

| ACFE Question | Survey Questions                                                                                                                                                   | Question Type | Yr Deleted | Yr Added | SAS Variable<br>ID Number | SAS Coding      |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------|---------------------------|-----------------|
| ARIid1219     | ACFE Research Institute - Identification Number                                                                                                                    |               |            |          | T20022005                 | Yes=1 / No=0    |
| 20022005      | Time marker: Frauds occurring in 2002-2005                                                                                                                         |               |            |          | T20062009                 | Yes=1 / No=0    |
| 20062009      | Time marker: Frauds occurring in 2006-2009                                                                                                                         |               |            |          | T20102013                 | Yes=1 / No=0    |
| 20102013      | Time marker: Frauds occurring in 2010-2013                                                                                                                         |               |            |          | T20142017                 | Yes=1 / No=0    |
| 20142017      | Time marker: Frauds occurring in 2014-2017                                                                                                                         |               |            |          |                           |                 |
| Q2            | The gross loss (a) of the largest occupational fraud case investigated within the last two years                                                                   | Dollar        |            |          | Q2N                       | Natural Log (b) |
| Q6            | The perpetrator(a) misappropriated cash or other assets from the victim organization                                                                               | Yes/No        |            |          | Q6SAS                     | Yes=1 / No=0    |
| Q7            | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          |                           |                 |
| Q8            | The perpetrator misappropriated cash from the victim organization.                                                                                                 | Yes/No        |            |          | Q8SAS                     | Yes=1 / No=0    |
| Q9            | The approximate dollar amount of cash that was misappropriated.                                                                                                    | Dollar        |            |          | Q9N                       | Natural Log (b) |
| Q10           | The perpetrator misappropriated cash receipts.                                                                                                                     | Yes/No        |            |          | Q10SAS                    | Yes=1 / No=0    |
| Q10A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q10aN                     | Natural Log (b) |
| Q11           | The perpetrator(a) misappropriated cash receipts before they were recorded on the victim organization's books                                                      | Yes/No        |            |          | Q11SAS                    | Yes=1 / No=0    |
| Q11A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q11aN                     | Natural Log (b) |
| Q12           | The perpetrator(a) misappropriated cash receipts after they were recorded on the victim organization's books.                                                      | Yes/No        |            |          | Q12SAS                    | Yes=1 / No=0    |
| Q12A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q12aN                     | Natural Log (b) |
| Q13           | The perpetrator(a) misappropriated cash disbursements (a).                                                                                                         | Yes/No        |            |          | Q13SAS                    | Yes=1 / No=0    |
| Q13A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q13aN                     | Natural Log (b) |
| Q14           | Billing fraud - the perpetrator(a) submitted/processed fraudulent invoices or purchased personal items with company credit cards or charge accounts.               | Yes/No        |            |          | Q14SAS                    | Yes=1 / No=0    |
| Q14A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q14aN                     | Natural Log (b) |
| Q15           | Payroll fraud - the perpetrator(a) falsified payroll information or caused non-employees to be added to the payroll.                                               | Yes/No        |            |          | Q15SAS                    | Yes=1 / No=0    |
| Q15A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q15aN                     | Natural Log (b) |
| Q16           | Check tampering - the perpetrator(a) wrote/alterd/forged fraudulent or unauthorized checks drawn on the victim organization's bank accounts.                       | Yes/No        |            |          | Q16SAS                    | Yes=1 / No=0    |
| Q16A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q16aN                     | Natural Log (b) |
| Q17           | Expense reimbursement fraud - the perpetrator(a) claimed reimbursement for fictitious or inflated expense account items.                                           | Yes/No        |            |          | Q17SAS                    | Yes=1 / No=0    |
| Q17A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q17aN                     | Natural Log (b) |
| Q18           | Fraudulent cash register disbursements - the perpetrator(a) processed fraudulent void or refund transactions on a cash register/till.                              | Yes/No        |            |          | Q18SAS                    | Yes=1 / No=0    |
| Q18A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q18aN                     | Natural Log (b) |
| Q19           | The perpetrator(a) misappropriated cash on hand (i.e., physical currency or currency equivalents, such as petty cash, gift cards, or cash in a bank drawer/vault). | Yes/No        |            |          | Q19SAS                    | Yes=1 / No=0    |
| Q19A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q19aN                     | Natural Log (b) |
| Q20           | The perpetrator misappropriated non-cash assets (such as inventory, equipment, proprietary information, or non-cash investments) that belonged to the company.     | Yes/No        |            |          | Q20SAS                    | Yes=1 / No=0    |
| Q21           | The approximate dollar value of the non-cash assets that were misappropriated.                                                                                     | Dollar        |            |          | Q21N                      | Natural Log (b) |
| Q22           | The perpetrator misappropriated physical, non-cash assets (e.g., inventory, equipment, or supplies).                                                               | Yes/No        |            |          | Q22SAS                    | Yes=1 / No=0    |
| Q22A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q22aN                     | Natural Log (b) |
| Q23           | The perpetrator misappropriated securities/non-cash investments s (e.g., stocks, bonds, or mutual funds).                                                          | Yes/No        |            |          | Q23SAS                    | Yes=1 / No=0    |
| Q23A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q23aN                     | Natural Log (b) |
| Q24           | The perpetrator misappropriated proprietary information (e.g., customer/employee information or company trade secrets).                                            | Yes/No        |            |          | Q24SAS                    | Yes=1 / No=0    |
| Q24A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q24aN                     | Natural Log (b) |
| Q25           | The perpetrator misappropriated other types of non-cash assets.                                                                                                    | Yes/No        |            |          | Q25SAS                    | Yes=1 / No=0    |
| Q25A          | The specific amount in whole numbers, in U.S. dollars.                                                                                                             | Dollar        |            |          | Q25aN                     | Natural Log (b) |
| Corruption    | Yes, if the answer to Q26, Q27, Q28 or Q29 is "yes"                                                                                                                | Yes/No        |            |          | CorptSAS                  | Yes=1 / No=0    |
| Q26           | The perpetrator(s) accepted or paid one or more bribes (e.g., cash or gifts).                                                                                      | Yes/No        |            |          | Q26SAS                    | Yes=1 / No=0    |
| Q27           | The perpetrator(s) accepted or paid one or more unreported gifts (as a reward, not as a bribe).                                                                    | Yes/No        |            |          | Q27SAS                    | Yes=1 / No=0    |
| Q28           | The perpetrator(s) extorted (i.e., use threats or intimidation to extract) one or more payments or other benefits from a third party?                              | Yes/No        |            |          | Q28SAS                    | Yes=1 / No=0    |

