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JOINT APPLIED PROJECT

**DETERMINING RELEVANT FINANCIAL STATEMENT RATIOS
IN DEPARTMENT OF DEFENSE SERVICE COMPONENT
GENERAL FUND FINANCIAL STATEMENTS**

**By: Nicholas J. Koetter,
Daniel J. Krause, and
Carl S. Liptak
June 2014**

**Advisors: Juanita M. Rendon,
Thomas L. Albright
Douglas A. Brook**

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**DETERMINING RELEVANT FINANCIAL STATEMENT RATIOS
IN DEPARTMENT OF DEFENSE SERVICE COMPONENT GENERAL FUND
FINANCIAL STATEMENTS**

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Submitted in partial fulfillment of the requirements for the degree of

MASTER OF ARTS IN MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
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DETERMINING RELEVANT FINANCIAL STATEMENT RATIOS IN DEPARTMENT OF DEFENSE SERVICE COMPONENT GENERAL FUND FINANCIAL STATEMENTS

ABSTRACT

Department of Defense (DOD) service components are dedicating significant financial and human resources toward achieving unqualified opinions on audits of their financial statements. The DOD has endeavored to produce auditable financial statements as mandated in the Chief Financial Officers Act of 1990. In December of 2013, the United States Marine Corps became the first service component to achieve an unqualified audit opinion on its Schedule of Budgetary Activities. As military components achieve unqualified audit opinions, what data from these financial statements are relevant to leaders, and can this information be presented in a more effective manner?

The purpose of this research is to explore the usability and benefit of modified financial statement ratios as applied to DOD service component general fund financial statements. First, a comparison approach is used to determine similarities and differences between corporate financial statements and DOD service component general fund financial statements, including interrelationships of financial data. Second, a ratio approach is used to determine which modified corporate financial statement ratios are relevant to users of DOD service component general fund financial statements. Third, an empirical approach is used to apply modified financial statement ratios to Department of the Navy and U.S. Air Force financial data. This research provides recommendations pertaining to the utility and applicability of modified financial statement ratios to DOD service component general fund financial statements.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFR	annual financial report
AICPA	American Institute of Certified Public Accountants
APB	Accounting Principles Board
CAP	Committee on Accounting Procedure
CFO Act	Chief Financial Officers Act of 1990
CRS	Congressional Research Service
DAU	Defense Acquisition University
DFAS	Defense Finance and Accounting Services
DOD	Department of Defense
DON	Department of the Navy
ERP	enterprise resource planning
FACTS II	Federal Agencies' Centralized Trial-Balance System
FASAB	Federal Accounting Standards Advisory Board
FASB	Financial Accounting Standards Board
FBWT	Fund Balance with the Treasury
FIAR	Financial Improvement and Audit Readiness
FIP	financial improvement plan
FMR	Financial Management Regulation
FY	fiscal year
GAAP	generally accepted accounting principles
GAO	Government Accountability Office
GASB	Government Accounting Standards Board
GFBS	general fund consolidated balance sheet
GMRA	Government Management Reform Act
MILCON	Military Construction
MILPERS	Military Personnel
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PCAOB	Public Company Accounting Oversight Board

PPBE	Planning, Programming, Budgeting, and Execution
PP&E	Property, Plants, and Equipment
RDT&E	Research, Development, Technology, and Evaluation
SBA	schedule of budgetary activities
SBR	statement of budgetary resources
SCNP	consolidated statement of changes in net position
SEC	Securities and Exchange Commission
SFFAC	statements of federal financial accounting concepts
SFFAS	statements of federal financial accounting standards
SNC	consolidated statement of net cost
SOX	Sarbanes-Oxley Act
USAF	United States Air Force
U.S.C.	United States Code
USGAAP	United States generally accepted accounting principles
USMC	United States Marine Corps
USSGL	United States Standard General Ledger

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I. INTRODUCTION

A. BACKGROUND

The Chief Financial Officers (CFO) Act of 1990 and subsequent federal government financial management legislation set mandates for federal government entities to create and maintain audited corporate-style financial statements. In response, the Department of Defense (DOD) created the Financial Improvement and Audit Readiness (FIAR) plan to establish an incremental timeline and framework to assist individual service components in complying with reform legislation. The incremental timeline contained within the FIAR plan tasked individual DOD components to achieve an audit-ready statement of budgetary resources (SBR) by the end of fiscal year (FY) 2014 and set the date of September 30, 2017, as the deadline for full audit readiness (DOD, 2013a). The FIAR plan includes a DOD investment of \$6.79 billion toward implementing the enterprise resource planning (ERP) system necessary to establish and maintain audited financial statements. From FY2013 to FY2018, a total of \$3.29 billion is budgeted for independent public accounting firms to consult DOD components on audit readiness best practices (DOD, 2013a).

In a resource-constrained fiscal environment, it is critical that DOD service components derive a maximum level of utility from audited financial statements. Though public accountability and increased stewardship are commonly cited as primary benefits of audited financial statements, the challenge still remains to ascertain possible analytical tools that could serve a beneficial purpose to DOD managers and leadership (Brook, 2010). Analytical tools currently utilized by private sector entities, using data contained within corporate financial statements, could possibly be modified to serve a similar purpose for individual DOD service components.

B. PURPOSE OF RESEARCH

The purpose of this research is to explore the usability and benefit of modified financial statement ratios as applied to DOD service component general fund financial statements. For the purpose of brevity, the term “service component financial statements”

throughout this research project solely references the general fund financial statements found within DOD service component annual financial reports. First, a comparison approach is used to determine similarities and differences between corporate financial statements and DOD service component financial statements, including interrelationships of financial data. Second, a ratio approach is used to determine which modified corporate financial statement ratios are relevant to users of DOD service component financial statements. Third, an empirical approach is used to apply modified financial statement ratios to Department of the Navy (DON) and U.S. Air Force (USAF) financial data. This research provides recommendations pertaining to the utility and applicability of modified financial statement ratios to DOD service component financial statements.

C. RESEARCH QUESTIONS

This report researched the following questions:

- What are the similarities and differences between corporate financial statements and DOD service component financial statements?
- What are the similarities and differences between the interrelationships within corporate financial statements and DOD service component financial statements?
- How can corporate financial statement ratios be modified and applied to DOD service component financial statements?
- What are the similarities and differences between the Department of the Navy and U.S. Air Force regarding modified financial statement ratios?

D. METHODOLOGY

This research includes a review of literature related to financial statements, scholarly research, and government documents to provide a foundation of knowledge for the analysis of both corporate and service component financial statements. This literature review includes historical legislation regarding corporate financial statements and federal financial management practices and discusses current accounting standards in use. From the literature review, the interrelationship of data found within a corporate balance sheet, statement of cash flows, statement of retained earnings, and income statement will be examined.

Similarly, an analysis is conducted on the DOD statement of budgetary resources, balance sheet, statement of net cost, and statement of changes in net position to identify possible interrelationships of data transfer among these service component financial statements. To accomplish this task, a comparison approach is used to identify the similarities and differences between corporate financial statements and service component financial statements. Once similarities between the interrelationships of corporate and service component financial statements are determined, relevant corporate financial statement ratios can be modified for application to service component financial data.

