FRAUD

Iris Ikeda, Commissioner

Division of Financial Institutions

Department of Commerce and Consumer Affairs

September 2016

Agenda

- What is Fraud?
- Types of Fraud
- Sources of Information
- Red Flags
- Financial Analysis

What is Fraud – Detecting a Fraud

- Conducting a “should of” after a fraud happens may show that red flags were present. If the victim had only recognized the warning signs, then that loss may not have occurred or been substantially reduced.
- Based on a recent survey by the Association of Certified Fraud Examiners (ACFE), occupational fraud substantially increases organizational costs.
- Myth: fraud is a big scheme that should have been uncovered sooner and is easy to detect.
- Fraud starts small and just gets bigger and bigger, until something becomes noticeably different or unusual.

DCCA HAWAII Division of Financial Institutions

What is Fraud – Fraud defined

- *“The use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets.” (ACFE)*
- Five elements of fraud are:
  - A representation about a material fact, which is false,
  - And made intentionally, knowingly, or recklessly,
  - Which is believed,
  - And acted upon by the victim,
  - To the victim’s damage.

What is Fraud – Fraud defined

Fraud, like other crime, has three factors:

- A supply of motivated offenders/perpetrators;
- The availability of suitable targets/victims;
- The absence of capable guardians or a control system to “mind the store.”

DCCA HAWAII Division of Financial Institutions

What is Fraud – Fraud defined

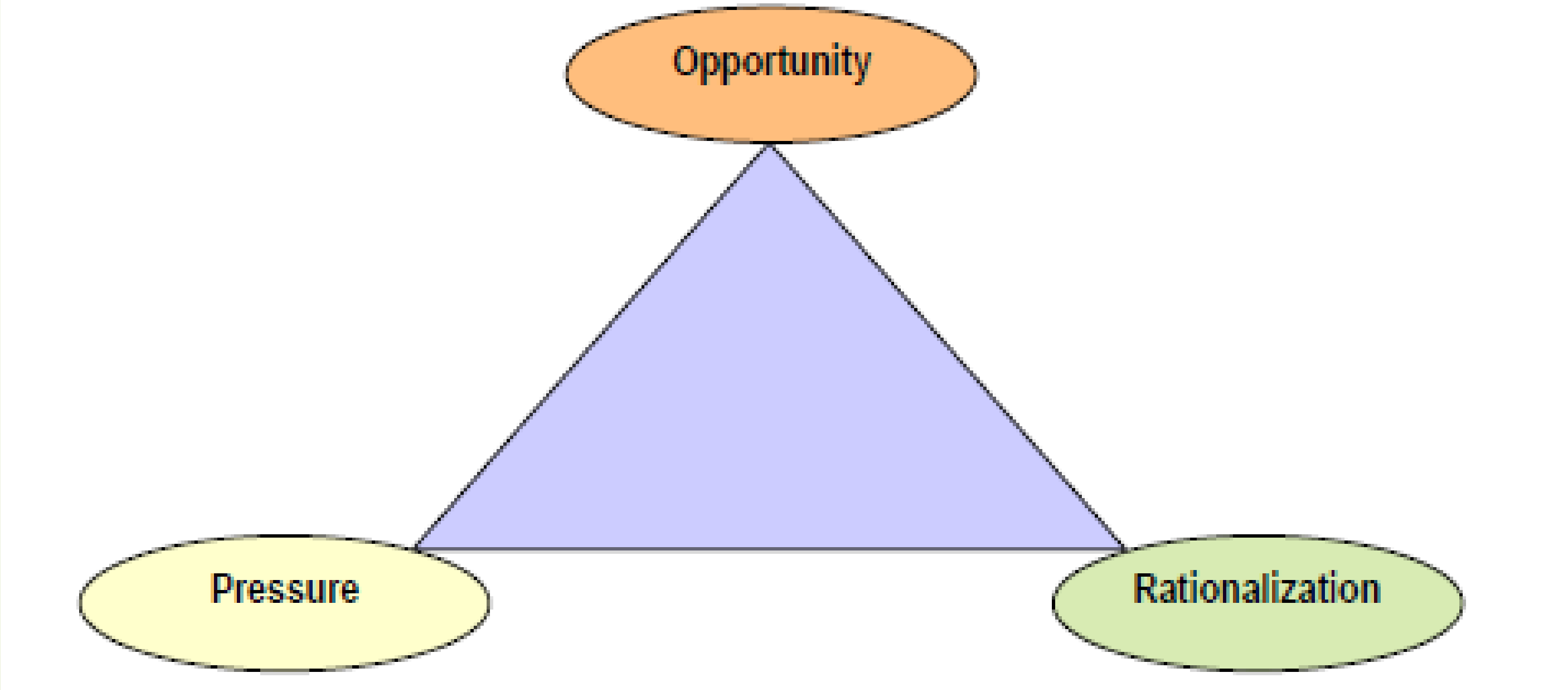
Four elements for a person or employee to commit fraud:

- Opportunity
- Low chance of getting caught
- Rationalization in the fraudsters mind, and
- Justification that results from the rationalization.

DCCA HAWAII Division of Financial Institutions

What is Fraud – Fraud Triangle

- Classic model for fraudsters is to use other peoples money or "I want something I don't have money for."



What is Fraud – Fraud Triangle – Opportunity

Opportunity is an open door for solving a non-shareable problem in secret by violating a trust.

