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Monterey, California: Naval Postgraduate School

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**MONTEREY, CALIFORNIA**

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**MBA PROFESSIONAL REPORT**

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**THE UTILITY OF CORPORATE-  
STYLE BALANCE SHEETS FOR DOD  
MANAGERS**

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**By: D. Kyle Ashby, and  
Mitchell C. Hockenbury  
June 2014**

**Advisors: Philip Candreva  
Douglas Brook**

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**THE UTILITY OF CORPORATE-STYLE BALANCE SHEETS FOR DOD  
MANAGERS**

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Submitted in partial fulfillment of the requirements for the degree of

**MASTER OF BUSINESS ADMINISTRATION**

from the

**NAVAL POSTGRADUATE SCHOOL  
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# **THE UTILITY OF CORPORATE-STYLE BALANCE SHEETS FOR DOD MANAGERS**

## **ABSTRACT**

The purpose of this research was to analyze the utility of audited financial statements within the Department of Defense (DOD). The authors compared the balance sheet between the commercial and government sectors. First, they examined the differences in the elements of the balance sheets based on the different applicable accounting standards. Second, given those differences, the authors evaluated whether standard industry financial ratios based on balance sheet elements are comparable in government balance sheets. The authors recommended adjustments to ratio formulas where applicable. Third, they evaluated whether corporate ratios are useful when examining government balance sheets. The primary objective of the project was to assess the utility of the balance sheet for DOD users. Because the users of government financial statements need different information than users of corporate statements, the utility naturally varies. Common corporate ratios, with some modification, may provide utility to users of government statements, and federal-specific ratios may be useful. The utility varies depending on the level of aggregation of the data.

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## LIST OF ACRONYMS AND ABBREVIATIONS

AAPC	Accounting and Audit Committee
AICPA	American Institute of Certified Public Accountants
BAPA	Budget and Accounting Procedures Act
CD	certificate of deposit
CFO	chief financial officer
DOD	Department of Defense
FAF	Financial Accounting Foundation
FASAB	Federal Accounting Standards Advisory Board
FASAC	Financial Accounting Standards Advising Council
FASB	Financial Accounting Standards Board
FBWT	fund balance with Treasury
FFMIA	Federal Financial Management Improvement Act
GAAP	Generally Accepted Accounting Principles
GAO	Government Accountability Office
GASAC	Governmental Accounting Standards Advising Council
GASB	Government Accounting Standards Board
GMRA	Government Management Reform Act
GPRA	Government Performance and Results Act
MD&A	management's discussion and analysis
OMB	Office of Management and Budget
PCAOB	Public Company Accounting Oversight Board
PP&E	property, plant, and equipment
PPBS	Planning, Programming, and Budgeting System
SEC	Securities and Exchange Commission
SFFAC	Statement of Federal Financial Accounting Standards Concepts
SFFAS	Statement of Federal Financial Accounting Standards
TR	technical release

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# I. INTRODUCTION

## A. BACKGROUND

The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Federal Financial Management Improvement Act of 1996 represent a collective congressional mandate to produce annual auditable financial statements, similar to the private sector, for the federal government. In all, 23 of the 24 major federal agencies have received audit opinions other than disclaimed. The Department of Defense (DOD) remains disclaimed and under intense congressional scrutiny to comply with legislated mandates. DOD has received statutory direction to produce auditable financial statements by 2017. Research has analyzed the possible utility of these financial statements in the financial management arena; questions remain, however, relating to the value of federal statements to users including DOD managers, citizens, and Congress. A significant amount of resources are required to make DOD audit-ready. Some argue those resources would be more beneficial to the DOD, and the nation, if allocated toward other endeavors.

The analysis of financial statements translates information contained in financial reports into actionable data for respective users. In the corporate sector, a number of tools are employed to evaluate financial reports. Ratio analysis is a prevalent method that distills a large portion of data into a small set of indicators that can provide insight into the economic situation of a specific entity. The primary objectives and users of financial statements in corporate and federal reporting differ. Corporate investors are concerned with the financial health and sustainability of the entity, while federal users are concerned with how responsibly the government is managing public resources. This thesis examined similarities and differences in reporting requirements in corporate and government accounting, specifically the contents of the balance sheet. Additionally, the thesis sought to further understand ratios that can be derived from federal balance sheets by exploring established corporate and government ratios. Finally, the research tested how valuable modifications of current ratios and/or newly developed ratios, specific to the balance sheet, are to federal financial statement users.

The overarching purpose of this thesis was to evaluate and compare the components of federal and corporate balance sheets along with associated ratios to determine utility in the context of government financial management for federal stakeholders. Can common financial statement content satisfy users with different objectives?

## **B. SCOPE AND OBJECTIVE**

The following is the scope of work that this thesis employed:

- A background review of federal agency and corporate entity financial reporting environment
- A comparison and discussion of federal agency and corporate balance sheet reporting
- A comparison and discussion of corporate balance sheet ratios to federal ratios derived in a previous research
- A consideration of potential new balance sheet ratios or modified current ratios using established corporate and federal ratios

The thesis did not examine the statement of net cost or the income statement. The thesis is limited to analytics derived from the balance sheet. In addition, values of ratios have not been computed, as the research is analyzing the theoretical usefulness of balance sheet ratios.

The primary objective of this study is to answer the question: Is the information captured in the federal balance sheet useful to DOD managers in a way that is comparable to the corporate financial statements?

The secondary objectives of this study, and precursors to answering the primary objective of the study, are:

- What are the requirements for corporations and federal agencies to produce balance sheets?
- What are the accounting standards that govern the production of balance sheets?
- What are the differences and usefulness of the requirements Financial Accounting Standards Board (FASB) and Financial Accounting Standards Advisory Board (FASAB) impose on corporate and federal agency balance sheets?

- What are common balance sheet ratios used to interpret corporate and federal balance sheets?
- Do the ratios contain comparable information or should the ratios be refined in the government sector?
- Are there additional federal ratios that can be developed?

### **C. METHODOLOGY**

The thesis consists of three phases: literature review, data collection, and data analysis. The three phases will enable the authors to answer the primary and secondary objectives of the study.

The literature review phase consists of a familiarization of the regulatory and legal requirements to which both publicly-traded corporations and federal agencies are required to adhere. This phase will provide the appropriate background to perform the data collection and analysis phase.

The data collection and analysis phase sought a greater understanding of corporate and federal balance sheets, and corresponding ratios derived from those reports. This phase consisted of four steps:

- Define and understand reporting requirements of federal and corporate balance sheets. An evaluation of FASAB and FASB accounting standards and concepts is necessary to evaluate the composition of federal and corporate financial reports. Understand the similarities and differences of corporate and federal balance sheets and explain those differences.
- Discuss the usefulness of the balance sheet in both sectors. Develop an understanding of the content in the reports and the usefulness of ratios that exist within the balance sheet.
- Identify and define appropriate balance sheet ratios: For corporate entities, ratios will stem from standard industry accepted ratios, while federal ratios will originate from previous research.
- Evaluate and discuss designated ratios for their utility. This will inform the reader whether pre-existing ratios are useful and determine if existing ratios could be modified and consider newly developed ratios to provide utility to federal stakeholders. In addition, it will provide a critical review of the federal ratios developed in previous research. For all discussed ratios, the research will endeavor to determine whom the ratios are useful to, and for what purpose.

## **D. ORGANIZATION**

This thesis is organized into five chapters. Following the introductory information and background in Chapter I, Chapter II contains information on the corporate and federal accounting standards, regulations, and requirements to produce financial statements. The chapter reviews legislation pertaining to corporations and federal agencies, review and oversight boards, and reporting entities. Additionally, this chapter outlines the objectives and users of the financial reporting of corporations and federal agencies.

Chapter III provides definitions of accounts listed on both corporate-style balance sheets and federal agency balance sheets. Chapter III presents an analysis of the differences between the corporate and federal balance sheets as well as a discussion explaining the uses of the information contained in balance sheets.

Chapter IV first defines financial ratios and ratio analysis and lists the categories of financial ratios. The methodology for selecting corporate balance sheet ratios and federal agency balance sheet ratios is discussed. The differences between the ratios are addressed along with a discussion of the usefulness of corporate ratios with federal agency balance sheets and vice versa. The chapter concludes with a consideration of modifying current balance sheet ratios and creating new balance sheet ratios for federal agencies.

Chapter V contains a summary and conclusion of the thesis, and recommends areas of future study.

## **E. BENEFITS OF STUDY**

Users of federal financial statements, specifically the balance sheet, will primarily benefit from this study. The research will explore whether financial ratios derived from federal balance sheets are employable in a way that compares to corporate financial analysis. Additionally, the research will explore how federal balance sheet content could be adjusted to serve decision-maker needs. Ultimately, the study will determine how, and whether, federal agency balance sheets are useful to federal stakeholders.

## **II. LITERATURE REVIEW**

In order to further understand the relationship between federal and corporate financial reporting, it is important to examine statutory requirements governing the production of financial information in both arenas. This chapter will outline the entities that set standards, legislation that governs the standards, stakeholders and purpose of financial reporting, and previous theses that this thesis hopes to build upon.

### **A. FEDERAL STANDARD-SETTING ENTITIES**

Standards for federal financial reporting are established, maintained, and supervised by five primary entities: the Department of the Treasury, the Office of Management and Budget, the General Accountability Office, the Congressional Budget Office, and the Federal Accounting Standards Advisory Board. These regulating entities account for two branches of the federal government and set the precedent for financial reporting throughout the United States government (Wilson, Hay, & Kattelus, 1999, p. 508).

#### **1. Department of the Treasury**

In September 1789, Congress created the Treasury as a permanent agency solely focused on the management of government finances (U.S. Treasury, n.d.). The Treasury has a wide range of functions; this report, however, is most concerned with the charge of the Treasury to manage federal finances, managing government accounts and public debt and advising on financial policy. Part of the mission statement of the Treasury includes a goal of protecting the integrity of the financial system and managing the U.S. government's finances and resources effectively (U.S. Department of the Treasury, 2011).

In order to execute its mission, the Treasury utilizes 10 distinct bureaus. The Bureau of Fiscal Service is the manager of government finances. The primary mission of the Bureau of Fiscal Service is to promote financial integrity and operational efficiency of the U.S. government through exceptional accounting, financing, collections, payments,

and shared services. The Bureau of Fiscal Service accomplishes its mission by operating the federal government's collection and deposit system, borrowing monies required to operate the federal government through the sale of treasury bills, providing government-wide accounting and financial reporting services, and providing central payment services for government agencies. An element of the financial reporting duties of the bureau involves the preparation of government-wide financial statements. The Treasury is responsible for collecting financial statements from representative agencies and integrating them to produce the consolidated financial statement of the United States. With respect to financial reporting, the Bureau of Fiscal Service works to bring uniformity to the accounting and reporting methods of the entire federal government. Along with the Office of Management and Budget (OMB) and the Government Accountability Office (GAO), the Treasury is a primary principal in approving Federal Generally Accepted Accounting Principles (GAAP). As prescribed by OMB A-134, the Federal Accounting Standards Advisory Board (FASAB) will submit accounting standard recommendations to the principals for approval of official accounting standard statements (U.S. Department of the Treasury, n.d.).

## **2. Office of Management and Budget**

The core mission of the OMB is to serve the President of the United States in implementing his vision across the executive branch. OMB is the largest division within the Executive Office of the President and assists a wide range of agencies and departments across the federal government in implementing commitments to the president. OMB carries out its stated mission through five critical processes:

- Budget development and execution
- Management oversight of agency performance, federal procurement, financial management, and information technology
- Coordination and review of federal regulations by executive agencies to ensure appropriate reflection of the presidential agenda
- Legislative clearance and communication
- Executive orders and presidential memoranda

Ultimately, OMB ensures that the goals of all executive branch agencies align with presidential policy goals while helping to formulate the president's budget spending plan (Office of Management and Budget [OMB], n.d.-a).

In the context of federal financial reporting, OMB supervises and coordinates the financial management of all executive agencies. The Chief Financial Officers Council is the primary means for accomplishing this task. The council was established under the provisions of the Chief Financial Officers Act of 1990 with the purpose of advising and coordinating financial activities of member agencies. The chairperson of the council is the Deputy Director for Management of OMB. Members of the council include chief financial officers of the 24 largest federal agencies and various senior executives from OMB and The Department of Treasury. Ultimately, the council seeks to ensure the successful implementation of the CFO Act while improving financial management leadership (Chief Financial Officers Council [CFO], n.d.).

The Office of Federal Financial Management (OFFM) within OMB develops and provides direction to improve financial management and systems, reduce improper payments, improve grants permission, manage federal real property, and coordinate activities of the chief financial officers and senior real property officers. Among chief financial officers, OMB has the authority to prescribe the form and content of agency financial statements and other administrative reports pursuant to the Chief Financial Officers Act of 1990. OMB exercises this power through the promulgation of bulletins and circulars such as OMB Circular No. A-136, Form and Content of Performance and Accountability Report (OMB, n.d.-b).

### **3. Government Accountability Office**

The Government Accountability Office (GAO) is the nation's independent, non-partisan, primary audit agency. Organizationally, it is part of the legislative branch. GAO's mission statement reads,

Our mission is to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the American people. We

provide Congress with timely information that is objective, fact-based, nonpartisan, nonideological, fair, and balanced. (Government Accountability Office, n.d.)

GAO focuses on executing performance and financial audits for the federal government. For example, in 2005 GAO produced a financial audit that inspected the process in place to consolidate the financial statements of the United States. The report was directed to OMB and Department of Treasury (GAO, n.d.).

While GAO is primarily concerned with the audit and evaluation of government agencies, the United States Code assigns significant financial reporting responsibility to the Comptroller General. In United States Code 31 U.S.C. 3511, the following is declared:

The Comptroller General shall prescribe the accounting principles, standards, and requirements that the head of each executive agency shall observe. Before prescribing the principles, standards, and requirements, the Comptroller General shall consult with the Secretary of the Treasury and the President on their accounting, financial reporting, and budgetary needs, and shall consider the needs of the heads of the other executive agencies.

The executive branch has never acknowledged the constitutional authority of the Comptroller General to set accounting standards for the executive branch. Additionally, the CFO Act of 1990 assigns noteworthy authority for establishing policies and procedures for approving and disseminating accounting principles and standards to the OMB. Therefore, under the law the responsibility for promulgating accounting standards and principles is a joint responsibility (Wilson et al., 1999, p. 505).

#### **4. Federal Accounting Standards Advisory Board**

The Federal Accounting Standards Advisory Board (FASAB) works to improve federal financial reporting by issuing accounting standards and guidance after exploring the needs of internal and external users of federal financial information. The Secretary of the Treasury, Director of the OMB, and Comptroller General established FASAB in 1990 through a memorandum of understanding (MOU) (FASAB, 2012).

OMB Circular A-136 defines the role of FASAB. OMB A-136 charges FASAB with making recommendations to the principals (Treasury, OMB, GAO) on accounting standards and principles for the federal government. If a recommendation from FASAB is approved by the principals, OMB will issue a statement of federal financial accounting standards (SFFAS) or statement of federal financial accounting concepts (SFFAC) statement (OMB, 2009). OMB Circular No. A-136 further defines the authority of accepted SFFAS and SFFAC statements:

SFFASs shall be considered generally accepted accounting principles (GAAP) for Federal agencies. Agencies shall apply the SFFASs in preparing financial statements in accordance with the requirements of the Chief Financial Officers Act of 1990. Auditors shall consider SFFASs authoritative references when auditing financial statements. (OMB, 2009)

SFFASs derive their legitimacy as GAAP from the American Institute of Certified Public Accountants (AICPA). In 1999, the AICPA formed a task force to assess FASAB as a designating body that disseminates GAAP. FASAB made changes in order to meet prerequisite criteria and was designated as the body that promulgates GAAP for federal entities in the United States (FASAB, 2012).

FASAB ensures financial reports, which include financial statements, are prepared in conformity with disseminated standards. FASAB seeks to ensure that federal financial reports are useful in assessing the government's accountability and its efficiency and effectiveness, and the economic, political, and social consequences of the utilization of federal resources (FASAB, n.d.-b).

The FASAB board is composed of nine members, three federal and six non-federal. Representatives from the principal agencies comprise the three federal board spots while the non-federal members are appointed by the principal agencies after receiving recommendations from a previously appointed panel of accounting professionals.

FASAB uses a comprehensive and independent process that facilitates broad participation and objective consideration of all stakeholder views. FASAB studies issues, encourages participation by a variety of stakeholders throughout the standards-setting

process, and gives due consideration of costs and benefits to the preparers and users of financial information. In order to assist agencies, FASAB aims to ensure a common understanding of information contained in financial reports exists and implementation guidance is available and sufficient (FASAB, 2012).

In an effort to assist agencies in implementing published standards, FASAB created The Accounting and Auditing Policy Committee (AAPC). The AAPC is a permanent committee established by the Federal Accounting Standards Advisory Board (FASAB). The AAPC's mission is to assist the federal government in improving financial reporting by timely identifying, discussing, and recommending solutions to accounting issues within the framework of existing authoritative literature. AAPC accomplishes its mission through the issuance of technical releases related to existing accounting standards. The technical releases (TR) intend to assist in the application and interpretation of SFFASs (FASAB, n.d.-a).

Presently, FASAB has released 7 SFFAC statements, 44 SFFAS statements, and 14 Technical Releases. The statements on concepts are more general than statements of standards and do not contain specific recommendations that would become authoritative for federal agencies upon release. Additionally, concept statements are capable of providing general guidance to the FASAB board as deliberation occurs. They may also assist others in understanding federal accounting and associated reports (OMB, 1993b, p. 4 para 1–2).

## **B. CORPORATE STANDARD-SETTING BODIES**

Corporate financial reporting is regulated and guided by several organizations. These organizations include the Securities and Exchange Commission (SEC), Financial Accounting Standards Board (FASB), and Public Company Accounting Oversight Board (PCAOB).

### **1. U.S. Securities and Exchange Commission**

The U.S. Securities and Exchange Commission (SEC) is a federal agency in the executive branch. The SEC enforces federal securities laws while regulating the securities

industry. In regulating the securities industry the SEC supervises securities exchanges, securities brokers, investment advisers, and mutual funds.