Following the determination of which corporate financial statement ratios can be modified for application to service components, using the empirical approach, the selected modified financial statement ratios are then applied to historical financial data from FY2002–2012 DON and USAF financial statements. The empirical approach provides results necessary for determining the utility and applicability of selected ratios. This research concludes with providing recommendations pertaining to the utility and applicability of modified financial statement ratios to service component financial statements.

E. BENEFITS AND LIMITATIONS

Analyzing the flow of financial data throughout service components' statement of budgetary resources, balance sheet, statement of net cost, and statement of changes in net position determines which significant interrelationships of data are similar to those established in corporate financial statements. Once understood, these interrelationships have the potential to be incorporated into service component workforce-development programs to provide newly assigned financial managers with a foundational knowledge of the flow of financial data among the four primary service component financial statements, similar to articulation concepts taught in corporate financial accounting courses. Additionally, similar interrelationships of financial data between corporate and service component financial statements can be used to benefit managers and leadership within the DOD by leveraging established analytical tools currently used by private

sector entities. Specifically, using modified financial statement ratios as an analytical tool to interpret the data contained within service component financial statements may provide an informative benefit to DOD leadership. Moreover, modified corporate financial statement ratios may provide an opportunity to enhance the overall utility of maintaining audited financial statements for the DOD (Brook, 2013).

A primary limitation of this research project is that the historical DON and USAF financial statements, which are used in the application of selected modified financial statement ratios, have not achieved unqualified audit opinions. Due to this fact, the historical financial data from DON and USAF financial statements is assumed to reflect the most accurate classification of monetary funds. Additionally, budget authority provided within appropriation categories for individual DOD service components will vary on an annual basis, based on operational necessity, modernization plans, and various other factors. This budgetary variance warrants consideration when comparing the results of modified financial statement ratios derived from the data contained within the financial statements of the DON and USAF.

F. ORGANIZATION OF REPORT

This research consists of five chapters, including this introduction. Chapter II provides a literature review focusing on historical legislation regarding corporate financial statements and federal financial management practices, as well as corresponding mandates for audited financial statements. Chapter II also includes a review of the common terminologies, organizational structure, and financial statement ratios that may be derived from both corporate and service component financial statements. Chapter III details the methodology used to identify similarities and differences between the interrelationship of financial data found within corporate and service component financial statements and which modified financial statement ratios may be applicable to service component financial data. Chapter IV discusses the analysis, which includes the comparisons between corporate financial statements and service component financial statements, the development of modified financial statement ratios, and the application of

ratios to financial data contained within DON and USAF FY2002–2012 financial statements. Chapter V consists of a summary, conclusion, and areas for further research.

G. SUMMARY

This chapter provided an introduction and the background of this research. The mandate for service components to produce and maintain audited financial statements and the FIAR plan to achieve this task were discussed. The purpose of this research was presented, which includes a comparison approach to determine similarities and differences between corporate financial statements and DOD service component financial statements, a ratio approach to determine which modified corporate financial statement ratios are relevant to DOD users, and an empirical approach to apply modified financial statement ratios to Department of the Navy and U.S. Air Force financial data. In addition, four research questions were presented along with the methodology used in the research. This chapter concludes with the benefits and limitations of this research and the organization of the report. The following chapter provides a literature review, which includes a foundation for understanding the similarities and differences between the financial data contained within corporate financial statements and service component financial statements and a historical review of significant financial management reform legislation.

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II. LITERATURE REVIEW

A. INTRODUCTION

This chapter provides a literature review to establish a foundational knowledge regarding corporate and federal financial management practices. A historical review of corporate financial statement legislation is provided in addition to a depiction of corporate financial statements to include balance sheets, income statements, statements of retained earnings, and statements of cash flow. This chapter also includes historical legislation of federal financial management leading to the mandate for Department of Defense (DOD) audited financial statements as well as common terminologies used in the budgeting and execution process. A description of the four principal statements that comprise the service component financial statements is also presented. Common categories used in corporate financial statement ratio analysis are also discussed. This literature review serves as a basis to better understand the comparison between DOD service component financial statements and corporate financial statements, including the application of modified financial statement ratios to service component financial data. The following section reviews the historical legislation of corporate financial statements.

B. HISTORICAL LEGISLATION OF CORPORATE FINANCIAL STATEMENTS

Rules and regulations governing corporate financial statements have undergone considerable changes over the last century. This section discusses legislation that governs corporate financial statements reported today.

1. Securities Act of 1933

In 1917, the Federal Reserve attempted to establish standard accounting practices by publishing *Uniform Accounting* (Hawkins, 1977). This document discussed proposed laws and practices that required accurate reporting of funds under oath. Unfortunately, this attempt was unsuccessful at holding companies accountable for the accuracy of information reported. With the crash of the stock market and subsequent Great Depression of 1929, Britain created the English Companies Act of 1929 (Hawkins,

1977). There was a large effort to reestablish credibility with banks and publicly traded companies. Congress used the English Companies Act of 1929 as a template to develop the Securities Act of 1933 (Hawkins, 1977).

The Securities Act of 1933 (15 U.S.C., 2012) established accounting standards that forced full disclosure and created civil liabilities. This act regulated corporate accounting practices and procedures legally instead of just under oath. This act also created a mandate for companies to provide accurate financial information to public stakeholders. With assurances of accurate information, the public was able to trust the financial information provided by a corporation to make better-informed investment decisions. Additionally, citizens were provided a course of action when financial information proved to be fraudulent. In the following year, the Securities Exchange Act of 1934 was signed into law creating an official government agency responsible for enforcing governmental financial regulations (15 United States Code [U.S.C.], 2012).

2. Securities Exchange Act of 1934

The Securities Exchange Act of 1934 established the Securities and Exchange Commission (SEC) in addition to increasing regulations pertaining to accounting principles. The SEC is the governmental agency given oversight responsibilities for enforcing the regulations enacted in the Securities Act of 1933 and the Securities Exchange Act of 1934. These two acts are effectively known as United States Code: Title 15—Commerce and Trade (15 U.S.C., 2012).

Sections 77 and 78 of Title 15 require publicly owned companies to produce a 10-K form on an annual basis. Audited financial statements, which were included in the 10-K form, were one of the required criteria for a corporation to appear on public stock exchanges. In addition to the Title 15 requirements, the Securities Act of 1933 and the Securities Exchange Act of 1934 added section 210, SEC Regulation S-X, to the U.S.C. Title 17—Code for Federal Regulations. Regulation S-X, entitled *Form and Content of and Requirements for Financial Statements*, created the framework for the four principal corporate financial statements that are relevant to this research (15 U.S.C. §§ 77-78, 2012).

According to Regulation S-X 210.3-05, the balance sheet, income statement, and statement of cash flows are the only required financial statements. The fourth required piece is labeled “Changes in Other Stockholder’s Equity.” This can be completed in a note or depicted in a separate statement, such as the statement of stockholders’ equity or the statement of retained earnings (17 U.S.C. §§ 210, 2012). This research discusses a simplified statement of retained earnings.