- Opportunity is generally provided through weaknesses in the internal controls which include inadequate or no:
  - Supervision and review
  - Separation of duties
  - Management approval
  - System controls

DCCA HAWAII Division of Financial Institutions

What is Fraud – Fraud Triangle – Pressure

Pressure may be anything from unrealistic deadlines and performance goals to personal vices such as gambling or drugs.

DCCA HAWAII Division of Financial Institutions

What is Fraud – Fraud Triangle – Rationalization

Rationalization is a crucial component because most people/perpetrators need to believe their behavior meets the commonly accepted notions of decency and trust. Some examples include:

- *"I really need this money and I'll put it back when I get my paycheck"*
- *"I'd rather have the company on my back than the IRS"*
- *"I just can't afford to lose everything – my home, car, everything"*

DCCA
HAWAII
Division of Financial Institutions

What is Fraud – Ingredients of Fraud

- Poor internal controls
- Management override of internal controls
- Collusion between employees
- Collusion between employees and third parties

DCCA HAWAII
Division of Financial Institutions

What is Fraud – Discovery

- Detected through tips
- Detected by new management
- Detected by accident
- Detected by internal audit

Types of Fraud – Telemarketing / Phone

- Callers claiming to be anyone from police officers to disabled workers taking advantage of the public's sympathy and generosity
- Offer miracle cures from baldness to cancer to vacation time shares to sweepstakes and investment opportunities.
- Callers ask for money or personal information.
- Callers use scare tactics (IRS or FBI agents).

DCCA HAWAII
Division of Financial Institutions

Types of Fraud – Common Examples

- Security and Fraud Department of your credit- or debit-card company asks you for the 3-digit security number on the back of your credit card to verify your possession of the card to aid it in a fraud investigation.
- Medicare now requires a National ID Card and offers to provide one for a fee. Or the caller says a card is being mailed, but he needs your bank information.
- U.S. Food and Drug Administration (FDA) agent or official and that you must pay a fine because you have bought or attempted to buy discounted prescription drugs from a foreign pharmacy.
- Microsoft to warn you that your computer has a security problem and offer a free security check. You are tricked into allowing access to your computer, downloading malware, giving out credit card info, or buying some software or services that you don't need.

DCCA HAWAII Division of Financial Institutions

Types of Fraud – Internet

- Do you visit websites by clicking on links within an e-mail?
- Do you reply to e-mails from persons or businesses you are not familiar with?
- Have you received packages to hold or ship to someone you met on the Internet?
- Have you been asked to cash checks and wire funds to someone you met on the Internet?
- Would you cash checks or money orders received through an Internet transaction without first confirming their legitimacy?
- Would you provide your personal banking information in response to an e-mail notification?

Types of Fraud – Email Scams

Cybercriminals use e-mail in clever ways to try to take your money and identity, and disrupt your computer operation, gather sensitive information, or gain unauthorized access to your computer

- Business opportunities to make cash fast
- Chain letters involving money
- Work at home schemes
- Health & diet breakthroughs
- Free goods offered to fee-paying members
- Credit repair schemes

DCCA HAWAII Division of Financial Institutions

Types of Fraud – Online Shopping

- Credit card limited liability to $50 for any unauthorized or fraudulent charges made before you report the billing error (EFTA)
- Using a debit card for shopping – can empty an account quickly
- Examples:
  - Rental housing
  - Airline tickets
  - Concert tickets
  - Timeshare properties
  - Vacation properties

DCCA HAWAII Division of Financial Institutions

Types of Fraud – Appeals for help

- Claims to be a family member who needs help
- Grandparents are targeted
- Examples:
  - Grandchild arrested or hospitalized
  - Military family members deployed overseas are injured

DCCA HAWAII Division of Financial Institutions

Types of Fraud – Auto Loan Mods

- Companies which claim it can reduce your monthly loan / lease payment
- Companies might charge fees of several hundred dollars up front, tout their relationships with lenders, and bolster their claims to be able to significantly lower your monthly payments with glowing testimonials from "satisfied" customers.
- Some give a “guarantee” that if they can't make a deal with your lender, they'll refund your money.

DCCA HAWAII Division of Financial Institutions

Types of Fraud – Bankruptcy Foreclosure Rescue

- Target people whose home mortgages are in trouble and promise to take care of your problem with your lender or get refinancing
- Examples:
  - Unsolicited contact & uses high-pressure sales techniques
  - Calls itself a mortgage or foreclosure consultant, foreclosure prevention specialist
  - Says it knows a lot of people who have gone through foreclosure and just wants to help you or contacts you because they saw a notice of default or a notice of trustee's sale in public records
  - Promises to find "loopholes" in your loan documents or violations of State/Federal lending laws that can get you off the hook
  - Asks for a fee before performing a service
  - Asks you to make your home mortgage payments directly to them
  - Asks you to transfer your property deed or title to them.

DCCA HAWAII Division of Financial Institutions

Sources of Information

- Consumer
- Business records
- Bank statements
- Audit reports

DCCA HAWAII
Division of Financial Institutions

Sources of Information – Means of Obtaining

- Voluntarily (from consumer or business)
- Interview both consumer and perpetrator
- Written requests
- Subpoena

DCCA
HAWAII
Division of Financial Institutions

Red Flags – Importance of Red Flags

Red flag is a set of circumstances that are unusual in nature or vary from the normal activity. It is a signal that something is out of the ordinary and may need to be investigated further.

Remember that red flags do not indicate guilt or innocence but merely provide possible warning signs of fraud.

