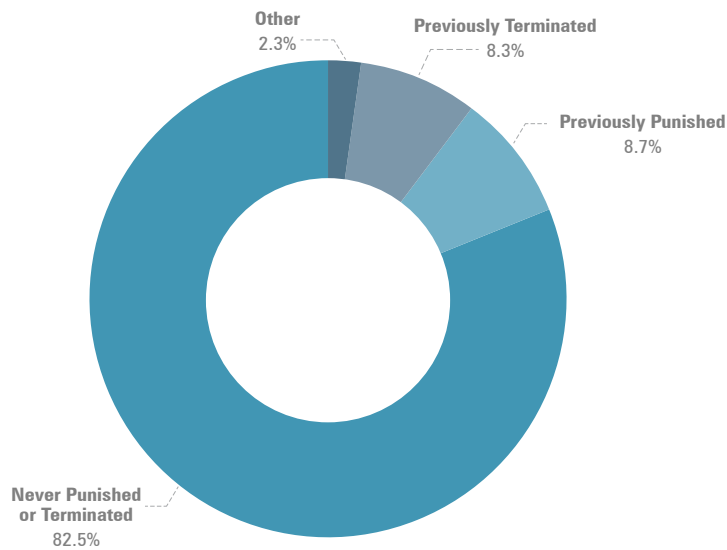
AMONG PERPETRATORS IN OUR STUDY, ONLY

Category	Percentage
WERE CONVICTED OF A PRIOR FRAUD-RELATED OFFENSE	5%
WERE FIRED FOR FRAUD-RELATED CONDUCT BY A PREVIOUS EMPLOYER	8%

Perpetrator’s Employment History

As shown in Figure 93, approximately 83% of occupational fraudsters had never been terminated or punished for any form of fraud-related conduct prior to the crimes in this study. Thus, in terms of both criminal and employment history, most people who commit occupational fraud are likely first-time offenders. Readers should note, however, that according to Figure 100 on page 75, about 40% of fraud cases in our study were never referred to law enforcement, and according to Figure 106 on page 78, a significant number of perpetrators either received no punishment from their employers, were permitted to resign, or entered into settlement agreements (which typically are confidential). Therefore, it is very likely that the actual number of perpetrators with a history of fraud-related conduct is higher than what can be identified through conviction reports and employment background records.

Figure 93: Employment Background of Perpetrator



Perpetrators

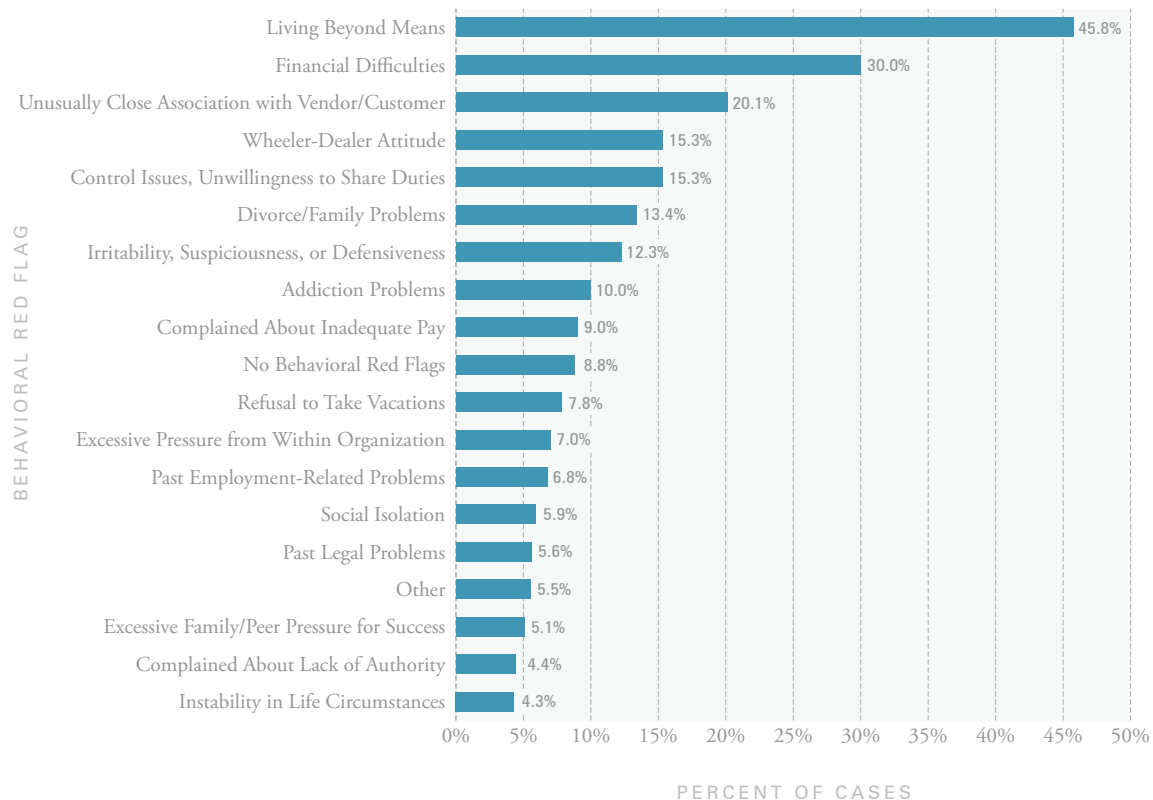
Behavioral Red Flags Displayed by Perpetrators

We presented survey respondents with a list of 17 common behavioral red flags associated with occupational fraud and asked them to tell us which, if any, of these warning signs had been displayed by the perpetrator before the fraud was detected. In more than 91% of cases, at least one behavioral red flag was identified prior to detection, and in 57% of cases two or more red flags were seen.

Figure 94 shows the frequency of behavioral red flags in our 2016 data. As that chart illustrates, the six most common behavioral red flags were: (1) living beyond means; (2) financial difficulties; (3) unusually close association with a vendor or customer; (4) a general “wheeler-dealer” attitude involving shrewd or unscrupulous behavior; (5) excessive control issues or unwillingness to share duties; and (6) recent divorce or family problems. Approximately 79% of the perpetrators in our study displayed at least one of these six red flags during their schemes.

What is even more notable is how consistent the distribution of red flags has been over time. The six most common red flags shown in Figure 94 have also been the six most common red flags in every report since 2008, when we first began tracking this data.

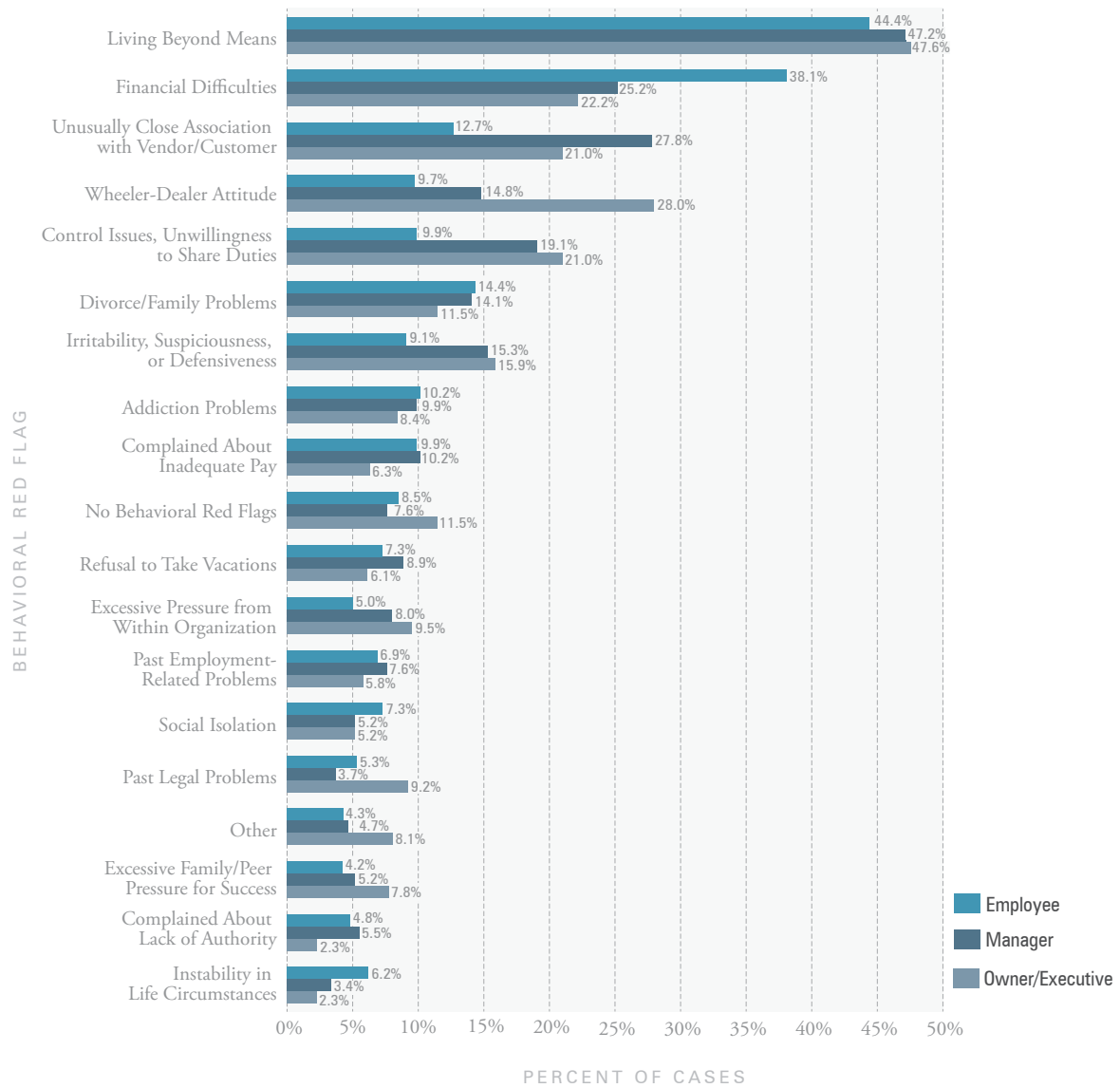
Figure 94: Behavioral Red Flags Displayed by Perpetrators



Behavioral Red Flags Based on Perpetrator’s Position

Figure 95 shows the distribution of behavioral red flags based on the perpetrator’s level of authority. The purpose of this chart is to show how individuals at different levels within an organization might have different motivations or rationalizations for committing fraud. For instance, approximately 38% of all employee fraudsters were undergoing financial difficulties at the time of their frauds, but this red flag was not nearly as common for higher-level perpetrators. Managers were much more likely than the other two groups to have an unusually close association with a vendor or customer, and fraudsters at the owner/executive level were significantly more likely to have a “wheeler-dealer” attitude involving shrewd or unscrupulous behavior.