The SEC resulted from a demand for securities reform after the 1929 stock market crash. Before the crash, everyone enjoyed the attractive market returns and did not support any type of government regulation. Two landmark pieces of legislation were responsible for establishing the SEC. The Securities Act of 1933 and the Securities Exchange Act of 1934 were the impetus behind the creation of the SEC. These acts will be discussed separately later in the chapter; it is noteworthy, however, to state their importance in the formation of the SEC.

The mission of the SEC is to protect the interest of investors and the markets. The SEC mission statement declares their mission is “to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation.” The SEC is led by five commissioners who are appointed by the executive. The commissioners serve a staggered five-year term. To ensure the agency remains nonpartisan no more than three members are allowed to possess the same political affiliation. The SEC is broken into five divisions and includes 11 regional offices across the country. The SEC assumes five overarching responsibilities: interpret and enforce federal securities laws; issue new rules and amend existing ones; oversee the inspection of securities firms, brokers, investment advisers, and ratings agencies; oversee private regulatory organizations in the securities, accounting, and auditing fields; and coordinate U.S. securities regulation with federal, state, and foreign authorities (Securities and Exchange Commission [SEC], n.d.-a).

Of the five divisions within SEC, the Division of Corporate Finance is most relevant to this discussion. The Division of Corporate Finance supports the SEC’s responsibility to oversee corporate disclosure of important information to the investing public. Corporations are required to disclose what information the SEC deems appropriate and the division regularly reviews documents submitted by private corporations. The division also assists companies in interpreting the SEC’s rules and recommends new rules for acceptance (SEC, 2014).

The Division of Corporate Finance reviews registration statements for newly-offered securities, annual and quarterly filings that include financial statements, proxy materials sent to shareholders, annual shareholder reports, documents concerning tender offers, and filings related to mergers and acquisition. All of the above documents ensure corporations are disclosing important financial information related to the overall business condition of the entity. The SEC requires disclosure of such information, whether positive or negative, to provide investors with information that may affect investment decisions (SEC, 2014). The Division of Corporate Finance works closely with and monitors the FASB, which produces GAAP.

## **2. Financial Accounting Standards Board**

The FASB is the designated organization responsible for the establishment of standards that govern the production of corporate financial statements. This designation from the U.S. Securities and Exchange Commission is substantiated in its policy statement from April 2003. The intention of the policy statement was to reaffirm FASB as the designated private sector standard sector in the post-Sarbanes-Oxley Act of 2002 era. The Sarbanes-Oxley Act will be discussed later in the literature review. Although the SEC possesses the necessary authority to set accounting standards, it has delegated the responsibility to FASB since 1973. The SEC policy statement determines,

The federal securities laws set forth the Commission's broad authority and responsibility to Prescribe the methods followed in the preparation of accounts and the form and content of Financial statements to be filed under those laws, as well as its responsibility to ensure that Investors are furnished with other information necessary for investment decisions. To assist in meeting this responsibility, the Commission historically has looked to private-sector standard-setting bodies designated by the accounting profession to develop accounting principles and standards. At the time of FASB's formation in 1973, the Commission re-examined its policy and formally recognized pronouncements of the FASB that establish and amend accounting principles as "authoritative" in the absence of any contrary determination by the commission. The Commission concluded at that time that the expertise and resources that the private sector could offer to the process of setting accounting standards would be beneficial to investors. (SEC, 2003)

The structure of FASB is arranged to ensure the board remains independent of all business and professional organizations. The Financial Accounting Foundation (FAF) is the parent organization of FASB. FAF is ultimately responsible for the oversight, administration, and finances of FASB while ensuring the integrity of the standard-setting process remains intact. FAF is also responsible for the oversight of the Governmental Accounting Standards Board (GASB), the Financial Accounting Standards Advisory Council (FASAC), and the Government Accounting Standards Advisory Council (GASAC).

A full FASB is composed of seven members, who are appointed by the FAF board of trustees for a maximum of two five-year terms. FASB members will, in the judgment of trustees, each have concern for users and the public interest in matters of financial accounting and reporting and collectively have knowledge and experience in investing, accounting, finance, business, accounting education, and research (FASB, 2013, p. 8).

The FASB mission statement declares, “The mission of the FASB is to establish and improve standards of financial accounting and reporting that foster financial reporting by nongovernmental entities that provides decision-useful information to investors and other users of financial reports” (FASB, n.d.).

The FASB members are expected to make decisions based on the following guiding principles:

- To be objective in its decision making
- To actively solicit and carefully weigh the views of stakeholders
- To issue standards only when the expected benefits exceed perceived costs
- To issue high-quality standards
- To manage the process of improving standards
- To provide clear and timely communication
- To review the effects of past decisions (FASB, 2013, pp. 4–5)

FASB seeks to accomplish its mission through an independent process that encourages active participation, objective consideration of all stakeholder views, and accountability to FAF oversight.

### **3. Public Company Accounting Oversight Board**

The Public Company Accounting Oversight Board (PCAOB) originated from guidance contained in the Sarbanes-Oxley Act of 2002. Due to the failure of the auditing industry to regulate itself, as showcased in the Enron scandal, Congress created a government regulator. The PCAOB is a nonprofit corporation, congressionally directed to supervise the audits of public companies in order to protect investors and the public interest by promoting informative, accurate, and independent audit reports (PCAOB, 2014a). The creation of the PCAOB represented a landmark change in the auditing profession. For the first time in history, auditors of public companies would be subject to regulatory oversight.

Congress directed the SEC to supervise the PCAOB. The SEC oversees the organization while approving the PCAOB rules, standards, and budget. The PCAOB is composed of five members including the chairman. The board members are appointed by the SEC to staggered five-year terms. The PCAOB has the authority to investigate and discipline accounting firms and their employees for any breach related to the Sarbanes-Oxley Act of 2002, PCAOB and SEC rules, and all other regulation and statutory requirements associated with auditing standards of public companies, brokers, and dealers. Sarbanes-Oxley requires accounting firms to register with the PCAOB for permission to prepare, issue, or participate in audit reports of public corporations.

The PCAOB vision states that, using innovative and cost-effective tools, the PCAOB aims to improve audit quality, reduce audit risk in public companies, and promote public trust in financial reporting and the auditing profession (PCAOB, 2014b).

#### ***a. Discussion of Key Corporate and Federal Financial Reporting Entities***

The federal government is required to produce corporate-style financial statements. In order to understand the utility of the federal statements to stakeholders, it is helpful to understand authoritative bodies responsible for financial reporting in the corporate and federal environment and how they are related.

Corporate and federal reporting have accounting standard-setting bodies who behave similarly in the FASB and FASAB. Both entities recommend accounting

standards and principles to be approved by a higher authority. The respective boards are independent and serve the interest of professional and responsible accounting and reporting. Audit accountability organizations exist in each sector in the GAO and PCAOB. Both corporate and federal reporting have an ultimate authority that has the final word and delegates specific responsibilities to other entities. The SEC serves a similar purpose for corporate reporting, while the Treasury, OMB, and GAO share this responsibility in federal reporting. The nature of government in the United States is built on checks and balances, avoiding ultimate authority wherever possible. In the corporate environment the SEC is the primary regulator, seeking to ensure investor confidence in the markets. Federal oversight bodies ensure government agencies are effectively stewarding resources of the federal government. Congress established the SEC to restore and maintain confidence in the markets by facilitating the transfer of critical financial information to potential investors. Corporate financial statements serve as a tool for corporate transparency and investor security. Federal financial statements serve as a report card, intending to illustrate the effectiveness and efficiency of government agencies.

This report evaluates whether corporate-style federal financial statements provide utility to federal users. Federal and corporate reporting objectives are different. Can similar statements serve both sets of user needs?

### **C. FEDERAL FINANCIAL REPORTING LEGISLATION**

In 1802, Thomas Jefferson, remarking on the necessity of financial transparency within the union, said,

I think it is an objective of great importance...to simplify our system of finance and to bring it within comprehension of every member of Congress...the whole system has been involved in an impenetrable fog. There is a point...on which I should wish to keep my eye...a simplification of the form of accounts...so as to bring everything to a single centre; we might hope to see the finances of the Union as clear as a merchant's books, so that every member of Congress, and every man of any mind in the Union, should be able to comprehend them to investigate abuses, and consequently to control them. (GAO, 1985)

The U.S. Constitution supports Jefferson's concern in Article I, requiring the financial reports from the federal government:

No money shall be drawn from the Treasury, but in consequence of appropriations made by law; and a regular statement of account of the receipts and expenditures of all public money shall be published from time to time. (U.S. Constitution Art. I, sec. IX)

Although the Constitution provided the foundation for financial reporting, it left much interpretation concerning the form and content of the reports and who assumes responsibility for the administration and supervision of reporting. In the last century, there have been numerous acts of legislation that have addressed the concern Jefferson expressed over 200 years ago. The Budget and Accounting Procedures Act (BAPA) of 1950, the Chief Financial Officers (CFO) Act of 1990, the Government Performance and Results Act (GPRA) of 1993, the Government Management Reform Act (GMRA) of 1994, the Federal Financial Management Improvement Act (FFMIA) of 1996, and the Tax Dollars Act of 2002 have impacted the federal financial reporting environment.

### **1. Budget and Accounting Procedures Act of 1950**

The Budget and Accounting Procedures Act directs the Comptroller General of the United States to prescribe the principles, standards, and requirements for accounting to be followed by all executive agencies. In accordance with BAPA, the head of each executive agency has the responsibility for establishing and maintaining adequate systems of accounting and internal control. Finally, the act directed the use of accrual-based accounting to maintain adequate systems of accounting rather than a cash basis (United States Department of Commerce, 2014, 3-3).

### **2. Chief Financial Officers Act of 1990**

The Chief Financial Officers (CFO) Act of 1990 represented the culmination of legislative attempts at financial reform. Two months before the passage of the CFO Act, then-Comptroller General Charles A. Bowsler testified about the state of federal financial management. He said,

.....that federal financial management is fraught with problems—the lack of control over assets, inability to collect receivables, lax contract and grant management, warehouses bulging with unneeded inventories, and improper claim payments—many of which have been subject to congressional scrutiny and public concern for years. Managers should not be stuck in the morass of financial data with little relevant, timely, and comprehensive information to assist them in making decisions. (Khan, 2011)

Soon after the enactment of the CFO Act, GAO stated in a report that the financial management system of the government features antiquated financial systems that do not provide relevant information to satisfy today's information needs (Khan, 2011).

The CFO Act was a direct response to these concerns as it directed agency CFOs to implement financial management systems that comply with governmental GAAP standards and internal control requirements. The act addresses the need for sufficient and competent financial information, along with an accountability to accurately report accounting information.

The act had three major purposes as stated in Section 102(b):

- Bring more effective general and financial management practices to the Federal Government through statutory provisions which would establish in the Office of Management and Budget a Deputy Director for Management, establish an Office of Federal Financial Management headed by a Controller, and designate a Chief Financial Officer in each executive department and in each major executive agency in the Federal government.
- Provide for improvement in each agency of the Federal government, of systems of accounting, financial management, and internal controls to assure the issuance of reliable financial information and to deter fraud, waste, and abuse of government resources.
- Provide for the production of complete, reliable, timely, and consistent financial information for use by the executive branch of the government and the Congress in the financing, management, and evaluation of Federal programs. (Chief Financial Officers Act, 1990)

Of note, the CFO Act designated 10 federal agencies (Department of Agriculture, Department of Labor, Veterans Affairs, General Services Administration, Social Security Administration, Department of Housing and Urban Development, Army, Air Force, Internal Revenue Service, and United States Customs Service) to produce audited

financial statements on each revolving fund, trust fund, and substantial commercial function by 1992. In a report commenting on this requirement GAO stated, “Most importantly, the act requires that financial statements be prepared and audited... Together, these features of the CFO Act will improve the reliability and usefulness of such Agency financial information” (GAO, 1991). The report seeks to achieve this goal in the analysis section by determining balance sheet usefulness through ratio analysis.

### **3. The Government Performance and Results Act of 1993**

The purpose of the Government Performance and Results Act (GPRA) is to enhance the confidence of American citizens in the capability of the federal government by holding federal agencies accountable for achieving program results. The GPRA requires agencies to initiate program performance reforms with a series of initial projects in setting program goals, measuring program performance against stated goals, and reporting the progress publicly. Under the act, federal managers are required to provide congressional lawmakers objective information on the effectiveness and efficiency of their programs and spending. The act requires agencies to submit strategic plans, annual performance plans, and managerial accountability (United States Department of Commerce, 2014, p. 3-2).

### **4. The Government Management Reform Act of 1994**

The Government Management Reform Act (GMRA) requires that the head of each executive agency submit annual audited financial statements, which reflect the results of operations and cover all accounts and associated activity of each office, bureau, and activity of the agency. The statements will be submitted to the Director of the Office of Management and Budget for each fiscal year. Additionally, the act requires the production of annual government-wide financial statements that contain the results of operations of the executive branch (United States Department of Commerce, 2014, p. 3-2).

## **5. The Federal Financial Management Improvement Act of 1996**

The Federal Financial Management Improvement Act (FFMIA) requires that each agency implement financial management systems that comply with federal financial management systems requirements, applicable federal accounting standards, and the United States Government Standard General Ledger at the transaction level. Congress implemented the legislation because it found the following:

- Federal accounting standards are not uniformly implemented in financial management systems for agencies.
- Federal financial management continues to be seriously deficient in identifying costs, reflecting total liabilities of congressional action, and accurately reporting the financial condition of the Federal Government.
- Current Federal accounting practices do not accurately report financial results of the Federal government or the full cost of programs and activities.
- Waste and inefficiency undermine the confidence of the American people in the government.
- To restore accountability and restore public confidence agencies must incorporate accounting standards and reporting objectives previously established into their financial management systems so all assets, liabilities, revenues, expenses, and the full costs of programs can be consistently and accurately recorded and reported throughout the Federal government
- When standards and concepts implemented by FASAB are incorporated into the Federal financial management system, agencies will be able to provide information that will assist the Congress and financial managers to evaluate federal programs and make better decisions
- Financial management systems that support FASAB standards and concepts will improve Federal financial management in the long term (Federal Financial Management Improvement Act, 1996).

As stated in the legislation, the FFMIA is intended to build upon and complement the CFO Act of 1990, the GPRA of 1993, and GMRA of 1994. In Chapter V, the authors of this research assess whether these aims are met.

## **D. CORPORATE FINANCIAL REPORTING LEGISLATION**

Before the stock market crash of 1929, there was little support for government regulation of securities markets in the United States. Although proposals requiring the disclosure of financial information existed, there was little demand or interest in governmental interference in the securities markets. After the crash, the public's confidence in the markets bottomed with the large amounts of wealth lost by all involved. The government recognized that economic recovery would require the public to gain confidence in the markets. The first set of numerous regulatory acts were the Securities Act of 1933 and The Securities Exchange Act of 1934. Later, in response to other crises of confidence in the markets, the Sarbanes-Oxley Act of 2002 and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 followed. Collectively, these laws seek to instill investor confidence into the markets for the good of the economy.

### **1. Securities Act of 1933**

The Securities Act of 1933 served as the initial governmental response to the stock market crash of 1929. The Act is often referred to as the "truth in securities" law and has two primary objectives: to require that investors receive financial and other significant information concerning securities being offered for public sale; and to prohibit deceit, misrepresentations, and other fraud in the sale of market securities. The Act required a registration of all securities available for sale to the public. The registration process enables investors to make informed investment decisions (SEC, n.d.-b).

### **2. Securities Exchange Act of 1934**

The Securities and Exchange Act of 1934 created the SEC. The act gives the SEC far-reaching authority over the securities industry. This authority includes the empowerment to register, regulate, and supervise brokerage firms, transfer agents, and clearing agencies as well as self-regulatory agencies such as the New York Stock Exchange. Additionally, the act restricts certain conduct in the market and empowers the SEC with powers to discipline violators of the prescribed rules. Rules include reporting, tender offers, and insider trading. Reporting requirements with the Securities and

Exchange Act of 1934 mandated companies with more than \$10 million in assets whose securities are owned by more than 500 investors shall file annual reports (SEC, n.d.-b).

### **3. Sarbanes-Oxley Act of 2002**

The Sarbanes-Oxley Act of 2002 came in the wake of a corporate scandal of significant magnitude. Sarbanes-Oxley mandated several reforms aimed to increase corporate responsibility, enhance financial disclosure, and counter corporate accounting fraud. The Act created the PCAOB, which represented the first regulation of the auditing profession. Corporations would now be subject to integrated audits that represented an audit of their annual financial statements and their internal control systems (SEC, n.d.-b).

### **4. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010**

After the near collapse and government bailout of the financial markets, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was enacted. The act was an attempt to bolster the regulatory system with respect to consumer protection, trading restrictions, credit ratings, financial products, corporate governance, disclosure and transparency (SEC, n.d.-b).

## **E. DISCUSSION OF LEGISLATION IMPACTING CORPORATE AND FEDERAL FINANCIAL REPORTING**

Legislation governing both sectors serves a common purpose: to improve the quality of financial reporting by corporations and federal agencies for the benefit of users of that information. In both cases, legislation arose to protect stakeholders from financial malpractice. Corporate legislation serves to protect private investors from the nature of the market while federal legislation serves to protect federal resources from the nature of government. A major premise of the CFO Act of 1990 is to protect from fraud, waste, and abuse of government resources while the Securities Act of 1933 featured a primary objective of prohibiting fraud in the sale of market securities. Events of the past support the need for financial reporting in the corporate and government environment, and legislation reflects this truth.

## **F. OBJECTIVES AND USERS OF FEDERAL FINANCIAL REPORTING**

SFFAC 1, “Objectives of Federal Financial Reporting,” outlines the primary objectives of federal reporting and provides the foundation for all subsequent statements from FASAB. SFFAC 1 focuses on uses, user needs, and objectives of financial reporting and guides the FASAB in developing GAAP standards to enhance financial information disseminated by the federal government through the following: a) demonstrate its accountability, b) provide useful information, and c) help internal users of financial information improve the government’s management (OMB, 1993b, para 3).

The FASAB declares that any objective of financial reporting must be based on the needs of users of the reports. The federal government derives its powers from the consent of its citizens. Consequently, financial reports must accurately reflect the nature of the federal government and provide useful information to the citizens, their elected representatives, federal executives, and program managers. Current and potential users desire information concerning how the government is doing with respect to budgetary integrity, operating performance, stewardship, and systems and control (OMB, 1993b, para 8, 11).