- According to ACFE, fraud cases consistently show that red flags were present, but were either not recognized or were recognized but not acted upon by anyone. Once a red flag has been noted, someone should take action to investigate the situation and determine if a fraud has been committed.
- Red flags should lead to some kind of appropriate action. Sometimes an error is just an error and no fraud has occurred.
- You need to be able to recognize the difference and remember that *responsibility for follow-up investigation of a red flag should be carefully reviewed.*

DCCA HAWAII
Division of Financial Institutions

Red Flags – Types of Red Flags

- **The majority of loss committed by managers was $218,000, which is almost three times greater than the loss resulting from an employee scheme.**
- **Approximately 61 percent of the fraud cases were committed by men.**
  - The median loss from fraud by males was $250,000, which is more than twice the median loss by women.
- **Nearly 40 percent of all fraud cases are committed by two or more individuals.**
  - The median loss in these cases is $485,000, which is almost five times greater than the median loss in fraud cases involving one person.

DCCA HAWAII
Division of Financial Institutions

Red Flags – Types of Red Flags

- Most fraud perpetrators (87.9%) have never been charged or convicted of a crime. Research showed that those who commit occupational fraud are not career criminals.
- The median loss attributable to fraud by older employees is greater than that of their younger counterparts. The median loss by employees over the age of 60 was $713,000. Employees 25 or younger, the median loss was $25,000
- Most costly abuses occur in companies with less than 100 employees.
- **Government and Not-for-Profit organizations have experienced the lowest median losses.**
- Management ignores irregularities.
- High turnover with low morale.
- Staff lacks training.

DCCA
HAWAII
Division of Financial Institutions

Red Flags – Employee Red Flags

- Employee lifestyle changes: expensive cars, jewelry, homes, clothes
- Significant personal debt and credit problems
- Behavioral changes: these may be an indication of drugs, alcohol, gambling, or just fear of losing the job
- High employee turnover, especially in those areas which are more vulnerable to fraud
- Refusal to take vacation or sick leave
- Lack of segregation of duties in the vulnerable area

DCCA HAWAII
Division of Financial Institutions

Red Flags – Control Person Red Flags

- **Reluctance to provide information to auditors**
- Managers engage in frequent disputes with auditors
- **Management decisions are dominated by an individual or small group**
- Managers display significant disrespect for regulatory bodies
- **There is a weak internal control environment**
- Accounting personnel are lax or inexperienced
- Decentralization without adequate monitoring
- **Excessive number of checking accounts**
- Frequent changes in banking accounts
- Frequent changes in external auditors
- Company assets sold under market value
- Significant downsizing in a healthy market
- Continuous rollover of loans
- **Excessive number of year end transactions**
- High employee turnover rate
- Unexpected overdrafts or declines in cash balances
- Refusal by company to use serial or duplicate receipts
- Compensation program that is out of proportion
- Any financial transaction that doesn't make sense - either common or business
- **Service Contracts result in no product**
- **Photocopied or missing documents**

DCCA HAWAII Division of Financial Institutions

Red Flags – Behavior Changes

- Borrowing money from co-workers
- Creditors or collectors appearing at the workplace
- Gambling beyond the ability to stand the loss
- Excessive drinking or other personal habits
- Easily annoyed at reasonable questioning
- Providing unreasonable responses to questions
- Refusing vacations or promotions for fear of detection
- Bragging about significant new purchases
- Carrying unusually large sums of money
- Rewriting records under the guise of neatness

DCCA HAWAII
Division of Financial Institutions

Red Flags – Company Behavior Changes

- Excessive number of voids, discounts and returns
- Unauthorized bank accounts
- Sudden activity in dormant banking accounts
- Taxpayer complaints that they are receiving non-payment notices
- Discrepancies between bank deposits and posting
- Abnormal number of expense items, supplies, or reimbursement to the employee
- Presence of employee checks in the petty cash for the employee in charge of petty cash
- Excessive or unjustified cash transactions
- Large number of write-offs of accounts
- Bank accounts that are not reconciled on a timely basis

DCCA HAWAII Division of Financial Institutions

Red Flags – Company Behavior Changes

- Increasing number of complaints about products or service
- Increase in purchasing inventory, but no increase in sales or abnormal inventory shrinkage
- Lack of physical security over assets/inventory
- Charges without shipping documents
- Payments to vendors who aren't on an approved vendor list
- High volume of purchases from new vendors
- Purchases that bypass the normal procedures
- Vendors without physical addresses
- Vendor addresses matching employee addresses
- Excess inventory and inventory that is slow to turnover
- Purchasing agents that pick up vendor payments, not mailed

DCCA HAWAII Division of Financial Institutions

Red Flags – Lifestyle Fraud

Often committed by trusted employees.

- Some embezzlers are secretive. They don't want to be caught and will "stash" stolen funds and be extremely careful with their spending.
- Other "aspiring" embezzlers want to use, enjoy, share, and show off their fraudulently gained money. Explanations of "new found" wealth may include:
  - "My husband/wife just got a great promotion."
  - "I have a few little investments that have been doing really, REALLY well."
  - "Great Aunt Ethel passed away and I was totally surprised – she left us quite a nice little nest egg."
  - "I finally decided to get rid of some property that's been in the family for years."

DCCA HAWAII Division of Financial Institutions

Red Flags – Dependency Fraud

Addictions. Someone who is dependent on drugs, alcohol, gambling or other addictions typically experience a slow tightening noose of financial pressures.