| ACFE Question      | Survey Questions                                                                                                                                                                                                                                                                             | Question Type | Yr Deleted | Yr Added         | SAS Variable  | SAS Coding          |
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| Q29                | The perpetrator(s) made a non-arm's-length transaction on behalf of the victim organization when the perpetrator(a) had a hidden economic or personal interest in another party to the transaction (e.g., having a secret ownership in a vendor or a family relationship with a competitor). | Yes/No        |            |                  | Q29SAS        | Yes=1 / No=0        |
| <b>Divert</b>      | <b>The perpetrator(s) divert business opportunities from the victim organization to a third party in whom the perpetrator(s) had a hidden economic or personal interest</b>                                                                                                                  | <b>Yes/No</b> |            | <b>2019/2020</b> |               |                     |
| Q30                | The total dollar loss caused by the perpetrator's participation in all of the corrupt practices listed above.                                                                                                                                                                                | Dollar        |            |                  | Q31N          | Natural Log (b)     |
| Q31                | The scheme involved fraudulent manipulation of the financial statements in order to make the organization appear more or less profitable than it really was.                                                                                                                                 | Yes/No        |            |                  | Q31SAS        | Yes=1 / No=0        |
| Q32                | The financial statements were falsified to make the organization appear less profitable or more profitable.                                                                                                                                                                                  | Choice        |            |                  | Q32           |                     |
|                    | Choice - More Profitable                                                                                                                                                                                                                                                                     |               |            |                  | Q32SASMP      | Yes=1 / No=0        |
|                    | Choice - Less Profitable                                                                                                                                                                                                                                                                     |               |            |                  | Q32SASLP      | Yes=1 / No=0        |
|                    | <b>Choice - Other</b>                                                                                                                                                                                                                                                                        |               |            | <b>2019/2020</b> |               |                     |
| Q33                | The financial statements were misstated by the following amount.                                                                                                                                                                                                                             | Dollar        |            |                  | Q33N          | Natural Log (b)     |
| Q35                | Reporting fictitious or overstated revenues (overstatement)                                                                                                                                                                                                                                  | Yes/No        |            |                  | Q35SAS        | Yes=1 / No=0        |
| Q36                | Concealing or understating liabilities or expenses (overstatement)                                                                                                                                                                                                                           | Yes/No        |            |                  | Q36SAS        | Yes=1 / No=0        |
| Q37                | Recording revenue or expenses in the wrong period (overstatement)                                                                                                                                                                                                                            | Yes/No        |            |                  | Q37SAS        | Yes=1 / No=0        |
| Q38                | Improperly overvaluing assets (overstatement)                                                                                                                                                                                                                                                | Yes/No        |            |                  | Q38SAS        | Yes=1 / No=0        |
| Q39                | Failing to disclose significant information (overstatement)                                                                                                                                                                                                                                  | Yes/No        |            |                  | Q39SAS        | Yes=1 / No=0        |
| Q40                | Other FSF scheme type (overstatement)                                                                                                                                                                                                                                                        | Yes/No        |            |                  | Q40SAS        | Yes=1 / No=0        |
| <b>FSFomit</b>     | <b>Omitting or understating revenues (understatement)</b>                                                                                                                                                                                                                                    |               |            | <b>2019/2020</b> |               | <b>Yes=1 / No=0</b> |
| <b>FSFfict</b>     | <b>Reporting fictitious or overstating liabilities or expenses (understatement)</b>                                                                                                                                                                                                          |               |            | <b>2019/2020</b> |               | <b>Yes=1 / No=0</b> |
| <b>FSFtime</b>     | <b>Recording revenue or expenses in the wrong period (understatement)</b>                                                                                                                                                                                                                    |               |            | <b>2019/2020</b> |               | <b>Yes=1 / No=0</b> |
| <b>FSFuv</b>       | <b>Omitting or undervaluing assets (understatement)</b>                                                                                                                                                                                                                                      |               |            | <b>2019/2020</b> |               | <b>Yes=1 / No=0</b> |
| <b>FSFoth</b>      | <b>Other FSF scheme type (understatement)</b>                                                                                                                                                                                                                                                |               |            | <b>2019/2020</b> |               | <b>Yes=1 / No=0</b> |
| Conceal            | Which of the following methods did the perpetrator use to commit or conceal the fraud scheme? (Choose all that apply.)                                                                                                                                                                       |               |            |                  |               | Yes=1 / No=0        |
| ConcealDD          | Destroyed physical documents                                                                                                                                                                                                                                                                 |               |            | 2015/16          | ConcealDDSDAS | Yes=1 / No=0        |
| ConcealAD          | Altered physical documents                                                                                                                                                                                                                                                                   |               |            | 2015/16          | ConcealADSAS  | Yes=1 / No=0        |
| ConcealCD          | Created fraudulent physical documents                                                                                                                                                                                                                                                        |               |            | 2015/16          | ConcealCDSAS  | Yes=1 / No=0        |
| ConcealDEF         | Deleted electronic documents or files                                                                                                                                                                                                                                                        |               |            | 2015/16          | ConcealDEFSAS | Yes=1 / No=0        |
| ConcealAEF         | Altered electronic documents or files                                                                                                                                                                                                                                                        |               |            | 2015/16          | ConcealAEFSAS | Yes=1 / No=0        |
| ConcealCEF         | Created fraudulent electronic documents or files                                                                                                                                                                                                                                             |               |            | 2015/16          | ConcealCEFSAS | Yes=1 / No=0        |
| ConcealDT          | Deleted transactions in the accounting system                                                                                                                                                                                                                                                |               |            | 2015/16          | ConcealDTSAS  | Yes=1 / No=0        |
| ConcealAT          | Altered transactions in the accounting system                                                                                                                                                                                                                                                |               |            | 2015/16          | ConcealATSAS  | Yes=1 / No=0        |
| ConcealCT          | Created fraudulent transactions in the accounting system                                                                                                                                                                                                                                     |               |            | 2015/16          | ConcealCTSAS  | Yes=1 / No=0        |
| ConcealAB          | Forced/altered specific account balances in the accounting system                                                                                                                                                                                                                            |               |            | 2015/16          | ConcealABSAS  | Yes=1 / No=0        |
| ConcealAR          | Forced/altered account reconciliations                                                                                                                                                                                                                                                       |               |            | 2015/16          | ConcealARSAS  | Yes=1 / No=0        |
| ConcealDJE         | Deleted journal entries                                                                                                                                                                                                                                                                      |               |            | 2015/16          | ConcealDJESAS | Yes=1 / No=0        |
| ConcealAJE         | Altered journal entries                                                                                                                                                                                                                                                                      |               |            | 2015/16          | ConcealAJESAS | Yes=1 / No=0        |
| ConcealCJE         | Created fraudulent journal entries                                                                                                                                                                                                                                                           |               |            | 2015/16          | ConcealCJESAS | Yes=1 / No=0        |
| ConcealINN         | No concealment method used                                                                                                                                                                                                                                                                   |               |            | 2015/16          | ConcealINNSAS | Yes=1 / No=0        |
| ConcealDK          | Don't know                                                                                                                                                                                                                                                                                   |               |            | 2015/16          | ConcealDKSAS  | Yes=1 / No=0        |
| ConcealOth         | Other                                                                                                                                                                                                                                                                                        |               |            | 2015/16          | ConcealOthSAS | Yes=1 / No=0        |
| <b>Crypto</b>      | <b>Did the fraud involve the use of cryptocurrency in any of the following ways? (Choose all that apply.)</b>                                                                                                                                                                                | <b>Choice</b> |            | <b>2021/2022</b> |               |                     |
| <b>CryptoAM</b>    | <b>Misappropriation of organizational cryptocurrency assets</b>                                                                                                                                                                                                                              |               |            | <b>2021/2022</b> |               |                     |
| <b>CryptoConv</b>  | <b>Conversion of misappropriated assets to cryptocurrency</b>                                                                                                                                                                                                                                |               |            | <b>2021/2022</b> |               |                     |
| <b>CryptoBribe</b> | <b>Bribery or kickback payments made in cryptocurrency</b>                                                                                                                                                                                                                                   |               |            | <b>2021/2022</b> |               |                     |
| <b>Cryptolaund</b> | <b>Proceeds of fraud laundered using cryptocurrency</b>                                                                                                                                                                                                                                      |               |            | <b>2021/2022</b> |               |                     |
| <b>Cryptomani</b>  | <b>Manipulation of reported cryptocurrency assets on the financial</b>                                                                                                                                                                                                                       |               |            | <b>2021/2022</b> |               |                     |
| <b>Cryptooth</b>   | <b>Other cryptocurrency involvement</b>                                                                                                                                                                                                                                                      |               |            | <b>2021/2022</b> |               |                     |
| <b>Cryptonone</b>  | <b>None of the above (crypto)</b>                                                                                                                                                                                                                                                            |               |            | <b>2021/2022</b> |               |                     |