Table 1 details the objectives of financial reporting as determined by FASAB and stated in SFFAC 1. In Chapter V, the statements will be evaluated with respect to their ability to serve these objectives.

As stated, the FASAB believes it is important to understand the users and their needs before determining the objectives of reporting. Therefore, all stated objectives relate to the desires of clearly defined user groups. SFFAC 1 delineates perspective users and their associated needs as summarized in Table 2. In Chapter V, the statements will be evaluated with respect to their ability to serve these users.

Table 1. Objectives of Financial Reporting

<p>Budgetary Integrity</p>	<p>Federal financial reporting should assist in fulfilling the government’s duty to be publicly accountable for monies raised through taxes and other means for their expenditure in accordance with the appropriations laws that establish the government's budget for a particular fiscal year and related laws and regulations. Federal financial reporting should provide information that helps the reader to determine (a) how budgetary resources have been obtained and used and whether their acquisition and use were in accordance with the legal authorization, (b) the status of budgetary resources, and (c) how information on the use of budgetary resources relates to information on the costs of program operations and whether information on the status of budgetary resources is consistent with other accounting information on assets and liabilities.</p>
<p>Operating Performance</p>	<p>Federal financial reporting should assist report users in evaluating the service efforts, costs, and accomplishments of the reporting entity; the manner in which these efforts and accomplishments have been financed; and the management of an entity's assets and liabilities. Federal financial reporting should provide information that helps the reader to determine (a) the costs of providing specific programs and activities and the composition of, and changes in, these costs; (b) the efforts and accomplishments associated with federal programs and the changes over time and in relation to costs; and (c) the efficiency and effectiveness of the government's management of its assets and liabilities.</p>
<p>Stewardship</p>	<p>Federal financial reporting should assist report users in assessing the impact on the country of the government's operations and investments for the period and how, as a result, the government's and the nation's financial condition has changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine whether (a) the government's financial position improved or deteriorated over the period; (b) future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due; and (c) government operations have contributed to the nation's current and future well-being.</p>
<p>Systems and Control</p>	<p>Federal financial reporting should assist report users in understanding whether financial management systems and internal accounting and administrative controls are adequate to ensure that (a) transactions are executed in accordance with budgetary and financial laws and other requirements, consistent with the purposes authorized, and are recorded in accordance with federal accounting standards; (b) assets are properly safeguarded to deter fraud, waste, and abuse; and (c) performance measurement information is adequately supported.</p>

Table 2. Prospective User Needs

<p>Citizens</p>	<p>Citizens are interested in many aspects of the federal government. They are concerned about individual programs, candidates for office, the services the government provides, and the fiscal responsibility of their elected officials and appointed representatives. Citizens receive and pay for government services and therefore are concerned with the outputs and outcomes of those services and the efficiency with which they are provided. Citizens are concerned about their families and, in particular, with the financial burden their children and grandchildren will inherit. As individuals, citizens typically have limited time and ability to analyze reports about their government; they want and rely on assurances that the government is functioning economically, efficiently, and effectively.</p>
<p>Congress</p>	<p>This group includes Congress and its staffs, including the staff of the Congressional Budget Office and the GAO. Congress is concerned with broad policies and priorities, and the programs that implement those priorities. It decides what taxes to impose, what funds should be spent, and for what purpose. Congress participates in the basic decisions that describe the intent of the government. Such decisions include passing laws in response to public demand, allocating resources among programs, and establishing policy that affects various aspects of the country's economic and social life. These decisions often are influenced by assessing costs and benefits and by considering the effect of the government's aggregate financial requirements on the economy.</p>
<p>Executives</p>	<p>This group includes the president and those acting as his agents. Executives, like Congress, are concerned with the government's goals, objectives, and policies. Executives focus on the strategic plans and programs that are intended to achieve presidential and congressional goals and to implement their policies. In particular, they pay attention to budgets that, from the perspective of each agency, are the source of resources needed to achieve goals and implement policies. Executives develop legislative proposals, recommend the necessary level of program funding, and formulate financing and revenue-raising strategies. They determine whether program managers have been accountable for the resources entrusted to them and whether programs are operating efficiently and effectively.</p>
<p>Program Managers</p>	<p>Those who manage government programs. Program managers establish operating procedures for their programs and manage them within the limits of the spending authority granted by Congress. They select, supervise, and evaluate personnel. They also make sure that program inventory and facilities are acquired economically, maintained adequately, and used efficiently. Program managers need to provide information to enable executives and Congress to monitor the programs.</p>

## **G. OBJECTIVES AND USERS OF CORPORATE FINANCIAL REPORTING**

FASB is responsible for establishing GAAP in the business sector. FASB has released numerous standard and concept statements that have the purpose of establishing fundamentals and guidelines on which financial accounting and reporting requirements are based. *Statement of Financial Accounting Concepts No. 1 (FASB, 1978): Objectives of Financial Reporting by Business Enterprises*, released November 1978, provides information concerning objectives and users of financial reporting.

CON 1 outlines the objectives of general-purpose financial reporting. In the business sector financial reporting is tailored to stakeholders external to the firm. CON 1 states,

- The objectives stem from the needs of external users who lack the authority to prescribe information they want and must rely on information management communicates to them.
- The objectives are directed toward the common interests of many users in the ability of an enterprise to generate favorable cash flows but are phrased using investment and credit decisions as a reference to give them focus. (FASB, 1978, pp. 4–5)

CON 1 states the following objectives of financial reporting by business enterprises:

- Financial Reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions. The information should be comprehensible to those who have a reasonable understanding of business and economic activities and are willing to study the information with reasonable diligence.
- Financial reporting should provide information to help present and potential investors and creditors and other users in assessing the amounts, timing, and uncertainty of prospective cash receipts from dividends or interest in the proceeds from the sale, redemption, or maturity of securities or loans. Since investors' and creditors' cash flows are related to enterprise cash flows, financial reporting should provide information to help investors, creditors, and others assess the amounts, timing, and uncertainty of prospective net cash inflows to the related enterprise
- Financial reporting should provide information about the economic resources of an enterprise, the claims to those resources, and the effects of transactions, events, and circumstances that change its resources and claims to those resources. (FASB, 1978, p. 5)

FASB describes several important assumptions in understanding the objective statements. The primary focus of financial reporting is information about earning and components. Earnings based on accrual accounting generally provide a more accurate indication of an entity's ability to generate cash flows compared to information provided by cash receipts and payments. Additionally, management stewardship is important. Financial reporting should provide information about the financial performance of a firm and how management handled its stewardship responsibility to owners. Users may use the reported earnings and information about the elements of financial statements in numerous ways to assess the prospects for future cash flows. Although financial reporting should provide basic information to aid users, they do their own evaluating, estimating, predicting, assessing, confirming, changing, and rejecting (FASB, 1978, pp. 5–6).

As stated previously, financial reporting is focused mostly on the needs of current and potential stakeholders external to the firm. It is assumed that information necessary to make informed investment and credit decisions is unavailable to those outside of the business entity. Financial reporting is designed to provide external users with requisite information to make economic decisions on their relationships to and knowledge about business enterprises. CON 1 describes potential users as owners, lenders, suppliers, potential investors and creditors, employees, management, directors, customers, financial analysts and advisors, brokers, underwriters, stock exchanges, lawyers, economists, taxing authorities, regulatory authorities, legislators, financial press and reporting agencies, labor unions, trade associations, business researchers, teachers and students, and the public (FASB, 1978, p. 13).

Potential users of financial information most directly related to a specific business entity are generally interested in its ability to generate positive cash flows because their decisions are related to characteristics of expected future cash flows. For investors, lenders, suppliers, and employees a business entity is a source of cash in the form of dividends, interest, appreciated market prices, debt repayment, payment for services, or wages. These stakeholders invest cash, goods, or services into the entity and expect to obtain sufficient cash in return to justify the resource investment. Users are concerned with the firm's ability to generate favorable cash flows and may be interested in the

market's perception of that ability, as the price of the firm's securities are impacted (FASB, 1978, p. 14).

## **H. DISCUSSION OF FEDERAL AND CORPORATE USERS AND OBJECTIVES**

In both sectors, financial reporting objectives are based on the needs of users of the reports. Generally, users of the reports cannot directly collect the information due to lack of authority in the public sector or lack of access in the federal sector. In both sectors, users possess a concern for the health of the entity, while the entity has responsibility to the users for fiscal transparency. Differences arise, however, when reviewing the purpose of the reporting entity.

In corporate reporting, investors are concerned with the financial health and sustainability of the corporation. Objectives reflect these concerns as they seek to provide potential investors and creditors with sufficient information to make informed economic decisions. In federal reporting, users are concerned with how the government is managing resources supplied by its citizens. All power of the federal government is derived from the consent of its citizens; therefore, financial reporting is intended to reflect this principle. This fundamental difference surrounding the objective of a corporation compared to that of the government envelops the central question of this research. Although reporting objectives of the corporate and federal sectors differ (one is judged by profitability while the other is judged by effective and efficient stewardship), the research seeks to understand whether common financial statement information can satisfy users with divergent objectives.

## **I. PRIOR RESEARCH UPON WHICH THIS THESIS BUILDS**

Before the Chief Financial Officer's Act of 1990, the federal government prepared financial reports as a means to account for the receipt of federal resources. These reports were judged by Congress as inconsistent, inaccurate, and unreliable and as a result Congress passed reformation legislation. The CFO Act required that agencies produce auditable financial statements, requiring that the federal government subordinate itself to accounting standards similar to corporate firms. Audited financial statements

represent a means to fully understand the financial position of reporting entities and provide decision makers with reliable financial information on which to base resource-allocation decisions.

In response to the CFO Act, research sought to construct a framework to utilize required financial reports to conduct ratio analysis. This section will discuss that framework and the associated research presented from the proposed framework. While this current research did not fully rely on the framework developed in previous work, it did provide a foundation to proceed with the authors' research in analyzing ratios derived from the balance sheet.

Brady (1999) developed a framework that originated from an analysis of financial ratio frameworks in three sectors as follows: private for-profit; private not-for-profit; state and local government (Brady, 1999, p. 103).

A federal financial ratio analysis framework did not exist; therefore, an understanding of the frameworks above was required. Ratio analysis frameworks in the sectors mentioned above, however, would not fully suffice due to two acknowledged significant characteristics unique to the federal government. Federal agencies use appropriated funds for specific programs based on the Planning, Programming, and Budgeting System (PPBS). Federal funds are appropriated to distinct agencies based on the needs of their programs. This requires that both individual programs and agencies as a whole are financially analyzed. Secondly, most federal entities cost money rather than generate it through operations. Therefore, it is important to analyze agencies from a position of cost rather than profit (Brady, 1999, p. 103).

Federal agencies possess a wide spectrum of operating activities; thus, there is no "catch-all" ratio analysis framework that could be applied to all agencies uniformly. A more suitable approach would involve tailoring the analysis with specific goals and operating characteristics of the specific agency under consideration. The framework presented in Brady's research sought to be general enough to cover major spectrums of financial operating characteristics for all federal government agencies (Brady, 1999, p. 104).

The developed framework sought to facilitate the interpretation of federal financial statements. Facilitation was achieved by reducing the large number of items incorporated onto the financial statements into a small set of ratios that would assist the decision-making process by highlighting relevant information. Ratio analysis allows for meaningful comparisons of financial data over time and across reporting entities for a given time period. The developed framework contributed to the ultimate goal of improved federal financial operations by enabling evaluation of operations, performance, and financial status of federal agencies as indicated by their audited financial statements (Brady, 1999, p. 104).

In addition, these ratios would further be used to conduct trend analysis, cross section analysis, and benchmarking to assess the efficiency and effectiveness of federal programs and agencies (Brady, 1999, p. 104).

Brady's framework relied heavily on understanding the users and objectives of financial reporting. The users and objectives of financial statements, as stated by FASB, are discussed at the beginning of the chapter. The users of financial reports were determined to be citizens, Congress, executives, and program managers. The objectives of federal financial reporting were determined to be budgetary integrity, operational effectiveness, stewardship, and systems and control. A federal framework for ratio analysis should initiate discussion among stated users concerning objectives delineated in FASAB concept statements. The framework should not provide clear answers, but financial information on the symptoms of the reporting entity's economic condition and guide the user in understanding the financial condition of a reporting entity (Brady, 1999, p. 105).

In developing the ratio framework, specifically the selection of ratios, four steps were employed by Brady (1999):

- Identification of relevant factors in assessing the objectives of federal financial reporting as determined by FASAB in SFFAC No. 1.
- Identification of the elements of financial reports that coincide with reporting objectives as stated by FASAB.
- Relation of financial report line items with each other from financial reports identified in No. 2 above. Those that provide minimum

information content without redundancy are accepted. Those with no logical value and/or redundant ratios are rejected.

- Identification of those ratios that provide the most relevant information on the objective of federal financial reporting under consideration are classified under that specific objective.

While this research will not use the complete framework developed by Brady, it will rely on a substantial portion of its foundation for ratio analysis and theory supporting its usefulness. This research intends to follow Brady's (1999) recommendation concerning the need to tailor ratios for specific agencies due to the large spectrum of activities within the federal government. This research will focus on the objective of stewardship and one principal financial statement, the balance sheet. Drawing from Brady's point concerning the CFO Act forcing federal agencies to adopt corporate-style accounting standards, the need for agencies to develop specific ratio analysis frameworks for their specific activity, and the stewardship objective, this research will seek to determine ratios that will aid FASAB-defined users and objectives of financial reporting.

Kenney (2000) used Brady's framework to calculate and evaluate its ability to measure aspects of the financial condition of government agencies. Statistical tests were used to describe the distribution of each ratio and the relationship between the ratios. Broad conclusions are that numerous financial ratios exist, which do have the ability to distinguish differing aspects of the financial condition of government agencies, but the meaning of proposed federal financial ratios is not yet well understood (Kenney, 2000, p. v).

At the time of Kenney's research, the CFO Act of 1990 had been in effect for one decade. At the time, only half of CFO agencies had complied with the statutory requirement by receiving unqualified audit opinions. The reporting environment was relatively young and inexperienced; therefore, significant limitations existed as to the credibility of figures reported by the CFO agencies. Kenney concluded that many differences exist in the quality of information reported in federal financial statements due to the inability of some agencies to provide accurate and complete statements. Presently,

23 of 24 agencies have received unqualified opinions in a more mature, reliable reporting environment. This should give more credibility to financial information determined from financial ratio analysis (Kenney, 2000, p. 94).

Kenney (2000) claims that with the progression of time and improved reporting, the possibility of trend and benchmarking research improves. As entities improve upon their reporting standards, more analysis must be performed as to the trend of the ratio's behavior over time. Benchmarking involves comparisons between one reporting entity's ratios and those of a related entity (ideally a top-performing entity). In particular, more attention could be paid to evaluation of the individual entity's range of financial condition with respect to the financial reporting objectives (Kenney, 2000, p. 98).

Kenney (2000) states, "As reporting requirements are altered, or as agencies improve the quality of the financial information reported in their financial statements, additions and/or deletions of ratios from the framework employed could be discovered or justified" (p. 98). It is the goal of this research to better understand ratios derived from the balance sheet. As Kenney speculated, the reporting environment has improved and the quality of financial information has increased. This research will seek to better understand government accounting and reporting by understanding the theory and principles that provide its foundation. The theory and principles of government accounting are based on corporate accounting. FASB has established corporate accounting standards for the investor to ensure the corporation is a credible steward of the investor's or prospective investor's resources. A primary objective of government financial reporting as stated by FASAB is stewardship. Brady (1999) provides an initial framework for better understanding stewardship through ratio analysis. This research hopes to provide the connection to better understanding ratios derived from the balance sheet in order to give users financial information that is actionable in achieving stated objectives.

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### **III. THE BALANCE SHEET**

The balance sheet is one of four financial statements required for financial reporting. The other statements consist of the income statement, statement of cash flows, and statement of shareholder's equity.

The balance sheet is often referred to as a "snapshot in time" as it represents a current isolated viewpoint rather than changes over time. For instance, a representative account displayed on the balance sheet is cash. The cash account changes daily to reflect deposits, withdrawals and interest earned. The balance sheet 'snapshot' would reflect the amount of resources in the cash account for only the day documented on the balance sheet date. Therefore, the balance sheet provides users a tool for horizontal analysis or a common reference point for comparison year-to-year. Therefore, the balance sheet is prepared on the same day each year (for a calendar-based accounting system, this is December 31, for accrual-based firms, it is the last day of the accounting year).

Resources or assets expected to convert into cash within one year are referred to as current assets, and obligations or liabilities expected to be paid for within a year are referred to as current liabilities. Conversely, if the company plans to extend an obligation beyond one year to turn the asset to cash or to pay off the liability, the account is referred to as a noncurrent asset or noncurrent liability.

It is possible to compare and contrast corporate balance sheets with federal agency balance sheets through identification of asset, liability and equity accounts. Through examining differences and similarities in account definitions and composition, it is possible to discuss usefulness of information content between government and corporate accounting with respect to the balance sheet.

To begin the comparison, it is useful to understand how a balance sheet is arranged. The balance sheet is organized in three parts listed in their respective order: assets, liabilities, and shareholder's equity; on federal agency balance sheets, shareholder's equity is replaced by net position. The balance sheet should "balance" by employing the equation:  $\text{assets} = \text{liabilities} + \text{shareholder's equity or net position}$ . Each of

these three parts are further arranged by liquidity. Within the assets category, the cash account is denoted first, followed by all other asset accounts in decreasing order of rate to cash conversion. Therefore, accounts receivables are listed prior to property, plant and equipment since it normally takes less time to transform accounts receivables into cash than selling a large factory for cash. Liabilities follow the same precept with respect to conversion rate to liquidity. Whereas assets are predicated on conversion to cash, liabilities are structured relative to how soon the firm will be able to dispense of the liability. Therefore, accounts payable is listed before long-term debt. Entities anticipate disposing of accounts payable within a year while entities impute years to satisfy liabilities categorized as long-term debt.

Table 3 is an example of a typical corporate balance sheet. Table 4 is an example of a federal agency balance sheet.