Figure 95: Behavioral Red Flags Based on Perpetrator’s Position

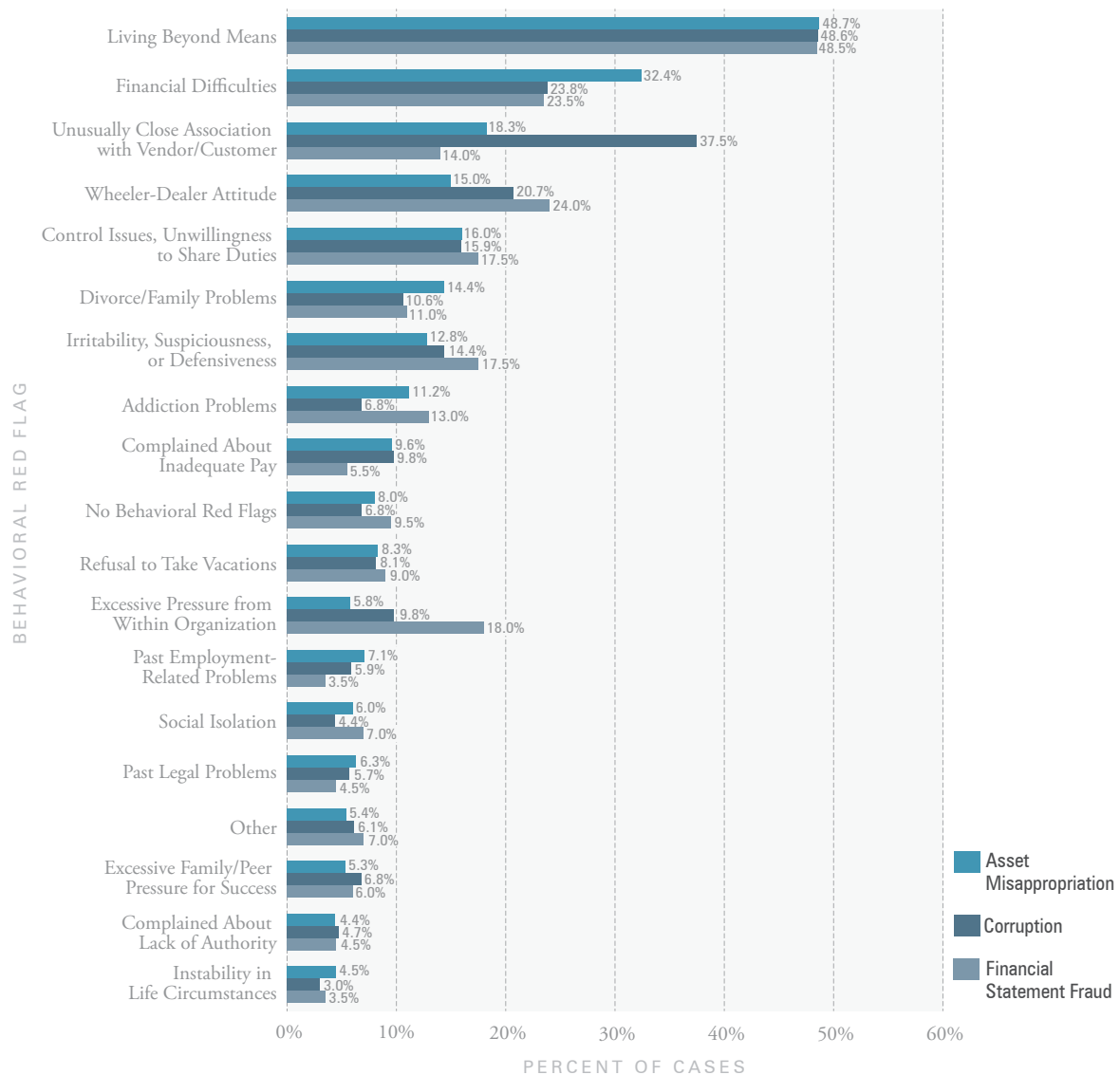


Perpetrators

Behavioral Red Flags Based on Scheme Type

In Figure 96 we analyzed behavioral red flags based on the type of fraud that was committed. Not surprisingly, those who engaged in corruption were much more likely than other fraudsters to have an unusually close association with a vendor or customer. Individuals who committed financial statement fraud had experienced excessive pressure to perform within their organizations in almost one-fifth of cases—much more than in either corruption or asset misappropriation schemes. And those who committed asset misappropriation were more likely to be experiencing known financial difficulties. Regardless of the type of fraud committed, living beyond means remained the most common behavioral red flag, occurring in nearly half of the cases in each category.

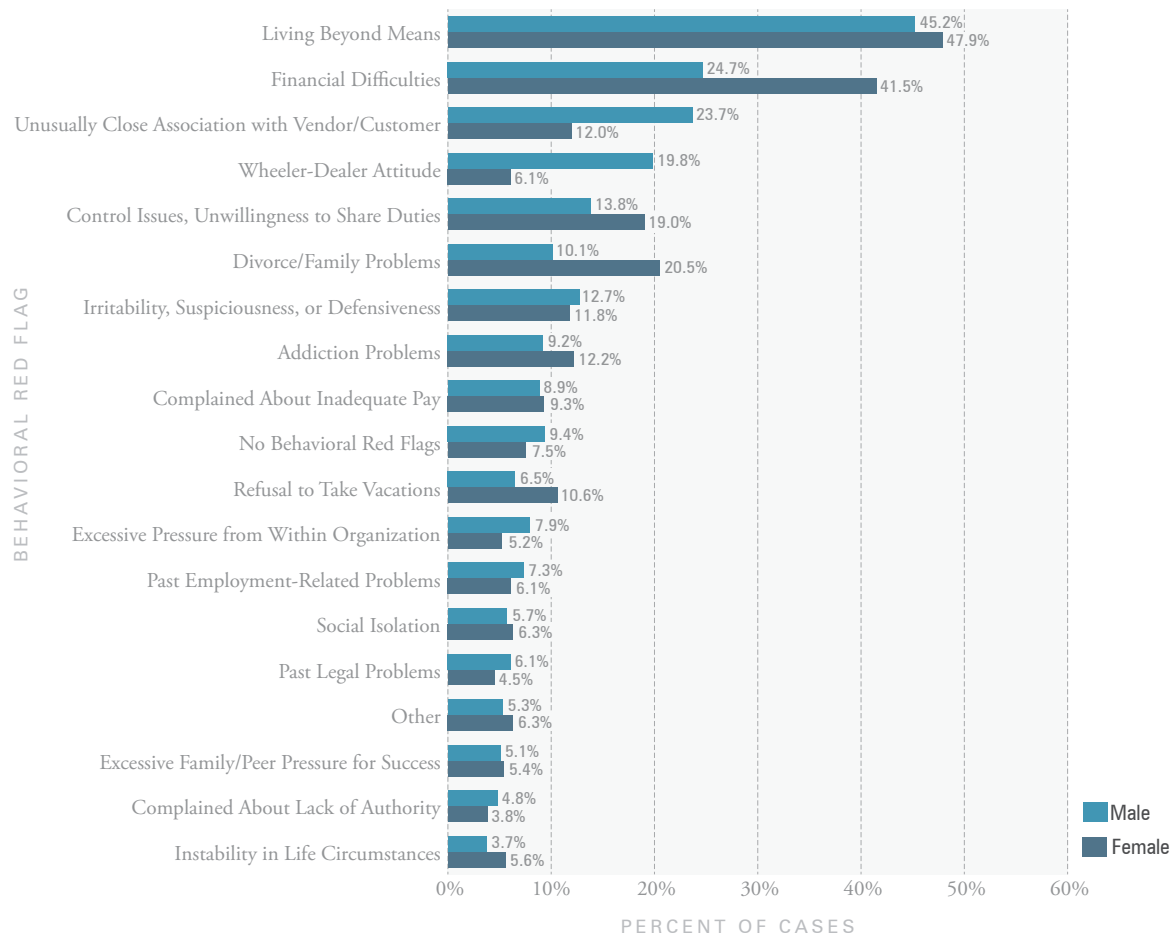
Figure 96: Behavioral Red Flags Based on Scheme Type



Behavioral Red Flags Based on Perpetrator’s Gender

On page 59, we discussed differences in fraud schemes that are associated with the gender of the perpetrator, and in Figure 97 we analyzed how behavioral red flags differ between men and women. Women were much more likely than men to commit fraud based on factors relating to financial need or life circumstances, such as general financial difficulties, divorce or family problems, and addiction issues. Men were much more often seen as having improper relationships with vendors or customers or evidencing a “wheeler-dealer” attitude involving generally unscrupulous or shrewd behavior.