While Title 15 and 17 establish financial law, the accounting principles and standards that govern these laws are continually changing. To better keep pace with the changing standards from 1939 thru 1973, the SEC delegated the rules responsibility to the Financial Accounting Standards Board (FASB) (Hawkins, 1977).

3. Financial Accounting Standards Board

The FASB is a private organization responsible for the development of accounting standards for use in auditing corporate financial statements. Its composition is derived from a multitude of certified accounting groups preceding it, such as the Committee on Accounting Procedure (CAP) and the American Institute of Certified Public Accountants’ (AICPA) Accounting Principles Board (APB) (Hawkins, 1977).

In 1973, FASB became recognized by the SEC and the AICPA as the authoritative creator of accounting standards (Hawkins, 1977). The standard accounting principles developed by the FASB are published as the generally accepted accounting principles (GAAP), which are used as financial reporting guidelines in the preparation of corporate financial statements.

4. Sarbanes-Oxley Act

The requirement for publicly traded companies to produce audited financial statements led to an increasing demand for companies that specialized in providing audit services. Unfortunately, accounting firms were often incentivized with monetary rewards in exchange for providing favorable audit opinions, creating the potential for fraudulent activities. In an official congressional hearing, Representative Sherman (D-CA) (2004) revealed it was common for auditors and business management to have a “don’t ask,

don't tell policy" when it came to financial statement auditing procedures. In the early 2000s, highly publicized accounting scandals, such as the Enron Corporation, highlighted these troubling relationships and fraudulent business practices. The Sarbanes-Oxley Act (SOX) was implemented with the intent of restoring investor confidence as well as strengthening financial auditing practices (H.R. 3763, 2002).

In addition to increasing penalties for companies that attempt to deceive their shareholders, the SOX Act created the Public Company Accounting Oversight Board (PCAOB). The PCAOB (H.R. 3763, 2002) is a non-profit organization tasked with oversight responsibility of companies that provide audit services to American corporations. Audit committees were required by SOX to deter inappropriate business practices between auditors and corporate management. While the potential for fraudulent activity may always exist, the SOX Act implements procedures to strengthen oversight in the audit process of corporate financial statements. The following section provides a discussion of corporate financial statements.

C. CORPORATE FINANCIAL STATEMENTS

To interpret the data reported in corporate financial statements, it is important to understand their composition and what the financial data represents. This section provides an overview of the objective, users, and content of corporate financial statements.

1. Objective and Users

For a business to make a profit, it is often required to obtain funds from lenders or investors to purchase the necessary assets to produce a particular good or service. Therefore, it is in the best interest of the business to improve its financial position in order to attract potential investors or receive advantageous interest rates on debt. The fundamental objective of corporate financial statements is to provide reasonable assurance that the financial position of an organization is accurately conveyed to all potential stakeholders. The most common users of corporate financial statements are included in Table 1.

Lenders	Investors
Managers	Suppliers
Customers	Employees
Competitors	The Press

Table 1. Users of Financial Statements
(from Albrecht, Stice, & Stice, 2008)

There are many uses of financial information contained within financial statements. For example, lenders and investors may use financial statements to achieve their profit or interest objectives by predicting the ability of a corporation to meet future debt obligations. The calculation of leverage, through a corporation's capital structure, attempts to identify levels of equity to cover future expenses, thereby enabling users to recognize risk (Hitchings, 1999). Managers use financial statements to measure effectiveness and efficiency of operations and to identify possible areas of weakness (Brook, 2013). Suppliers and customers may use financial statements to evaluate the prolonged existence of companies prior to long-term agreements. Employees often use financial statements to determine future operations, growth, and job security. Competitors can use financial statements as a means to highlight opportunities and evaluate the competition. Finally, reporters often use financial information to gain valuable background information to elaborate on developing stories.

2. The Balance Sheet

The balance sheet represents the basic accounting equation at any given point in time (see Figure 1) (Albrecht et al., 2008). The balance sheet is a snapshot of the accounting records of the corporation. The accounting equation is the underlying foundation upon which the basic accounting principles are built. It is the measure of a corporation's assets, liabilities, and stockholders' equity. Assets, liabilities, and stockholders' equity are represented using dollar amounts. The concepts of double-entry accounting, accrual accounting, and the use of GAAP are assumed in this research project.

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

Figure 1. Accounting Equation (from Albrecht et al., 2008, p. 28)

There are two display components of balance sheets: classified and comparative. The classified component distinguishes between current and long-term assets and liabilities. Current assets will generally be used within a year, while long-term assets will be used for longer than a year. The comparative component distinguishes between the current year and the previous year(s) to show a historical comparison. Figure 2 depicts an example of a classified and comparative balance sheet and examples of assets, liabilities, and stockholders' equity.

(1) Assets

Assets are “economic resources that are owned or controlled by a company” (Albrecht et al., 2008, p. 26). Assets can be cash, inventory of goods, money the corporation expects to receive in the future (accounts receivable), property, plant, and equipment (PP&E), as well as supplies for use in the production of goods or services. Current assets are any assets easily converted to cash.

(2) Liabilities

Liabilities are “obligations to pay cash, transfer other assets, or provide services to someone else” (Albrecht et al., 2008, p. 27). Often referred to as debt, liabilities are claims that other entities have on the assets of the corporation. For example, a long-term loan taken from a financial institution would appear under notes payable, which is a line item in the liabilities section of the balance sheet. This indicates that the bank has a legal claim on that specific amount of the business's assets until the funds are fully repaid.

(3) Stockholders' Equity

Stockholders' equity is “the ownership interest in the net assets of an entity” (Albrecht et al., 2008, p. 27). The net assets are defined as the total assets minus the total liabilities. Stockholders' equity is divided into two general categories: capital stock and retained earnings. Capital stock is the investment of money that is exchanged for shares of stock, or ownership, in the corporation. Retained earnings represent the amount of

earnings the corporation has reinvested into the business. The earnings paid back to owners of the corporation, or stockholders, are referred to as dividends. Both of these calculations are discussed in the Statement of Retained Earnings section.