- Desperation fuels monetary needs and, therefore, the need arises to “borrow” funds to ease the financial dilemma. Employees with addiction problems may be tough to spot. Many people with addictions can function at fairly high or normal levels of behavior during work hours.
- Some patterns to look for:
  - Absenteeism
  - Regular ill health or “shaky” appearance
  - Easily making and breaking promises and commitments
  - Series of creative “explanations”
  - High level of self absorption
  - Inconsistent or illogical behavior
  - Forgetfulness or memory loss
  - Family problems
  - Evidence of deceit (small or large)

DCCA HAWAII
Division of Financial Institutions

Red Flags – Financial Pressure Fraud

Faced by everyone at some period of time. Perhaps beyond their control, employees may find themselves in financially stressful situations due to a variety of factors. Not everyone who faces undue pressure commits fraud, but the higher the stress level, the more distracted and desperate an employee may become.

- Medical bills
- Family responsibilities
- A spouse losing a job
- Divorce
- Debt requirements
- Maintaining a current lifestyle
- Car repairs

DCCA HAWAII
Division of Financial Institutions

Financial Analysis – Bank Records

- Using bank statements or other financial documents
- Get the documents – discussed earlier
- What can you use these documents to prove?
  - See financial trouble
  - Fraud
  - Skimming
  - Misappropriation
  - Unethical activity (bank personnel)
  - Lifestyle of a person

DCCA HAWAII Division of Financial Institutions

Financial Analysis – Financial Profiling

- Attempt to determine if a subject's (consumer's) expenditures or accumulated wealth exceed his/her income
- Look for:
  - Potential illegal income (i.e. gambling)
  - Do you need additional info

DCCA HAWAII
Division of Financial Institutions

Financial Analysis – Net Worth Analysis

- Shows possible illegal income through increases in accumulated wealth

	Total assets	2012	$100,000
-	Total liabilities	2013	$200,000
=	Net Worth	2014	$300,000
	Change in net worth		$200,000

DCCA HAWAII Division of Financial Institutions

Financial Analysis – Net Worth Analysis

- Shows possible illegal income through increases in accumulated wealth

Change in net worth	$200,000
<u>+ expenses</u>	<u>$150,000</u>
= total dollar outlay	$250,000

THEN, compare the total dollar outlay with the reported income $150,000

Shows target is spending more than their reported income

DCCA HAWAII Division of Financial Institutions

How to Detect Fraud – Financial Statements

- Financial statement analysis is a process that enables readers of a company's financial reports to develop and answer questions regarding the data presented.
- Financial statements express a company's economic condition in three ways:
  1. The balance sheet reports assets, liabilities, and owners' equity;
  2. The income statement accounts for the profit or loss of the company;
  3. And the cash flow statement displays the sources and uses of cash.

DCCA HAWAII
Division of Financial Institutions

How to Detect Fraud – Financial Statements

- At the end of these statements, there is a section for footnotes—a more detailed description of several items on the financial statements including a discussion of changes in accounting methods, related party transactions, contingencies, and so on.
- Annual and quarterly reports also typically include a section titled *Management's Discussion and Analysis* (MD&A), which gives management's perspective on the financial results of the period in the report.

DCCA HAWAII Division of Financial Institutions

How to Detect Fraud – Unexpected Deviations

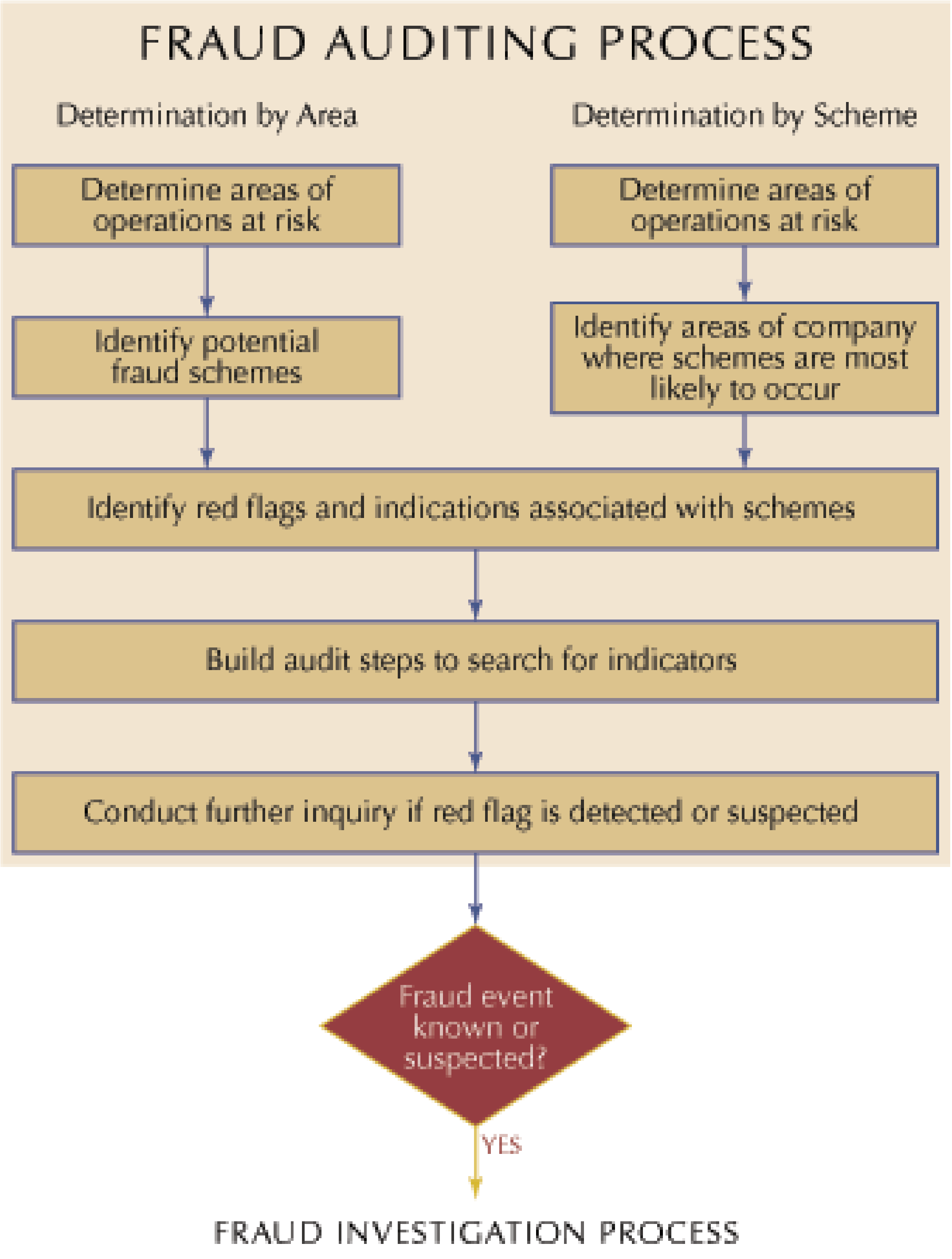
- Financial analysis techniques can help investigators discover and examine unexpected relationships in financial information.
- These analytical procedures are based on the premise that relatively stable relationships exist among economic events in the absence of conditions to the contrary
- Unexpected deviations in relationships most likely indicate errors, but also might indicate illegal acts or fraud.
- Therefore, deviations in expected relationships warrant further investigation to determine the exact cause.