Table 3. Example Corporate Balance Sheet

December 31, 20xx

<u>Assets</u>			
Current assets			
Cash		\$1,000	
Short-term investments		500	
Accounts receivable		2,500	
Inventories		700	
Supplies		100	
Prepaid insurance		100	
Total current assets			\$4,900
Long-term investments			
Investment in stock		800	
Investment in real estate		10,000	10,800
Property, plant, and equipment			
Land		4,000	
Office equipment	\$1,200		
Less: Accumulated depreciation	<u>800</u>	400	4,400
Intangible assets			
Patents			600
Total assets			<u>\$20,700</u>

Liabilities and Stockholders' Equity

Current liabilities		
Notes payable	\$1,500	
Accounts payable	1,100	
Salaries payable	700	
Unearned revenue	200	
Interest payable	<u>100</u>	
Total current liabilities		\$3,600
Long-term liabilities		
Mortgage payable	8,000	
Notes payable	<u>2,000</u>	10,000
Total long-term liabilities		
Total liabilities		13,600
Stockholders' equity		
Common stock	4,000	
Retained earnings	3,100	7,100
Total stockholders' equity		<u>\$20,700</u>

Table 4. Example Federal Agency Balance Sheet (from Under Secretary of Defense [Comptroller], 2013).

<b>Department of Defense Consolidated Balance Sheet</b>		
<b>Agency Wide</b>		
<i>Dollars in Millions</i>		
<b>As of September 30, 2013 and 2012</b>	<b>2013</b>	<b>Restated 2012</b>
	<b>Consolidated</b>	<b>Consolidated</b>
<b>ASSETS (Note 2)</b>		
<b>Intragovernmental:</b>		
Fund Balance with Treasury (Note 3)	\$ 482,661.7	\$ 512,121.6
Investments (Note 4)	711,497.5	641,666.5
Accounts Receivable (Note 5)	1,284.2	1,439.6
Other Assets (Note 6)	1,757.6	1,583.2
<b>Total Intragovernmental Assets</b>	<b>\$ 1,197,201.0</b>	<b>\$ 1,156,810.9</b>
Cash and Other Monetary Assets (Note 7)	1,529.7	1,822.0
Accounts Receivable, Net (Note 5)	10,456.2	11,522.4
Loans Receivable (Note 8)	1,267.7	957.5
Inventory and Related Property, Net (Note 9)	253,997.5	243,299.7
General Property, Plant and Equipment, Net (Note 10)	639,611.9	601,458.0
Investments (Note 4)	3,333.9	3,255.0
Other Assets (Note 6)	72,466.9	66,601.2
<b>TOTAL ASSETS</b>	<b>\$ 2,179,864.8</b>	<b>\$ 2,085,726.7</b>
<b>Stewardship Property, Plant &amp; Equipment (Note 10)</b>		
<b>LIABILITIES (Note 11)</b>		
<b>Intragovernmental:</b>		
Accounts Payable (Note 12)	\$ 1,574.7	\$ 1,762.9
Debt (Note 13)	1,174.7	952.6
Other Liabilities (Note 15)	12,887.7	12,941.6
<b>Total Intragovernmental Liabilities</b>	<b>\$ 15,637.1</b>	<b>\$ 15,657.1</b>
Accounts Payable (Note 12)	20,149.1	19,492.0
Military Retirement and Other Federal Employment Benefits (Note 17)	2,280,567.8	2,323,924.3
Environmental and Disposal Liabilities (Note 14)	58,333.9	62,602.6
Loan Guarantee Liability (Note 8)	45.8	12.7
Other Liabilities (Note 15)	37,393.5	36,308.1
<b>TOTAL LIABILITIES</b>	<b>\$ 2,412,127.2</b>	<b>\$ 2,457,996.8</b>
<b>Commitments &amp; Contingencies (Note 16)</b>		
<b>NET POSITION</b>		
Unexpended Appropriations— Other Funds	\$ 499,735.3	\$ 528,955.6
Cumulative Results of Operations— Funds From Dedicated Collections (Note 23)	12,707.8	11,967.6
Cumulative Results of Operations— Other Funds	(744,705.5)	(913,193.3)
<b>TOTAL NET POSITION</b>	<b>\$ (232,262.4)</b>	<b>\$ (372,270.1)</b>
<b>TOTAL LIABILITIES AND NET POSITION</b>	<b>\$ 2,179,864.8</b>	<b>\$ 2,085,726.7</b>

## **A. GOVERNMENT FINANCIAL REPORTING GUIDANCE**

Agencies reporting under the executive branch are required to submit audited financial statements to the OMB as required by the CFO Act. Reporting entities are required to ensure their financial statements comply with the requirements in OMB Circular No. A-136, “Financial Reporting Requirements,” which

...establishes a central point of reference for all Federal financial reporting guidance for executive branch departments, agencies, and entities required to submit audited financial statements under the Chief Financial Officers Act of 1990 (CFO Act), the Government Management Reform Act of 1994 (GMRA), the Accountability of Tax Dollars Act of 2002 (ATDA), and Annual Management Reports under the Government Corporations Control Act (31 U.S.C. § 9101 et seq.). (OMB, 2013, p. 1)

OMB Circular No A-136 is guided by standards and concepts found in the *Federal Accounting Standards and Advisory Board (FASAB) Handbook*. OMB Circular A-136 requires that the “Annual Financial Statements” of a reporting entity consist of the following:

- Management’s discussion and analysis (MD&A)
- Basic statements and related notes
- Required supplementary stewardship information (RSSI)
- Required supplementary information (RSI) (OMB, 2013, p. 33)

The primary mission of the FASAB is to recommend standards and concepts to federal agencies to standardize and improve federal financial reporting. FASAB guidance is published in *FASAB Handbook of Federal Accounting Standards and Other Pronouncements*. Primarily, the handbook features recommendations in general, and specific recommendation guidance is promulgated in SFFASs. SFFASs shall be considered GAAP for federal agencies, and reporting agencies under the CFO Act shall prepare their financial statements in accordance with SFFAS guidance.

## **B. CORPORATE FINANCIAL REPORTING GUIDANCE**

Publicly-traded firms are required by the Securities Exchange Act of 1934 and other federal and state laws to file annual reports to communicate the results of the firm’s

operations. This annual report is called the annual report to shareholders and it consists of MD&A and the following four statements:

- Balance sheet or statement of financial position at a specified time
- Income statement or statement of profit and loss for a specified time period
- Statement of cash flows
- Statement of shareholder's equity
- Notes to the financial statements, including various supporting schedules (Stickney, 2009, p. 7)

### **C. BALANCE SHEET ASSET ACCOUNTS**

This section is organized by line starting with current assets and continuing chronologically through assets listed on the Balance Sheet. Where corporate and government share the same line item, each is described followed by a discussion of the differences.

(1) Corporate Assets. Corporate assets are economic resources with the potential to provide future economic benefits to a firm. United States GAAP requires that balance sheets separate current items, or accounts, from noncurrent items. Current assets include cash and various assets that a firm expects to turn into cash, sell, or consume within approximately one year from the date of the balance sheet. Noncurrent assets are typically held and used for several years and include land, buildings, equipment, patents, and long-term investments in securities. GAAP uses two conceptual bases to measure the monetary amounts at which assets appear on the balance sheet: historical and current amounts. Historical amounts reflect the acquisition cost of assets or the amount of funds originally obtained from creditors or owners. Current amounts reflect some measure of current value as of the balance sheet date. GAAP requires three criteria for firms to recognize assets: 1) the firm owns or controls the right to use the item, 2) the right to use the item arises as a result of a past transaction or exchange, 3) the future benefit has a relevant measurement attribute that can be qualified with sufficient reliability (Stickney, 2009).

(2) Federal Assets. Federal assets are tangible items owned by the federal government that have probable economic benefits that can be obtained or controlled by a federal government entity. SFFAS No.1 delineates assets into four classifications on the balance sheet: governmental or intra-governmental, and entity or non-entity assets. Non-entity assets, which may be intra-governmental or governmental, are separately disclosed in the footnotes to the balance sheet. Balance sheet classifications are defined below in accordance with SFFAS No. 1.

- Entity Assets: Assets that the reporting agency has authority to use in its operations. The authority to use funds in an entity's operations means that entity management has the authority to decide how funds are used, or management is legally obligated to use funds to meet entity obligations (e.g., repay loans from Treasury).
- Non-Entity Assets: sets that are held by an entity but are not available to the entity. An example of a non-entity asset is income tax receivables, which the Internal Revenue Service collects for the U.S. government but has no authority to spend.
- Intra-governmental Assets (and liabilities): arise from transactions among federal entities.
- Governmental Assets (and liabilities): arise from transactions of the federal government or an entity of the federal government with nonfederal entities. The standards require that all selected assets and liabilities addressed in SFFAS No. 1 be reported separately as intra-governmental or governmental assets and liabilities.

(3) Differences between Corporate and Federal Assets. Corporations divide the asset accounts based on longevity and liquidity: current assets will be used within a year and long-term assets will be used in a period of one year or longer. Liquidity is determined by how quickly the asset can be sold for cash. Federal accounts are divided by which organization (entity) owns the asset as well as whether the asset is transacted within the federal government (intra-governmental) or with non-federal transactions (governmental).

Corporate assets are expected to provide future economic benefits to the firm. Federal assets have a probable economic benefit that can be obtained or controlled by the entity. While both are expected to provide benefits, an important difference exists. Assets possessed by the firm are controlled by the firm and targeted to improve the value of the

firm. Federal assets are dispensed to entities that will use those assets to accomplish the mission of the entity or agency. This delegation of assets for other agencies to steward is a crucial difference introduced in the federal sector.

(4) Discussion of Corporate and Federal Assets. Corporations attempt to give external stakeholders a sense of the worth of assets, enabling the stakeholders to put a proper value on the asset. By listing the assets as current or long-term, the stakeholder better understands the duration of the asset. Furthermore, assets are organized by liquidity, enabling the stakeholder to assess how quickly the asset can be turned into cash to pay liabilities or distribute to shareholders. Federal accounts are listed in order of current to long-term and by liquidity, just as corporate assets are. Federal accounts, however, emphasize the owner of the assets (agencies or entity) and how the assets are transacted between agencies. The best example is that the Internal Revenue Service (IRS) holds receipts on its balance sheet but has no authority to use the receipts. The focus is not on profitability, but on stewardship.

### **1. Federal Fund Balance with Treasury**

SFFAC No 2 states that Federal Fund Balance with Treasury (FBWT) represents the amount in the entity's accounts with the U.S. Treasury that is available only for the purposes for which the funds were appropriated. It may also include balances held by the entity in the capacity of a banker or agent for others.<sup>1</sup>

SFFAS No 1 states that a federal entity's FBWT is the aggregate amount of funds in the entity's accounts with Treasury for which the entity is authorized to make expenditures and pay liabilities. FBWT is primarily an intra-governmental item. From the reporting entity's perspective, FBWT is an asset because it represents control over and a claim to the federal government's resources.<sup>2</sup> An entity's FBWT is increased by a)

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<sup>1</sup> FBWT meeting the definition of fiduciary FBWT should not be recognized on the balance sheet, but should be disclosed in accordance with the provisions of SFFAS 31, *Accounting for Fiduciary Activities* (FASAB, 2006).

<sup>2</sup> From the perspective of the federal government as a whole, it is not an asset; and while it represents a commitment to make resources available to federal departments, agencies, programs and other entities, it is not a liability. In contrast, fiduciary and other non-federal non-entity FBWT is not intra-governmental, and it represents a liability of the appropriate Treasury component and of the federal government as a whole to the nonfederal beneficiaries.

receiving appropriations, reappropriations, continuing resolutions, appropriation restorations, and allocations; and b) receiving transfers and reimbursements from other agencies. An entity's FBWT is also increased by amounts borrowed from Treasury, the Federal Financing Bank, or other entities, and amounts collected and credited to appropriation or fund accounts that the entity is authorized to spend or use to offset its expenditures.

An entity's FBWT is reduced by a) disbursements made to pay liabilities or to purchase assets, goods, and services; b) investments in U.S. securities (securities issued by Treasury or other federal government agencies); c) cancellation of expired appropriations; d) transfers and reimbursements to other entities or to the Treasury; and e) sequestration or rescission of appropriations. Disclosure should be made to distinguish three categories of funds within the FBWT reported on the balance sheet: the obligated balance not yet disbursed, the unobligated balance, and non-budgetary FBWT. The obligated balance not yet disbursed is the amount of funds against which budgetary obligations have been incurred but disbursements have not been made.

The FBWT account is unique to federal agency asset accounts. The FBWT account is a stewardship account that represents the legal status of appropriations. FBWT records the status of an agency's budget authority. The budget authority is created by an appropriation (or transfer of an appropriation) to a government official empowered to obligate the government to make payments for goods and services needed. From the perspective of the agency, it is similar to cash. The FBWT account is not listed on corporate balance sheets.

FBWT is an extra layer due to the Department of the Treasury collecting and distributing money appropriated for other federal agencies. There is no corporate account that can be used to compare to FBWT as no outside agency controls where, or how, a corporation can spend cash nor how much money to collect based on selling prices for goods or services. FBWT, however, can be seen as similar to the corporate cash account (explained below) as this is the account where the cash that will be used to buy is stored. Congress directs how much the Treasury collects via taxes as well as to which agencies to distribute cash and the amount of the distribution.

## **2. Cash**

Cash is categorized in the following manner.

### ***a. Corporate Cash***

Corporate cash consists of coins and currency such as bank checks and money orders, bank deposits against which the firm can draw checks, and time deposits, usually savings accounts and certificates of deposit. Although money orders are claims against individuals or institutions, custom calls them cash (Stickney, 2009, p. 45).

### ***b. Federal Cash and other Monetary Assets***

SFFAC No 2 Entity and Display of Financial statements states that federal cash and other monetary assets consist of coins, paper currency and readily negotiable instruments (such as money orders, checks, and bank drafts on hand or in transit for deposit), amounts on demand deposit with banks or other financial institutions, cash held in imprest funds, and foreign currencies. SFFAS No 1 further clarifies accounting for cash, explaining, "Entity cash is the amount of cash that the reporting entity holds and is authorized by law to spend. Non-entity cash is cash that a federal entity collects and holds on behalf of the U.S. government or other entities. Non-entity cash recognized on the balance sheet should be reported separately from entity cash."

### ***c. Differences between Corporate and Federal Cash***

Cash on a corporate balance sheet is simply cash held and cash equivalents. The expectation is that this account is very liquid and a cash payout can occur within days if not immediately. Federal cash accounts are divided into two accounts based on whether the agency controls the cash and is authorized to spend it.

### ***d. Discussion of Corporate and Federal Cash***

Corporations are free to do with the cash on hand any legal transaction they deem appropriate. Therefore, the only distinguishing trait is that it is highly fungible. If the corporation has purchased certificates of deposit (CDs), this is still listed as cash as the CD can be redeemed within a day or two for cash. The federal cash accounts are different as the agencies may not be authorized to spend the cash and, if they are, they are limited

to expenditures consistent with the limits of the appropriation language. Therefore, it is not an asset if it is held for use in another agency. If, however, the agency is authorized to spend the cash, the cash accounts are the same between corporate and federal agency accounts. The equivalent for an agency is FBWT plus equity cash.

### **3. Marketable Securities and Investments**

There are several types of marketable securities and investments.

#### ***a. Corporate Marketable Securities***

Corporate marketable securities are government bonds or corporate stocks and bonds that the firm holds and that can be converted to cash in a relatively short time. The word marketable implies that the firm can readily buy and sell them, perhaps through an exchange (Stickney, 2009, p. 45).

#### ***b. Corporate Investments in Securities***

Corporate investments in securities are bonds or shares of common or preferred stock that the firm plans to hold for more than 1 year.

#### ***c. Federal Investments***

SFFAC No. 2 “Entity and Display” describes types of investments federal entities may possess. While many federal agencies have the authority to invest, they are typically limited to investing in securities issued by the Department of the Treasury or other federal entities. Federal government investments usually are in the form of trust funds for specific purposes (retirement, environmental restoration, highways, etc.). There could be instances, however, when an agency owns property or securities issued by state or local governments, private corporations, or government-sponsored enterprises, primarily for the purpose of obtaining a monetary return. SFFAC No. 1 “Accounting for Selected Assets and Liabilities” states,

Investments of a federal entity in U.S. securities (securities issued by Treasury and federal agencies) are intra-governmental investments. These U.S. securities also represent intra-governmental liabilities of the Treasury Department or other federal entities that issue the securities.

in securities issued by the U.S. Treasury or other federal entities should be accounted for and reported separately from investments in securities issued by nonfederal entities. (OMB, 1993)

*d. Differences between Corporate and Federal Investments and Marketable Securities*

Corporate investments are substitutes for cash that yield a greater return, or they may be partial controlling interests in other companies.

Federal agencies may have authority to invest, yet they typically will not invest outside of securities issued by the Department of the Treasury.

*e. Discussion of Corporate and Federal Investments and Marketable Securities*

Corporations are in the business of increasing shareholder wealth, or providing value to the shareholders. Because of this premise, corporate leaders must determine where the best use is for each dollar. It may be in investing back into the company, issuing dividends, purchasing corporate stock in the open market, or investing in other publicly-traded and private companies. It is the latter that will appear in the investments and marketable securities account. Federal agencies, however, are not in the business of investing. The agencies are not threatened by competition (due to taxing authority of the IRS and limited investing due to restrictions) and growing the net worth of the agency; nor is there any fear of new receipts. Rather, the concern is simply where the money will be appropriated.

**4. Receivables**

Receivables may be categorized in the following manner.

*a. Corporate Receivables*

Accounts receivable are amounts due from customers from the sale of goods or services on account. The firm collects cash from the customer sometime after the sale. Accounts receivable represents the total amount of cash owed by customers. The reporting entity maintains a separate record for each customer and follows up with customers who have not paid within the agreed-upon period of time. Notes receivable are amounts due from customers or from others to whom a firm has made loans or extended

credit. The customer or other borrower puts the claim into writing in a formal note, which distinguishes the claim from an account receivable. Interest receivable is interest on assets such as promissory notes or bonds that the borrower owes to the reporting entity because of the passage of time (Stickney, 2009, p. 45).