Sample Classified & Comparative Balance Sheet		
31 December XXXX		
(amounts in millions)		
	<u>CY</u>	<u>PY</u>
Current Assets:		
Cash	\$ xxxx	\$ xxxx
Notes Receivable	xxxx	xxxx
Accounts Receivable	xxxx	xxxx
Inventory	xxxx	xxxx
Supplies	<u>xxxx</u>	<u>xxxx</u>
Total Current Assets	\$ xxxx	\$ xxxx
Long-Term Assets:		
Land	\$ xxxx	\$ xxxx
Buildings	xxxx	xxxx
Office Furniture	xxxx	xxxx
Equipment	<u>xxxx</u>	<u>xxxx</u>
Total Long-Term Assets	<u>\$ xxxx</u>	<u>\$ xxxx</u>
Total Assets	<u>\$ xxxx</u>	<u>\$ xxxx</u>
Current Liabilities:		
Notes Payable	\$ xxxx	\$ xxxx
Accounts Payable	xxxx	xxxx
Salaries Payable	xxxx	xxxx
Interest Payable	xxxx	xxxx
Income Taxes Payable	<u>xxxx</u>	<u>xxxx</u>
Total Current Liabilities	\$ xxxx	\$ xxxx
Long-Term Liabilities:		
Mortgage Payable	<u>\$ xxxx</u>	<u>\$ xxxx</u>
Total Long-Term Liabilities	\$ xxxx	\$ xxxx
Stockholders' Equity:		
Capital Stock	\$ xxxx	\$ xxxx
Retained Earnings	<u>xxxx</u>	<u>xxxx</u>
Total Stockholders' Equity	<u>\$ xxxx</u>	<u>\$ xxxx</u>
Total Liabilities and Stockholders' Equity	<u>\$ xxxx</u>	<u>\$ xxxx</u>

Figure 2. Sample Classified and Comparative Balance Sheet
(after Albrecht et al., 2008)

3. Income Statement

The income statement is useful in determining the financial health and performance of the business (Albrecht et al., 2008). The income statement reports on the status of the business's moneymaking process. It is a statement of activities and the results of those activities. It separates revenues and expenses to display the net income or loss from business activities. Net income is an indication of the corporation's economic performance (Albrecht et al., 2008). An example of a basic income statement is presented in Figure 3.

Sample Income Statement For the Year Ended 31 December XXXX (amounts in millions)			
Revenue:			
Sales Revenue	\$	xxxx	
Service Revenue		xxxx	
Rent Revenue		<u>xxxx</u>	
Total Revenue	\$		<u>xxxx</u>
Expenses:			
Cost of Goods Sold	\$	xxxx	
Sales Salaries and Commissions		xxxx	
Rent Expense		xxxx	
Advertising Expense		<u>xxxx</u>	
Total Expenses	\$		<u>xxxx</u>
Net Income/Loss	\$		<u>xxxx</u>

Figure 3. Sample Income Statement (after Albrecht et al., 2008)

4. Statement of Retained Earnings

The statement of retained earnings is often prepared in conjunction with the income statement. It shows the change in retained earnings for a specific period. The income generated for a particular year, as calculated on the income statement, is added to the previous year's retained earnings. Dividends paid back to the stockholders are

subtracted, and the remaining amount represents the retained earnings at the end of that period. This statement is a quick reference for stockholders, displaying the amount of money the corporation has earned, how much is being paid back to stockholders as dividends, and how much is being retained in the corporation for future operations. The information from the statement of retained earnings can also be found within the statement of stockholders' equity. Figure 4 depicts an example of a statement of stockholders' equity.

Sample Statement of Stockholder's Equity For the Year Ended December 31, 2008 (amounts in millions)			
	<u>CC</u>	<u>RE</u>	<u>Total</u>
Balance at December 31, 2007	\$ xxxx	\$ xxxx	\$ xxxx
Plus Common Stock Issued	xxx		xxx
Plus Net Income		\$ xxxx	xxx
Less dividends		(xx)	(xx)
Balance at December 31, 2008	<u>\$ xxxx</u>	<u>\$ xxxx</u>	<u>\$ xxxx</u>

Figure 4. Sample Statement of Stockholder's Equity Including Retained Earnings (after Rendon, 2013)

5. Statement of Cash Flows

The statement of cash flows provides details regarding the inflows and outflows of cash within three activity categories: operating activities, investing activities, and financing activities. Operating activities are those cash flow activities involved with the sale of goods and services during a corporation's day-to-day business operation. Investing activities are those cash flow activities involved with buying and selling long-term assets, such as land, buildings and equipment, and securities. Financing activities are those cash flow activities involved with creditors and stockholders. Figure 5 depicts an example of a statement of cash flows (direct format) and examples of each category. The following section reviews historical legislation of federal financial management.

Sample Statement of Cash Flows For the Year Ended 31 December XXXX (amounts in millions)		
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash collected from customers	\$ xxxx	
Cash paid for		
Inventory	(xxxx)	
Operating and administrative expenses	(xxx)	
Interest	(xxx)	
Taxes	<u>(xxx)</u>	
Net Cash Flows from Operating Activities		xxxx
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash paid for property additions	(xxx)	
Proceeds from sale of property	xxxx	
Other	<u>xxxx</u>	
Net Cash Flows from Investing Activities		xxxx
CASH FLOWS FROM FINANCING ACTIVITIES		
Additions to short-term borrowings	xxxx	
Payments on short-term borrowings	(xxx)	
Additions to long-term borrowings	xxxx	
Payments on long-term borrowings	(xxx)	
Purchase of treasury stock	xxxx	
Dividends paid	<u>(xxx)</u>	
Net Cash Flows from Financing Activities		<u>xxxx</u>
INCREASE (DECREASE) IN CASH FOR THE PERIOD		<u>\$ xxxx</u>
Beginning Cash Balance		xxxx
Ending Cash Balance		xxxx

Figure 5. Sample Statement of Cash Flows (after Albrecht et al., 2008)

D. HISTORICAL LEGISLATION OF FEDERAL FINANCIAL MANAGEMENT

This section discusses relevant federal financial management legislation that ultimately required DOD service components to produce auditable financial statements.

1. Legislation prior to Chief Financial Officers Act of 1990

Legislation regarding the accuracy of revenues and expenditures used to finance federal government agencies is traceable to the Antideficiency Act of 1870 (Government

Accountability Office [GAO], n.d.a). The Antideficiency Act of 1870 prohibits employees of federal agencies from obligating or expending funds from an appropriations account that has not been properly enacted by Congress. This act also mandates federal agencies to cease operations or terminate programs if they lack appropriated funds. As a result, federal government agencies were forced to place greater emphasis on their financial management practices of monitoring appropriated funds and accounting for obligations and expenditures. Further significant legislation regarding improvements to federal financial management practices did not appear for over half a century, until the passage of the Budget and Accounting Act of 1921 (GAO, n.d.a.).

Due to an increasing national debt following World War I, the Budget and Accounting Act of 1921 sought improvements to information and control of federal expenditures (GAO, n.d.b). This act mandates the president to prepare and submit an annual budget to Congress based on estimated expenditures and appropriations necessary to operate the federal government for the ensuing fiscal year. The budget construction process is required to include details concerning annual and permanent appropriations, as well as any unobligated fund balances from the prior year, placing greater emphasis on the accuracy of financial information. The Budget and Accounting Act of 1921 established greater importance on controls and processes for accountability of government funding. However, the accounting responsibilities for agencies of the federal government were not clearly defined until the passage of the Budget and Accounting Procedures Act of 1950 (GAO, n.d.b).

The Budget and Accounting Procedures Act of 1950 required federal agencies to develop internal controls to achieve improved financial operations. This act required the GAO, under the guidance of the Comptroller General of the United States, to establish accounting standards for federal agencies (Loughan, 2005). The Federal Managers Financial Integrity Act of 1982 expanded the requirements of the Budget and Accounting Procedures Act of 1950 by creating the requirement for federal entity financial leaders to prepare annual statements regarding their agencies' compliance with the federally mandated accounting processes and internal controls (H.R. 1526, 1982).