| ACFE Question | Survey Questions                                                                                                                                                                                                                                                                                                                                                  | Question Type | Yr Deleted | Yr Added  | SAS Variable | SAS Coding   |
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| Q41           | The amount of time in months that the scheme had been ongoing before it was initially discovered.                                                                                                                                                                                                                                                                 | Time          |            |           | Q41          |              |
| Q42           | The fraud was first discovered by the following (choose one)                                                                                                                                                                                                                                                                                                      | Choice        |            |           | not coded    |              |
|               | Tip or complaint                                                                                                                                                                                                                                                                                                                                                  |               |            |           | Q42SASTP     | Yes=1 / No=0 |
|               | Internal audit                                                                                                                                                                                                                                                                                                                                                    |               |            |           | Q42SASIA     | Yes=1 / No=0 |
|               | External audit                                                                                                                                                                                                                                                                                                                                                    |               |            |           | Q42SASEA     | Yes=1 / No=0 |
|               | Internal Control                                                                                                                                                                                                                                                                                                                                                  |               |            |           | Q42SASIC     | Yes=1 / No=0 |
|               | Notification by law enforcement                                                                                                                                                                                                                                                                                                                                   |               |            |           | Q42SASNF     | Yes=1 / No=0 |
|               | By accident                                                                                                                                                                                                                                                                                                                                                       |               |            |           | Q42SASAC     | Yes=1 / No=0 |
|               | Confession of fraudster                                                                                                                                                                                                                                                                                                                                           |               |            |           | Q42SASCF     | Yes=1 / No=0 |
|               | Don't know                                                                                                                                                                                                                                                                                                                                                        |               |            |           |              |              |
|               | Other                                                                                                                                                                                                                                                                                                                                                             |               |            |           | Q42SASOT     | Yes=1 / No=0 |
|               | Note: The 2009 and 2011 ACFE Survey asked for more detail than in ACFE database. In Q42, the following were categorized as "internal controls, including management review:" account reconciliation, examination of documents, IT controls, management review and surveillance and employee monitoring. In Q42Alt, the responses are provided as given by the CFE |               |            |           |              |              |
|               | Note: The early year, ACFE Survey allowed Multiple Responses. The multiple responses are noted in Q42.                                                                                                                                                                                                                                                            |               |            |           |              |              |
|               | MS-Internal controls                                                                                                                                                                                                                                                                                                                                              |               |            |           |              |              |
|               | MS-Internal audit                                                                                                                                                                                                                                                                                                                                                 |               |            |           |              |              |
|               | MS-External audit                                                                                                                                                                                                                                                                                                                                                 |               |            |           |              |              |
|               | MS-Tip                                                                                                                                                                                                                                                                                                                                                            |               |            |           |              |              |
|               | MS-Notification by law enf.                                                                                                                                                                                                                                                                                                                                       |               |            |           |              |              |
|               | MS-Accident                                                                                                                                                                                                                                                                                                                                                       |               |            |           |              |              |
|               | MS-Don't know                                                                                                                                                                                                                                                                                                                                                     |               |            |           |              |              |
|               | The MS responses are provided in separate columns for researcher consideration.                                                                                                                                                                                                                                                                                   |               |            |           |              |              |
| Q43           | The tip or complaint was submitted through a hotline or some other formal reporting mechanism.                                                                                                                                                                                                                                                                    | Yes/No        |            |           | Q43SAS       | Yes=1 / No=0 |
|               | What type of reporting mechanism was used to submit the tip or complaint?                                                                                                                                                                                                                                                                                         |               |            |           |              |              |
| Q43TP         | Telephone hotline                                                                                                                                                                                                                                                                                                                                                 |               |            |           | Q43SASTP     |              |
| Q43WB         | Web-based/online reporting form                                                                                                                                                                                                                                                                                                                                   |               |            |           | Q43SASWB     |              |
| Q43Ot         | Other reporting mechanism (SAS Coding includes: Email, Fax, Mail)                                                                                                                                                                                                                                                                                                 |               |            |           | Q43SASOt     |              |
| Q43EM         | Email                                                                                                                                                                                                                                                                                                                                                             |               |            | 2015/16   | Q43SASEm     |              |
| Q43Ttxt       | Text                                                                                                                                                                                                                                                                                                                                                              |               |            | 2023/24   |              |              |
| Q43Fx         | Fax                                                                                                                                                                                                                                                                                                                                                               |               |            | 2015/16   | Q43SASFx     |              |
| Q43MC         | Mailed letter or complaint form                                                                                                                                                                                                                                                                                                                                   |               |            | 2015/16   | Q43SASMC     |              |
| Q44           | The following was the source of the tip or complaint (choose all that apply)                                                                                                                                                                                                                                                                                      | Choice        |            | 2006/2008 | not coded    |              |
| Q44a          | An employee                                                                                                                                                                                                                                                                                                                                                       |               |            |           | not coded    |              |
| Q44b          | A customer                                                                                                                                                                                                                                                                                                                                                        |               |            |           | not coded    |              |
| Q44c          | A vendor                                                                                                                                                                                                                                                                                                                                                          |               |            |           | not coded    |              |
| Q44d          | A competitor                                                                                                                                                                                                                                                                                                                                                      |               |            |           | not coded    |              |
| Q44e          | A shareholder or company owner                                                                                                                                                                                                                                                                                                                                    |               |            |           | not coded    |              |
| Q44f          | An anonymous or unknown source                                                                                                                                                                                                                                                                                                                                    |               |            |           | not coded    |              |
| Q44g          | Other                                                                                                                                                                                                                                                                                                                                                             |               |            |           | not coded    |              |
| ExtAud        | Through which audit procedure(s) did the external auditors first discover the fraud? (Choose all that apply).                                                                                                                                                                                                                                                     |               |            | 2023/24   |              |              |
| ExtInq        | Fraud inquiries                                                                                                                                                                                                                                                                                                                                                   |               |            | 2023/24   |              |              |
| Extjou        | Journal entry testing                                                                                                                                                                                                                                                                                                                                             |               |            | 2023/24   |              |              |
| Extunp        | Unpredictable audit procedures                                                                                                                                                                                                                                                                                                                                    |               |            | 2023/24   |              |              |
| Extstan       | Standard audit procedures                                                                                                                                                                                                                                                                                                                                         |               |            | 2023/24   |              |              |
| ExtDK         | Don't know (audit procedures)                                                                                                                                                                                                                                                                                                                                     |               |            | 2023/24   |              |              |
| ExtOth        | Other audit procedures                                                                                                                                                                                                                                                                                                                                            |               |            | 2023/24   |              |              |
| Report        | To whom was the tip or complaint initially reported? (Choose all that apply.)                                                                                                                                                                                                                                                                                     | Choice        |            | 2019/2020 |              |              |
| Reporta       | Direct supervisor or manager                                                                                                                                                                                                                                                                                                                                      |               |            | 2019/2020 |              |              |
| Reportb       | Coworker                                                                                                                                                                                                                                                                                                                                                          |               |            | 2019/2020 |              |              |
| Reportc       | Executive                                                                                                                                                                                                                                                                                                                                                         |               |            | 2019/2020 |              |              |
| Reportd       | Board of directors or audit committee                                                                                                                                                                                                                                                                                                                             |               |            | 2019/2020 |              |              |