Figure 97: Behavioral Red Flags Based on Perpetrator’s Gender

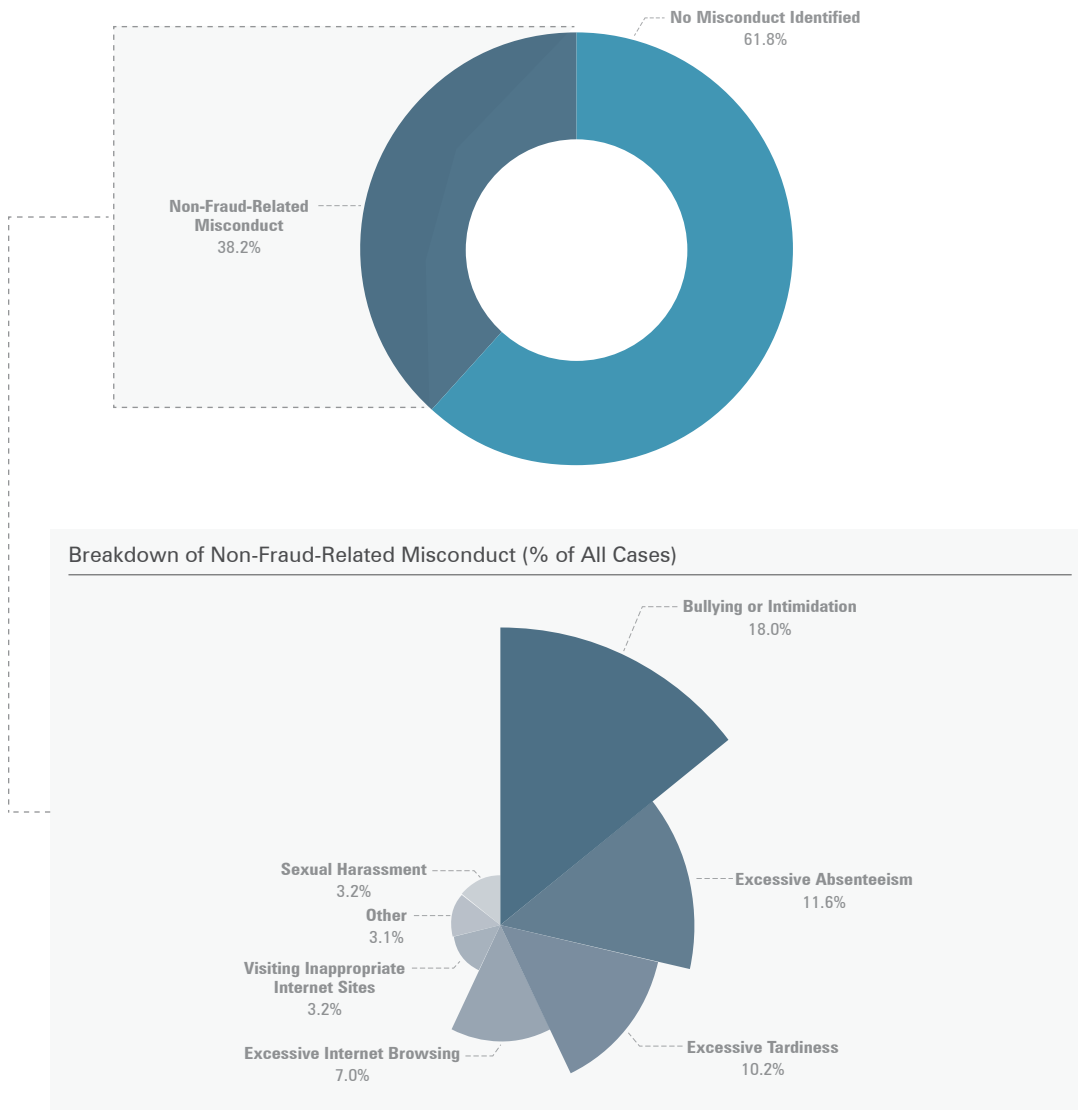


Perpetrators

Non-Fraud-Related Misconduct

To determine if there was a relationship between occupational fraud and other forms of workplace misconduct, we presented survey participants with a list of common workplace violations and asked them to identify any that the perpetrator had engaged in prior to or during the time of the fraud. As Figure 98 shows, nearly 40% of fraudsters had engaged in some form of non-fraud workplace violation. Among the cases where a violation was identified, bullying or intimidation was the most common, followed by excessive absenteeism and excessive tardiness.

Figure 98: Non-Fraud-Related Misconduct

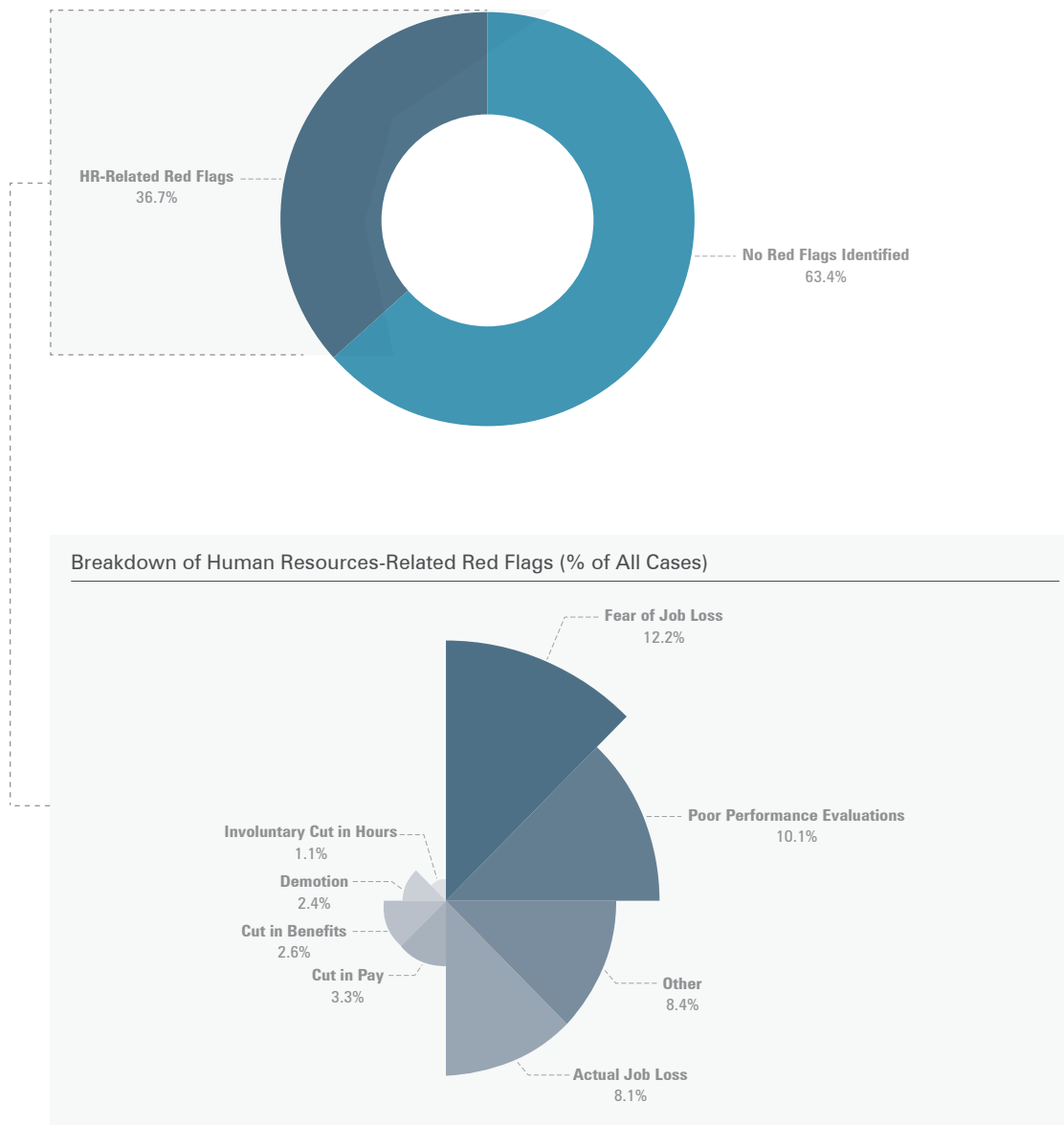


Human Resources-Related Red Flags

In addition to workplace violations, we also asked survey participants if the perpetrators had encountered any negative human resources-related events (such as poor performance evaluations, loss of pay or benefits, fear of job loss, etc.) prior to or during the time of the frauds. These types of events can cause financial stress or resentment toward the employer, both of which are factors commonly associated with occupational fraud.

In more than 63% of cases, no HR-related red flag was identified (see Figure 99). However, in 12.2% of cases, the fraud perpetrator had experienced fear of job loss, and in 10.1% the perpetrator had received poor performance evaluations.

Figure 99: Human Resources-Related Red Flags



Case Results

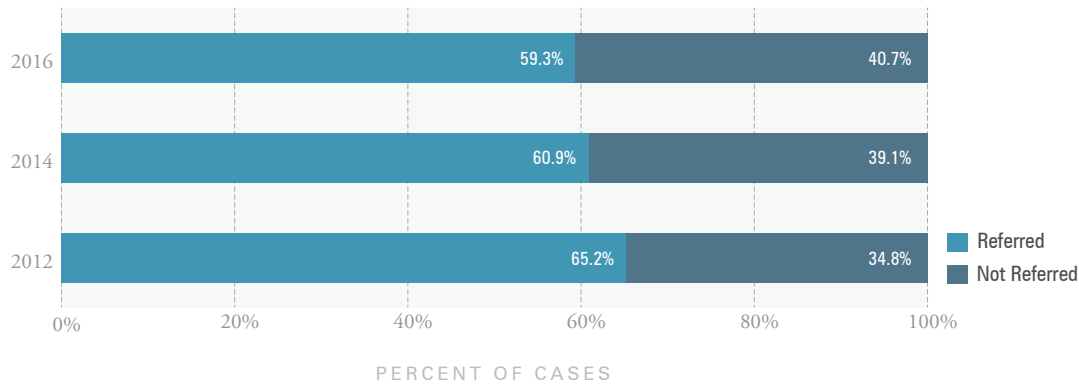


We asked respondents about the outcome of the cases they investigated, including whether the victim organizations referred cases for prosecution, whether they pursued a civil suit, and the underlying reasons for those decisions. Additionally, we asked respondents to provide information about punishment against the principal perpetrator and penalties against the victim organization.