2. Chief Financial Officers Act of 1990

As described in the preceding section, attempts to improve accounting procedures and internal controls used by federal agencies date far back into American history. Unfortunately, despite these efforts at federal financial management reform, agencies were still not able to produce reliable and comprehensive financial information for use in making governmental decisions that significantly affected the livelihood of American citizens. The Chief Financial Officer (CFO) Act of 1990 placed strong emphasis on centralized leadership by providing the Office of Management and Budget (OMB) the authority and responsibility for directing federal financial management reform. Additionally, the CFO Act created chief financial officer positions in 23 federal agencies (GAO, 1991). The CFO Act ensured that one individual could maintain overall responsibility for implementing accounting practices, internal controls, and financial management policies within his/her assigned agency. More importantly, perhaps, the CFO Act of 1990 established a pilot program in which several federal agencies were required to prepare corporate-style financial statements that were subject to an independent audit (GAO, 1991).

Legislation mandating audited financial statements increased with the passage of the Government Management Reform Act (GMRA) of 1994, which required the chief financial officer of each chosen executive agency to submit an audited financial statement to the Director of OMB on an annual basis (S. 2170, 1994). The law states “The Director of the Office of Management and Budget shall identify components of executive agencies that shall be required to have audited financial statements...” (Sec. 2515(c), 1994). The ambiguity regarding which federal entities were required to produce audited financial statements was eliminated with the Accountability of Tax Dollars Act of 2002 (S. 2644, 2002). This act expanded and mandated the requirement for audited federal financial statements by mandating their production by all federal agencies with budget authority greater than \$25 million (Brook, 2013).

Federal agencies were accustomed to producing budgetary reports and experienced great difficulty transitioning to the proprietary-based accounting methods necessary to produce the mandated corporate-style financial statements (Maitner, 2013). Despite initial

complications, by FY2012 all required federal agencies, with the exception of the DOD, were producing financial statements with clean audit opinions (Maitner, 2013).

3. Federal Accounting Standards Advisory Board

Shortly after implementation of the CFO Act, the Federal Accounting Standards Advisory Board (FASAB) was established to serve as a federal advisory committee responsible for developing accounting and financial reporting standards for the federal government. The FASAB was created by the Secretary of the Treasury, the Director of the Office of Management and Budget, and the Comptroller General of the United States; all of whom are responsible for federal financial reporting. In 1999, the AICPA recognized FASAB as the authoritative body to distribute generally accepted accounting principles (GAAP) for federal agencies. Additionally, FASAB produces Statements of Federal Financial Accounting Concepts (SFFAC) and Statements of Federal Financial Accounting Standards (SFFAS) (FASAB, 2012).

According to SFFAC 1, “The FASAB and its sponsors believe that any statement of objectives of federal financial reporting must be based on the needs of those who use the reports. Those users include citizens, Congress, federal executives, and federal program managers” (1993, p. 5). Thus, the objectives that guide FASAB are intended to benefit internal and external users equally. FASAB (1993) recognizes four primary objectives of federal financial reporting:

- Budgetary Integrity
- Operating Performance
- Stewardship
- Systems and Controls

These four objectives provide a framework for federal government financial reporting while considering the needs expressed by current and potential users of this financial information. These objectives also serve as a basis from which decisions are made regarding how accounting standards may increase accountability and assist the decision making of leadership (FASAB, 2012).

4. Financial Improvement and Audit Readiness Plan

The CFO Act of 1990, and subsequent legislation regarding federal financial management reform, established the mandate for each DOD service component to create and maintain audited financial statements on an annual basis. In 2005, in response to this mandate, the DOD Comptroller prepared the Financial Improvement and Audit Readiness (FIAR) Plan, based upon an incremental timeline, to provide individual service components with an organizational framework suitable for the financial management reform necessary to achieve “clean,” or unqualified, audit opinions (GAO, 2012). To ensure the most recent accomplishments and financial management practices for individual service components are readily available, the FIAR plan undergoes semiannual revisions in May and November of each year (DOD, 2013a). The ultimate audit goal for government agencies is to receive an unqualified audit opinion in compliance with standards established by the Government Accounting Standards Board (GASB). Brook (2013a) provides the definition of an unqualified audit opinion regarding federal financial statements, as “auditors are reasonably sure that the financial statements are fairly presented in conformity with accepted standards.”

To provide more clarity across the enormous scope of the DOD, the FIAR plan divides individual service components into specific financial areas. Specifically, the FIAR plan requires each service component to break down its financial departments into assessable units. Each assessable unit then has its own financial improvement plan (FIP) to foster improved unity of effort under the overarching guidance found within the FIAR plan (GAO, 2012). This process assists in recognizing current strengths found within financial information systems and areas that need further improvement (DOD, 2013a). Additionally, the November 2013 FIAR plan includes the following incremental timeline to ensure each DOD component reaches its audit-related goals:

- September 30, 2014, statement of budgetary resources (SBR) audit ready
- June 30, 2016, existence and completeness of mission-critical assets audit ready
- September 30, 2017, full financial statements audit ready

According to the GAO, “DOD’s ability to achieve department wide audit readiness is highly dependent on its military components’ ability to effectively develop and implement FIPs in compliance with DOD’s FIAR guidance” (GAO, 2012, p. 8). In order to achieve audit readiness, Rendon and Rendon (2014) contend that government agencies need to be auditable at the organizational level. In order to be auditable, the three components of auditability must be present, which include competent personnel, capable processes, and effective internal controls (Rendon & Rendon, 2014).

DOD’s FIAR incremental framework provides clear milestones for service components to achieve while undertaking the necessary actions to modernize an information technology network primarily designed for budgetary accounting into one capable of supporting proprietary accounting. Current plans include implementing nine enterprise resource planning (ERP) systems designed to incorporate state-of-the-art financial processes, enabling the DOD to achieve and maintain audit readiness (DOD, 2013a). In fact, a lack of adequate information technology that allows for synchronization of financial management systems is a long-recognized material weakness across all DOD service components (Maitner, 2013). Additionally, the DOD is actively creating workforce development programs to educate financial managers on improved accounting processes and control mechanisms (DOD, 2013a). The DOD’s FIAR plan is a cumulative effort, based on an incremental timeline, to create synergies from advanced ERP systems and improved workplace-development processes in the pursuit of achieving audit readiness. The DON FY2011 Annual Financial Report outlines several beneficial attributes that result from having audited financial statements, most notably, “improved stewardship, reduced cost of business operations, and compliance with congressional direction” (DON, 2011, p. 8). The following section offers a background of DOD efforts to provide auditable financial statements.

E. AUDITED DEPARTMENT OF DEFENSE FINANCIAL STATEMENTS

DOD efforts to produce financial statements are largely attributable to the federal government's commitment to American citizens regarding stewardship and accountability of tax revenues. Moreover, government budgeting and spending provide a means for

communicating public policy. Perhaps the best form of accountability is budget execution revealed through audited financial statements (Payne, 2011). Additionally, financial statements assist the FASAB in providing citizens with information necessary to determine if future budgetary resources will be adequate to provide critical public services and fund future obligations when they come due (Payne, 2011).