DCCA HAWAII Division of Financial Institutions

How to Detect Fraud – Analytical Procedures

- Used to detect and examine relationships of financial information that do not appear reasonable.
- They are useful in identifying:
  - Differences that are not expected
  - The absence of differences that are expected
  - Potential errors
  - Potential fraud and illegal acts
  - Other unusual or non-recurring transactions or events

DCCA
HAWAII
Division of Financial Institutions



Analytical techniques assist with the first steps in the fraud auditing process by enabling the fraud examiner to identify areas of high risk, highlight the most likely schemes, and identify the red flags that warrant further investigation

How to Detect Fraud – Comparative Techniques

- Relationships among financial data that do not appear reasonable should be investigated.
- Fraud examiners can employ the following techniques to help them identify such relationships:
  - Compare current-period financial information to prior-period financial information, budgets, and forecasts.
  - Examine relationships among financial information. For instance, cost of goods sold is expected to vary directly in relation to sales.
  - Study relationships of financial information with related non-financial information. For example, department store sales are expected to vary with the square footage of the sales floor.
  - Compare information to that of other organizational units or the industry.

DCCA HAWAII
Division of Financial Institutions

How to Detect Fraud – Company's Financial Relationships

- An understanding of general relationships between certain financial statement balances is necessary to identify relationships that appear unusual.
  - If sales increase, how should the cost of sales respond?
  - If commission expense decreases, what would be expected of sales?
- Answers to questions such as these are the foundation of financial analysis.
- The following relationships are general, and traditionally occur between financial accounts; however, unique circumstances may render different results.

DCCA HAWAII Division of Financial Institutions

How to Detect Fraud – Company's Financial Relationships

- A financially healthy company tries to maintain a consistent balance between assets and liabilities.
- By keeping a certain balance, the company displays its solidity to lenders or equity investors and keeps financing costs down.
- A sudden change from historical norms means something has changed with management's view of its business.
- It also could indicate that management is trying to hide something.
- A sudden increase in the ratio could mean that liabilities such as long-term debt have been hidden in off balance sheet entities.
- If the value of liabilities rises and the ratio spikes downward, it could reveal that the company is borrowing heavily to finance operations and that the risk of fraud is acute.

How to Detect Fraud – Company's financial relationships

- The company generates sales because it sells its merchandise.
- This merchandise had to be purchased, manufactured, or both, all of which entail a cash outlay for materials, labor, and so on.
- Therefore, for each sale, there must be a cost associated with it.
- If sales increase, then the cost of goods sold generally increases proportionally.
- Of course, there are cases where a company has adopted a more efficient method of producing goods, thus reducing its costs, but there still are costs associated with the sales that are recognized upon the sale of the goods.

How to Detect Fraud – Company's Financial Relationships

- When a company makes a sale to a customer, the company generally ships the merchandise to the customer before the customer pays, resulting in an account receivable for the company.
- Therefore, the relationship between the sales and the accounts receivable is direct.

DCCA HAWAII
Division of Financial Institutions

How to Detect Fraud – Company's Financial Relationships

- A company's inventory is merchandise that is ready to be sold.
- A company generally tries to anticipate future sales, and in doing so, tries to meet these demands by having an adequate supply of inventory.
- Therefore, inventory usually reflects the growth in sales.
- If sales increase, then inventory should increase to meet the demands of sales.
- Inventory that grows at a faster pace than sales might indicate obsolete, slow-moving merchandise or overstated inventory.

DCCA HAWAII
Division of Financial Institutions

How to Detect Fraud – Company's Financial Relationships

- Companies generate sales revenue by selling products or providing services.
- Likewise, companies incur direct and indirect costs related to producing or acquiring the products they sell, or providing the services for their customers.
- Gross, operating, and net profit margins are shown on the income statement.
- Over time, profit margins should stay consistent as the company targets a certain profit in order to stay in business.
- If the company encounters increased competition and must reduce the price for its products, it will have to find ways to cut expenses.
- Ongoing pressure on profit margins indicates pressure on management, which could ultimately lead to fraud in the financial reporting.