***b. Federal Receivables***

Federal receivables are the amounts that the entity claims for payment from others. SFFAC No. 2, “Entity and Display,” dictates that

Receivables can result from such activities as the sales of goods or services, the nonpayment of taxes, the making of loans or loans assumed from defaults on previously made loan guarantees, the earning of interest, the advance or prepayment of monies, etc. (OMB, 1995)

The accounting standard for accounts receivable is a receivable recognized when a federal entity establishes a claim to cash or other assets against other entities, either based on legal provisions, such as a payment due date, (e.g., taxes not received by the date they are due), or goods or services provided. If the exact amount is unknown, a reasonable estimate should be made. (See SFFAS 7, paragraph 53 for more.) Receivables from federal entities are intra-governmental receivables and should be reported separately from receivables from nonfederal entities.

Receivables should be distinguished between entity receivables and non-entity receivables. SFFAS No. 1 “Accounting for Selected Assets and Liabilities” states,

Entity receivables are amounts that a federal entity claims for payment from other federal or nonfederal entities and that the federal entity is authorized by law to include in its obligational authority or to offset its expenditures and liabilities upon collection. Non-entity receivables are amounts that the entity collects on behalf of the U.S. government or other entities, and the entity is not authorized to spend. Receivables not available to an entity are non-entity assets and should be reported separately from receivables available to the entity.

Losses on receivables should be recognized when it is more likely than not that the receivables will not be totally collected. An allowance for estimated uncollectible amounts should be recognized to reduce the gross amount of receivables to its net realizable value. The allowance for uncollectible amounts should be re-estimated on each annual financial reporting date and when information indicates that the latest estimate is no

longer correct. Agencies should disclose the major categories of receivables by amount and type, the methodology used to estimate the allowance for uncollectible amounts, and the total allowance. (OMB, 1993)

*c. Differences between Corporate and Federal Receivables*

Corporate receivables consist of accounts receivable, notes receivable and interest receivable. This is simply what the company reasonably expects to gain in terms of cash. These receivables will become cash the corporation can freely use. Federal agencies are only authorized to have receivables due to an established claim on cash (e.g., taxes due or if a good or service was provided to another entity). There are no notes or interest receivables as in corporations. Additionally, not all receivables become spending authority for the agency. Corporations can sell their receivables (factoring) to other companies unlike federal agencies. Corporations are in the business of sales. It is not always easy to make sales in cash-only transactions; therefore, corporations allow customers to purchase on account. Federal agencies are not in the business of making sales. These receivables are more of an obligation (by law) not due to the agency attempting to boost sales by making it easier for a customer to make a buy decision. Intra-governmental receivables, however, are similar to sales in federal accounts.

*d. Discussion of Corporate and Federal Receivables*

Corporate and federal receivables are similar in that each is reduced by a prudent amount expected to be uncollectable. Therefore, the balance of the receivable account is expected to be turned to cash.

A user of the corporate balance sheet is able to compare accounts receivable over time to determine if the corporation is taking longer to turn the receivable to cash. This can be an indicator of the health of the corporation's customers as well as the efficiency of the company. This has little bearing with federal agencies as the receivables are claims against other government entities.

**5. Property, Plant, and Equipment**

Property, plant, and equipment is categorized in the following way.

**a. Corporate Property, Plant, and Equipment**

Property, plant, and equipment (PPE) consists of such items as land used in operations, factory buildings, machine tools, computers, automobiles, etc. PPE is reduced by accumulated depreciation, the cumulative amount of the acquisition cost of long-term assets that the firm has allocated to the costs of production or to current and prior period expenses in measuring net income, which is kept in the asset account known as accumulated depreciation. The amount in this account is subtracted from the acquisition cost of the long-term asset to which it relates, to measure the carrying value of the asset shown on the balance sheet (Stickney, 2009, p. 46).

**b. Federal Property, Plant, and Equipment**

SFFAS No. 6, “Accounting for Property, Plant, and Equipment” delineates three categories of government PP&E as follows:

- General PP&E—Used to provide general government goods and services
- Heritage assets—Possesses educational, cultural, or natural characteristic. For example, the Lincoln Memorial
- Stewardship land—Any land other than land included in general PP&E, such as Grand Canyon National Park (OMB, 1996)

Other than general PP&E, all items described above are categorized as stewardship PP&E. The cost of assets in this category (to include their acquisition, replacement, maintenance, construction and improvement costs) are expensed on an accrual basis and not depreciated or reported on the balance sheet. Only general PP&E is capitalized, depreciated and reported on the balance sheet.

Property, plant, and equipment consists of tangible assets, including land, that meet the following criteria: they have estimated useful lives of 2 years or more; they are not intended for sale in the ordinary course of operations; and they have been acquired or constructed with the intention of being used, or being available for use by the entity. Property, plant, and equipment also includes assets acquired through capital leases, including leasehold improvements, and property owned by the reporting entity in the hands of others (e.g., state and local governments, colleges). All general PP&E is recorded at cost less depreciation. For example, the cost of acquiring property, plant, and

equipment may include amounts paid to vendors, transportation charges, handling and storage costs, and labor and other direct or indirect production costs. Depreciation expense is calculated through the systematic and rational allocation of the cost of general PP&E, less its estimated salvage/residual value, over the estimated useful life of the general PP&E. Depreciation expense shall be recognized on all general PP&E, except land and land rights of unlimited duration.

*c. Differences between Corporate and Federal Property, Plant, and Equipment*

Corporations list buildings, factories, and machinery in these accounts. Typically, these assets are expensive and have a high cost of capital associated with the asset. The asset is further depreciated with time and the asset is not considered liquid as it could potentially take years to sell a large factory or warehouse. Each of the items in the PP&E account is expected to be necessary for increasing the value of the company. The corporate managers are expected to use capital resources to purchase assets generating a high return on invested capital. Federal agencies list similar properties such as warehouses, buildings, and machinery such as ships and aircraft; additionally, there are parks, monuments, and land in the PP&E accounts. In comparing the accounts, federal general PP&E, which provided goods and services, is employed similarly to corporate PP&E. Other forms of federal PP&E (stewardship and heritage) serve a purpose specific and unique to the federal government.

*d. Discussion of Corporate and Federal Property, Plant, and Equipment*

An argument can be made that all corporation PP&E is necessary to produce or augment sales for the company. This is not fully the case with federal agencies. Landmarks, national monuments and historical sites (stewardship PP&E) are not reported on the balance sheet or depreciated. These assets are not for income production, but rather for pride, history, and traditions.

**6. Inventory**

Inventory is categorized as follows.

**a. *Corporate Inventory***

Corporate inventory consists of goods available for sale, partially completed goods, and materials used in the manufacture of products. Inventory includes 1) merchandise inventory—reflects goods on hand purchased for resale, such as canned goods on grocery store shelves, 2) raw materials inventory—materials as yet unused for manufacturing products, 3) work-in-process inventory—partially completed manufactured products, and 4) finished goods inventory—completed but unsold manufactured products (Stickney, 2009, p. 46).

**b. *Federal Inventories and Related Properties***

SFFAC No. 2 specifies that federal inventories consist of tangible personal property held for sale, in the process of production for sale, or consumed in the production of goods for sale or in the provision of services for a fee. Related properties that could be owned by a federal program, sub organization or organization, or the entire government include operating materials and supplies, stockpile materials, seized property, forfeited property, and goods held under price support and stabilization programs.

**c. *Differences between Corporate and Federal Inventories***

Corporations list all goods used to make products leading to sales that generate profits for the company. Federal agencies add lawful seizures, stockpiles, and price support and stability programs to the inventories account. Corporate inventory accounts represent resources needed to continue operations. With the exception of seized and forfeited property, federal agencies do, too. For instance, if looking within Department of Defense balance sheets to that of the Department of Navy, a ship at sea will carry spare parts in order to continue operations. A corporation will have inventory available for sale to soon be converted to cash in order to continue operations.

**d. *Discussion of Corporate and Federal Inventories***

Corporate inventory eventually becomes a sale, which becomes cash. Federal inventory supports performing a mission and is consumed without a sale.

## **D. BALANCE SHEET LIABILITY ACCOUNTS**

This section is organized by line starting with current assets and continuing chronologically through assets listed on the Balance Sheet. Where corporate and government share the same line item each is described followed by a discussion of the differences.

(1) **Corporate Liabilities.** Corporate liabilities are creditors' claims for funds, usually because they have provided funds, or goods and services, to the firm. An accounting liability arises when a firm incurs an obligation to make a future sacrifice that, because of a past transaction, it has little or no discretion to avoid. U.S. GAAP requires that balance sheets separate current items from noncurrent items. Current liabilities are obligations a firm expects to pay within 1 year from the date of the balance sheet. Noncurrent liabilities are sources of funds where the supplier does not expect to receive them all back within the next year (Stickney, 2009). U.S. GAAP requires the following criteria for firms to recognize liabilities:

- The item represents a present obligation, not a potential future commitment or intent
- The obligation must exist as a result of a past transaction or exchange, called the obligating event
- The obligation must require a probable future economic resource that the firm has little or no discretion to avoid
- The obligation must have a relevant measurement attribute that the firm can quantify with sufficient reliability (Stickney, 2009, pp. 115–116)

(2) **Federal Liabilities.** Federal liabilities are the amounts the reporting entity owes to others for goods or services received, progress in contract performance, defaulted guarantees, funds held as deposits, etc. Because no liability can be paid without an enacted appropriation, some liabilities are funded while others are unfunded. Routine liabilities cannot be incurred until budgetary resources are in hand. The budgetary authority confers the authority to create the liability. Also, because the federal government is a sovereign entity, it can abrogate at any time many of its liabilities arising from other contracts. This does not, however, eliminate the existence of, and therefore the need to report, liabilities incurred by the reporting entity (OMB, 1995, pp. 30–31).

Liabilities of federal agencies are classified as liabilities covered or not covered by budgetary resources. Funded (covered liabilities) and unfunded (uncovered liabilities) require separate balance sheet reporting. Liabilities are considered funded by budgetary resources if they are covered by congressional appropriations or earnings of the governmental entity. Liabilities not considered funded by budgetary resources include those liabilities originating from received goods and services without appropriations available (OMB, 1995 , p. 24). Like asset reporting, entities are required to separately report intra-governmental liabilities. Intra-governmental liabilities are claims against the entity by other federal entities for goods and services supplied (OMB, 1995).

(3) Differences between Corporate and Federal Liabilities. Federal liabilities cannot be incurred until budgetary resources are in possession. Corporations can take on liabilities as long as the creditor is in agreement. This allows corporations to be much more flexible than a federal agency. The firm can invest in capital through borrowing. Federal liabilities must be matched to appropriations. While the amount of liabilities a firm can assume is limited by its borrowing power, a federal entity is limited by the scope of appropriations. Operationally, federal entities are not constrained by debt, but by the amount of appropriations available.

Corporations divide the liability accounts based on longevity and liquidity. Current liabilities are expected to be paid in less than one year while long-term liabilities are expected to be paid in a period of more than one year. Federal liabilities are divided between funded and unfunded liabilities. Funded liabilities require no additional statutory action from Congress while unfunded liabilities require action from Congress to cover. Additionally, liabilities are divided between intra-governmental and governmental.

(4) Discussion of Corporate and Federal Liabilities. The liability sections of corporate balance sheets portray the amount of resources a firm owes. This gives stakeholders an accurate amount a company is required to pay. The liabilities are listed as current or long-term, and one can gain an understanding of the immediate and long-term demands of resources (cash) on the firm. Federal funds are raised and released much differently than corporate funds. Corporations produce in a cycle of 1) buy materials on credit, which are then 2) used for inventory or PP&E, leading to 3) production of material

resulting in 4) sales, which are turned into 5) cash, which either is used to 7) pay bills or 8) retained as owner's earnings.

Federal agencies flow rather than cycle. 1) Appropriations are created by an act of law, not operations, which needs 2) spending authority (FBWT) in order to become 3) obligations, which are classified as 4) liabilities terminated through 5) payments.

The federal government operates as a steward of taxpayer resources, and therefore responsible stewardship of resources is paramount compared to income generation in the corporate sector. Corporations are limited by financing through equity and debt, while the federal agencies are limited by national strategic objectives prioritized by Congress. These objectives transform into appropriations with a specific purpose, spending period, and amount. In a sense, national objectives drive debt and equity financing. Debt levels are raised by changing the debt ceiling, and equity is increased by raising taxes. Therefore, federal entities are limited by appropriations, a manifestation of congressional priorities.

## **1. Accounts Payable**

Accounts payable are categorized as follows.

### ***a. Corporate Accounts Payable***

Corporate accounts payable is the amount owed for goods or services acquired under an informal credit agreement. The firm typically pays these liabilities within 1 or 2 months after the balance sheet date. The same items will appear as accounts receivable on the creditor's balance sheet (Stickney, 2009, p. 46).

### ***b. Federal Accounts Payable***

Federal accounts payable is the amount owed by a federal entity for goods and services received from other entities, progress in contract performance made by other entities, and rents due to other entities. Accounts payable do not include liabilities arising from continuous expenses such as employees' salary and benefits, which are covered in other current liabilities (OMB A-136, p. 24).

*c. Differences between Corporate and Federal Accounts Payable*

Corporations will most likely rely on cash generation from operations to reconcile balances while federal entities rely on appropriations to cover payables. Corporations can always raise additional capital (cash) from sale of equity positions or taking on debt (financing activities). Federal agencies cannot. They can only accrue payable accounts based on the purpose, time duration, and amount restrictions inherent in congressional appropriations.

Corporate account payables are for the rendering of goods and services provided by other entities in which the company benefited and which it is obligated to pay back. These are short-term obligations that the company must use current assets, notably cash, to repay. Federal accounts payable are essentially composed of the same items. The only difference involves the method and ability to satisfy the account.

*d. Discussion of Corporate and Federal Accounts Payable*

Corporate accounts payable provide the user with an understanding of short-term obligations the corporation must meet. By comparing the balances over time, one will be able to determine the trend in which the corporation operates, and indications of sales growth, or decline, can be gleaned.

**2. Corporate Notes and Bonds Payable and Federal Debt**

Corporate notes and bonds payable and federal debt are categorized as follows.

*a. Corporate Notes Payable*

Corporate notes payable is the face amount of promissory notes given in connection with loans from a bank or with the purchase of goods or services. The same items appear as notes receivable on the creditor's balance sheet (Stickney, 2009, p. 46).

*b. Corporate Bonds Payable*

Bonds payable is a form of long-term loan. The borrower has signed a formal written contract called an indenture. The borrower usually raises the funds from a number of lenders, each of whom receives written evidence of its share of the loan (Stickney,

2009, p. 47). Bonds payable is different from notes payable in that a note payable is from a single lender whereas a bond is loaned through several underwriters and purchased from multiple investors.

***c. Federal Debt***

Federal debt is the amount borrowed from the Treasury, the Federal Financing Bank, other federal agencies, or the public under general or specific authority. Examples of public debt include Treasury bills, notes, and bonds and can be short-term or long-term in duration. The notes section shall disclose accounting of components of debt (OMB A-136, p. 25).

***d. Differences between Corporate Notes and Bonds Payable and Federal Debt***

The corporation must apply for funding from banks, lending institutions or other corporations and the market sets the terms of the note based on the soundness of the borrowing corporation. Federal debt is easy to obtain from the Treasury without the review process a corporation must endure; the market, however, does set the terms for Treasury bonds as they are auctioned based on competitive bids awarded.

***e. Discussion of Corporate Notes and Bonds Payable and Federal Debt***

Corporations generate buying power outside of current operations through debt or equity financing. Notes payable represents a means to acquire cash in order to operate the business. Federal agencies also require resources to operate; resources, however, mostly originate from appropriations via taxes. At most levels of the federal government, debt is intra-governmental with the exception of the Treasury, which issues Treasury bills, notes, etc. Debt has the power to inhibit a corporation and must be managed carefully while individual federal entity operations are not generally constrained by debt. Corporate bonds payable is distinguished by the way in which it originated as well as the likelihood of default. The corporation must subject itself to analysis of the underwriters of the bond to determine the depth of investor interest in the bond and further scrutiny by ratings agencies in order to determine likelihood of default. The bond's interest rate is then set and the bond is sold to the public.

The information obtained from the notes and bonds payable accounts can aid the user in understanding future obligations of the corporation. For instance, it can be determined how much revenue a corporation must earn in order to satisfy the ongoing debt payments. Additionally, a user would be able to project the amount of additional debt a corporation can add without fear of insolvency.

### **3. Interest Payable**

Interest payable can be categorized in the following manner.

#### ***a. Corporate Interest Payable***

Corporate interest payable is the interest on obligations that has accrued or accumulated with the passage of time but that the firm has not yet paid as of the balance sheet (Stickney, 2009, p. 46).

#### ***b. Federal Interest Payable***

Federal interest payable is interest incurred, but unpaid, on liabilities of the reporting entity. Interest incurred can result from borrowing funds from Treasury, the Federal Financing Bank, other federal entities, or the public. Interest owed to the public shall be accounted for separately while interest owed to federal entities is an intra-governmental liability (SFFAS 1, p. 17).

#### ***c. Differences between Corporate and Federal Interest Payable***

Corporations and federal entities account for interest payable nearly identically. The important distinction is the federal entity must separate the interest owed to the public and that which is owed to federal entities.

#### ***d. Discussion of Corporate and Federal Interest Payable***

Commonalities exist between how corporations and federal entities report interest payable with only the separate reporting by federal entities being different.

### **4. Other Corporate Liabilities**

Additional liability accounts exist on the balance sheets of corporations that are not found on federal entity balance sheets. They are not related to federal accounts; it is

important, however, to first define the liability account and discuss implications and any similarities that may exist between these corporate and federal liability accounts.

**a. *Corporate Advances from Customers***

Corporate advances can be classified in two ways: 1) from customers and 2) from tenants. Advances from customers is the general name used to indicate the obligation incurred when a firm receives payments in advance for goods or services it will furnish to customers in the future. This is a nonmonetary liability, because the firm has an obligation to deliver goods or services, not to return the cash. The firm records this liability as the amount of cash received (Stickney, 2009, p. 47). Advances from tenants is rent received in advance. A nonmonetary liability received for future rental expense cannot be counted as income until the service has been provided (Stickney, 2009, p. 47).

**b. *Corporate Income Taxes Payable***

Income tax payable is the estimated liability for income taxes, accumulated and unpaid, based on the taxable income of the business (Stickney, 2009, p. 47).

**c. *Corporate Mortgage Payable***

Mortgage payable is a form of long-term promissory note or loan, where the borrower has pledged specific pieces of property as security for payment. If the borrower does not pay the loan or interest according to the agreement, the lender can require the sale of the property to generate cash to repay the loan (Stickney, 2009, p. 47).