Recent DOD efforts to achieve auditable financial statements provide encouraging results. For example, the most recent FIAR (2013) report lists the following DOD organizations as having achieved unqualified audit opinions in FY2012:

- U.S. Army Corps of Engineers—Civil Works
- Defense Commissary Agency
- Defense Contract Audit Agency
- Defense Finance and Accounting Services (DFAS)
- Defense Health Agency—Contract Resource Management
- Military Retirement Fund

As a result of their efforts in preparing for a December 2013 statement of budgetary activities (SBA) audit, the U.S. Marine Corps (USMC) showed a 3-for-1 return on investment for dollars spent on audit readiness. Additionally, an independent research team concluded that improved management practices resulting from USMC audit readiness efforts improved financial controls and reduced inefficiencies enough to acquire additional military equipment (Knubel, 2010). These results are consistent with Taitano's (2011) research that concludes, "The Navy-Marine Corps Team will show a return on investment for this comprehensive program through increased efficiencies in our business operations" (p. 15). Thus, preparedness for auditable financial statements may prove beneficial in regards to the overall cost effectiveness of the DOD's mission.

While there is evidence to suggest the DOD is striving to achieve auditable financial statements, there are many leaders growing impatient at the department's failure to comply with this congressional mandate. Unfortunately, Knubel (2010) found that DOD components face a lack of consequences in regards to their failure to produce these required auditable financial statements. In other words, resource availability is not

contingent on producing auditable financial statements, and DOD service components have little incentive to focus on achieving them over other factors that may be viewed as having a greater impact on the mission. This lack of urgency within the DOD led Representative Griffin (R-AR) to send a letter to Senate Armed Services Committee leaders, stating the following:

In this era of shrinking budgets and growing commitments, our men and women in uniform and the American taxpayers, deserve to know that every dime appropriated to DOD is being used to its maximum potential. As the President's choice to run the Pentagon, Senator Hagel's commitment to auditable financial statements at the DOD is critical, and that's why I've asked the Senate to make this issue a priority during his confirmation process. (p. 1)

Additionally, Representative Griffin (2013) stressed that DOD has been on the GAO's "High Risk" list for fraud, waste, abuse, and mismanagement since 1995. The following section explains common terminologies in budgeting and execution processes.

F. COMMON TERMINOLOGIES IN BUDGETING AND EXECUTION PROCESSES

The DOD develops, requests, and receives its annual budget from Congress using the planning, programming, budgeting, and execution (PPBE) system. This section focuses on common terminologies used in the budgeting and execution processes within the PPBE system to provide a general foundation of knowledge to leverage during the discussion of service component financial statements.

1. Appropriations

The congressional appropriations process provides federal entities with budget authority through one of three measures: regular appropriation bills, continuing resolutions, or supplemental appropriation bills (Congressional Research Service [CRS], 2012). The budget authority granted to federal entities, through the enactment of appropriation bills, provides the legal authority to incur obligations and authorizes the payment of federal funds from the U.S. Treasury (CRS, 2012). Because appropriations must be applied toward the specific purpose for which they are enacted, appropriations

are divided into appropriation categories (Candrea, 2008). For example, appropriation categories applicable to the DOD include:

- Research, Development, Technology, and Evaluation (RDT&E)
- Procurement
- Operations and Maintenance (O&M)
- Military Personnel (MILPERS)
- Military Construction (MILCON)

2. Apportionment

Once appropriations become law, budget authority is released to federal agencies through the process of apportionment. Each federal entity submits a formal request to OMB for the release of budget authority granted to them through signed appropriations (Defense Acquisition University [DAU], n.d.). The timeline for which OMB releases budget authority to the DOD is determined by the appropriation category. For example, procurement and MILCON are categorized as investment appropriations and are typically apportioned on an annual basis. Expense appropriations, such as MILPERS and O&M, typically occur on a quarterly basis (DAU, n.d.). Thus, throughout the fiscal year, the DOD will have balances for both apportioned and unapportioned budget authority.

3. Obligations

DOD appropriation categories specify obligation availability periods in which individual service components may incur obligations on behalf of the federal government (Candrea, 2008). As annual appropriations, MILPERS and O&M appropriation categories must be obligated in the fiscal year in which they are enacted. RDT&E, procurement, and MILCON appropriation categories, however, have obligation availability periods of 2, 3, and 5 years, respectively (Snider, 2013). As a result of these various obligation availability periods, DOD components may have annual balances of obligated and unobligated funds corresponding to separate appropriation categories.

4. Expenditures

Expenditures, referred to as outlays on DOD service component financial statements, are the actual disbursement of checks or cash from the U.S. Treasury to settle obligations incurred by authorized federal agencies (Candrea, 2008). The expenditure availability period for DOD appropriation categories spans 5 years from the point at which the obligation availability period closed (Snider, 2013). Thus, budget authority from specific appropriation categories may be used to fund obligations for up to 5 years following the corresponding obligation availability period. In contrast to obligations, outlays appear on DOD financial statements in the cumulative annual amount expended and will not have a remaining balance.

G. SERVICE COMPONENT GENERAL FUND FINANCIAL STATEMENTS

This section discusses the structure and contents of the annual DOD consolidated balance sheet, consolidated statement of net cost, consolidated statement of changes in net position, and combined statement of budgetary resources. Per Title 31, United States Code (U.S.C.) 3515, all executive agencies shall prepare and submit to Congress and the Director of the Office of Management and Budget audited financial statements covering all accounts and activities (31 U.S.C. §§ 3515, 2010). This section focuses solely on DOD service component financial statements, which may differ slightly from other federal agency financial statements. Additionally, the following DOD component financial statements were not included in this research due to differences in accounting procedures:

- Defense Security Cooperation Agency
- Medicare Eligible Retiree Health Care Fund
- Military Retirement Fund
- United States Army Corps of Engineers

1. DOD 7000.14-R, Volume 6B

DOD Financial Management Regulation (FMR) 7000.14-R, Volume 6B: “Form and Content of the Department of Defense Audited Financial Statements” offers DOD-specific guidance to conform to statements of federal financial accounting standards

(SFFAS) in the preparation of annual audited principal financial statements and quarterly unaudited financial statements. Chapters four through seven of the regulation cover the specific preparation of each principal statement. Chapter ten of the regulation covers the note sections to be included with each principal statement. Note sections are included to detail applied accounting principles, any departures from federal standards or reporting requirements, and any comparative material differences from prior values (DOD, 2013b). Note section numbering on annual financial reports can differ between service components and may offer insight into differences in the calculation of principal statement line items over time. To illustrate the importance of note sections in federal financial statements, Figures 6–8 display expanded subcategory information from note sections found in the Department of the Navy Fiscal Year 2012 Annual Financial Report.

2. DOD Consolidated Balance Sheet

The DOD service component general fund consolidated balance sheet (GFBS) is a three-section document that displays a snapshot of total assets versus total liabilities and net position. Assets are listed at the top of the GFBS above liabilities, with net position at the bottom. Transactions within the entity are eliminated to prevent overstatement. Transactions between other federal entities, however, are included within the GFBS (DOD 7000.14, 2012). These “intragovernmental” transactions are an important element in federal financial statements.