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| Reporte       | Owner                                                                                                         |               |            | 2019/2020                                     |              |              |
| Reportf       | Internal audit team                                                                                           |               |            | 2019/2020                                     |              |              |
| Reportg       | External audit team                                                                                           |               |            | 2019/2020                                     |              |              |
| Reporth       | Fraud investigation/loss prevention team                                                                      |               |            | 2019/2020                                     |              |              |
| Reporti       | Human resources department                                                                                    |               |            | 2019/2020                                     |              |              |
| Reportj       | In-house legal counsel                                                                                        |               |            | 2019/2020                                     |              |              |
| Reportk       | Law enforcement or regulatory agency                                                                          |               |            | 2019/2020                                     |              |              |
| Reportl       | Other party reported to                                                                                       |               |            | 2019/2020                                     |              |              |
| AftFra        | Which of the following parties were alerted to the fraud after it was discovered? [Choose all that apply].    | Choice        |            | 2023/24                                       |              |              |
| AftFraa       | Internal audit                                                                                                |               |            | 2023/24                                       |              |              |
| AftFraab      | External audit                                                                                                |               |            | 2023/24                                       |              |              |
| AftFraac      | Management                                                                                                    |               |            | 2023/24                                       |              |              |
| AftFraad      | Board of directors                                                                                            |               |            | 2023/24                                       |              |              |
| AftFrae       | Independent audit committee                                                                                   |               |            | 2023/24                                       |              |              |
| AftFraf       | Legal and/or compliance function (internal)                                                                   |               |            | 2023/24                                       |              |              |
| AftFrafg      | Fraud investigator/forensic specialist (external)                                                             |               |            | 2023/24                                       |              |              |
| AftFrahh      | Law enforcement                                                                                               |               |            | 2023/24                                       |              |              |
| AftFraii      | Don't know (party alerted to fraud)                                                                           |               |            | 2023/24                                       |              |              |
| AftFrajj      | Other party alerted to fraud                                                                                  |               |            | 2023/24                                       |              |              |
| Q45           | The following best describes the victim organization (choose one)                                             | Choice        |            |                                               |              |              |
|               | Government agency                                                                                             |               |            |                                               | Q45SASGv     | Yes=1 / No=0 |
|               | Publicly traded company                                                                                       |               |            |                                               | Q45SASPb     | Yes=1 / No=0 |
|               | Privately held company                                                                                        |               |            |                                               | Q45SASPr     | Yes=1 / No=0 |
|               | Not-for-profit organization                                                                                   |               |            |                                               | Q45SASNP     | Yes=1 / No=0 |
|               | Other                                                                                                         |               |            |                                               | Q45SASOt     | Yes=1 / No=0 |
| Gov           | Which level of government best describes the victim organization?                                             | Choice        |            | 2019/2020                                     |              |              |
| Q46           | The number of employees that worked for the victim organization at the time the fraud occurred                | Choice        |            | changed from a number to a range in 2018/2019 | Q46          |              |
| Q47           | The victim organization's approximate gross annual revenue (a) in U.S. dollars at the time the fraud occurred | Choice        |            | changed from a number to a range in 2018/2019 | Q47N         | Natural Log  |
| Q48           | The number of years that the victim organization had been in business at the time the fraud occurred.         | Time          | 2013/14    |                                               |              |              |
| Q49           | The following best describes the victim organization's industry (choose one)                                  | Choice        |            |                                               |              |              |
|               | Agriculture, forestry, fishing, and hunting                                                                   |               |            |                                               | Q49SASAg     | Yes=1 / No=0 |
|               | Arts, entertainment, and recreation                                                                           |               |            |                                               | Q49SASAt     | Yes=1 / No=0 |
|               | Banking/financial services                                                                                    |               |            |                                               | Q49SASBk     | Yes=1 / No=0 |
|               | Communications/publishing                                                                                     |               |            |                                               | Q49SASCm     | Yes=1 / No=0 |
|               | Construction                                                                                                  |               |            |                                               | Q49SASCn     | Yes=1 / No=0 |
|               | Education                                                                                                     |               |            |                                               | Q49SASEd     | Yes=1 / No=0 |
|               | Energy (e.g., oil and gas, nuclear, etc.)                                                                     |               |            | 2019/2020                                     |              |              |
|               | Government and public administration                                                                          |               |            |                                               | Q49SASGv     | Yes=1 / No=0 |
|               | Food service and hospitality (e.g., restaurant, hotel, etc.)                                                  |               |            |                                               | Q49SASF      |              |
|               | Healthcare                                                                                                    |               |            |                                               | Q49SASHc     | Yes=1 / No=0 |
|               | Insurance                                                                                                     |               |            |                                               | Q49SASIn     | Yes=1 / No=0 |
|               | Manufacturing                                                                                                 |               |            |                                               | Q49SASMa     | Yes=1 / No=0 |
|               | Mining                                                                                                        |               |            |                                               | Q49SASMi     | Yes=1 / No=0 |
|               | Oil and gas                                                                                                   |               |            | 2018/2019 (collapsed into energy category)    | Q49SASOG     | Yes=1 / No=0 |
|               | Real estate                                                                                                   |               |            |                                               | Q49SASRE     | Yes=1 / No=0 |
|               | Religious, charitable, or social services                                                                     |               |            |                                               | Q49SASRC     | Yes=1 / No=0 |
|               | Retail                                                                                                        |               |            |                                               | Q49SASRt     | Yes=1 / No=0 |
|               | Services - other (administrative and support, etc.)                                                           |               |            | 2019/2020                                     |              |              |
|               | Services - professional, scientific, and technical (such as medical, legal, or accounting services)           |               |            |                                               | Q49SASSr     | Yes=1 / No=0 |
|               | Technology                                                                                                    |               |            |                                               | Q49SASTc     | Yes=1 / No=0 |

| ACFE Question | Survey Questions                                                                                                                                               | Question Type | Yr Deleted | Yr Added  | SAS Variable | SAS Coding      |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-----------|--------------|-----------------|
|               | Telecommunications                                                                                                                                             |               |            |           | Q49SASTI     | Yes=1 / No=0    |
|               | Transportation and warehousing                                                                                                                                 |               |            |           | Q49SASTW     | Yes=1 / No=0    |
|               | Utilities                                                                                                                                                      |               |            |           | Q49SASUt     | Yes=1 / No=0    |
|               | Wholesale trade                                                                                                                                                |               |            |           | Q49SASWT     | Yes=1 / No=0    |
|               | Other                                                                                                                                                          |               |            |           | Q49SASOt     | Yes=1 / No=0    |
| Q50Ctry       | The fraud occurred in the following country                                                                                                                    | Choice        |            |           |              |                 |
| Q50Regn       | The fraud occurred in the following region                                                                                                                     | Choice        |            |           |              |                 |
|               | Note: In the 2014 RTTN, the regions were adjusted to reflect the following:                                                                                    |               |            |           |              |                 |
|               | US                                                                                                                                                             |               |            |           | Q50SASUS     | Yes=1 / No=0    |
|               | Canada                                                                                                                                                         |               |            |           | Q50SASCa     | Yes=1 / No=0    |
|               | Latin America and Caribbean                                                                                                                                    |               |            |           | Q50SASLAC    | Yes=1 / No=0    |
|               | East Asia and Pacific                                                                                                                                          |               |            |           | Q50SASEAP    | Yes=1 / No=0    |
|               | Eastern Europe and Central Asia                                                                                                                                |               |            |           | Q50SASEECA   | Yes=1 / No=0    |
|               | Western Europe                                                                                                                                                 |               |            |           | Q50SASWE     | Yes=1 / No=0    |
|               | Middle East and North Africa                                                                                                                                   |               |            |           | Q50SASMENA   | Yes=1 / No=0    |
|               | Southern Asia                                                                                                                                                  |               |            |           | Q50SASSA     | Yes=1 / No=0    |
|               | Sub-Sahara Africa                                                                                                                                              |               |            |           | Q50SASSSA    | Yes=1 / No=0    |
|               | Note: In the column labeled "country," for those countries with fewer than three responses, the region was substituted for country.                            |               |            |           |              |                 |
| Q50USnUS      | The fraud occurred in the United States or in another country                                                                                                  | Choice        |            |           | Q50SASNU     | US=1 / Non US=0 |
| Q51           | The victim organization had the following anti-fraud controls in use at the time of the fraud (c)                                                              | Yes/No        |            |           |              |                 |
| Q51A          | A fraud hotline or other anonymous reporting mechanism                                                                                                         | Yes/No        |            |           | Q51ASAS      | Yes=1 / No=0    |
| Q51B          | An internal audit or fraud examination department                                                                                                              | Yes/No        |            |           | Q51BSAS      | Yes=1 / No=0    |
| Q51C          | Surprise audits performed on a frequent basis                                                                                                                  | Yes/No        |            |           | Q51CSAS      | Yes=1 / No=0    |
| Q51D          | Independent audits of the organization's financial statements                                                                                                  | Yes/No        |            |           | Q51DSAS      | Yes=1 / No=0    |
| Q51E          | Independent audits of the organization's internal controls over financial reporting                                                                            | Yes/No        |            |           | Q51ESAS      | Yes=1 / No=0    |
| Q51F          | Regular management review                                                                                                                                      | Yes/No        |            |           | Q51FSAS      | Yes=1 / No=0    |
| Q51G          | Mandatory rotation of job duties or mandatory vacations                                                                                                        | Yes/No        |            |           | Q51GSAS      | Yes=1 / No=0    |
| Q51H          | Rewards for whistleblowers                                                                                                                                     | Yes/No        |            |           | Q51HSAS      | Yes=1 / No=0    |
| Q51I          | A fraud awareness or ethics training program for employees                                                                                                     | Yes/No        |            |           | Q51ISAS      | Yes=1 / No=0    |
| Q51J          | A fraud awareness or ethics training program for managers/executives and                                                                                       | Yes/No        |            |           | Q51JSAS      | Yes=1 / No=0    |
| Q51K          | A formal anti-fraud or fraud prevention policy                                                                                                                 | Yes/No        |            |           | Q51KSAS      | Yes=1 / No=0    |
| Q51L          | A formal code of conduct                                                                                                                                       | Yes/No        |            |           | Q51LSAS      | Yes=1 / No=0    |
| Q51M          | An independent audit committee                                                                                                                                 | Yes/No        |            |           | Q51MSAS      | Yes=1 / No=0    |
| Q51N          | Management certification of the organization's financial statements                                                                                            | Yes/No        |            |           | Q51NSAS      | Yes=1 / No=0    |
| Q51O          | Employee support programs (a)                                                                                                                                  | Yes/No        |            |           | Q51OSAS      | Yes=1 / No=0    |
| Q51P          | Formal fraud risk assessment mechanism                                                                                                                         |               |            | 2013/14   | Q51PSAS      | Yes=1 / No=0    |
| Q51Q          | A dedicated fraud department, function, or team                                                                                                                |               |            | 2013/14   | Q51QSAS      | Yes=1 / No=0    |
| Q51R          | Proactive data monitoring and/or analysis                                                                                                                      |               |            | 2013/14   | Q51RSAS      | Yes=1 / No=0    |
| Q53           | The victim organization conducted a background check on the perpetrator prior to the investigation of this fraud (a).                                          |               |            |           | Q53SAS       | Yes=1 / No=0    |
|               | Yes                                                                                                                                                            |               |            |           |              |                 |
|               | No                                                                                                                                                             |               |            |           |              |                 |
|               | Don't know                                                                                                                                                     |               |            |           |              |                 |
| Q54           | The victim organization conducted the following types of background checks on the perpetrator prior to the investigation of this fraud (Choose all that apply) | Choice        |            |           | not coded    |                 |
| Q54a          | Criminal background check                                                                                                                                      |               |            |           | not coded    |                 |
| Q54b          | Employment history background check                                                                                                                            |               |            |           | not coded    |                 |
| Q54c          | Credit check                                                                                                                                                   |               |            |           | not coded    |                 |
| Q54d          | Other                                                                                                                                                          |               |            |           | not coded    |                 |
| Q54e          | Education verification                                                                                                                                         |               |            | 2019/2020 |              |                 |
| Q54f          | Reference check                                                                                                                                                |               |            | 2019/2020 |              |                 |
| Q54g          | Drug screening                                                                                                                                                 |               |            | 2019/2020 |              |                 |