Criminal Prosecutions

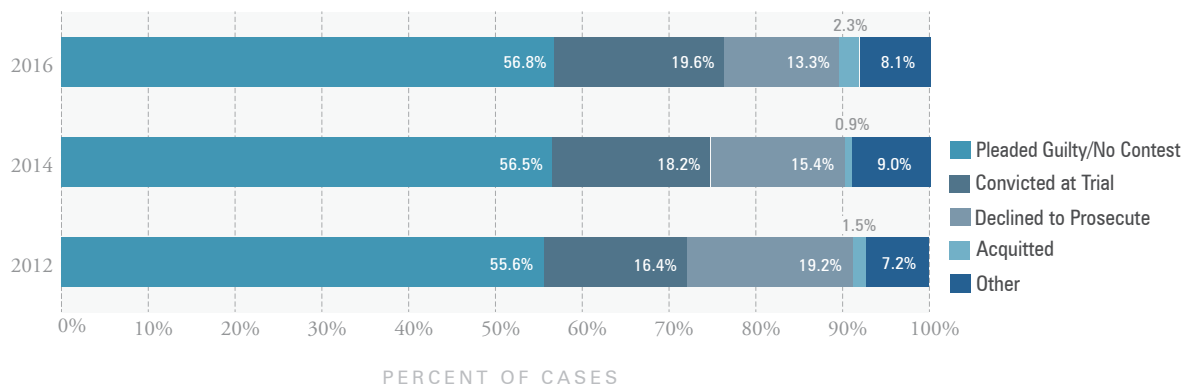
Over the last three reports, the percentage of cases referred to law enforcement declined slightly, from 65.2% in 2012 to 59.3% in 2016. In addition, the cases referred for prosecution tended to involve higher losses; the median loss in cases referred for criminal prosecution was \$230,000 compared to \$71,000 in cases not referred.

Figure 100: Cases Referred to Law Enforcement



Of the victim organizations that referred cases for prosecution, the results of those criminal actions for the past three reports are shown in Figure 101 (cases that are still pending were not included in this analysis). While the percentage of defendants who pleaded guilty or no contest has remained about the same over time, the rate of cases in which authorities declined to prosecute dropped from 19.2% in 2012 to 13.3% in 2016. Combining guilty pleas and convictions at trial, 76.4% of cases submitted for prosecution resulted in a finding of guilt in 2016, while 2.3% of such prosecutions ended in acquittal. Although the percentage of cases referred to prosecution decreased gradually from the 2012 report to the 2016 version (see Figure 100), the percentage of cases that prosecutors successfully pursued increased.

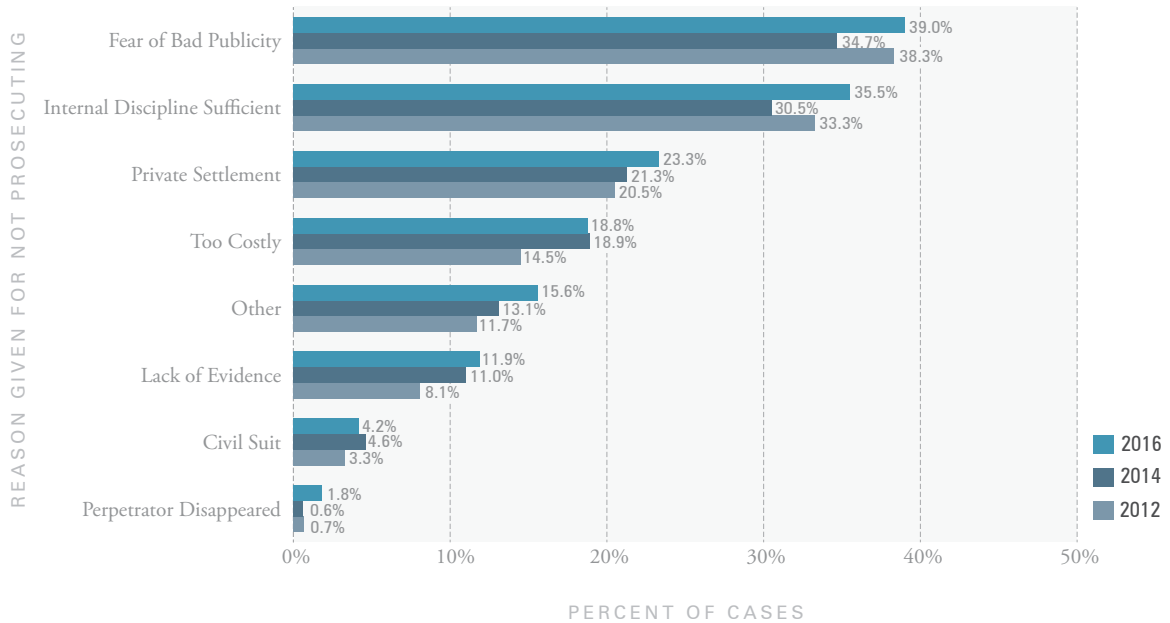
Figure 101: Results of Cases Referred to Law Enforcement



Case Results

Regarding cases that management did not refer to law enforcement, we asked our respondents to provide the reason(s) why. As in the previous two reports, the top three reasons for declining to refer were fear of bad publicity (39%), internal discipline considered sufficient (35.5%), and the parties reached a private settlement (23.3%).

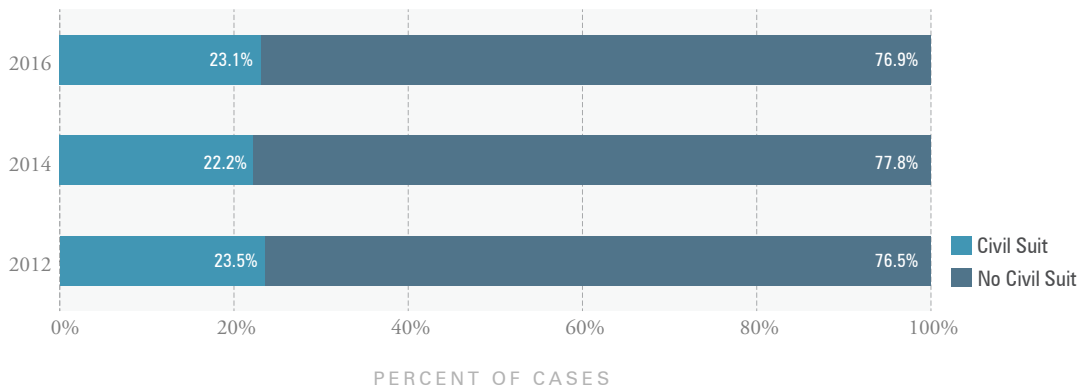
Figure 102: Reason(s) Case Not Referred to Law Enforcement



Civil Suits

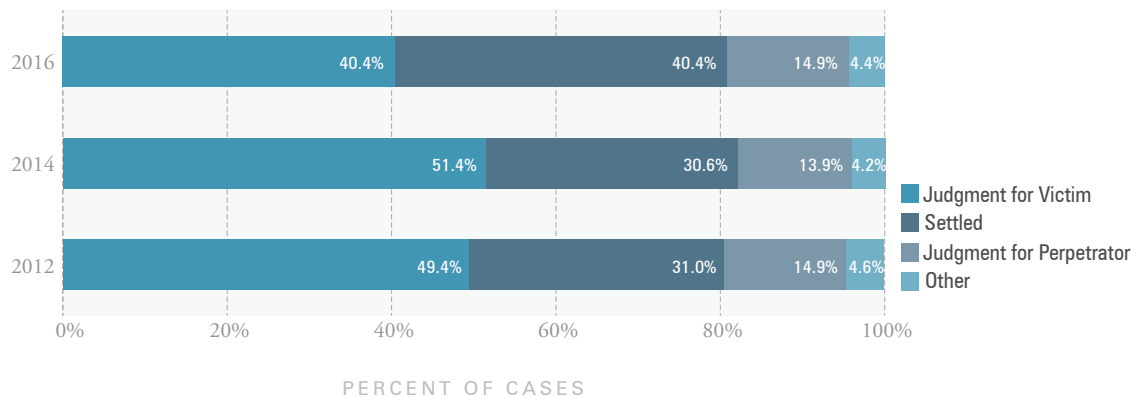
We also asked respondents to report on cases that resulted in a civil lawsuit. Figure 103 shows that less than one-fourth of occupational fraud cases resulted in a civil suit. This percentage has been fairly stable over the past three reports.

Figure 103: Cases Resulting in Civil Suit



Following the occurrence of a fraud, the victim organization might pursue civil litigation to help collect stolen assets. Figure 104 reveals a noticeable drop in judgments in favor of victim organizations in such civil suits—40.4% in the 2016 report, as opposed to 51.4% in the 2014 report. It appears that an increase in settlements mostly accounted for this change, rising from 30.6% of cases in the 2014 report to 40.4% of cases in the 2016 report. Judgments in favor of the suspect occurred in 14.9% of cases in the current data, with little change over the past three reports.

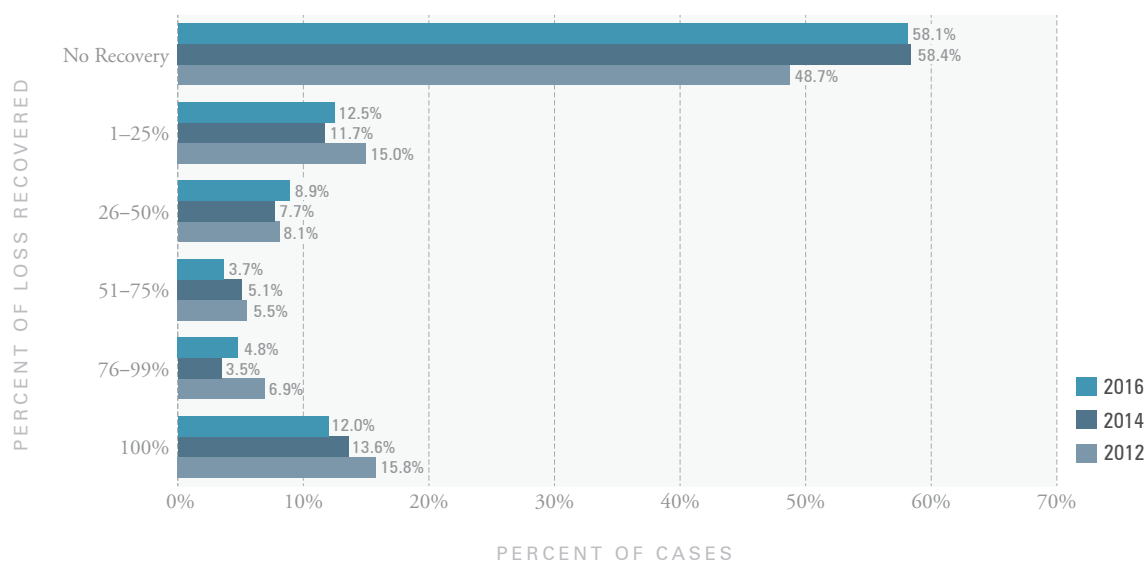
Figure 104: Results of Civil Suits



Recovery of Losses

We asked respondents to provide the percentage of the loss that the victim organization recovered, and the results are shown in Figure 105. The majority (58.1%) of victims had yet to recover any losses at the time of the survey, and only 12% of organizations had recovered all of their losses at that time. While many victims in our study might still be in the process of recovering losses, the data shows that such efforts can take time and might never result in a full recovery.