(1) Intragovernmental Assets

The first section of the GFBS is intragovernmental assets. This is the sum of all claims due from other federal entities. Federal entities are all executive branch and independent regulatory agencies, along with any government corporations defined in U.S.C. Section 103 of Title Five (2012). These transactions are separate from transactions with nonfederal entities, the Federal Reserve, and government-sponsored enterprises. Four elements within this subsection are the fund balance with the treasury (FBWT), investments, accounts receivable (Intragovernmental), and other assets. FBWT is the balance with the Department of the Treasury and is the cumulative amount for which the entity is authorized to make expenditures and pay liabilities (DOD, 2012). Note sections

offer expanded information for each line item. For instance, in addition to listing all types of fund balances in a subcategory table (Figure 6), the note section on FBWT explains net reconciliations of fund balances with the U.S. Treasury and the overall status of entity treasury funds (Department of the Navy [DON], 2012).

(From Department of the Navy Fiscal Year 2012 GFBS)

ASSETS	CY	PY
1. Fund Balances		
A. Appropriated Funds		
B. Revolving Funds		
C. Trust Funds		
D. Special Funds		
E. Other Fund Types		
1. Intragovernmental Securities		
A. Nonmarketable, Market- Based		
B. Accrued Interest		
Intragovernmental:		
Fund Balance with Treasury (Note)	xxx	xxx
Investments and Related Interest (Note)	xxx	xxx
Accounts Receivable (Note)	xxx	xxx
Other Assets (Note)	<u>xxx</u>	<u>xxx</u>
Total Intragovernmental Assets	xxx	xxx
1. Intragovernmental Other Assets		
A. Advances and Prepayments		
1. Intragovernmental Receivables		

Figure 6. Consolidated Balance Sheet—Intragovernmental Assets (after DON, 2012)

(2) Assets (Entity-Specific)

The second part of the assets section includes all entity cash and monetary assets, account receivable (non-federal public), loans receivable, net inventory and related property, general property, plant, and equipment, and other assets. Note sections offer explanations into the calculation of major assets line items. For example, the inventory and related property note section (Figure 7) shows this line item is actually a calculation of net operating materiel and supplies from all items held for use, less the devaluation of those held for repair, or those excess, obsolete, and unserviceable. The general property, plant, and equipment note section discloses the calculation of net book value for major

asset classes. Net book value is determined from an original acquisition value depreciated over an estimated service life (DON, 2012).

(From Department of the Navy Fiscal Year 2012 GFBS)

	CY	PY
1. Cash		
2. Foreign Currency		
Cash and Other Monetary Assets (Note)	xx	
Accounts Receivable, Net (Note)	xx	
Inventory and Related Property, Net (Note)	xx	
General Property, Plant, Equipment, Net (Note)	xx	
Other Assets (Note)	<u>xxx</u>	<u>xxx</u>
TOTAL ASSETS	<u>xxx</u>	<u>xxx</u>
		1. Operating Material & Supplies, Net
		A. Held For Use
		B. Held for Repair
		C. Excess, Obsolete, and Unserviceable
		1. Major Asset Classes
		A. Land
		B. Buildings, Structures, and Facilities
		C. Leasehold Improvements
		D. Software
		E. General Equipment
		F. Military Equipment
		G. Construction-In-Progress (Excludes MIL equipment)
		H. Other

Figure 7. Consolidated Balance Sheet—Entity Assets (after DON, 2012)

(3) Total Assets

All entity asset line items are added to intragovernmental assets to obtain a sum of total assets.

(4) Liabilities

The liabilities section recognizes all liabilities from normal operations when incurred, regardless of total budgetary resources available or specifically appropriated by Congress to address repayment (DOD, 2012). Similar to the assets section, the liabilities section begins with the summation of intragovernmental liabilities to other entities with the accounts payable and other liabilities line items. Accounts payable, military retirement benefits, and other employee-related actuarial liabilities, environmental and disposable liabilities, and other liabilities are added to total intragovernmental liabilities

for the calculation of total liabilities. As with other sections of the GFBS, liabilities note sections offer explanation and subcategory tables (Figure 8).

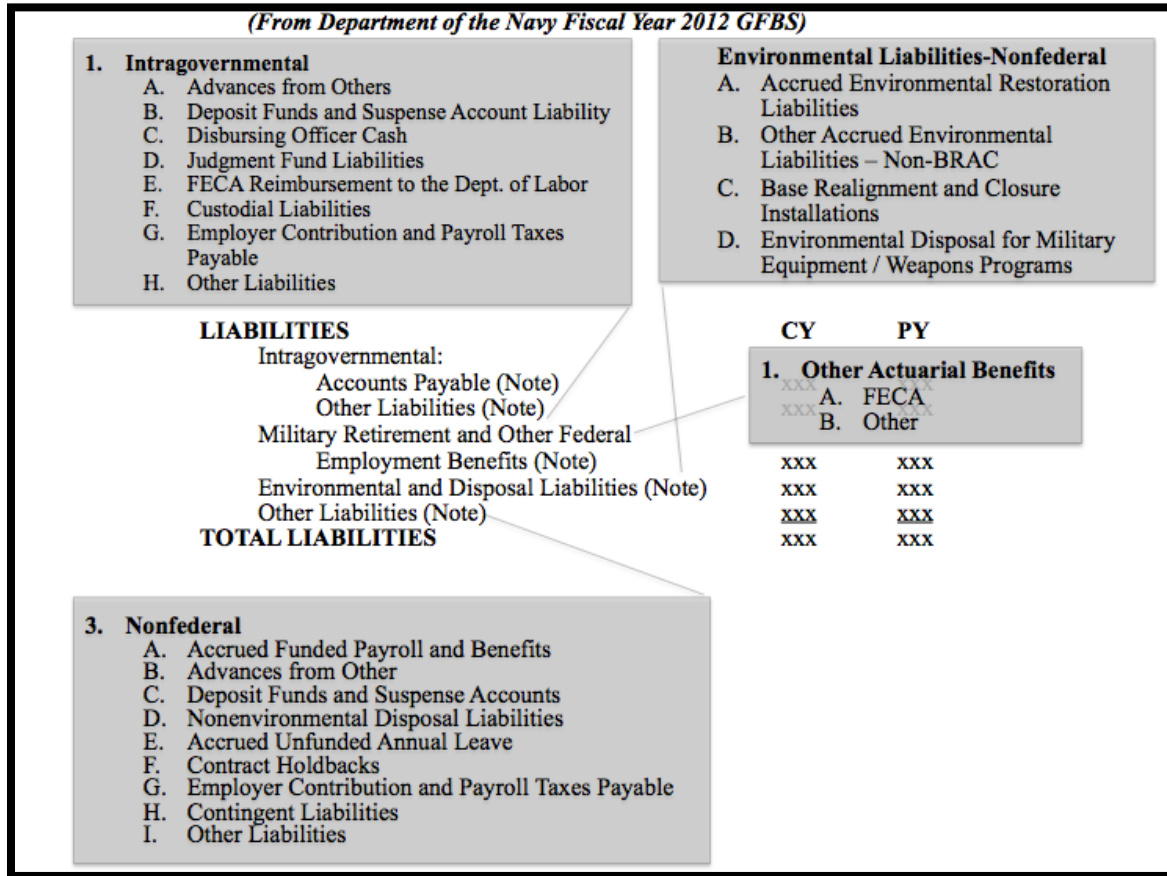


Figure 8. Consolidated Balance Sheet—Liabilities (after DON, 2012)