| ACFE Question | Survey Questions                                                                                                                                                              | Question Type | Yr Deleted | Yr Added                | SAS Variable | SAS Coding   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-------------------------|--------------|--------------|
| Q55           | Did the background check(s) conducted on the perpetrator prior to the investigation of this fraud reveal any previous or existing red flags about the perpetrator(s)?         |               |            |                         |              |              |
| Q56           | According to the CFE the following was the most important contributing factor that allowed this fraud to occur. (Choose one)                                                  | Choice        |            |                         |              |              |
|               | Lack of internal controls (a)                                                                                                                                                 |               |            |                         | Q56SASIC     | Yes=1 / No=0 |
|               | Override of existing internal controls                                                                                                                                        |               |            |                         | Q56SASOv     | Yes=1 / No=0 |
|               | Poor tone at the top (a)                                                                                                                                                      |               |            |                         | Q56SASTn     | Yes=1 / No=0 |
|               | Lack of management review (a)                                                                                                                                                 |               |            |                         | Q56SASMR     | Yes=1 / No=0 |
|               | Lack of employee fraud education                                                                                                                                              |               |            |                         | Q56SASFE     | Yes=1 / No=0 |
|               | Lack of competent personnel in oversight roles                                                                                                                                |               |            |                         | Q56SASCP     | Yes=1 / No=0 |
|               | Lack of independent checks/audits                                                                                                                                             |               |            |                         | Q56SASAu     | Yes=1 / No=0 |
|               | Lack of reporting mechanism (a)                                                                                                                                               |               |            |                         | Q56SASRM     | Yes=1 / No=0 |
|               | Lack of clear lines of authority                                                                                                                                              |               |            |                         | Q56SASLA     | Yes=1 / No=0 |
|               | Other                                                                                                                                                                         |               |            |                         | Q56SASOt     | Yes=1 / No=0 |
| COVID         | To what extent did the following pandemic-related factors contribute to the perpetrator's ability to commit and/or conceal the fraud?                                         |               |            | 2021/2022               |              |              |
| COVIDrem      | Shift to remote work                                                                                                                                                          |               |            | 2021/2022               |              |              |
| COVIDIC       | Pandemic-related changes to internal controls                                                                                                                                 |               |            | 2021/2022               |              |              |
| COVIDop       | Pandemic-related operational process changes                                                                                                                                  |               |            | 2021/2022               |              |              |
| COVIDsc       | Supply chain disruptions                                                                                                                                                      |               |            | 2021/2022               |              |              |
| COVIDtech     | Pandemic-related technology challenges (eg, new or unfamiliar                                                                                                                 |               |            | 2021/2022               |              |              |
| COVIDanti     | Changes to anti-fraud initiatives or activities (eg, reduction                                                                                                                |               |            | 2021/2022               |              |              |
| COVIDstaff    | Organizational staffing changes (eg, furloughs, layoffs, shift                                                                                                                |               |            | 2021/2022               |              |              |
| COVIDstrat    | Changes to organization's strategic priorities                                                                                                                                |               |            | 2021/2022               |              |              |
| COVIDoth      | Other pandemic factor                                                                                                                                                         |               |            | 2021/2022               |              |              |
| Q57           | The victim organization altered its existing internal controls or enacted new controls in response to the discovery of this fraud.                                            | Yes/No        | 2011/12    | back for only 2021/2022 | Q57SAS       | Yes=1 / No=0 |
|               | Yes                                                                                                                                                                           |               |            | back for only 2021/2022 |              |              |
|               | No                                                                                                                                                                            |               |            | back for only 2021/2022 |              |              |
|               | Don't know                                                                                                                                                                    |               |            | back for only 2021/2022 |              |              |
| Q58           | The victim organization implemented or modified the following controls in response to the discovery of this fraud.(Choose all that apply)                                     | Choice        | 2011/12    | back for only 2021/2022 |              |              |
| Q58A          | Increased segregation of duties                                                                                                                                               |               | 2011/12    |                         | Q58ASAS      | Yes=1 / No=0 |
| Q58B          | A fraud awareness or ethics training program for employees                                                                                                                    |               | 2011/12    | back for only 2021/2022 | Q58BSAS      | Yes=1 / No=0 |
| Q58C          | A fraud awareness or ethics training program for managers/executives                                                                                                          |               | 2011/12    | back for only 2021/2022 | Q58CSAS      | Yes=1 / No=0 |
| Q58D          | A formal anti-fraud or fraud prevention policy                                                                                                                                |               | 2011/12    | back for only 2021/2022 | Q58DSAS      | Yes=1 / No=0 |
| Q58E          | A formal code of conduct                                                                                                                                                      |               | 2011/12    | back for only 2021/2022 | Q58ESAS      | Yes=1 / No=0 |
| Q58F          | An independent audit committee                                                                                                                                                |               | 2011/12    | back for only 2021/2022 | Q58FSAS      | Yes=1 / No=0 |
| Q58G          | Management certification of the financial statements                                                                                                                          |               | 2011/12    | back for only 2021/2022 | Q58GSAS      | Yes=1 / No=0 |
| Q58H          | Employee support programs                                                                                                                                                     |               | 2011/12    | back for only 2021/2022 | Q58HSAS      | Yes=1 / No=0 |
| Q58I          | A fraud hotline or other anonymous reporting mechanism                                                                                                                        |               | 2011/12    | back for only 2021/2022 | Q58ISAS      | Yes=1 / No=0 |
| Q58J          | An internal audit or fraud examination department                                                                                                                             |               | 2011/12    | back for only 2021/2022 | Q58JSAS      | Yes=1 / No=0 |
| Q58K          | Surprise audits performed on a frequent basis                                                                                                                                 |               | 2011/12    | back for only 2021/2022 | Q58KSAS      | Yes=1 / No=0 |
| Q58L          | Independent audits of the organization's financial statements                                                                                                                 |               | 2011/12    | back for only 2021/2022 | Q58LSAS      | Yes=1 / No=0 |
| Q58M          | Independent audits of the organization's internal controls over financial reporting                                                                                           |               | 2011/12    | back for only 2021/2022 | Q58MSAS      | Yes=1 / No=0 |
| Q58N          | Management review                                                                                                                                                             |               | 2011/12    | back for only 2021/2022 | Q58NSAS      | Yes=1 / No=0 |
| Q58O          | Mandatory rotation of job duties or mandatory vacations                                                                                                                       |               | 2011/12    | back for only 2021/2022 | Q58OSAS      | Yes=1 / No=0 |
| Q58P          | Rewards for whistleblowers                                                                                                                                                    |               | 2011/12    | back for only 2021/2022 | Q58PSAS      | Yes=1 / No=0 |
| Q58Q          | Other                                                                                                                                                                         |               | 2011/12    | back for only 2021/2022 | Q58QSAS      | Yes=1 / No=0 |
| Q58R          | Formal fraud risk assessment mechanism                                                                                                                                        |               |            | back for only 2021/2022 | Q51PSAS      | Yes=1 / No=0 |
| Q58S          | A dedicated fraud department, function, or team                                                                                                                               |               |            | back for only 2021/2022 | Q51QSAS      | Yes=1 / No=0 |
| Q58T          | Proactive data monitoring and/or analysis                                                                                                                                     |               |            | back for only 2021/2022 | Q51RSAS      | Yes=1 / No=0 |
| Effect        | How effective do you believe the new and/or modified anti-fraud controls identified in the previous question are for preventing future frauds within the victim organization? |               |            | 2023/24                 |              |              |
|               | Extremely Effective                                                                                                                                                           |               |            | 2023/24                 |              |              |