Figure 105: Recovery of Victim Organization’s Losses

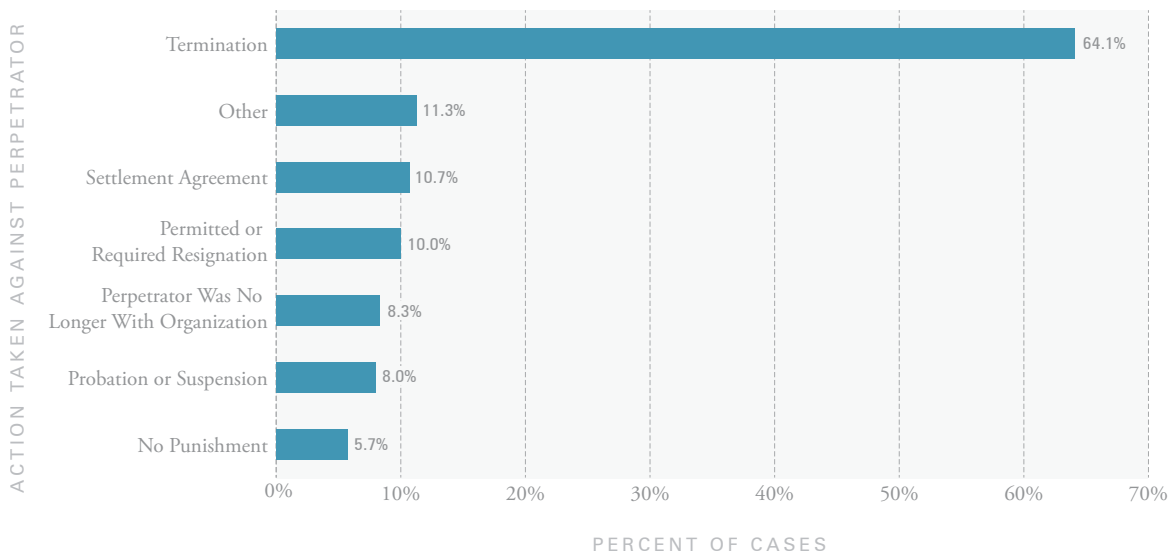


Case Results

Action Taken Against Perpetrator

Beyond recovery of losses, punishing perpetrators of occupational fraud can be an important part of the victim organization's fraud prevention program, as it sends a clear message about management's anti-fraud stance. Figure 106 shows that termination was by far the most common punishment for occupational fraudsters (64.1% of cases). In some instances, suspects received softer punishments, such as resignation (10%) or probation or suspension (8%). How best to handle occupational fraud can vary depending on the circumstances and the best interests of the organization. Still, it is interesting that 5.7% of suspected perpetrators received no punishment.

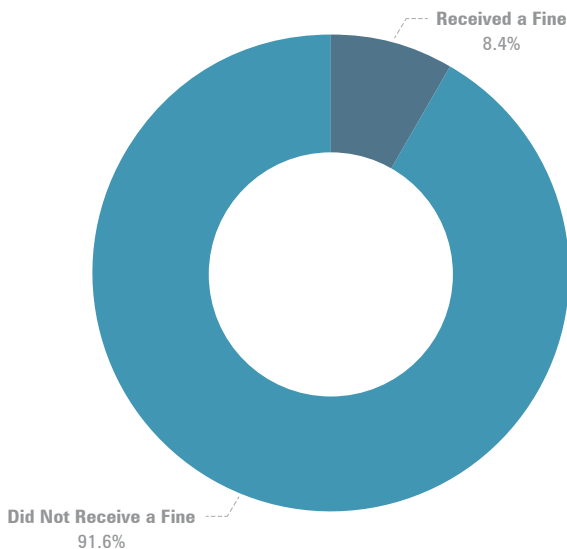
Figure 106: Action Taken Against Perpetrator



Fines Against Victim Organization

While we generally think of individual perpetrators being responsible for fraud, sometimes organizations are punished for having inadequate controls or otherwise allowing the fraud to occur. For the first time, we asked respondents about fines levied against the victim organization. Figure 107 shows that 8.4% of victim organizations were fined as a result of the fraud.

Figure 107: Fines Against Victim Organizations



Adding Injury to Injury: Fine Amounts

An additional fraud risk for many organizations is the potential that they will receive fines from authorities on top of any fraud losses. For the organizations in our study that received a monetary penalty:

15% OF FINES WERE \$10,000 OR LESS

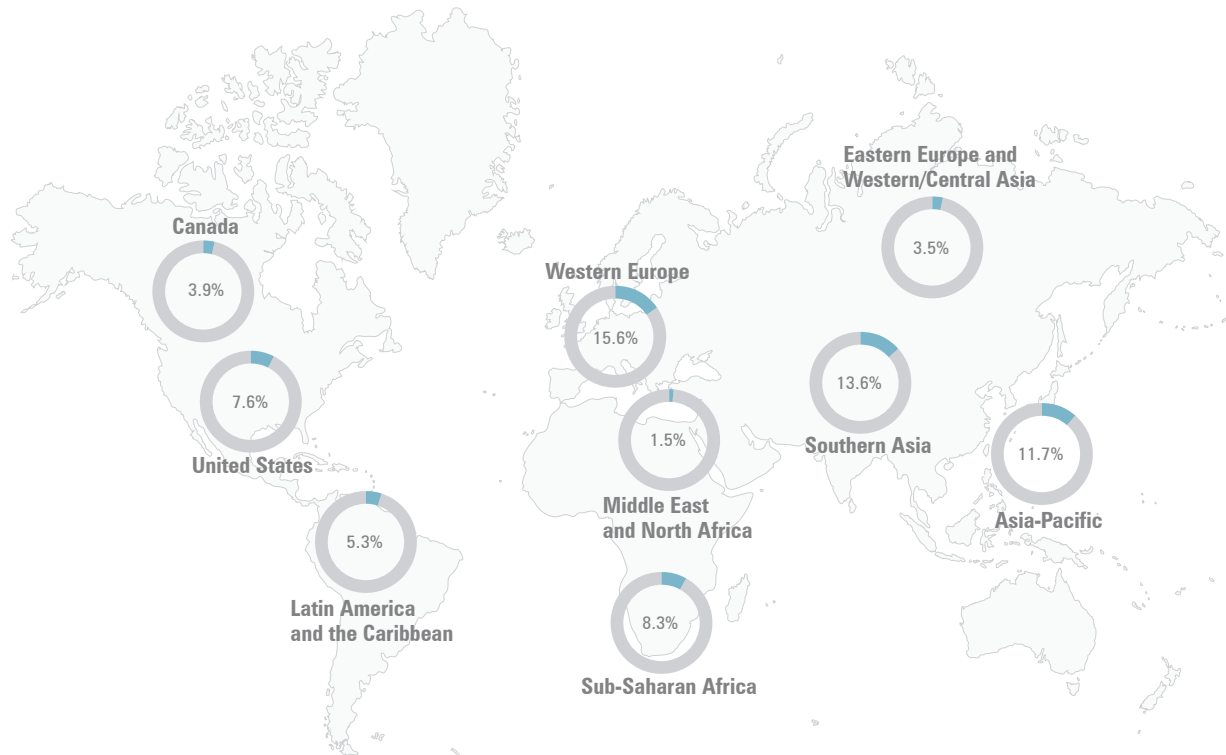
31% OF FINES WERE BETWEEN \$10,000 AND \$100,000

31% OF FINES WERE BETWEEN \$100,000 AND \$1,000,000

22% OF FINES WERE MORE THAN \$1,000,000

In addition to looking at the overall rate of organizations fined as a result of occupational fraud, we also compared fines regionally. Figure 108 shows the proportion of cases in each region that resulted in a fine against the victim organization. Organizations in Western Europe had the highest proportion of fines (15.6%), while the Middle East and North Africa had the lowest (1.5%).

Figure 108: Fines Against Victim Organizations by Region



Methodology



The 2016 *Report to the Nations on Occupational Fraud and Abuse* is based on the results of the 2015 *Global Fraud Survey*, an online survey opened to 41,788 Certified Fraud Examiners (CFEs) from July 2015 to October 2015. As part of the survey, respondents were asked to provide a detailed narrative of the single largest fraud case they had investigated since January 2014. Additionally, after completing the survey the first time, respondents were provided the option to submit information about a second case that they investigated.

Cases submitted were required to meet the following four criteria:

1. The case must have involved occupational fraud (defined as internal fraud, or fraud committed by a person against the organization for which he or she works).

2. The investigation must have occurred between January 2014 and the time of survey participation.
3. The investigation must have been complete at the time of survey participation.
4. The respondent must have been reasonably sure the perpetrator(s) was (were) identified.

Respondents were then presented with 81 questions to answer regarding the particular details of the fraud case, including information about the perpetrator, the victim organization, and the methods of fraud employed, as well as fraud trends in general. We received 7,497 total responses to the survey, 2,410 of which were usable for purposes of this report. The data contained herein is based solely on the information provided in these 2,410 survey responses.

Analysis Methodology

In calculating the percentages discussed throughout this report, we used the total number of complete and relevant responses for the question(s) being analyzed. Specifically, we excluded any blank responses or instances where the participant indicated that he or she did not know the answer to a question. Consequently, the total number of cases included in each analysis varies.

In addition, several survey questions allowed participants to select more than one answer. Therefore, the sum of percentages in many figures throughout the report exceeds 100%.