**d. *Discussion of Other Corporate Liabilities***

Federal entities do not pay income taxes as the entity itself is not organized to generate income. Corporations are organized for the sole benefit of income generation, and therefore, are required to pay taxes on the net income of the corporation. The account sets aside money to be used to pay taxes to federal and state and local municipalities.

Similar to income taxes, federal entities do not take out mortgages from banks or other lending institutions as corporations. If a federal entity needs a new building it must request and be approved via appropriations and then authorized. The money will then be allocated and construction can begin. Corporations take out a mortgage and are required

to distinguish the mortgage liability that is secured by the property itself from that of notes or bonds payable. The mortgage lender will have first rights to the property in liquidation, therefore, the requirement to separate accounts.

## **5. Other Federal Liabilities**

Federal other current liabilities is the line item covering liabilities not recognized in specific categories. It includes liabilities related to capital leases, insurance, advances and prepayments, and accrued liabilities related to ongoing continuous expenses such as federal employee salaries and accrued employee annual leave. This item also includes losses relating to contingencies when the loss is probable and measurable (OMB A-136, p. 26). Additional liability accounts exist on the balance sheet of federal entities that are not found on corporate balance sheets. They are not related to corporate accounts; it is important, however, to first define the liability account and discuss implications and any similarities that may exist between these corporate and federal liability accounts.

### ***a. Federal Loan Guarantee Liability***

Federal loan guarantee liability represents the estimated net cash flows to be paid as a result of loan guarantees. Loan guarantee liabilities are reported at their net present value. Examples of loan guarantee liabilities include payments to cover defaults and delinquencies and interest subsidies. These costs are offset by items such as loan origination fees and penalties (OMB A-136, p. 26).

### ***b. Federal Environmental and Disposal Liabilities***

Environmental and disposal liabilities are cleanup costs from federal operations known to result in hazardous waste and that the federal government is required by statutory regulations to clean up. Depending on materiality, disposal liabilities will be recognized separately or within other liabilities sections of the balance sheet.

### ***c. Federal Employee and Veteran Benefits***

Employee and veteran benefits are detailed in SFFAS 5, which provides guidance to recognize the accrual of employee benefits. The liability and associated expense for pensions and other retirement benefits (including health care) should be recognized at the

time the employee's services are rendered. The expense for postemployment benefits is recorded when the payment is probable and measurable. This liability does not include operating expenses such as employee salary and accrued annual leave (SFFAS 5, p. 4).

*d. Federal Commitments and Contingencies*

A contingency is an existing condition, situation, or set of circumstances involving uncertainty as to possible loss to an entity. Contingencies should be recognized as a liability when a past transaction or event has occurred, a future outflow or other sacrifice of resources is probable, and the related future outflow or sacrifice of resources is measurable. Disclosure should include the nature of the contingency and an estimate of the possible liability (SFFAS 5).

*e. Discussion of Other Federal Liabilities*

Corporations are not regulated to list environmental and disposal costs as they are not expected to be a part of doing business. Occasionally, however, a one-time, unexpected charge will occur to the company in which case a separate liability account would result.

Employee and veterans benefits are the pension costs associated with future retirement of employees of the government. This is a separate account, but several corporations have a similar retirement system and are required to list it as a liability account. Little difference distinguishes the two.

Commitments and contingency accounts are federal accounts; corporations, however, are also required to set aside money determined by a likelihood of payment. A good example would be when the tobacco companies were sued in the late 1990s and established liability accounts as the likelihood of a settlement began to form. Federal loan guarantee is backed by the full faith and credit of the United States government and the rates are determined by the Federal Reserve.

**E. BALANCE SHEET SHAREHOLDER'S EQUITY/NET POSITION ACCOUNTS**

The following section details these types of accounts.

## **1. Federal Net Position**

Net position is the residual difference between assets and liabilities recognized in the federal government's or a component entity's balance sheet. Net position may be positive or negative (OMB, 1995, p. 31). It is generally composed of unexpended appropriations and the cumulative results of operations. Included in the former would be appropriations not yet obligated or expended. Included in the latter would be the amounts accumulated over the years by the entity from its financing sources less its expenses and losses (OMB, 1995, p. 1).

### ***a. Unexpended Appropriations***

Unexpended appropriations "includes the portion of the entity's appropriations represented by undelivered orders and unobligated balances. Unexpended appropriations attributable to Funds from Dedicated Collections, if material, should be shown separately on the face of the Balance Sheet" (OMB Circular No. A-136).

### ***b. Cumulative Results of Operations***

Cumulative results of operations are described in OMB Circular No. A-136 as, "The net results of operations since inception plus the cumulative amount of prior period adjustments." This includes the cumulative amount of donations and transfers of assets in and out without reimbursement. The amount of cumulative results of operations reported on the balance sheet should equal the amount of cumulative results of operations reported on the statement of changes in net position (SCNP). Cumulative results of operations attributable to funds from dedicated collections, if material, should be shown separately on the face of the balance sheet, and should equal the cumulative results of operations shown in the funds from dedicated collections note disclosure, in accordance with the provisions of SFF AS No. 27, as amended by SFFAS No. 43 (Note 21).

## **2. Corporate Shareholder's Equity**

Shareholder's equity is a firm's total assets minus its total liabilities. Equivalently, it is share capital plus retained earnings minus treasury shares. Shareholder's equity represents the amount by which a company is financed through common and preferred

shares. Shareholder's equity comes from two main sources. The first, and original source, is the money that was originally invested in the company, along with any additional investments made thereafter. The second comes from retained earnings that the company is able to accumulate over time through its operations. In most cases, the retained earnings portion is the largest component

**a. Common Stock (Shareholder's Equity Account)**

The common stock account is the amount of cash or other assets received equal to the par or stated value of a firm's principal class of voting stock (Stickney, 2009, p. 47).

**b. Additional Paid-In Capital (Shareholder's Equity Account)**

Additional paid-in capital account is the amount of cash or other assets received in the issuance of common or preferred stock in excess of par value or stated value. Some firms use the alternative title, capital contributed in excess of par value. Accountants and analysts often refer to the sum of the amounts in this account and the common stock at par account as contributed capital because the sum of these two items represents the cash and other assets directly provided by shareholders to a firm (Stickney, 2009, p. 47).

**c. Preferred Stock (Shareholder's Equity Account)**

Preferred stock account is the amount of cash or other assets received for shares of a class of a firm's stock that has some preference relative to common stock. Common forms of preference include a higher dividend or a higher priority in terms of asset distribution in the event the firm liquidates (Stickney, 2009, p. 47).

**d. Retained Earnings (Shareholder's Equity Account)**

Retained earnings are net assets (defined as all assets minus all liabilities) increased as a firm generates earnings in excess of cash (or other assets) distributed as dividends. Retained earnings is the balance sheet account that accumulates amounts that measure the net assets a firm generates from undistributed earnings of the business (Stickney, 2009, p. 47).

*e. Accumulated Other Comprehensive Income (Shareholder's Equity Account)*

Accumulated other comprehensive income is an account that accumulates changes in net assets that are not included in net income. An example is the re-measurement of certain financial assets (Stickney, 2009, p. 47).

**3. Differences between Net Position and Shareholder's Equity**

The two largest differences between the net position and shareholder's equity accounts is the retained earnings and paid-in capital accounts included in shareholder's equity on corporate balance sheets. Federal entities are not started by originating investors; therefore, there is no need to distinguish the capital paid by original sources and there will not be equity accounts. Lastly, a firm can either reinvest in the business or pay out earnings in the form of dividends (or distributions) to its shareholders. The firm will accumulate the earnings in the retained earnings account if it chooses the former. Cumulative results from operations are compounded by adding the current year's results to those of prior years.

**4. Discussion of Net Position and Shareholder's Equity**

Shareholder's equity is the shareholders' (owners') residual interest in the firm. If the firm were to dissolve, the assets would be liquidated to pay off liabilities, and the residual would go to the owners.

Net position is not a residual interest of assets minus liabilities. This is logical because the assets are not able to be liquidated to cover liabilities and there are no owners whose interests are calculated on the balance sheet. Net position serves as a balancing entity and is adjusted as needed.

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## IV. BALANCE SHEET RATIOS

There are standard ratios employed in the analysis of corporate balance sheets that provide information to users relating to underlying business fundamentals. Federal balance sheets are modeled after the corporate balance sheets; therefore, similar ratios can be computed. The preceding chapter consisted of a detailed examination of the accounts listed on both corporate and federal balance sheets. This included a side-by-side comparison of each account listed on both balance sheets, which yielded an understanding that elements of the federal balance sheet accounts differ in important ways from the corporate counterparts. For each category of ratios, the authors will explain the logic behind the corporate ratios, and assess whether (a) the information is useful to a user of federal balance sheets, (b) if so, does the corresponding federal ratio provide that information, or (c) if the corporate information is not useful in a federal context, does the federal ratio provide different information that is useful?

The objective of ratio analysis is to facilitate the interpretation of financial statements. Ratios reduce the large number of financial statement items to a relatively small data set, allowing for meaningful comparisons of financial data, both over time and across reporting entities for a given time period. Thereby, users of financial reports are provided with relevant information that will assist in making better-informed management decisions (Brady, 1999, pp. 103–104).

Ratio analysis enables financial statement analysis because it conveniently summarizes data in a manner that is easy to understand, interpret, and compare. Ratios provide little information unless the analyst places them in a specific context. After calculating ratios, the analyst must compare them with some standard. The following list provides several possible standards (Stickney, 2009):

- The planned ratio for the period
- The corresponding ratio during the preceding period for the same firm
- The corresponding ratio for a similar firm in the same industry
- The average ratio for other firms

Ratio analysis of publicly-traded corporations allows users of financial statements to develop comparisons among companies, to the average company within an industry and to the company's historical performance. Statistically, there are two primary reasons for utilizing ratio analysis in a business environment: first, to control for the effect of size on the variables being examined and, second, in order to control for industry-wide factors (Brady, 1999, p. 8). For example, it would be difficult to compare a company with billions of dollars in sales to one with hundreds of thousands; through ratio analysis, however, a more comparative model is created because ratios are expressed as percentages, making the comparison relative. The company that nets millions in profits from billions in sales is quite different, and less profitable, when compared to the company netting one million in profit from two million in sales revenue.

#### **A. CATEGORIES OF RATIOS**

There are many commonly used financial ratios within corporate financial analysis that allow users to gain information about the business. These ratios can be categorized by meaning of the data presented. The financial ratios are typically divided into five categories: liquidity, coverage, profitability, leverage, and operating efficiency.

- (1) Liquidity refers to the availability of cash, or near-cash resources, for meeting a firm's obligations (Stickney, (2009). How quickly a firm can convert the near-cash assets to cash without a loss in value in order to pay for obligations gives lenders confidence in the firm in the event of liquidation. Lenders to companies with steady streams of cash inflows are not as concerned with liquidity as those companies involved in cyclical industries where revenues ebb and flow.
- (2) Coverage refers to a firm's ability to service its debt. Coverage, as opposed to liquidity, determines if a company will meet obligations to the company's lenders. Coverage ratios give lenders confidence the company will remain a going concern, in contrast to liquidity ratios that are used to analyze the impact of a liquidation event.
- (3) Profitability means the potential for, or actual earning of, net income (Stickney, 2009). Profitability ratios are defined as a measurement of a company to generate earnings, profits and cash flows relative to some metric, often the amount of money invested.
- (4) Leverage can be classified as debt or operating leverage.

- Debt leverage refers to an increase in rate of return larger than the increase in explicit financing costs—the increased rate of return on owner’s equity when an investment earns a return larger than the after-tax interest rate paid for by debt financing. Because the interest charges on debt usually do not change, any incremental income benefits owners and none benefits debtors.
  - Operating leverage refers to the tendency of net income to rise at a faster rate than sales in the presence of fixed costs. A doubling of sales, for example, usually implies a more than doubling of net income (Stickney, 2009). Highly leveraged companies are those with high levels of debt compared to the net worth of the firm.
- (5) Operating efficiency ratio is defined as the efficiency of a company’s management determined by comparing operating expense to net sales. Operating ratios help outsiders determine how well the company is managed.

## **B. CORPORATE BALANCE SHEET RATIOS**

The scope and discussion of this thesis focus solely on the balance sheet; therefore, the ratios discussed are limited to those that can be computed from the balance sheet. From the five categories of ratios, only liquidity and leverage can be computed from balance sheet accounts. The remaining: profitability, coverage, and operating efficiency require information gathered from other financial statements (income statement, statement of cash flows, and statement of shareholder’s equity).

### **1. Liquidity Ratios**

Liquidity ratios allow the user to expediently determine an indicator of financial health of a company by determining the sufficiency of company cash and assets to meet its short-term obligations. If liquidity ratios are positive, users can be assured the agency has the capacity to meet its near-term liabilities. Liquidity analysis helps the user answer questions regarding the ability of the company to meet current and future liabilities (e.g., can the company meet debt costs?). The current, quick, and working capital ratios are deployed to determine liquidity.

#### ***a. Current Ratio***

The current ratio is calculated by dividing current assets by current liabilities. The current ratio allows the user to determine the ability and likelihood of the company to pay

back its short-term obligations. When decomposed into subcomponents, the ratio represents the following for corporations:

$$= \frac{\text{Cash} + \text{Short Term Investments} + \text{Accounts Receivables} + \text{Inventory} + \text{Supplies} + \text{Prepaid Accounts}}{\text{Notes Payable} + \text{Accounts Payable} + \text{Salaries Payable} + \text{Unearned Revenue} + \text{Interest Payable}}$$

**b. Quick Ratio**

The quick ratio is calculated by dividing liquid assets by current liabilities. The quick ratio is similar to the current ratio, but solely uses highly-liquid assets; therefore, it is a more conservative tool to measure ability of short-term liability reimbursement. For example, a user may prefer the quick ratio over the current ratio due to the time required for a firm to convert inventory or accounts receivables to cash. When decomposed into subcomponents, the ratio represents the following for corporations:

$$= \frac{\text{Cash} + \text{Short Term Investments}}{\text{Notes Payable} + \text{Accounts Payable} + \text{Salaries Payable} + \text{Unearned Revenue} + \text{Interest Payable}}$$

**c. Working Capital**

The working capital ratio is calculated by subtracting current liabilities from current assets. Working capital is a measure of both a company's efficiency and its short-term financial health. The working capital ratio indicates whether a company has enough short-term assets to cover its short-term debt. When decomposed into subcomponents, the ratio represents the following for corporations:

$$= (\text{Cash} + \text{Short term investments} + \text{Accounts Receivables} + \text{Inventory} + \text{Supplies} + \text{Prepaid Accounts}) - (\text{Notes Payable} + \text{Accounts Payable} + \text{Salaries Payable} + \text{Unearned Revenues} + \text{Interest Payable})$$

The liquidity ratios are useful to corporate balance sheet users as there is a legitimate concern of actual creditors and investors regarding the company's ability to pay back short-term liabilities. A lender is attempting to determine the credit-worthiness of the company prior to lending money. A shareholder, or potential investor, is attempting to determine the short-term risk of the company meeting its liabilities. Again,

the concern is liquidity and an investor seeks reassurance that the stock price will not plummet if the company releases information to the public revealing a need for new capital in order to meet liabilities.

In order to determine usefulness of the liquidity ratios with federal agency balance sheets, the user first needs to deconstruct the ratio into subcomponents. The decomposed federal current, quick and working capital ratios represent the following:

### Current Ratio

$$= \frac{\text{Governmental}(\text{Cash} + \text{Accounts Receivables} + \text{Inventory and related property}) + \text{IntraGovernmental}(\text{FBWT} + \text{Receivables})}{\text{IntraGovernmental}(\text{Accounts Payable} + \text{Debt}) + \text{Unfunded}(\text{Accounts Payable} + \text{Debt})}$$

### Quick Ratio

$$= \frac{\text{Governmental Cash} + \text{IntraGovernmental}(\text{FBWT})}{\text{IntraGovernmental}(\text{Accounts Payable} + \text{Debt}) + \text{Unfunded}(\text{Accounts Payable} + \text{Debt})}$$

### Working Capital

$$\begin{aligned} &= \text{Governmental}(\text{Cash} + \text{Accounts Receivables} + \text{Inventory and related property}) \\ &+ \text{IntraGovernmental}(\text{FBWT} + \text{Accounts Receivables}) - \text{IntraGovernmental}(\text{Accounts Payable} + \text{Debt}) \\ &+ \text{Unfunded}(\text{Accounts Payable} + \text{Debt}) \end{aligned}$$

With the federal liquidity ratios deconstructed it is possible to determine if the information provided is useful, or if ratio modification can create usefulness. Corporate liquidity ratios are concerned with the ability of the company to repay short-term liabilities. Federal agencies are normally liquid; therefore, the user of federal balance sheets is not chiefly concerned with the relative liquidity of the agency, though the agency is not assured to be liquid (there are exceptions such as loan guarantees and environmental liabilities). Additionally, the federal government should not incur a liability without budget authority in hand. A financial shock, such as a sequester, constrains the level of activity, but does not create a liquidity risk if the agency is complying with the Anti-deficiency Act by not creating obligations in excess of its

resources. Nonetheless, the liquidity ratios may provide users a quick gauge to determine the relationship in the agency between short-term liabilities and assets.

The combination of governmental and intragovernmental assets and liabilities in the equations may be misleading to the user. The mingling of the two will distort the ratio from its intended meaning for corporate users. Corporations possess the jurisdiction to employ the assets on their books in any manner that management chooses. For instance, inventory can be quickly liquidated at below market, or book prices, in order to meet the payment of a short-term liability. This is not the case with federal agencies. Inventory on the federal agency balance sheet is not to be used for cases of liquidity. In government, funds are not fungible and cannot be used to satisfy a liability for which they are not designated. Because of this, aggregated balance sheets present issues that preclude a homogenous analysis. For instance, the liquidity ratios derived from the consolidated balance sheet for the federal government is meaningful as it will illustrate the national debt, and the balance sheet for a single command may be useful in portraying current assets and liabilities if the command has one appropriation to pay those liabilities. But the DOD balance sheet may not be useful as it comingles many accounts and a current asset may not be available to liquidate a current liability. Agencies who execute a broad array of missions exist within DOD; therefore, integrity of the data is lost in aggregation. For example, DECA's inventory is sold to generate revenue to meet liabilities, but the Navy General Fund's inventory is not sold, but is consumed in operations. When aggregated at the DOD level the distinction is lost. When comparing ratios, the user must be cautious about the information in the ratio. If the ratio does not remain congruent across all agencies of a parent entity, the parent ratio calculated from consolidation of subsidiary agencies loses validity. Therefore, it may be necessary to modify the liquidity ratios for use with federal agency balance sheets.