| ACFE Question | Survey Questions                                                                                              | Question Type | Yr Deleted | Yr Added | SAS Variable | SAS Coding   |
|---------------|---------------------------------------------------------------------------------------------------------------|---------------|------------|----------|--------------|--------------|
|               | Somewhat effective                                                                                            |               |            | 2023/24  |              |              |
|               | Not at all effective                                                                                          |               |            | 2023/24  |              |              |
|               | Don't Know/N/A                                                                                                |               |            | 2023/24  |              |              |
| Q59           | The amount of perpetrators involved in the fraud scheme                                                       | Number        |            |          |              |              |
| Q60           | The age of the principal perpetrator                                                                          | Age           |            |          |              |              |
| Q61           | The principal perpetrator worked for the victim organization (Choose one)                                     | Choice        |            |          |              |              |
|               | Less than one year                                                                                            |               |            |          | Q61SASL1     | Yes=1 / No=0 |
|               | 1-5 years                                                                                                     |               |            |          | Q61SAS15     | Yes=1 / No=0 |
|               | Less than 6 years                                                                                             |               |            |          | Q61SAS05     | Yes=1 / No=0 |
|               | 6-10 years                                                                                                    |               |            |          | Q61SAS61     | Yes=1 / No=0 |
|               | More than 10 years                                                                                            |               |            |          | Q61SAS10     | Yes=1 / No=0 |
|               | More than 6 years                                                                                             |               |            |          | Q61SAS6p     | Yes=1 / No=0 |
| Q62           | The following best describes the principal perpetrator's position within the victim organization (Choose one) | Choice        |            |          |              |              |
|               | Owner (e.g., majority owner or general partner; not minority shareholder)                                     |               |            | 2017/18  | Q62SASOwn    | Yes=1 / No=0 |
|               | Board member/director (non-owner, non-executive)                                                              |               |            | 2017/18  | Q62SASBM     | Yes=1 / No=0 |
|               | Executive (non-owner)                                                                                         |               |            | 2017/18  | Q62SASExec   | Yes=1 / No=0 |
|               | Manager/supervisor                                                                                            |               |            |          | Q62SASMg     | Yes=1 / No=0 |
|               | Employee                                                                                                      |               |            |          | Q62SASEm     | Yes=1 / No=0 |
|               | Other                                                                                                         |               |            |          | Q62SASOt     | Yes=1 / No=0 |
|               | Owner/executive/officer/director (Excludes Manager/supervisor, employee, other)                               |               |            |          | Q62SASOEOD   | Yes=1 / No=0 |
|               | Owner/executive/officer/director or Manager/supervisor (Excludes Employee, Other)                             |               |            |          | Q62SASOM     | Yes=1 / No=0 |
| Q63           | The following best describes the department in which the principal perpetrator worked (Choose one)            | Choice        |            |          |              |              |
|               | Executive/upper management                                                                                    |               |            |          | Q63SASEx     | Yes=1 / No=0 |
|               | Board of directors                                                                                            |               |            |          | Q63SASBd     | Yes=1 / No=0 |
|               | Accounting                                                                                                    |               |            |          | Q63SASAc     | Yes=1 / No=0 |
|               | Sales                                                                                                         |               |            |          | Q63SASSI     | Yes=1 / No=0 |
|               | Operations (a)                                                                                                |               |            |          | Q63SASOp     | Yes=1 / No=0 |
|               | Legal                                                                                                         |               |            |          | Q63SASLg     | Yes=1 / No=0 |
|               | Finance                                                                                                       |               |            |          | Q63SASFn     | Yes=1 / No=0 |
|               | Human Resources                                                                                               |               |            |          | Q63SASHR     | Yes=1 / No=0 |
|               | Information technology                                                                                        |               |            |          | Q63SASIT     | Yes=1 / No=0 |
|               | Internal audit                                                                                                |               |            |          | Q63SASIA     | Yes=1 / No=0 |
|               | Marketing                                                                                                     |               |            |          | Q63SASMk     | Yes=1 / No=0 |
|               | Purchasing/procurement                                                                                        |               |            |          | Q63SASPu     | Yes=1 / No=0 |
|               | Customer service/relations                                                                                    |               |            |          | Q63SASCS     | Yes=1 / No=0 |
|               | Warehousing, inventory, shipping                                                                              |               |            |          | Q63SASWh     | Yes=1 / No=0 |
|               | Research and development                                                                                      |               |            |          | Q63SASRD     | Yes=1 / No=0 |
|               | Other                                                                                                         |               |            |          | Q63SASOt     | Yes=1 / No=0 |
|               | Manufacturing and production                                                                                  |               |            |          | Q63SASMa     | Yes=1 / No=0 |
| Q64           | The principal perpetrator's approximate annual income: (Choose one)                                           | Choice        | 2013/14    |          |              |              |
|               | Less than US\$50,000                                                                                          |               | 2013/14    |          | Q64SL50      | Yes=1 / No=0 |
|               | US\$50,000 - 99,999                                                                                           |               | 2013/14    |          | Q64S501      | Yes=1 / No=0 |
|               | US\$100,000 - 149,999                                                                                         |               | 2013/14    |          | Q64S1150     | Yes=1 / No=0 |
|               | US\$150,000 - 199,999                                                                                         |               | 2013/14    |          | Q64S1502     | Yes=1 / No=0 |
|               | US\$200,000 - 499,999                                                                                         |               | 2013/14    |          | Q64S2500     | Yes=1 / No=0 |
|               | US\$500,000 or more                                                                                           |               | 2013/14    |          | Q64S500K     | Yes=1 / No=0 |
|               | Don't know                                                                                                    |               | 2013/14    |          |              |              |
| Q65           | The principal perpetrator's gender (Choose one)                                                               | Choice        |            |          |              |              |
|               | Male                                                                                                          |               |            |          | Q65SASMI     | Yes=1 / No=0 |
|               | Female                                                                                                        |               |            |          | Q65SASFm     | Yes=1 / No=0 |
| Q66           | The principal perpetrator's education level (Choose one)                                                      | Choice        |            |          |              |              |
|               | High school graduate or less                                                                                  |               |            |          | Q66SASHS     | Yes=1 / No=0 |
|               | Some college/university                                                                                       |               |            |          | Q66SASSC     | Yes=1 / No=0 |