DCCA HAWAII Division of Financial Institutions

How to Detect Fraud – Company's Financial Relationships

- When analytical procedures uncover an unexpected relationship among financial data, the fraud examiner must investigate the results.
- The evaluation of the results should include inquiries and additional procedures.
- Before asking the company's employees and management about the variations, the fraud examiner should first establish expectations for the causes of the variances.
- From expected causes, the fraud examiner will be better suited to ask meaningful questions when interviewing company personnel.
- Explanations derived from employees should then be tested through examination of supporting evidence.
- For example, if the sales manager indicates that the increase in sales is due to a new advertising campaign, examine the advertising expense account to verify that a campaign did occur.
- If the advertising expense is similar to the prior year, the relationship is not reasonable and fraud may exist.

DCCA HAWAII Division of Financial Institutions

Procedures for Analysis

- Investigating relationships between numbers offers deep insight into the financial well-being of an organization.
- By comparing these relationships with other industries or businesses within the same industry, an examiner can extrapolate viable evidential matter and gain a greater comprehension of the company’s financial condition.
- Financial statement analysis includes the following:
  - Percentage analysis, including vertical and horizontal analysis
  - Ratio analysis
  - Cash flow analysis

DCCA HAWAII
Division of Financial Institutions

Procedures for Analysis – Vertical and Horizontal

- *Vertical analysis* is a technique for analyzing the relationships between the items on any one of the financial statements in one reporting period.
- The analysis results in the relationships between components expressed as percentages that can then be compared across periods.
- This method is often referred to as “common sizing” financial statements.
- In the vertical analysis of an income statement, net sales is assigned 100 percent; for a balance sheet, total assets is assigned 100 percent on the asset side, and total liabilities and equity is expressed as 100 percent on the other side.
- All other items in each of the sections are expressed as a percentage of these numbers.

DCCA HAWAII
Division of Financial Institutions

Procedures for Analysis – Vertical and Horizontal

- *Horizontal analysis* is a technique for analyzing the percentage change in individual financial statement items from one year to the next.
- The first period in the analysis is considered the base, and the changes in the subsequent period are computed as a percentage of the base period.
- If more than two periods are presented, each period's changes are computed as a percentage of the preceding period.
- The resulting percentages are then studied in detail.
- It is important to consider the amount of change as well as the percentage in horizontal comparisons.
- A 5 percent change in an account with a very large dollar amount may actually be much more of a change than a 50 percent change in an account with much less activity.
- Like vertical analysis, this technique will not detect small, immaterial frauds. However, both methods translate changes into percentages, which can then be compared to highlight areas of top concern.

DCCA HAWAII Division of Financial Institutions

BALANCE SHEET

	Vertical Analysis				Horizontal Analysis	
	Year One		Year Two		Change	%Change
Assets						
Current Assets						
Cash	45,000	14%	15,000	4%	(30,000)	-67%
Accts Receivable	150,000	45%	200,000	47%	50,000	33%
Inventory	75,000	23%	150,000	35%	75,000	100%
Fixed Assets (net)	60,000	18%	60,000	14%	-	0%
Total	330,000	100%	425,000	100%	95,000	29%
Acc'ts Payable	95,000	29%	215,000	51%	120,000	126%
Long-term Debt	60,000	18%	60,000	14%	-	0%
Stockholder's Equity					-	
Common Stock	25,000	8%	25,000	6%	-	0%
Paid-in Capital	75,000	23%	75,000	18%	-	0%
Retained Earnings	75,000	23%	50,000	12%	(25,000)	-33%
Total	330,000	100%	425,000	100%	95,000	29%

INCOME STATEMENT

	Vertical Analysis				Horizontal Analysis	
	Year One		Year Two		Change	%Change
Net Sales	250,000	100%	450,000	100%	200,000	80%
Cost of Goods Sold	125,000	50%	300,000	67%	175,000	140%
Gross Margin	125,000	50%	150,000	33%	25,000	20%
Operating Expenses						
Selling Expenses	50,000	20%	75,000	17%	25,000	50%
Administrative Expenses	60,000	24%	100,000	22%	40,000	67%
Net Income	15,000	6%	(25,000)	-6%	(40,000)	-267%

Additional Information

	Year One	Year Two
Average Net Receivables	155,000	210,000
Average Inventory	65,000	130,000
Average Assets	330,000	425,000

DCCA HAWAII Division of Financial Institutions

Procedures – Vertical Analysis

- *Vertical analysis* of the income statement uses total sales as the base amount, and all other items are then analyzed as a percentage of that total.
- Vertical analysis emphasizes the relationship of statement items within each accounting period. These relationships can be used with historical averages to determine statement anomalies.
- In the above example, we observe that accounts payable is 29 percent of total liabilities and stockholders' equity.
- Historically, we may find that this account averages slightly over 25 percent.
- In year two, accounts payable rose to 51 percent.
- Although the change in the account total may be explainable through a correlation with a rise in sales, this significant rise might be a starting point in a fraud examination.
- Source documents should be examined to determine the rise in this percentage.
- With this type of examination, fraudulent activity may be detected.
- The same type of change can be seen as selling expenses decline as a part of sales in year two from 20 to 17 percent.
- Again, this change may be explainable with higher volume sales or another bona fide explanation. But close examination may possibly cause a fraud examiner to uncover fictitious sales, since there was not a corresponding increase in selling expenses.