Unless otherwise indicated, all loss amounts discussed throughout the report are calculated using median loss rather than mean, or average, loss. Average losses were skewed by a limited number of very high-dollar frauds. Using median loss provides a more conservative—and we believe more accurate—picture of the typical impact of occupational fraud schemes. Additionally, we excluded median loss calculations for categories for which there were fewer than 10 responses.

Because the direct losses caused by financial statement frauds are typically spread among numerous stakeholders, obtaining an accurate estimate for this amount is extremely difficult. Consequently, for schemes involving financial statement fraud, we asked survey participants to provide the gross amount of the financial statement misstatement (over- or under-statement) involved in the scheme. All losses reported for financial statement frauds throughout this report are based on those reported amounts.

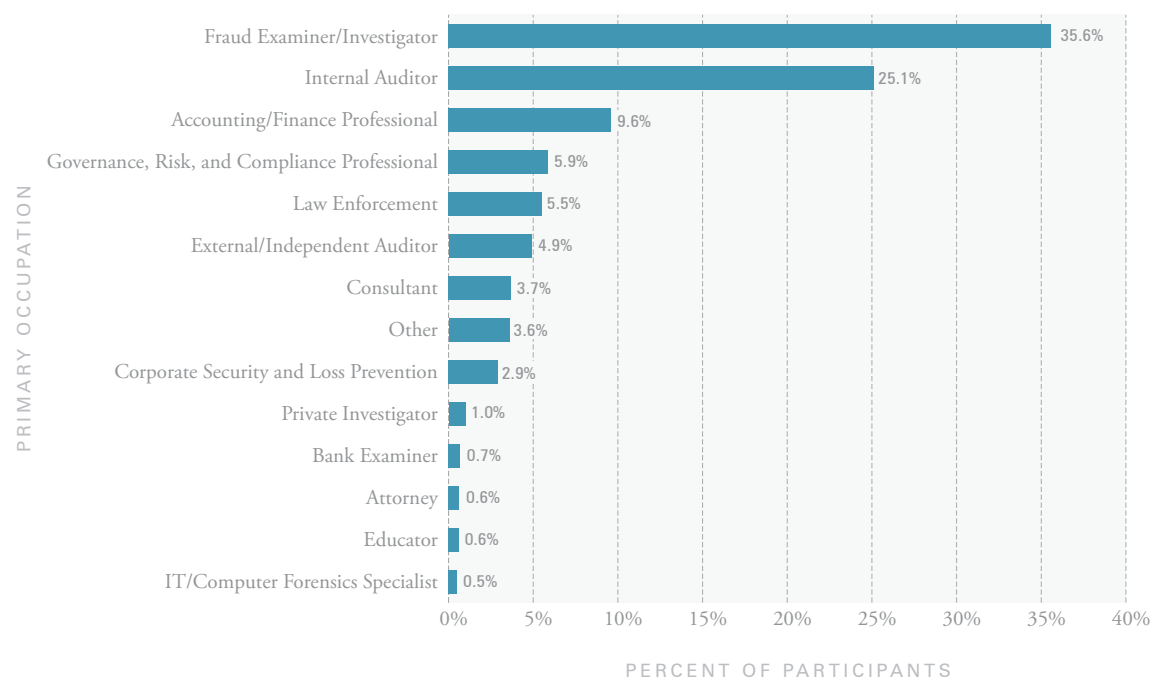
Who Provided the Data?

To provide context for the survey responses and to understand who investigates cases of occupational fraud, we asked respondents to provide certain information about their professional experience and qualifications.

Primary Occupation

More than one-third of survey respondents noted their primary occupation as fraud examiner/investigator, and another quarter of respondents were internal auditors.

Figure 109: Primary Occupation of Survey Participants

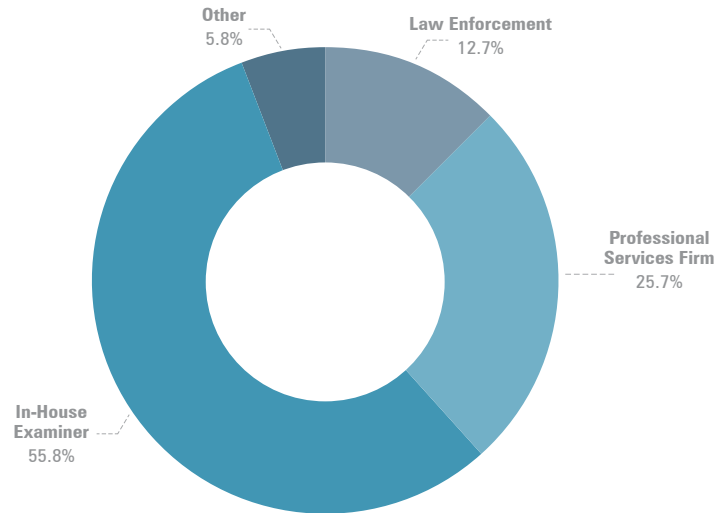


Methodology

Nature of Fraud Examination Role

In addition to the primary occupation, we asked respondents to provide information about the nature of their role regarding fraud examinations. More than 55% of survey participants indicated that they worked in-house (i.e., conducted fraud examinations within a single company or agency); almost 26% worked for a professional services firm that conducted fraud examinations on behalf of other companies, individuals, or agencies; and about 13% worked for a law enforcement or government agency and conducted fraud examinations under the authority of that agency.

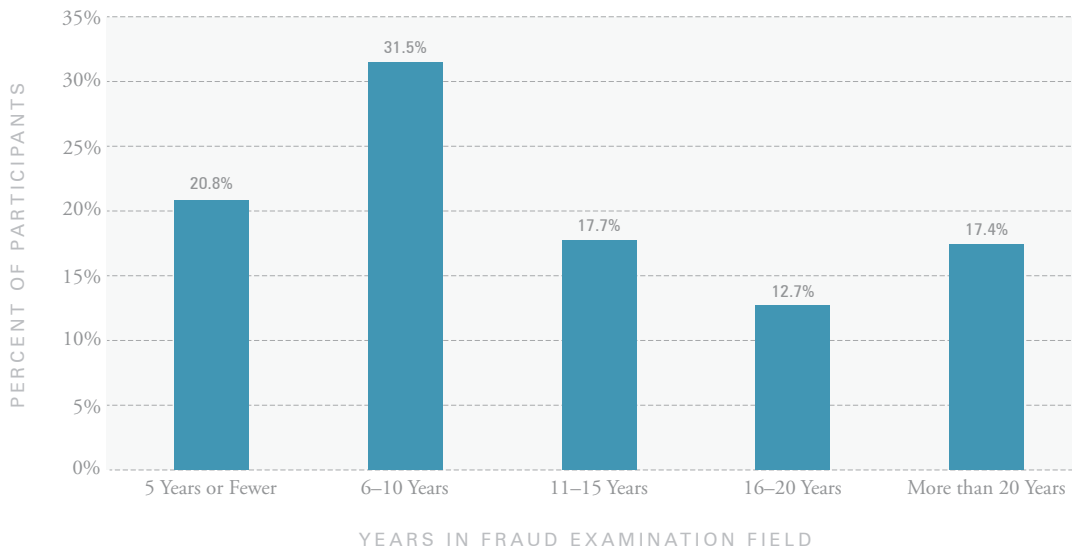
Figure 110: Nature of Survey Participants' Fraud Examination Work



Experience

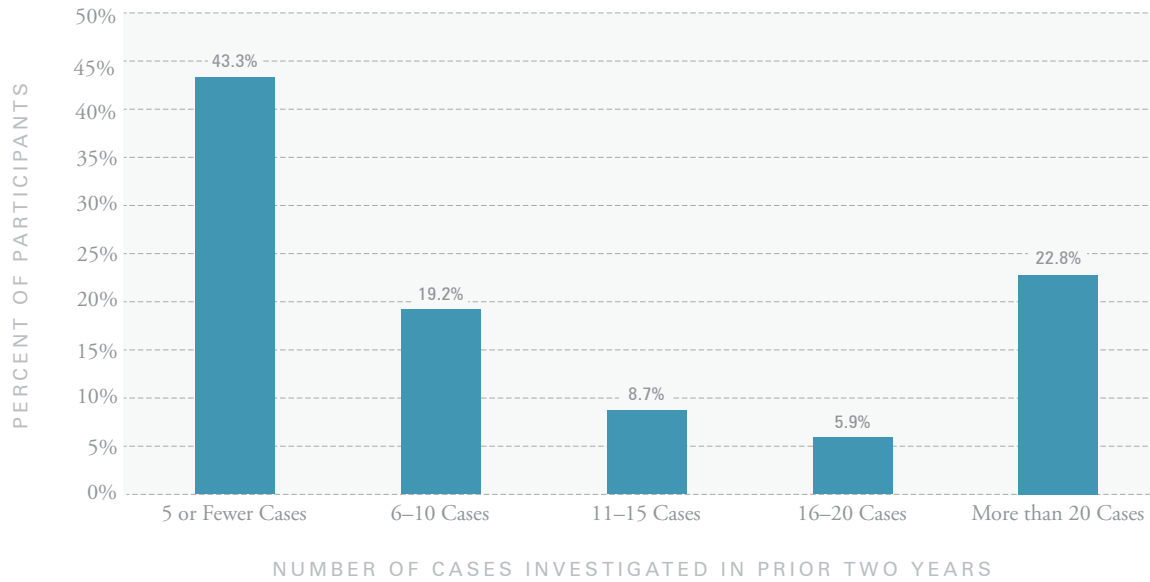
Survey respondents had a median ten years of fraud examination experience, with just over 30% of respondents having more than 15 years of experience in the fraud examination field.

Figure 111: Experience of Survey Participants



Respondents also provided information about the number of total fraud cases they worked on in the prior two years. As reflected in Figure 112, approximately 23% of respondents investigated more than 20 cases, while about 43% investigated five or fewer cases during that time.