| ACFE Question | Survey Questions                                                                                                                                     | Question Type | Yr Deleted | Yr Added                    | SAS Variable | SAS Coding   |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-----------------------------|--------------|--------------|
|               | Some university                                                                                                                                      |               |            |                             |              | Yes=1 / No=0 |
|               | College/university degree                                                                                                                            |               |            |                             | Q66SASCo     | Yes=1 / No=0 |
|               | Postgraduate degree                                                                                                                                  |               |            |                             | Q66SASPG     | Yes=1 / No=0 |
|               | Other                                                                                                                                                |               |            |                             | Q66SASOt     | Yes=1 / No=0 |
|               | Don't know                                                                                                                                           |               |            |                             |              |              |
| Q67           | According to the CFE the perpetrator displayed the following behavioral warning signs before the scheme was detected (Choose all that apply)         | Choice        |            |                             |              |              |
| Q67A          | Addiction problems                                                                                                                                   |               |            |                             | Q67ASAS      | Yes=1 / No=0 |
| Q67B          | Financial difficulties or high personal debt                                                                                                         |               |            |                             | Q67BSAS      | Yes=1 / No=0 |
| Q67C          | Living beyond his/her means                                                                                                                          |               |            |                             | Q67CSAS      | Yes=1 / No=0 |
| Q67D          | Recent divorce or family problems                                                                                                                    |               |            |                             | Q67DSAS      | Yes=1 / No=0 |
| Q67E          | Past legal problems                                                                                                                                  |               |            |                             | Q67ESAS      | Yes=1 / No=0 |
| Q67F          | Unusual irritability, suspiciousness, or defensiveness                                                                                               |               |            |                             | Q67FSAS      | Yes=1 / No=0 |
| Q67G          | Frequent complaints about inadequate pay                                                                                                             |               |            |                             | Q67GSAS      | Yes=1 / No=0 |
| Q67H          | Frequent complaints about lack of authority or having been passed over for promotion                                                                 |               |            |                             | Q67HSAS      | Yes=1 / No=0 |
| Q67I          | Unusually close association with vendor/customer                                                                                                     |               |            |                             | Q67ISAS      | Yes=1 / No=0 |
| Q67J          | Excessive family or peer pressure for success                                                                                                        |               |            |                             | Q67JSAS      | Yes=1 / No=0 |
| Q67K          | Excessive pressure to perform within the organization                                                                                                |               |            |                             | Q67KSAS      | Yes=1 / No=0 |
| Q67L          | Excessive control issues regarding job; unwillingness to share duties or accept oversight                                                            |               |            |                             | Q67LSAS      | Yes=1 / No=0 |
| Q67M          | Instability in life circumstances                                                                                                                    |               |            |                             | Q67MSAS      | Yes=1 / No=0 |
| Q67N          | Refusal or reluctance to take vacations from job                                                                                                     |               |            |                             | Q67NSAS      | Yes=1 / No=0 |
| Q67O          | General "wheeler-dealer" attitude                                                                                                                    |               |            |                             | Q67OSAS      | Yes=1 / No=0 |
| Q67P          | History of other employment-related problems                                                                                                         |               |            |                             | Q67PSAS      | Yes=1 / No=0 |
| Q67Q          | Social isolation or "loner" tendencies                                                                                                               |               |            |                             |              |              |
| Q67R          | No behavioral flags identified                                                                                                                       |               |            | 2019/2020                   |              |              |
| Q67S          | Don't Know                                                                                                                                           |               |            | 2019/2020                   |              |              |
| Q67T          | Other                                                                                                                                                |               |            | 2019/2020                   |              |              |
| Q67U          | Bullying, intimidation, or harassment                                                                                                                |               |            | 2021/2022                   |              |              |
| Q67V          | Excessive tardiness or absenteeism                                                                                                                   |               |            | 2021/2022                   |              |              |
| Q67W          | Excessive internet browsing                                                                                                                          |               |            | 2021/2022                   |              |              |
| Q68           | To the best of your knowledge, did the perpetrator experience any of the following situations immediately preceding or during the time of the fraud? |               |            |                             |              |              |
| Q68A          | Cut in pay                                                                                                                                           |               |            |                             | Q68ASAS      | Yes=1 / No=0 |
| Q68Pro        | Denied a raise or promotion                                                                                                                          |               |            | 2019/2020                   |              |              |
| Q68B          | Involuntary cut in hours                                                                                                                             |               |            |                             | Q68BSAS      | Yes=1 / No=0 |
| Q68C          | Cut in benefits                                                                                                                                      |               |            |                             | Q68CSAS      | Yes=1 / No=0 |
| Q68D          | Demotion                                                                                                                                             |               |            |                             | Q68DSAS      | Yes=1 / No=0 |
| Q68E          | Poor performance evaluations                                                                                                                         |               |            |                             | Q68ESAS      | Yes=1 / No=0 |
| Q68F          | Fear of job loss due to downsizing/restructuring                                                                                                     |               |            |                             | Q68FSAS      | Yes=1 / No=0 |
| Q68G          | Actual job loss due to downsizing/restructuring                                                                                                      |               |            |                             | Q68GSAS      | Yes=1 / No=0 |
| Q68H          | No Pay- or performance-related red flags identified                                                                                                  |               |            |                             | Q68HSAS      | Yes=1 / No=0 |
| Q68I          | Don't know                                                                                                                                           |               |            |                             |              |              |
| Q68J          | Other                                                                                                                                                |               |            |                             |              |              |
| Q68.5         | To the best of your knowledge, had the perpetrator engaged in any of the following workplace violations prior to or during the time of the fraud?    |               |            | 2021/2022 (folded into Q67) |              |              |
| Q68.5A        | Excessive tardiness                                                                                                                                  |               |            | 2021/2022 (folded into Q67) | Q68SASAS     | Yes=1 / No=0 |
| Q68.5B        | Excessive absenteeism                                                                                                                                |               |            | 2021/2022 (folded into Q67) | Q68SBSAS     | Yes=1 / No=0 |
| Q68.5C        | Excessive Internet browsing during work hours                                                                                                        |               |            | 2021/2022 (folded into Q67) | Q68SCSAS     | Yes=1 / No=0 |
| Q68.5D        | Visiting inappropriate Internet sites (eg, pornography, illegal                                                                                      |               |            | 2021/2022 (folded into Q67) | Q68SDSAS     | Yes=1 / No=0 |

| ACFE Question | Survey Questions                                                                                                                                                                               | Question Type | Yr Deleted                  | Yr Added | SAS Variable | SAS Coding   |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|----------|--------------|--------------|
| Q68.5E        | Bullying or intimidation                                                                                                                                                                       |               | 2021/2022 (folded into Q67) |          | Q685ESAS     | Yes=1 / No=0 |
| Q68.5F        | Sexual harassment                                                                                                                                                                              |               | 2021/2022 (folded into Q67) |          | Q685FSAS     | Yes=1 / No=0 |
| Q68.5G        | No non-fraud workplace violations identified                                                                                                                                                   |               | 2021/2022 (folded into Q67) |          | Q685GSAS     | Yes=1 / No=0 |
| Q68.5H        | Don't know                                                                                                                                                                                     |               | 2021/2022 (folded into Q67) |          |              |              |
| Q68.5I        | Other                                                                                                                                                                                          |               | 2021/2022 (folded into Q67) |          |              |              |
| Q69           | According to the CFE the principal perpetrator had been charged with or convicted of a fraud-related offense prior to committing the scheme. (Choose all that apply)                           | Choice        |                             |          |              |              |
| Q69A          | Perpetrator had previously been convicted                                                                                                                                                      |               |                             |          | Q69ASAS      | Yes=1 / No=0 |
| Q69B          | Perpetrator had previously been charged but not convicted                                                                                                                                      |               |                             |          | Q69BSAS      | Yes=1 / No=0 |
| Q69C          | Perpetrator had never been charged or convicted                                                                                                                                                |               |                             |          | Q69CSAS      | Yes=1 / No=0 |
| Q69D          | Don't know                                                                                                                                                                                     |               |                             |          |              |              |
| Q69E          | Other                                                                                                                                                                                          |               |                             |          | Q69ESAS      | Yes=1 / No=0 |
| Q70           | According to the CFE the principal perpetrator had been punished or terminated by any employer for a fraud-related offense prior to committing the scheme. (Choose all that apply)             | Choice        |                             |          |              |              |
| Q70A          | Perpetrator had previously been punished                                                                                                                                                       |               |                             |          | Q70ASAS      | Yes=1 / No=0 |
| Q70B          | Perpetrator had previously been terminated                                                                                                                                                     |               |                             |          | Q70BSAS      | Yes=1 / No=0 |
| Q70C          | Perpetrator had never been punished or terminated                                                                                                                                              |               |                             |          | Q70CSAS      | Yes=1 / No=0 |
| Q70D          | Don't know                                                                                                                                                                                     |               |                             |          |              |              |
| Q70E          | Other                                                                                                                                                                                          |               |                             |          | Q70ESAS      | Yes=1 / No=0 |
| Punish        | Was the punishment administered by the victim organization or a previous employer?                                                                                                             |               |                             | 2023/24  |              |              |
|               | Victim organization                                                                                                                                                                            |               |                             | 2023/24  |              |              |
|               | Previous employer                                                                                                                                                                              |               |                             | 2023/24  |              |              |
|               | Both                                                                                                                                                                                           |               |                             | 2023/24  |              |              |
|               | Other                                                                                                                                                                                          |               |                             | 2023/24  |              |              |
| Q71           | If more than one perpetrator was involved in the scheme, please indicate which of the following parties (other than the employee who was the principal perpetrator) participated in the fraud. |               |                             |          |              |              |
| Q71A          | Other employee(s)                                                                                                                                                                              |               |                             |          | Q71ASAS      | Yes=1 / No=0 |
| Q71B          | Vendor(s)                                                                                                                                                                                      |               |                             |          | Q71BSAS      | Yes=1 / No=0 |
| Q71C          | Customer(s)                                                                                                                                                                                    |               |                             |          | Q71CSAS      | Yes=1 / No=0 |
| Q71D          | Other                                                                                                                                                                                          |               |                             |          | Q71DSAS      | Yes=1 / No=0 |
| Q74           | The following action was taken by the victim against the principal perpetrator when the fraud was discovered. (Choose all that apply)                                                          | Choice        |                             |          |              |              |
| Q74A          | Termination                                                                                                                                                                                    |               |                             |          | Q74ASAS      | Yes=1 / No=0 |
| Q74B          | Permitted or required the individual to resign                                                                                                                                                 |               |                             |          | Q74BSAS      | Yes=1 / No=0 |
| Q74C          | Probation/suspension                                                                                                                                                                           |               |                             |          | Q74CSAS      | Yes=1 / No=0 |
| Q74D          | Restitution / settlement agreement                                                                                                                                                             |               |                             |          | Q74DSAS      | Yes=1 / No=0 |
| Q74E          | No punishment                                                                                                                                                                                  |               |                             |          | Q74ESAS      | Yes=1 / No=0 |
| Q74F          | Perpetrator had resigned before fraud was discovered or action was taken                                                                                                                       |               |                             |          | Q74FSAS      | Yes=1 / No=0 |
| Q74G          | Don't know                                                                                                                                                                                     |               |                             |          |              |              |
| Q74H          | Other                                                                                                                                                                                          |               |                             |          | Q74HSAS      | Yes=1 / No=0 |
| Q75           | The case was referred to law enforcement authorities                                                                                                                                           | Choice        |                             |          | Q75SAS       | Yes=1 / No=0 |
|               | Yes                                                                                                                                                                                            |               |                             |          |              |              |
|               | No                                                                                                                                                                                             |               |                             |          |              |              |
|               | Don't know                                                                                                                                                                                     |               |                             |          |              |              |
| Q76           | The following were the results once the case was referred to the law enforcement authorities                                                                                                   | Choice        |                             |          |              |              |
|               | Perpetrator pleaded guilty or no contest                                                                                                                                                       |               |                             |          | Q76SASPG     | Yes=1 / No=0 |
|               | Perpetrator was convicted at trial                                                                                                                                                             |               |                             |          | Q76SASPCv    | Yes=1 / No=0 |
|               | Perpetrator was acquitted                                                                                                                                                                      |               |                             |          | Q76SASPAq    | Yes=1 / No=0 |