A possible current ratio for a federal agency would involve subdividing the assets and liabilities that the agency has authority to manage. In this context, governmental assets and governmental liabilities would be used in the analysis and intragovernmental assets and liabilities are eliminated. The resulting current ratio is represented by the following equation:

$$= \frac{\text{Governmental}(\text{Cash} + \text{Accounts Receivables} + \text{Inventory and related property})}{\text{Unfunded}(\text{Accounts Payable} + \text{Debt})}$$

The equation removes the intragovernmental assets of FBWT and Receivables as well as the intergovernmental liabilities of Accounts Payable and Debt. At first glance, the user would be satisfied if the equation resulted in a number of 1 or greater, concluding that the agency would be able to meet the unfunded accounts payable and debt with current assets. The authors observe Inventory (and related property) as an asset account, though the agency cannot readily use one asset (inventory) to cover a liability for which that appropriation is not defined. The current ratio appears to be of little use with the splitting of governmental and intragovernmental accounts. It is possible that the current ratio is useful to single-command agencies (e.g., DECA). The more similar the accounts can be to the corporate accounts, the more useful the ratio. Also, the ratio may be useful to look at a single entity over a period of time to compare trends. At higher levels of aggregation the ratios lose context.

If one takes accounts that are intragovernmental and remove the governmental accounts, one is able to analyze the other half of the current ratio. The resulting current ratio is represented by the following equation:

$$= \frac{\text{IntraGovernmental}(\text{FBWT} + \text{Receivables})}{\text{IntraGovernmental}(\text{Accounts Payable} + \text{Debt})}$$

The equation removes the governmental assets of cash, accounts receivables, and inventory and related property as well as the unfunded liabilities of accounts payable and debt. This allows the user to analyze the management of customer's funds. If the ratio is greater than 1, the user may be satisfied knowing that the funds are available to pay for appropriated accounts payable as well as debt. The incorporation of debt, however, is only relevant at higher echelons of federal balance sheets. Single-level entities will be missing debt accounts. Therefore, the intragovernmental current ratio will primarily be

useful with consolidated balance sheets rather than single-agency entities. Furthermore, the ratio may be of limited use to the consolidated balance sheet user, as debt levels would prevent the ratio from reaching or exceeding 1.

The quick ratio may be of more utility to users of federal agency balance sheets. The original purpose of the ratio sought to provide a more conservative metric of liquidity compared to the current ratio. As previously depicted, the corporate quick ratio removes accounts receivable, inventories, supplies and prepaid accounts from the numerator in the current ratio, but the liability accounts in the denominator remain. The reasoning concerns itself with the event of liquidation, as it may be more difficult to collect receivables and sell inventories and supplies, and prepaid accounts may not be used or salvageable. Therefore, the corporation is merely relying on its most liquid assets, cash and marketable securities, which can be quickly converted to cash. For the federal agency quick ratio, the receivables and inventory asset accounts are also removed for the same purposes. What remains is the governmental cash and intragovernmental FBWT (which is essentially cash). By modifying the ratio to only accounts directly controlled by the agency, the quick ratio would be represented by the following equation:

$$= \frac{\text{Governmental Cash}}{\text{Unfunded}(\text{Accounts Payable} + \text{Debt})}$$

The equation removes the intragovernmental asset of FBWT and intragovernmental liabilities Accounts Payable and Debt. The modified quick ratio would meet the original intent of obtaining useful information as to whether the agency can meet its short-term obligations from a controlled account that can be used in accordance with law to pay for those short-term obligations, as the accounts payable are only obtained from that which was previously appropriated. This could provide a reassurance to balance sheet users as well as those that conduct business with the agency.

This new ratio seems to meet several of the previously stated objectives of financial reporting. The objective of operating performance states that financial reporting should provide information that helps the user to determine the efficiency and

effectiveness of the government's management of its assets and liabilities (OMB, 1993b). This newly constructed ratio appears to address this objective.

Also, a portion of the stewardship objective declares that financial reporting should assist users in determining if future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due (OMB, 1993b). It appears that that this modified ratio can contribute in meeting this objective.

If one utilizes only intragovernmental accounts, one is able to analyze the other half of the quick ratio. The resulting quick ratio is represented by the following equation:

$$= \frac{\text{IntraGovernmental (FBWT)}}{\text{IntraGovernmental (Accounts Payable + Debt)}}$$

The equation removes the governmental assets of cash as well as the unfunded liabilities of accounts payable and debt. This allows the user to analyze the management of customer's funds in a more conservative manner compared to the current ratio. This is due to the removal of the intragovernmental accounts receivable account. If the ratio is greater than 1, the user may be satisfied knowing that the funds are available to pay for appropriated accounts payable as well as debt. Similar to the intergovernmental current ratio, the intragovernmental quick ratio incorporation of debt is only relevant at higher echelons of federal balance sheets. Single-level entities will not consist of debt accounts. Therefore, the intragovernmental quick ratio may offer utility in the analysis of consolidated balance sheets as opposed to single-entity agencies. Also, the ratio may be of limited use to the user of consolidated balance sheets as debt levels prevent the ratio from exceeding 1.

A positive working capital ratio is identical to a current ratio greater than 1. The additional information is simply a shift from percentage to dollar value. Thus, it is the actual dollar value left over (if positive value) after paying for short-term liabilities. In the context of corporations, this amount can be used to pay off long-term debts, reinvest in the company, or distribute to shareholders. The federal agency working capital simply results in a dollar value remaining to allocate to authorized transactions. The agency

cannot reallocate the obligated, but unexpended, budget authority, but it can reallocate the unobligated amount. Unexpended appropriations provide the same value to users of federal balance sheets.

In conclusion, the current, quick, and working capital liquidity ratios as defined by the corporate sector appear to have little utility to the user of federal agency balance sheets unless modified. First, the extent of aggregation of data must be assessed. Second, after modifying the quick ratio, it appears there is some utility as it relates to providing information to those that do business with the agency that there is cash available to pay the short-term liabilities. Also, the ratio appears to address a portion of the documented objectives of federal financial reporting as stated by SFFAC 1. The working capital ratio, like its percentage form current ratio, is of little use to users of federal agency balance sheets. In the federal context the ratio does no more than help a user understand the relationship between current assets and liabilities at a point in time. Nonetheless, it may be beneficial to know how much over, or short, a federal agency is in meeting short-term obligations.

## **2. Leverage Ratios**

Leverage ratios are used to determine the amount of protection corporate assets provide for debt obligations. Leverage ratios can aid the user in answering questions such as 1) Will higher/lower interest rates hamper the company's ability to issue new debt? 2) Did the company reach its maximum debt load? 3) At what rate will the company need to increase sales in order to eliminate debt? 4) Does the company have too high of a debt level or the capacity to assume additional debt? Debt to equity, liabilities to assets, and long-term debt ratios are used to determine leverage.

### ***a. Debt-to-Equity Ratio***

The debt-to-equity ratio is calculated by dividing total liabilities by shareholder's equity (corporate balance sheets) and dividing total liabilities by net position (federal agency balance sheets). The debt-to-equity ratio determines the proportion of a company's assets that are financed with debt or equity. This is commonly referred to as leverage. This ratio is used to ascertain how much of the company's growth can be

attributed to equity and how much originates from debt. If the interest on the debt exceeds returns generated from the debt, an indication exists that the company is growing assets at an insufficient pace. Eventually, the debt must be reimbursed with cash. If the debt to equity ratio is higher than 1, debt exceeds the amount invested by owners of the company. When decomposed into subcomponents the ratio represents the following for corporations:

$$= \frac{\text{Notes Payable} + \text{Accounts Payable} + \text{Salaries Payable} + \text{Unearned Revenue} + \text{Interest Payable} + \text{Bonds Payable}}{\text{Common Stock} + \text{Retained Earnings}}$$

**b. Liabilities-to-Assets Ratio**

The liabilities-to-assets ratio is calculated by dividing Liabilities by Assets. This liabilities-to-assets ratio measures how much of a company's assets are financed by liabilities. The ratio determines the percentage of assets that are financed by creditors. The remaining percentage (out of 100) is the quantity of assets financed by the owners. A higher liabilities-to-assets ratio indicates more leverage, which implies more risk. When decomposed into subcomponents the ratio represents the following for corporations:

$$= \frac{\text{Notes Payable} + \text{Accounts Payable} + \text{Salaries Payable} + \text{Unearned Revenue} + \text{Interest Payable} + \text{Bonds Payable}}{\text{Current Assets} + \text{Investments} + \text{PP\&E} + \text{Intangible Assets}}$$

**c. Long-Term Debt Ratio**

The long-term debt ratio is calculated by dividing Long-Term Debt by Assets. The long-term debt ratio measures how much of a company's assets are financed by long-term debt. It is similar to liabilities-to-assets ratio, but simply focuses on the long-term financing. This ratio will narrow the scope of the liabilities-to-assets ratio as it does not include short-term debt that will come due within the year. When decomposed into subcomponents the ratio represents the following for corporations:

$$= \frac{\text{Notes Payable} + \text{Bonds Payable}}{\text{Current Assets} + \text{Investments} + \text{PP\&E} + \text{Intangible Assets}}$$

The leverage ratios are useful to corporate users interested in analyzing the risks of utilizing debt. The computation of these ratios allows the user to compare a given

company to other companies in the same industry in order to determine which is using owner's money to grow assets and which is using lender's money to grow assets.

In order to determine usefulness of the leverage ratios with federal agency balance sheets, it is critical to deconstruct the ratio into subcomponents. The decomposed federal debt-to-equity, liabilities-to-assets, and long-term debt ratios represent the following:

#### Debt-to-equity ratio

$$= \frac{\text{Governmental (Accounts Payable+Debt+Loan Guarantees)+Intragovernmental (Accounts Payable+Debt+Loan Guarantees)}}{\text{Unexpended Appropriations+Cumulative Results of Operations}}$$

#### Liabilities-to-assets ratio

$$= \frac{\text{IntraGovernmental (Accounts Payable+Debt+Loan guarantees)+Unfunded(Accounts Payable+Debt+Loan guarantees)}}{\text{Governmental (Cash+ Receivable+Inventory and related property)+IntraGovernmental (FBWT+Investments+Receivables+Advances)}}$$

#### Long-term debt ratio

$$= \frac{\text{IntraGovernmental Loan guarantees+Unfunded(Debt+Loan guarantees)}}{\text{Governmental (Cash+Accounts Receivables+Inventory and realted property)+IntraGovernmental (FBWT+Receivables)}}$$

With the federal leverage ratios deconstructed, it is possible to determine if the information provided is useful, or if it can be modified to become useful. In the corporate setting, leverage ratios are a key determinant in the ability of the entity to procure funds from potential investors and creditors. The ratios illustrate the source of an entity's growth. In the federal context, the ratios do not serve the same analysis of growth; alternatively, national strategy determines the allocation of resources or growth.

When looking at the deconstructed corporate and federal debt-to-equity ratios, the first thing to note is the difference in the denominators. Corporations have equity accounts; that is, there exists an ownership stake in the corporation, consequently allowing potential investors to understand how leveraged a corporation is with respect to assets. In the corporate setting, an understanding of the relationship between equity and debt is important to residual claims on the company's assets after creditors are paid in the event of dissolution of the company. Equity holders do not exist in the federal

government, so ownership is not applicable and there is no residual owner claim. The federal government leverages its ability to raise revenue through taxation, thereby negating a relationship between debt and net position. Instead, net position consists of the two accounts: unexpended appropriations and cumulative results of operations. Therefore, the debt-to-equity ratio is not applicable when applied to federal balance sheets as there are no equity accounts. Regardless, computing the debt-to-equity ratio, potentially calling it debt-to-net position ratio, will result in a negative number due to the negative cumulative results of operations. This will result in a ratio of limited use.

As with the liquidity ratios, it may be advantageous to alter the inputs for the debt-to-net position ratio to include only accounts the agency can actively manage. Additionally, removing the arbitrary balancing account, “cumulative results of operations,” would produce the following equation:

$$= \frac{\text{Governmental (Accounts Payable + Debt + Loan Guarantees)}}{\text{Unexpended Appropriations}}$$

The equation removed the intragovernmental liabilities of accounts payable, debt, and loan guarantees as well as the cumulative results of operations items. At first glance, this may be of use to the user as it appears to provide data highlighting how much of the unexpended appropriations can be used to satisfy accounts payable, debt and loan guarantees. As discussed earlier in the chapter, however, appropriations are not fungible. The agency cannot use unexpended appropriations to pay for liabilities that are not congressionally delineated by the appropriation. A user can glean data concerning the amount of debt that will eventually need servicing by simply viewing the actual liability accounts. Additionally, since this has removed the cumulative results of operations, this effectively eliminated the net position. By doing so, the ratio becomes a liquidity ratio instead of a leverage ratio. As a liquidity ratio, it appears to offer arbitrary utility for the similar reasons discussed as a leverage ratio: funds are not fungible. Unexpended appropriations cannot be used to pay for liabilities unless congressional authority allocated those funds for such reasons. The ratio appears to provide negligible utility.

Next, the liabilities-to-assets ratio may be of use to the federal balance sheet user; ratio modification is required, however. The liabilities-to-assets ratio determines the percentage of assets that are financed by creditors. Whatever the result, the remaining percentage represents the amount financed by equity holders. Since there are no equity holders of federal agencies, the ratio appears to be of little use. By modifying the ratio to only accounts directly controlled by the agency, the liabilities-to-assets ratio would be represented by the following equation:

$$= \frac{\textit{Unfunded}(\textit{Accounts Payable} + \textit{Debt} + \textit{Loan guarantees})}{\textit{Governmental}(\textit{Cash} + \textit{Receivables} + \textit{Inventory and related property})}$$

The equation removes the intragovernmental liabilities accounts payable, debt, and loan guarantees and the intragovernmental assets FBWT, inventories, receivables, and advances. Similar to the current ratio, this ratio proves to be misleading. First, the original context of the ratio is lost as this ratio would no longer inform the user as to the extent of leverage the agency uses. The managers do not have the option to use receivables and/or inventory to pay off long-term liabilities. Once again, the funds must be appropriated as the dollars are not fungible. Because agencies can only obligate funds from an appropriation, debt analysis provides little utility to federal users. In addition, since there are no equity owners of the agency or federal government, the ratio does not translate into the federal arena. Additionally, assets are acquired at the federal government level through appropriations at the agency level. At the national level, if tax revenues are insufficient to cover appropriations, the Treasury issues debt. The national debt does not appear on the agency (or sub-agency) balance sheet; thus, a leverage ratio cannot be operationalized for any entity other than the entire federal government. The ratio may be of use at the city or county level where capital purchases are directly financed with bond issues, but not at the federal agency level.

Finally, the long-term debt ratio narrows the scope of the liabilities-to-assets ratio as it does not include short-term debt that will come due within the year. Therefore, as with the liabilities-to-assets ratio, the short-term debt ratio is not useful to users of federal balance sheets. By modifying the ratio to only accounts directly controlled by the agency, the long-term debt ratio would be represented by the following equation:

$$= \frac{\text{Unfunded(Debt + Loan guarantees)}}{\text{Governmental (Cash + Accounts Receivables + Inventory and realted property)}}$$

The equation removes the intragovernmental liability loan guarantees and the intragovernmental assets FBWT and receivables. Similar to the liabilities-to-assets ratio, this ratio proves to be misleading as the asset accounts cannot be utilized to satisfy debts. This ratio in its original sense or manipulated is of little use.

In conclusion, the debt-to-equity, liabilities-to-assets, and short-term debt ratios cannot exist as-is with federal balance sheets as there is zero equity in the federal system. Further, a modification to debt-to-net position is of little use as unexpended appropriations cannot be used to pay for liabilities that are not appropriated. The liabilities-to-assets and short-term debt ratios are also of limited use and modifications to the ratios provide little utility and lose the original intent of the ratio. The federal leverage ratios, however, may be of utility to the user by comparing trends in the ratio over time or among agencies with similar operating models. For example, if the ratio is decreasing for a corporation, the entity is growing the business without the reliance on its long-term debt. For federal agencies, trend analysis of the ratios may portray the changing relationship between liabilities and assets answered by the question: is the ratio expanding or contracting? Finally, it appears that a modified quick ratio meets FASAB objectives of federal financial reporting.

### **C. FEDERAL FRAMEWORK RATIOS**

Federal balance sheets have not been analyzed as corporate balance sheets have due to their relative newness, as well as the limitations in reaching audited status. Therefore, unlike corporate analysis, there are no “commonly accepted ratios” when working with federal balance sheets. A study was conducted in a previous thesis whereby the author created a framework of financial ratios to be used with federal financial statements (Brady, 1999). Brady conceived 13 ratios in his framework and categorized them by federal reporting objectives stated by FASAB. Similar to how corporate ratios are categorized by liquidity, leverage, profitability, etc., the federal objectives, as displayed in Table 1, are:

(1) Budgetary Integrity. Federal financial statements should produce information that will assist the users in determining how budgetary resources were obtained and used by the reporting entity.

(2) Operating Performance. The goal of this objective seeks to assist users in evaluating the reporting entity's service efforts, costs, and accomplishments.

(3) Stewardship. The goal of the stewardship objective is based on the government's responsibility for the general welfare of the nation as a going concern. This includes information as to whether the reporting entity's financial position has improved or deteriorated, whether budgetary resources will be sufficient to meet future expenses, and whether the entity's operations have contributed to the nation's current and future well-being.

(4) Systems and Control. The central goal of this objective is concerned with internal controls. The systems and control objective seeks to assist users in understanding whether the underlying financial management systems and internal accounting and control mechanisms are sufficient to support budgetary integrity, operating performance, and stewardship objectives (Brady, 1999).