DCCA HAWAII
Division of Financial Institutions

Procedures – Horizontal Analysis

- *Horizontal statement analysis* uses percentage comparison across accounting periods, or in a horizontal manner.
- The percentage change is calculated by dividing the amount of increase or decrease for each item by the prior-period amount.
- In the previous example, cash declined by $30,000 from year one to year two, a 67 percent drop.
- Further analysis reveals that the 80 percent increase in sales has a much greater corresponding increase in cost of goods sold, which rose 140 percent.
- This is an unusual increase and displays a deteriorating financial condition.
- If management employed fraudulent accounting in the period, it might mean that revenues were understated for some reason.
- Management might have wanted to avoid a high tax bill or to shift revenues to the next period for some reason.
- It might also mean that the cost of goods is rising, which might pressure management to improve the appearance of the company’s financials by engaging in fraudulent accounting in future periods.

DCCA HAWAII Division of Financial Institutions

Procedures – Ratio Analysis

- *Ratio analysis* is a means of measuring the relationship between two different financial statement amounts.
- Ratios are calculated from current year numbers and are then compared to previous years, other companies, the industry, or even the economy to judge the performance of the company.
- This form of financial statement analysis can be very useful in detecting red flags for a fraud examination.
- Many professionals, including bankers, investors, business owners, and investment analysts, use this method to better understand a company's financial health.
- Ratio analysis allows for internal evaluations using financial statement data.
- The relationship and comparison are the keys to the analysis.
- For further insight, financial statement ratios are used in comparisons to an entity's industry averages.

DCCA HAWAII Division of Financial Institutions

Procedures – Ratio Analysis

- As the financial ratios present a significant change from one year to the next, or over a period of years, it becomes obvious that there might be a problem.
- As in all other analyses, specific changes are often explained by changes in the business operations.
- When a change in a specific ratio or several related ratios is detected, the appropriate source accounts should be researched and examined in detail to determine if fraud has occurred.
- For instance, a significant decrease in a company's current ratio might point to an increase in current liabilities or a reduction in assets, both of which could be used to cover fraud.
- In the analysis of financial statements, each reader of the statements will determine which portions are most important.

DCCA HAWAII
Division of Financial Institutions

Procedures – Ratio Analysis

- These ratios may also reveal frauds other than accounting frauds.
- If an employee is embezzling from the company's accounts, for instance, the amount of cash will decrease disproportionately and the current ratio will decline.
- Liability concealment will cause a more favorable ratio.
- Similarly, a check-tampering scheme will usually result in a decrease in current assets, namely cash, which will, in turn, decrease the current ratio.
- In fact, these frauds might be more easily detected with ratio analysis because employees other than management would not have access to accounting cover-ups of non-accounting frauds.
- Anomalies in ratios could point directly to the existence of fraudulent actions.
- Accounting frauds can much more subtle and demand extensive investigation beyond the signal that something is out of the norm.

DCCA HAWAII Division of Financial Institutions

Procedures – Types of Ratio Analysis

Current Ratio

Current Assets

Current Liabilities

- The current ratio, current assets divided by current liabilities, is probably the most frequently used ratio in financial statement analysis.
- This comparison measures a company's ability to meet short-term obligations from its liquid assets.
- The number of times that current assets exceed current liabilities has long been a measure of financial strength.
- In detecting fraud, this ratio can be a prime indicator of manipulation of accounts involved.
- Embezzlement will cause the ratio to decrease.
- Liability concealment will cause a more favorable ratio.
- In the preceding example, the drastic change in the current ratio from year one (2.84) to year two (1.70) should cause an examiner to look at these accounts in more detail.
- For instance, a check-tampering scheme will usually result in a decrease in current assets, or cash, which will in turn decrease the ratio.

Procedures – Types of Ratio Analysis

Acid Test Ratio

$$\frac{\text{Cash+Securities+Receivables}}{\text{Current Liabilities}}$$

- Compares assets that can be immediately liquidated to liabilities that will be due in the next year.
- This calculation divides the total cash, securities, and receivables by current liabilities.
- This ratio is a measure of company’s ability to meet sudden cash requirements.
- In turbulent economic times, it is used quite prevalently, giving the analyst a worst-case look at the company’s working capital situation.
- An examiner will analyze this ratio for fraud indicators.
- In year one of the example, the company balance sheet reflects a quick ratio of 2.05. This ratio drops in year two to 1.00.
- In this situation, a closer review of accounts receivable shows that they are increasing at an unusual rate, which could indicate that fictitious accounts receivable have been added to inflate sales.
- Of more concern, perhaps, is the increase in accounts payable that might require, at a minimum, a closer review to determine why.
- If the drop in the ratio indicates a problem customer or significant slowing in the time to collection, it might reflect a general decline in company prospects.
- That, in turn, would be a red flag that management could feel pressured to report fraudulent financials.

DCCA HAWAII Division of Financial Institutions

Procedures – Types of Ratio Analysis

Debt to Equity Ratio

$$\frac{\text{Total Liabilities}}{\text{Total Equity}}$$

- The debt-to-equity ratio is computed by dividing total liabilities by total equity.
- It indicates the proportion of equity and debt a company uses to finance its assets. Because the ratio provides a picture of the relative risk assumed by the creditors and owners, it is heavily considered by lending institutions.
- The higher the ratio, the more difficult it will be for the owners to raise capital by increasing long-term debt, and the greater the risk assumed by creditors.
- Debt-to-equity requirements are often included as borrowing covenants in corporate lending agreements.
- The example displays a year one ratio of 0.89. This is very favorable, as it shows that the company is financed more by equity than by debt.
- However, year two shows a ratio of 1.84, meaning that debt is greatly increasing relative to equity.
- In this case, the increase in the ratio corresponds with the rise in accounts payable.
- Sudden changes in this ratio may signal an examiner to look for fraud.