Figure 112: Cases Investigated by Survey Participants



SURVEY RESPONDENTS HAD A **MEDIAN TEN YEARS OF FRAUD EXAMINATION EXPERIENCE.**

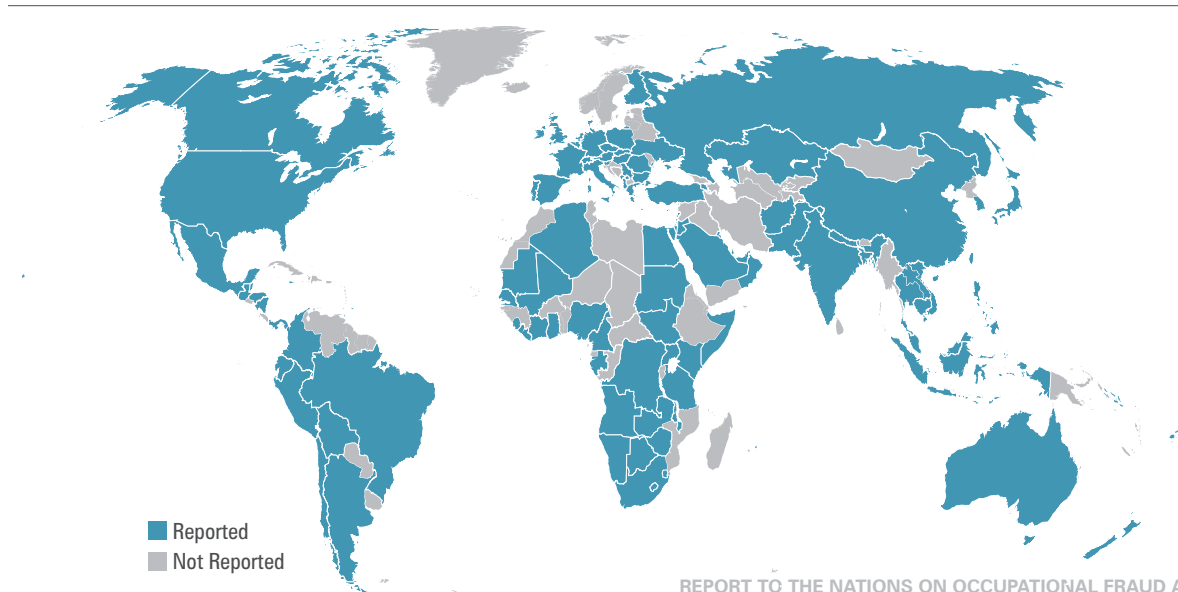
Appendix

Figure 113: Breakdown of Geographic Regions by Country

Asia-Pacific (221 Cases)		Eastern Europe and Western/Central Asia (98 Cases)	
Country	Number of Cases	Country	Number of Cases
Australia	26	Albania	1
Cambodia	1	Armenia	3
China	64	Bulgaria	5
East Timor	2	Czech Republic	8
Fiji	2	Hungary	2
Indonesia	42	Kazakhstan	5
Japan	3	Kosovo	1
Laos	1	Montenegro	2
Malaysia	11	Poland	8
New Zealand	10	Romania	11
Philippines	29	Russia	21
Samoa	3	Serbia	4
Singapore	14	Slovakia	8
Solomon Islands	1	Slovenia	2
South Korea	3	Turkey	15
Taiwan	3	Ukraine	2
Thailand	4		
Vietnam	2		
Latin America and the Caribbean (112 Cases)		Middle East and North Africa (79 Cases)	
Antigua and Barbuda	2	Algeria	1
Argentina	12	Bahrain	3
Bahamas	2	Cyprus	3
Barbados	1	Egypt	5
Belize	1	Israel	2
Bolivia	1	Jordan	2
Brazil	18	Kuwait	4
Chile	4	Lebanon	5
Colombia	14	Oman	7
Ecuador	2	Qatar	7
Grenada	1	Saudi Arabia	13
Guatemala	1	United Arab Emirates	27
Honduras	1		
Jamaica	2		
Mexico	36		
Nicaragua	1		
Panama	2		
Peru	4		
Trinidad and Tobago	7		

Southern Asia (98 Cases)		Sub-Saharan Africa (285 Cases)	
Country	Number of Cases	Country	Number of Cases
Afghanistan	4	Angola	4
Bangladesh	4	Botswana	2
India	77	Cameroon	2
Nepal	2	Congo, Democratic Republic of the	4
Pakistan	11	Cote d'Ivoire (Ivory Coast)	2
Western Europe (110 Cases)		Gabon	1
Austria	4	Gambia	1
Belgium	4	Ghana	11
Denmark	2	Kenya	41
Finland	3	Lesotho	1
France	7	Liberia	5
Germany	15	Malawi	3
Greece	7	Mali	1
Ireland	2	Mauritania	2
Italy	9	Mauritius	4
Netherlands	7	Namibia	1
Portugal	5	Nigeria	70
Spain	6	Senegal	3
Switzerland	9	Sierra Leone	1
United Kingdom	30	Somalia	1
		South Africa	87
		South Sudan	1
		Sudan	1
		Swaziland	1
		Tanzania	8
		Uganda	11
		Zambia	7
		Zimbabwe	9

Figure 114: Countries with Reported Cases



Index of Figures

Age of Perpetrator	
Age of Perpetrator—Frequency and Median Loss	60
Anti-Fraud Controls	
Change in Implementation Rates of Anti-Fraud Controls	40
Frequency of Anti-Fraud Controls	38
Frequency of Anti-Fraud Controls by Region	41
Frequency of Anti-Fraud Controls by Size of Victim Organization	39
Median Loss Based on Presence of Anti-Fraud Controls	44
Median Duration of Fraud Based on Presence of Anti-Fraud Controls	44
Primary Internal Control Weakness by Scheme Type	47
Primary Internal Control Weakness Observed by CFE	46
Behavioral Red Flags of Perpetrators	
Behavioral Red Flags Displayed by Perpetrators	68
Behavioral Red Flags Based on Perpetrator’s Gender	71
Behavioral Red Flags Based on Perpetrator’s Position	69
Behavioral Red Flags Based on Scheme Type	70
Human Resources-Related Red Flags	73
Non-Fraud-Related Misconduct	72
Case Results	
Action Taken Against Perpetrator	78
Cases Referred to Law Enforcement	75
Cases Resulting in Civil Suit	76
Fines Against Victim Organizations	78
Fines Against Victim Organizations by Region	79
Reason(s) Case Not Referred to Law Enforcement	76
Recovery of Victim Organization’s Losses	77
Results of Cases Referred to Law Enforcement	75
Results of Civil Suits	77
Concealment of Fraud Schemes	
Concealment Method by Scheme Type	19
Criminal and Employment Background of Perpetrator	
Background Check Run on Perpetrator Before Being Hired	45
Criminal Background of Perpetrator	66
Employment Background of Perpetrator	67
Type(s) of Background Checks Run on Perpetrator Before Being Hired	46
Demographics of Survey Participants	
Cases Investigated by Survey Participants	83
Experience of Survey Participants	82
Nature of Survey Participants’ Fraud Examination Work	82
Primary Occupation of Survey Participants	81
Department of Perpetrator	
Department of Perpetrator— Frequency and Median Loss	55
Frequency of Schemes Based on Perpetrator’s Department	56
Detection Method	
Detection Method by Perpetrators’ Relationship to Victim	65
Detection Method by Region	23
Detection Method by Size of Victim Organization	22
Formal Reporting Mechanism Used by Whistleblower	28
Impact of Hotlines	27
Initial Detection of Occupational Frauds	21
Median Loss and Median Duration by Detection Method	25
Party to Whom Whistleblower Initially Reported	29
Source of Tips	26
Top Three Parties to Whom Tips Were Reported Based on Perpetrator’s Department	29
Distribution of Losses	
Distribution of Dollar Losses	9
Education Level of Perpetrator	
Education Level of Perpetrator— Frequency and Median Loss	61
Gender of Perpetrator	
Behavioral Red Flags Based on Perpetrator’s Gender	71
Frequency of Schemes Based on Gender	59
Gender of Perpetrator Based on Region	57
Gender of Perpetrator—Frequency	57
Gender of Perpetrator—Median Loss	58
Position of Perpetrator Based on Gender	58
Position of Perpetrator—Median Loss Based on Gender	59

Geographical Region of Victim Organization

Breakdown of Geographic Regions by Country	84
Countries with Reported Cases	85
Detection Method by Region.....	23
Fines Against Victim Organizations by Region	79
Frequency of Anti-Fraud Controls by Region	41
Frequency and Median Loss of Corruption Cases by Region	16
Gender of Perpetrator Based on Region.....	57
Geographical Location of Victim Organizations.....	7
Frequency and Median Loss Based on Position of Perpetrator by Region.....	50
Scheme Types by Region.....	14

Industry of Victim Organization

Corruption Cases by Industry	37
Frequency of Schemes Based on Industry	36
Industry of Victim Organizations.....	34
Industry of Victim Organizations (Sorted by Median Loss)	35

Number of Perpetrators

Median Duration of Fraud Based on Number of Perpetrators	62
Number of Perpetrators—Frequency and Median Loss.....	62

Perpetrators' Relationship to Victim

Collusion—Frequency and Median Loss Based on Perpetrators' Relationship to Victim	63
Detection Method by Perpetrators' Relationship to Victim	65
Scheme Type Based on Perpetrators' Relationship to Victim	64

Position of Perpetrators

Behavioral Red Flags Based on Perpetrator's Position.....	69
Frequency and Median Loss Based on Position of Perpetrator by Region	50
Median Duration of Fraud Based on Position	49
Position of Perpetrator—Frequency and Median Loss	49
Position of Perpetrator Based on Gender	58
Position of Perpetrator—Median Loss Based on Gender	59

Scheme Duration

Frequency and Median Loss Based on Duration of Fraud	17
--	----

Median Loss and Median Duration by Detection Method	25
Median Duration of Fraud Based on Number of Perpetrators	62
Median Duration of Fraud Based on Position	49
Median Duration of Fraud Based on Presence of Anti-Fraud Controls	44
Median Duration of Fraud Based on Scheme Type	18

Scheme Type

Behavioral Red Flags Based on Scheme Type.....	70
Corruption Cases by Industry	37
Concealment Method by Scheme Type.....	19
Frequency and Median Loss of Asset Misappropriation Sub-Schemes	14
Frequency and Median Loss of Corruption Cases by Region	16
Frequency of Schemes Based on Industry	36
Frequency of Schemes Based on Perpetrator's Department	56
Frequency of Schemes Based on Gender	59
Median Duration of Fraud Based on Scheme Type	18
Occupational Fraud and Abuse Classification System (Fraud Tree).....	11
Occupational Frauds by Category—Frequency	12
Occupational Frauds by Category—Median Loss	12
Overlap of Fraud Schemes.....	13
Primary Internal Control Weakness by Scheme Type	47
Scheme Type Based on Perpetrators' Relationship to Victim	64
Scheme Types by Region.....	14
Scheme Type by Size of Victim Organization	33

Size of Victim Organization

Detection Method by Size of Victim Organization.....	22
Frequency of Anti-Fraud Controls by Size of Victim Organization	39
Scheme Type by Size of Victim Organization	33
Size of Victim Organization—Frequency.....	32
Size of Victim Organization—Median Loss.....	32

Tenure of Perpetrator

Tenure of Perpetrator—Frequency and Median Loss	54
---	----

Type of Victim Organization

Type of Victim Organization—Frequency and Median Loss	31
Level of Government—Frequency and Median Loss	31

Fraud Prevention Checklist

The most cost-effective way to limit fraud losses is to prevent fraud from occurring. This checklist is designed to help organizations test the effectiveness of their fraud prevention measures.