The 13 ratios collectively pull from each of the federal financial statements. This thesis will only discuss those ratios that can be obtained from federal balance sheets. Only three of the 13 can be computed from data on the federal balance sheets. The three ratios are fixed assets to total assets, inventory to assets, and capital investment, and each are categorized by the same reporting objective: Stewardship. As Brady (1999) explains, "The goal of the Stewardship objective is based on the government's responsibility for the general welfare of the nation as a going concern." By analyzing the stewardship of assets, questions concerning the proper and efficient management of assets can be solved. Users are able to determine how many assets are liquid v. non-liquid, how well inventories are managed, and how managers are investing in capital assets. The capital assets purchased or delayed allows the user to forecast future capital asset requirements.

The remaining category of ratios—budgetary integrity, operating performance, and systems and control—incorporate information from financial statements outside of the scope of the balance sheet.

### **1. Fixed Assets to Total Assets Ratio**

The fixed assets to total assets ratio is computed by dividing PP&E by total assets. When decomposed into subcomponents the ratio represents the following:

$$\frac{\text{General PP\&E}}{\text{Entity Governmental Assets} + \text{Entity IntraGovernmental Assets}}$$

General PP&E deconstructed represents items used for the following:

**Goods and services items + Business Activity items + General purpose Land  
+ Comparable Cost items**

It is important to note that only general PP&E appears on federal balance sheets. Stewardship PP&E is displayed in the notes section as prescribed by OMB directives. Additionally, total assets consists of items that arise from transactions between federal entities (intra-governmental assets) and items that arise from transactions external to federal entities (governmental assets). An explanation of each item is described below:

- Good and services items—items used by the entity to produce goods and services or support the mission of the entity
- Business activity items—self-sustaining activity that finances its continuing cycle of operations
- General purpose land—land acquired with the intent to construct General PP&E or land acquired in combination with the procurement of General PP&E
- Comparable cost items—used by entities in activities whose cost can be compared to other entities (OMB, 1995, p. 2)

Entity governmental assets could include the following:

***Cash + Receivables + Inventory and related Property + General PP&E +  
Investments + Other assets***

Entity intra-governmental assets include the following:

***FBWT + Investments + Receivables + Advances and prepayments***

It should be noted that only entity assets appear on federal balance sheets. Non-entity assets are accounted for in the notes section as directed by OMB guidance.

When putting all of these subcomponents into one equation, the ratio represents the following:

$$\frac{\text{Goods \& Services Items + Business Activity Items + General Purpose Land + Comparable Cost Items}}{\text{Governmental(Cash+Receivables+Inventory and related property+General PPE+Investments+Other assets)} + \text{Intragovernmental(FBWT+Investments+Receivables+Advances and prepayments)}}$$

With the Fixed Asset to Total Assets ratio deconstructed it is possible to determine if the ratio is meaningful and can be utilized by federal financial statement users. Brady determined that the ratio would serve the stewardship objective, which is concerned with the efficient use of federal resources. Brady stated that the ratio would be an indication of the proportion of assets that are consumed by long-term, relatively illiquid property and that a higher ratio would create a less-flexible entity with respect to resource allocation decisions (Brady, 1999).

It appears that the ratio successfully provides indication of how a respective entity utilizes public funds, revealing its capital structure, but the ratio is problematic when attempting to gauge the flexibility of manager decision making. Furthermore, judgments concerning the stewardship objective based on ratio calculations could be misleading.

Federal agencies like DOD that require a proportionally large amount of equipment and land to operate would naturally produce a large ratio number when compared to a federal agency that does not require the same type of structure to execute its mission. Additionally, within DOD, the Navy requires a large amount of General PP&E to execute its mission, while other entities within DOD, such as DFAS, do not.

When considering these stark differences at all levels of the federal government it is difficult to derive meaning from the ratio if calculated from the combined financial statements of the federal government.

As previously presented by Brady, the ratio was thought to present an indicator to the flexibility of manager decision making. Due to the nature of the appropriation process, managers receive funding with limited allocation flexibility. Agencies receive appropriations with pre-determined spending directives. For example, the Navy or DOD CFOs do not decide to purchase an aircraft carrier. Congress holds the power of the purse and for this reason it is difficult to gauge responsible stewardship of an agency by the product of the fixed asset to total asset ratio. It could be possible to use this ratio to determine how well congressional decisions match stated strategies concerning the proper allocation of resources, but the idea exceeds the scope of this research.

Although the ratio does not seem to provide meaningful information at the aggregated federal level, it could provide meaningful information when analyzing congruent entities or through a horizontal analysis of a single entity. A reasonable question could involve comparing how the ratio for the Department of the Navy changed over a decade, and then compare this to stated national naval strategies over that same decade. Did the Navy become more or less capitalized? How does this match goals stated by national defense and security objectives?

Lastly, when looking at the components of the ratio, total assets include governmental and intra-governmental assets. At the consolidated federal level this could be misleading because intra-governmental assets represent assets within the government.

In conclusion, it appears that the fixed asset to total asset ratio could be useful when applied in a specific context among comparable entities; the broad application of the ratio to determine stewardship among federal entities, however, could facilitate inaccurate judgments.

## 2. Inventory-to-Assets Ratio

The inventory-to-assets ratio is computed by dividing inventory and related property by total assets. When deconstructed, the ratio represents the following items:

$$\frac{\text{Inventory} + \text{Operating materials and supplies} + \text{Stockpile materials} + \text{Seized property} + \text{Forfeited property}}{\text{Entity Governmental Assets} + \text{Entity IntraGovernmental Assets}}$$

The subcomponents of Inventory and related property are described as follows:

- Inventory— Tangible property for sale, in the process of production for sale or to be consumed in the production of goods for sale or in order to provide fee-based services
- Operating materials and supplies—Tangible property to be consumed in normal operations
- Stockpile materials— Critical materials held due to statutory requirement for use in national contingency operations; items are not held with the intent of selling
- Seized property— Tangible property of others seized by authorized law enforcement agencies.
- Forfeited property— Tangible property acquired through forfeiture proceedings, property acquired by the government to satisfy taxpayer liability, and abandoned merchandise
- Goods held under price support and stabilization programs— Items of commerce having an exchange value (OMB, 2013, p. 47)

Governmental and intragovernmental assets are discussed in the fixed assets to total assets ratio and applied within the inventory-to-assets ratio below.

$$\frac{(\text{Inventory} + \text{Operating materials and supplies} + \text{Stockpile materials} + \text{Seized property} + \text{Forfeited property} + \text{Goods held under price support and stabilizations programs})}{(\text{Governmental}(\text{Cash} + \text{Receivables} + \text{Inventory and related property} + \text{General PPE} + \text{Investments} + \text{Other assets}) + \text{Intragovernmental}(\text{FBWT} + \text{Investments} + \text{Receivables} + \text{Advances and prepayments}))}$$

Above, the inventory-to-assets ratio is displayed to reveal the constituents of the numerator and denominator. Brady claims that the ratio indicates the level of total assets that are accounted for by inventory. He further claims that government inventories are typically not held for resale, and therefore must be used or disposed of by the entity. Following this idea, the ratio demonstrates stewardship because it measures the ability of

the entity to manage their assets. Brady claims that a high ratio may indicate inefficiency in managing inventories while a low ratio would indicate efficiency in inventory management (Brady, 1999, p. 120).

While the ratio may provide an approximation of how much of an entity's assets are accounted for by its inventories, the ratio may provide little meaning to federal financial statement users. As shown above, inventory and related property could encompass a vast amount of items. The inclusion of items such as seized and forfeited property could artificially inflate inventory, thereby misleading managers.

The scope of agency activities within the federal government could lead to a great disparity in the ratio figures. For example, federal agencies charged with the seizure of properties could have abnormally high inventory accounts. This would lead to a high ratio number, incorrectly indicating poor use of its assets and ultimately inefficient stewardship. For these types of agencies, a high ratio number could indicate a high level of mission accomplishment due to the large amounts of property seizures and forfeitures. Other agencies may require a large amount of inventory and supplies to conduct their missions, which would lead to lower ratio numbers. Other agencies may statutorily require a greater inventory of stockpile materials in the event of national contingency operations. The stockpile materials inventory would drive the ratio number lower without the agency having the ability to actively manage it. Collectively, these inconsistencies may lead to misleading conclusions by users when analyzing the consolidated financial statements of the federal government.

The inventory-to-assets ratio may provide utility when aggregated with agencies performing similar missions with common requirements. For example, it would be misleading to compare the Department of the Navy and the Defense Logistics Agency utilizing the inventory-to-assets ratio. The Navy primarily consumes its balance sheet inventory to support operations, while the Defense Logistics Agency primarily converts its inventory to sales revenue. It may be beneficial to compare entities such as the Navy and Army using the inventory-to-assets ratio, assuming a slight manipulation of the ratio. To gain a better understanding into how the entity is managing inventories, it may be useful to modify the ratio by removing "stockpile materials," "seized property,"

“forfeited property,” and “goods held under price support and stabilization programs” as follows:

$$\frac{(Inventory + Operating materials and supplies)}{(Governmental(Cash + Receivables + Inventory and related property + General PPE + Investments + Other assets) + Intragovernmental(FBWT + Investments + Receivables + Advances and prepayments))}$$

The ratio displayed above would represent a ratio that individual entities had the ability to affect and thereby manage. Because the numerator represents inventory that leadership has the capacity to manage, this ratio could support the stewardship objective.

### 3. Capital Investment Ratio

The capital investment ratio is computed by dividing the change in PP&E by total assets. Broken into subparts, the ratio becomes:

$$\frac{\Delta General PP\&E}{Entity Governmental Assets + Entity IntraGovernmental Assets}$$

The fixed assets to total assets ratio is similar to the capital investment ratio, only the numerator changes to change in PP&E rather than existing PP&E. Further segregated, the ratio includes the following components:

$$\frac{\Delta(Goods \& Services Items + Business Activity Items + General Purpose Land + Comparable Cost Items)}{Governmental(Cash + Receivables + Inventory and related property + General PPE + Investments + Other assets) + Intragovernmental(FBWT + Investments + Receivables + Advances and prepayments)}$$

A closer evaluation of the ratio constituents may determine whether the ratio is useful to federal statement users. Brady states that the ratio should measure the rate at which the entity is investing in capital assets and, because the ratio determines how the financial condition of the entity has changed as a result of management decisions, Brady determines it serves the stewardship objective. Brady postulates that a high ratio value

might indicate the expansion of operations while a low value might indicate deteriorating financial health, expanding reliance on contractor support, or the delay of capital investment (Brady, 1999, p. 121).

It appears that the ratio satisfactorily presents an indication of how the entity is expending appropriations. The ratio will decrease as the entity dedicates more resources to PP&E and act inversely in the event of decreased capital expenditures. As discussed in the Fixed Assets to Total Assets ratio discussion, the ratio becomes problematic when attempting to measure how the asset decision making of management affects the financial condition of the entity. Consequently, the idea that this ratio illustrated stewardship is questionable.

Capital investment is often directed at a much higher level above the federal entity. Managers are limited in their investment decisions due to the appropriations and disbursement process. The ratio may help illustrate how capital spending matches with published national and military strategy.

Furthermore, it is difficult to know how to interpret a low capital investment ratio. While Brady's theories of a decreasing ratio may be true, there could be many external reasons that explain a decreasing ratio. Perhaps, a sequester is in effect forcing lower levels of government spending at specified entities. A decreasing ratio would not necessarily indicate that the entity is contracting operations or investing at a rate that would allow sustainment, but may be the result of an overall policy change affecting the entire government.

Additionally, some federal entities require a consistent flow of capital purchases while others require a relatively small amount of PP&E to execute their mission. Like the other ratios, the capital investment ratio appears to provide erratic information at the combined federal level due to the nature and vast complexity of federal agency operations. If the ratio cannot maintain integrity across the entire federal spectrum, the legitimacy of the ratio at a consolidated federal statement level is questionable. Similar to

other ratios, however, the capital investment ratio may provide useful information when analyzed among homogenous entities or analyzed for one entity across a stated time period.

Finally, it is worthwhile to discuss how the ratios will change during periods of war versus phases of relative peace. Congress values the segregation of overseas contingency operation funding from regular appropriation; therefore, it raises a question concerning whether these ratios should be separate. It seems that keeping the ratios separate would be both unnecessary and difficult to decipher an appropriate methodology.

In the beginning of the chapter, the authors discussed how ratios make it possible to compare entities of various sizes. Ratio analysis allows for a comparative model because ratios are expressed as percentages, allowing for direct comparisons of billion-dollar companies to million-dollar companies. When analyzing the numerator and denominator of previously discussed federal ratios, it is likely both would increase during periods of war as defense spending increases. As spending increases, assets, liabilities, inventories, and PP&E increase. Consequently, the size of the entity increases; ratios, however, allow for consistent analysis as the scale of appropriations change.

## **V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY**

### **A. SUMMARY**

This thesis revealed differences in the information content of the balance sheet accounts in corporate and federal agency reporting. Specifically, the thesis evaluated and compared commonly accepted corporate balance sheet ratios and previously determined federal balance sheet ratios to determine their utility in achieving federal financial reporting objectives to satisfy the needs of federal financial statement users.

Two decades of legislation sought to improve federal government financial accounting and reporting by requiring federal agencies to produce auditable financial statements similar to the corporate sector. These reporting standards intended to facilitate a better understanding of the financial position of the federal government as a whole, and of its agencies. The expectation was that a better understanding would improve federal financial management, accounting systems, and internal control to assure the production of reliable financial statements and deter fraud, waste, and abuse of federal resources. The authors find that the balance sheet statement is useful for understanding basic financial information and providing financial transparency, but not for accomplishing federal financial reporting objectives as promulgated by FASAB. Federal financial statement users would be better served if reporting requirements evolved to mirror the objectives of federal financial reporting.

### **B. CONCLUSIONS**

The research found that, with modification, common corporate ratios may provide utility to users of government statements, and federal-specific ratios may also be useful. Corporate balance sheets are used by actual and potential creditors and shareholders to assess the financial condition of the firm. These users are primarily external to the corporation and have an economic relationship to the firm. Federal balance sheets, employed by users who are both internal and external to the government, are utilized to understand how the agency is safeguarding assets and providing accountability through

the reporting of reliable financial information. The relationship of legislator, executive, citizen, and watchdog is fundamentally different, and that difference of perspective affects the utility of balance sheet ratios.

Commonly used corporate balance sheet ratios have limited use when applied to federal balance sheets. The liquidity and leverage ratios were designed to be operationalized in a corporate setting for uniquely corporate purposes; with modification, however, some useful information can be derived from the balance sheet. The federal balance sheet user is not attempting to determine creditworthiness or profitability of the agency. The federal user seeks to understand if the government is providing goods and services through the transparent use of the nation's resources. However, by modifying the quick ratio to only include accounts that the agency has the authority to directly control, useful information may be obtained. The ratio yields information concerning whether the agency can meet its short-term liabilities from a controlled account that can be used in accordance with law to pay for those short-term liabilities. This could provide a reassurance to balance sheet users as well as those that conduct business with the agency. This new ratio seems to meet several previously stated objectives of financial reporting, namely operating performance and stewardship.

Ratios developed by Brady (1999) appear to have limited utility in meeting their purpose of determining proper stewardship, but with modification, useful information can be derived. By modifying the inventory-to-assets ratio, a better understanding into how the agency is managing its resources is achieved. The ratio includes only inventories that leadership has the capacity to manage, thus addressing the stewardship objective. At increased levels of aggregation the ratios become inconsistent and problematic. The mixing of governmental and intragovernmental accounts degrades the integrity of the results. Additionally, the scope of federal agency activities leads to a disparity in ratio results that makes comparisons among agencies difficult. It appears that the Brady (1999) ratios may only be useful when analyzing congruent entities or through a horizontal analysis of a single agency; the broad application of the ratio to determine stewardship among federal agencies, however, could facilitate inaccurate judgments. Also, ratios may

be useful in determining how well congressional decisions match stated national strategies addressing the proper allocation of resources.

### **C. LIMITATIONS**

The thesis was limited in the analysis of only one financial statement: the balance sheet. Further analysis of the remaining corporate financial statements: Statement of Cash Flows, Income Statement, and Statement of Shareholder's Equity and the federal agency equivalents: Statement of Net Cost, Statement of Changes in Net Position, Statement of Budgetary Resources, Statement of Financing, and Statement of Custodial Activity could provide additional insight into utility of the statements and additional analysis of ratio comparisons.

The focus of this research resides solely on the balance sheet, thus overall conclusions cannot be made from this thesis regarding the overall utility of financial statements in federal reporting. The authors did determine that, with modification, common corporate ratios could have utility to users of government statements, and federal-specific ratios may also be useful. Further research is required before definitive conclusions can be surmised regarding the usefulness of financial ratios to analyze federal agency financial reports.

### **D. AREAS FOR FURTHER STUDY**

Because this thesis narrowed the scope of the study to the balance sheet, a general conclusion regarding the utility of corporate-style financial statements within the federal agency framework cannot be definitive. Additional research is necessary to draw these important conclusions. The researchers identified several areas outside the parameters of this thesis, but which are important for further study:

#### **1. Appropriate Government-style Statements**

Further research is needed to understand the most effective way to report and present federal financial information. The research has shown there is a legitimate need for federal financial reporting; federal stakeholders, however, would most benefit from a model that accounts for the government's unique reporting objectives and user needs.

## **2. Potential Federal Balance Sheet Accounts**

Existing federal balance sheet accounts have limitations and additional accounts may provide for a more realistic asset classification. For instance, the account Property, Plant, and Equipment includes capital assets found on corporate balance sheets, but also includes heritage assets. Heritage assets are not similar to capital assets yet they are classified in the same account. Separating the assets in new accounts will alter the data in a way that makes the information more functional. This can be expanded to include the accounts listed on the remaining financial statements.

## **3. Expand Analysis to Other Financial Statements**

This thesis focused all data collection and analysis solely on the balance sheet. The remaining corporate and federal financial reports were omitted. This same study should be completed utilizing the remaining corporate financial statements. There are many informative ratios that can potentially provide useful information from other financial statements. A review of the remaining financial statements and the commonly accepted ratios used in ratio analysis may result in modifying existing ratios or potentially finding new ratios with more meaningful data.

## **4. Ratio Benchmarking**

Ratios are important when comparing similar entities across a particular industry. This allows the user to determine higher/lower-performing entities. Another way to compare and benchmark is to compare an entity to past results. This creates and facilitates a platform to conduct trend analysis. A horizontal analysis, comparing across the major agencies of government, of the range of ratios for a federal agency could uncover performance indicators.

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