| ACFE Question | Survey Questions                                                                                                                  | Question Type | Yr Deleted | Yr Added     | SAS Variable | SAS Coding   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------|------------|--------------|--------------|--------------|
|               | Government declined to prosecute                                                                                                  |               |            |              | Q76SASDPDP   | Yes=1 / No=0 |
|               | Case is pending                                                                                                                   |               |            |              | Q76SASPCP    | Yes=1 / No=0 |
|               | Don't know                                                                                                                        |               |            |              |              |              |
|               | Other                                                                                                                             |               |            |              | Q76SASOt     | Yes=1 / No=0 |
| Q77           | The victim decided not to refer the case to law enforcement authorities because of the following reasons. (Choose all that apply) | Choice        |            |              |              |              |
| Q77A          | Lack of evidence                                                                                                                  |               |            |              | Q77ASAS      | Yes=1 / No=0 |
| Q77B          | Victim opted for civil lawsuit instead                                                                                            |               |            |              | Q77BSAS      | Yes=1 / No=0 |
| Q77C          | Perpetrator could not be located                                                                                                  |               |            |              | Q77CSAS      | Yes=1 / No=0 |
| Q77D          | Fear of bad publicity                                                                                                             |               |            |              | Q77DSAS      | Yes=1 / No=0 |
| Q77E          | Too costly                                                                                                                        |               |            |              | Q77ESAS      | Yes=1 / No=0 |
| Q77F          | Internal discipline considered sufficient                                                                                         |               |            |              | Q77FSAS      | Yes=1 / No=0 |
| Q77G          | Private settlement reached                                                                                                        |               |            |              | Q77GSAS      | Yes=1 / No=0 |
| Q77H          | Don't know                                                                                                                        |               |            |              |              |              |
| Q77I          | Other                                                                                                                             |               |            |              | Q77ISAS      | Yes=1 / No=0 |
| Q78           | A civil lawsuit was filed against the perpetrator                                                                                 | Choice        |            |              | P78SAS       | Yes=1 / No=0 |
|               | Yes                                                                                                                               |               |            |              |              |              |
|               | No                                                                                                                                |               |            |              |              |              |
|               | Don't know                                                                                                                        |               |            |              |              |              |
| Q79           | The results of this civil lawsuit                                                                                                 | Choice        |            |              |              |              |
|               | Judgment for victim                                                                                                               |               |            |              | P79SASJg     | Yes=1 / No=0 |
|               | Judgment for perpetrator                                                                                                          |               |            |              | P79SASJP     | Yes=1 / No=0 |
|               | The parties settled                                                                                                               |               |            |              | P79SASSt     | Yes=1 / No=0 |
|               | Case is pending                                                                                                                   |               |            |              | P79SASPN     | Yes=1 / No=0 |
|               | Don't know                                                                                                                        |               |            |              |              |              |
|               | Other                                                                                                                             |               |            |              | P79SASOt     | Yes=1 / No=0 |
| Q80           | The percentage of the victim organization's losses has been recovered through all methods (a)                                     | Percentage    |            |              | Whole %      |              |
| Q81           | Was the victim organization fined, charged, or penalized for the occurrence of the fraud?                                         | Choice        |            |              | P81SAS       | Yes=1 / No=0 |
| Q82           | What was the total dollar amount of the fines and/or penalties incurred by the organization for the occurrence of the fraud?      | Dollar        |            | ONLY 2019/20 |              |              |

Yellow - Implies a number

Note 1: The 55 largest ACFE observations have been deleted before the dataset was made available to researchers, so as to preserve anonymity of large cases.

Note 2: To promote anonymity, the ACFE sample fraud and revenue amounts have been randomized at plus or minus 1%. The  $\pm 1\%$  has no effect on the average. A statistics academic consulted with the Institute for Fraud Prevention to ensure that this manipulation would not impact statistical testing.

Note 3: The ACFE sample firms are not identified by company name, making it impossible to link to other databases.

Note 4: The coding of ACFE response variables for use of the dataset in a statistical package such as SAS are provided as noted in the SAS Variable and SAS Coding columns. Such codings should be carefully considered by the researcher. Some missing and "don't know" responses are treated as "No" responses (and coded as zero). This coding scheme is used, for example, when the CFE indicated one option among a set of options (i.e., one question), such as behavioral warning signs (Q67), while other options in the same option set are input by the CFE as "don't know" or left unanswered. In such cases, because the CFE who investigated the case observed some attributes but not others, such unobserved attributes are treated as if not present or insignificant (and coded as zero). Such treatment (coding) may not be appropriate for the research question under examination. "Not asked" responses were treated as missing data. Both the dataset variable responses as provided to the IFP by the ACFE as well as the SAS dataset codings are included to allow each researcher to make his or her own judgement regarding coding and, ultimately, it is the user of the database' responsibility for the variable choices incorporated in their research and disclosure of such choices as part of the publication process.

Note 5: The fraud incidents may involve more than one category of fraud: asset misappropriation, corruption and financial statement fraud.

| ACFE Question | Survey Questions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Question Type | Yr Deleted | Yr Added | SAS Variable | SAS Coding |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------|--------------|------------|
|               | <p>Note 6: As noted above, in the 2014 RTTN, the (global) regions of the world were realigned to achieve better cultural homogeneity. All international data, including prior years, was coded consistent with the 2014 regional format.</p> <p>Note 7: Control totals are provided at the bottom of each Excel column to allow users of the dataset to ensure that the data are accurately read into statistical programs.</p> <p>Recognition: The IFP appreciates the work of Dr. Theresa Hilliard, Associate Professor at Robert Morris University, for her assistance in examining the dataset prior to release.</p> |               |            |          |              |            |