1. Is ongoing anti-fraud training provided to all employees of the organization?

- Do employees understand what constitutes fraud?
- Have the costs of fraud to the company and everyone in it — including lost profits, adverse publicity, job loss, and decreased morale and productivity — been made clear to employees?
- Do employees know where to seek advice when faced with uncertain ethical decisions, and do they believe that they can speak freely?
- Has a policy of zero-tolerance for fraud been communicated to employees through words and actions?

2. Is an effective fraud reporting mechanism in place?

- Have employees been taught how to communicate concerns about known or potential wrongdoing?
- Is there an anonymous reporting channel, such as a third-party hotline, available to employees?
- Do employees trust that they can report suspicious activity anonymously and/or confidentially and without fear of reprisal?
- Has it been made clear to employees that reports of suspicious activity will be promptly and thoroughly evaluated?
- Do reporting policies and mechanisms extend to vendors, customers and other outside parties?

3. To increase employees' perception of detection, are the following proactive measures taken and publicized to employees?

- Is possible fraudulent conduct aggressively sought out, rather than dealt with passively?
- Does the organization send the message that it actively seeks out fraudulent conduct through fraud assessment questioning by auditors?
- Are surprise fraud audits performed in addition to regularly scheduled audits?
- Is continuous auditing software used to detect fraud and, if so, has the use of such software been made known throughout the organization?

4. Is the management climate/tone at the top one of honesty and integrity?

- Are employees surveyed to determine the extent to which they believe management acts with honesty and integrity?
- Are performance goals realistic?
- Have fraud prevention goals been incorporated into the performance measures against which managers are evaluated and that are used to determine performance-related compensation?
- Has the organization established, implemented and tested a process for oversight of fraud risks by the board of directors or others charged with governance (e.g., the audit committee)?

5. **Are fraud risk assessments performed to proactively identify and mitigate the company's vulnerabilities to internal and external fraud?**
6. **Are strong anti-fraud controls in place and operating effectively, including the following?**
 - Proper separation of duties
 - Use of authorizations
 - Physical safeguards
 - Job rotations
 - Mandatory vacations
7. **Does the internal audit department, if one exists, have adequate resources and authority to operate effectively and without undue influence from senior management?**
8. **Does the hiring policy include the following (where permitted by law)?**
 - Past employment verification
 - Criminal and civil background checks
 - Credit checks
 - Drug screening
 - Education verification
 - References checks
9. **Are employee support programs in place to assist employees struggling with addiction, mental/emotional health, family or financial problems?**
10. **Is an open-door policy in place that allows employees to speak freely about pressures, providing management the opportunity to alleviate such pressures before they become acute?**
11. **Are anonymous surveys conducted to assess employee morale?**

Glossary of Terminology

Asset misappropriation: A scheme in which an employee steals or misuses the employing organization's resources (e.g., theft of company cash, false billing schemes, or inflated expense reports)

Billing scheme: A fraudulent disbursement scheme in which a person causes his or her employer to issue a payment by submitting invoices for fictitious goods or services, inflated invoices, or invoices for personal purchases (e.g., employee creates a shell company and bills employer for services not actually rendered; employee purchases personal items and submits an invoice to employer for payment)

Cash larceny: A scheme in which an incoming payment is stolen from an organization after it has been recorded on the organization's books and records (e.g., employee steals cash and checks from daily receipts before they can be deposited in the bank)

Cash-on-hand misappropriations: A scheme in which the perpetrator misappropriates cash kept on hand at the victim organization's premises (e.g., employee steals cash from a company vault)

Check tampering scheme: A fraudulent disbursement scheme in which a person steals his or her employer's funds by intercepting, forging, or altering a check or electronic payment drawn on one of the organization's bank accounts (e.g., employee steals blank company checks and makes them out to himself or an accomplice; employee steals an outgoing check to a vendor and deposits it into his or her own bank account)

Corruption: A scheme in which an employee misuses his or her influence in a business transaction in a way that violates his or her duty to the employer in order to gain a direct or indirect benefit (e.g., schemes involving bribery or conflicts of interest)

Employee support programs: Programs that provide support and assistance to employees dealing with personal issues or challenges, such as counseling services for drug, family, or financial problems

Expense reimbursements scheme: A fraudulent disbursement scheme in which an employee makes a claim for reimbursement of fictitious or inflated business expenses

(e.g., employee files fraudulent expense report, claiming personal travel, nonexistent meals)

Financial statement fraud: A scheme in which an employee intentionally causes a misstatement or omission of material information in the organization's financial reports (e.g., recording fictitious revenues, understating reported expenses, or artificially inflating reported assets)

Hotline: A mechanism to report fraud or other violations, whether managed internally or by an external party

Management review: The process of management reviewing organizational controls, processes, accounts, or transactions for adherence to company policies and expectations

Non-cash misappropriations: Any scheme in which an employee steals or misuses non-cash assets of the victim organization (e.g., employee steals inventory from a warehouse or storeroom; employee steals or misuses confidential customer financial information)

Occupational fraud: The use of one's occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization's resources or assets

Payroll scheme: A fraudulent disbursement scheme in which an employee causes his or her employer to issue a payment by making false claims for compensation (e.g., employee claims overtime for hours not worked; employee adds ghost employees to the payroll)

Primary perpetrator: The person who worked for the victim organization and who was reasonably confirmed as the primary culprit in the case

Register disbursements scheme: A fraudulent disbursement scheme in which an employee makes false entries on a cash register to conceal the fraudulent removal of cash (e.g., employee fraudulently voids a sale on his or her cash register and steals the cash)

Skimming: A scheme in which an incoming payment is stolen from an organization before it is recorded on the organization's books and records (e.g., employee accepts payment from a customer but does not record the sale and instead pockets the money)

About the ACFE

Founded in 1988 by Dr. Joseph T. Wells, CFE, CPA, the ACFE is the world's largest anti-fraud organization and premier provider of anti-fraud training and education. Together with more than 75,000 members in more than 150 countries, the ACFE is reducing business fraud worldwide and providing the training and resources needed to fight fraud more effectively.

The ACFE provides educational tools and practical solutions for anti-fraud professionals through initiatives including:

- Global conferences and seminars led by anti-fraud experts
- Instructor-led, interactive professional training
- Comprehensive resources for fighting fraud, including books, self-study courses and articles
- Leading anti-fraud publications, including *Fraud Magazine*™, *The Fraud Examiner* and *FraudInfo*
- Local networking and support through more than 170 ACFE chapters worldwide
- Anti-fraud curriculum and educational tools for colleges and universities

The positive effects of anti-fraud training are far-reaching. Clearly, the best way to combat fraud is to educate anyone engaged in fighting fraud on how to effectively prevent, detect and investigate it. By educating, uniting and supporting the global anti-fraud community with the tools to fight fraud more effectively, the ACFE is reducing business fraud worldwide and inspiring public confidence in the integrity and objectivity of the profession. The ACFE offers its members the opportunity for professional certification. The Certified Fraud Examiner (CFE) credential is preferred by businesses and government entities around the world and indicates expertise in fraud prevention and detection.

Membership

Immediate access to world-class anti-fraud knowledge and tools is a necessity in the fight against fraud.

Members of the ACFE include accountants, internal auditors, fraud investigators, law enforcement officers, lawyers, business leaders, risk/compliance professionals and educators, all of whom have access to expert training, educational tools and resources. More than 75,000 members from all over the world have come to depend on the ACFE for solutions to the challenges they face in their professions. Whether their career is focused exclusively on preventing and detecting fraudulent activities or they just want to learn more about fraud, the ACFE provides the essential tools and resources necessary for anti-fraud professionals to accomplish their objectives. To learn more, visit ACFE.com or call (800) 245-3321 / +1 (512) 478-9000.

Certified Fraud Examiners

Certified Fraud Examiners (CFEs) are anti-fraud experts who have demonstrated knowledge in four critical areas: Financial Transactions and Fraud Schemes, Law, Investigation, and Fraud Prevention and Deterrence. In support of CFEs and the CFE credential, the ACFE:

- Provides bona fide qualifications for CFEs through administration of the CFE Exam
- Requires CFEs to adhere to a strict code of professional conduct and ethics
- Serves as the global representative for CFEs to business, government and academic institutions
- Provides leadership to inspire public confidence in the integrity, objectivity and professionalism of CFEs



CERTIFIED FRAUD EXAMINER



ACFE®

Association of Certified Fraud Examiners

GLOBAL HEADQUARTERS • THE GREGOR BUILDING
716 West Ave • Austin, TX 78701-2727 • USA
Phone: (800) 245-3321 / +1 (512) 478-9000
Web: ACFE.com • info@ACFE.com

© 2016 Association of Certified Fraud Examiners, Inc.

"ACFE," "CFE," "Certified Fraud Examiner," "CFE Exam Prep Course," "Fraud Magazine," "Association of Certified Fraud Examiners," "Report to the Nations," the ACFE Seal, the ACFE Logo and related trademarks, names and logos are the property of the Association of Certified Fraud Examiners, Inc., and are registered and/or used in the U.S. and countries around the world.