DCCA HAWAII
Division of Financial Institutions

Procedures – Types of Ratio Analysis

Profit Margin Ratio

<u>Net Income</u>

Net Sales

- The profit margin ratio is net income divided by sales.
- This ratio is often referred to as the efficiency ratio, in that it reveals profits earned per dollar of sales.
- This percentage of net income to sales examines not only the effects of gross margin changes, but also changes in selling and administrative expenses.
- If fraud is committed, net income may be artificially overstated, resulting in a profit margin ratio that is abnormally high compared to other periods.
- False expenses will cause an increase in expenses and a decrease in the profit margin ratio.
- This ratio should be fairly consistent over time.
- In this example, the profit margin analysis is already calculated in the vertical and horizontal analyses.
- While revenues increased by 80 percent, the cost of goods sold increased by 140 percent; this, in turn, dropped profit margins from 6 percent to -6 percent.
- Further investigation could uncover fraudulent accounting that shifted costs from one period to another, or might reveal another type of fraud in which inventory is being stolen so costs appear to jump.

DCCA HAWAII
Division of Financial Institutions

Procedures – Types of Ratio Analysis

Receivables Turnover Ratio

$$\text{Receivables Turnover Ratio} = \frac{\text{Net Sales on Account}}{\text{Average Net Receivables}}$$

- Receivable turnover is defined as net sales on account divided by average net receivables.
- It measures the number of times the receivables balance is turned over during the accounting period.
- In other words, it measures the time between sales on account and the collection of funds.
- This ratio is one that uses both income statement and balance sheet accounts in its analysis.
- If fictitious sales have been recorded, this bogus income will never be collected.
- As a result, the turnover of receivables will decrease.
- If the fraud is caused from fictitious sales, this bogus income will never be collected.
- In the example, the accounts receivable turnover jumps from 1.61 to 2.14.
- The examiner can use this ratio as an indicator that revenues might be fake, thus requiring further examination of source documents.

DCCA HAWAII Division of Financial Institutions

Procedures – Types of Ratio Analysis

Collection Ratio

$$\frac{365}{\text{Receivable turnover}}$$

- Accounts receivable aging is measured by the collection ratio, which divides 365 days by the receivable turnover ratio to arrive at the average number of days to collect receivables.
- In general, the lower the collection ratio, the faster receivables are collected.
- A fraud examiner may use this ratio as a first step in detecting fictitious receivables or larceny and skimming schemes.
- Normally, this ratio will stay fairly consistent from year to year, but changes in billing policies or collection efforts may cause a fluctuation.
- The example shows a favorable reduction in the collection ratio from 226.3 in year one to 170.33 in year two.
- This means that the company is collecting its receivables more quickly in year two than in year one.

DCCA HAWAII Division of Financial Institutions

Procedures – Types of Ratio Analysis

Inventory Turnover Ratio

$$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

- The relationship between a company's cost of goods sold and its average inventory is shown through the inventory turnover ratio.
- This ratio measures the number of times the inventory is sold during the period.
- This ratio is a good determinant of purchasing, production, and sales efficiency.
- In general, a higher inventory turnover ratio is considered more favorable.
- For example, if cost of goods sold has increased due to theft of inventory (ending inventory has declined, but not through sales), then this ratio will be abnormally high.
- In the case example, inventory turnover increases in year two, signaling the possibility that an embezzlement is buried in the inventory account.
- An examiner should look at the changes in the components of the ratio to determine a direction in which to discover possible fraud.

DCCA HAWAII
Division of Financial Institutions

Procedures – Types of Ratio Analysis

Average Number of Days Inventory Ratio

$\frac{365}{\text{Inventory Turnover}}$

- The average-number-of-days-inventory-is-in-stock ratio is a restatement of the inventory turnover ratio expressed in days.
- This rate is important for several reasons.
- An increase in the number of days that inventory stays in stock causes additional expenses, including storage costs, risk of inventory obsolescence, and market price reductions, as well as interest and other expenses incurred due to tying up funds in inventory stock.
- Inconsistency or significant variance in this ratio is a red flag for fraud investigators.
- Examiners may use this ratio to examine inventory accounts for possible larceny schemes.
- Purchasing and receiving inventory schemes can affect the ratio.
- Understating the cost of goods sold will result in an increase in the ratio as well.
- Significant changes in the inventory turnover ratio are good indicators of possible fraudulent inventory activity.

Conclusion

- Red flags are warnings that something could be or is wrong.
- Auditors, employees, and management need to be aware of red flags in order to monitor the situation and then take corrective action as needed.
- Employees who notice that red flags are ignored may mistakenly believe that it is okay to game the system or that they won't get caught.
- A little fraud soon becomes a large one if left to grow.

DCCA HAWAII
Division of Financial Institutions

Contact Me

- Iris Ikeda
- iikeda@dcca.Hawaii.gov or dfi@dcca.Hawaii.gov
- 808.586.2815
- Division of Financial Institutions

  Department of Commerce and Consumer Affairs (DCCA)

  335 Merchant Street, Rm 221

  Honolulu, Hawaii 96813