(5) Net Position

The Net Position section of the GFBS (Figure 9) is the summation of unexpended appropriations and cumulative results of operations, subdivided into earmarked and other funds (DOD, 2013b). Per SFFAS 27, all earmarked funds are reported separately on DOD financial statements. The unexpended appropriations line item is the amount of entity spending authorized but lapsed, rescinded, withdrawn, or not yet obligated (DON, 2012). Obligations for which legal liabilities for payments have not been incurred shall also remain in the unexpended appropriations line item. The cumulative results of operations line item displays the net difference between revenue and expenses added to

all financing sources (United States Air Force [USAF], 2012). It is the prior year adjusted balance, plus the net change in budgetary resources, less the reconciled net cost of operations. The reconciliation of net cost of operations is necessary in order to balance assets with liabilities and net position (DOD, 2012).

<i>(From Department of the Navy Fiscal Year 2012 GFBS)</i>		
NET POSITION	CY	PY
Unexpended Appropriations – Other Funds	xxx	xxx
Cumulative Results of Operations – Earmarked Funds	xxx	xxx
Cumulative Results of Operations – Other Funds	<u>xxx</u>	<u>xxx</u>
TOTAL NET POSITION	<u>xxx</u>	<u>xxx</u>
TOTAL LIABILITIES AND NET POSITION	<u>xxx</u>	<u>xxx</u>

Figure 9. Consolidated Balance Sheet—Net Position (after DON, 2012)

3. Consolidated Statement of Net Cost

The consolidated statement of net cost (SNC) provides a summary of costs during a reporting period. After fiscal year 2009, DOD financial statements split gross cost into program costs by major appropriations group (DOD, 2013b). Program costs in the SNC should not be confused with annual budgetary appropriations. The SNC displays net cost of operations in a reporting period by the summation of gross costs by program area, less any earned revenue during the reporting period. All figures are pre-closing balances with end-of-period accrual adjusted entries for known major items such as payroll expenses, accounts payable, environmental liabilities, and intergovernmental activity (DON, 2012). Each gross program cost includes nonproduction costs assignable to the program. Nonproduction costs are any costs that do not involve the production of a good or service. In agreement with reconciliation of net cost of operations, this adjustment allows for the balancing of amounts for assets, liabilities, and net position under each program (DOD 7000.14-R, 2012). Both the DON and U.S. Air Force (USAF) subdivide program cost and revenues to display intragovernmental and nonfederal values in their FY2012 Annual

Financial Report (AFR) note sections for the SNC (Figure 10, DON Note 16, 2012; USAF Note 18, 2012).

<i>(From Department of the Navy Fiscal Year 2012 SNC)</i>		
Program Costs	CY	PY
Gross Costs		
Military Personnel	xxx	xxx
Operations, Readiness, & Support	xxx	xxx
Procurement	xxx	xxx
Research, Development, Test, & Evaluation	xxx	xxx
Family Housing & Military Construction	xxx	xxx
Less: Earned Revenue	(xxx)	(xxx)
Net Cost of Operations	<u>xxx</u>	<u>xxx</u>

Figure 10. Consolidated Statement of Net Cost (after DON, 2012)

4. Consolidated Statement of Changes in Net Position

The consolidated statement of changes in net position (SCNP) calculates a change in net position over a specific reporting period. Previously, the components' net positions were defined as cumulative results of operations and unexpended appropriations. The SCNP provides further elaboration on the development of these line items using data from the U.S. Treasury and adjustments from entity nonfinancial systems (DOD, 2012).

(1) Cumulative Results of Operations

Calculation of the cumulative results of operations (Figure 11) in an annual financial report takes a beginning balance brought forward from the previous year and adjusted for changes in accounting practices and correction of errors. The beginning balance is then adjusted by the summation of all financing sources, less the net cost of operations to determine the end-of-period cumulative results of operations.

a) Total Financing Sources

Total financing sources are determined by adding appropriations used, non-exchange revenue, and donations and forfeitures of cash to changes in other financing sources such as intragovernmental capitalized asset transfers and activities financed by other entities. It is important to note that appropriations used includes all goods and services received or benefits provided during that specific reporting period. In this respect, appropriations used are considered a financing source to offset an equal subtraction within unexpended appropriations to maintain a net zero position (OMB, 2013).

b) Net Cost of Operations

For annual financial reporting, the Net Cost of Operations line item in the SCNP should be identical to the value within the SNC, SCNP, and Reconciliation of Net Cost of Operations to Budget. Prior to FY2007, the Reconciliation of Net Cost of Operations to Budget was included in the principle statements as a Combined Statement of Financing (DOD, 2012).

(2) Unexpended Appropriations

Unexpended Appropriations is calculated by adjusting the beginning balance to appropriations received, transferred in/out, cancelled or rescinded, and used during the reporting period. It is important to note that the Appropriations Received amount reported on an SCNR does not always match the statement of budgetary resources due to differences in budgetary accounting concepts.

(3) Net Position

The summation of Unexpended Appropriations and Cumulative Results of Operations should agree with the balance sheet figure at the end of the reporting period.

<i>(From Department of the Navy Fiscal Year 2012 SCNP)</i>		
CUMULATIVE RESULTS OF OPERATIONS	CY	PY
Beginning Balances	xxx	xxx
Budgetary Financing Sources:		
Appropriations Used	xxx	xxx
Nonexchange Revenue	xxx	xxx
Donations & Forfeitures Of Cash & Cash Equivalents	xxx	xxx
Other Financing Sources:		
Donations And Forfeitures Of Property		
Transfers-in/Out Without Reimbursement		
Imputed Financing From Costs Absorbed By Others		
Other		
Total Financing Sources		
Net Cost Of Operations	<u>xxx</u>	<u>xxx</u>
Net Change	<u>xxx</u>	<u>xxx</u>
Cumulative Results Of Operations	<u>xxx</u>	<u>xxx</u>
UNEXPENDED APPROPRIATIONS		
Beginning Balances		
Budgetary Financing Sources:		
Appropriations Received		
Appropriations Transferred-in/Out		
Other Adjustments (Rescissions, Etc.)		
Appropriations Used	(xxx)	(xxx)
Total Budgetary Financing Sources	<u>xxx</u>	<u>xxx</u>
Unexpended Appropriations	<u>xxx</u>	<u>xxx</u>
Net Position	<u>xxx</u>	<u>xxx</u>

Future funding requirements are included in the calculation of cumulative results of operations. These can include accrued annual leave earned but not taken, contingent liabilities expense, and expenses for environmental liabilities (DoN FY12, Note 17 Disclosure).

The Appropriations Received amount reported on the SCNR does not always match the SBR amount due to differences in accounting concepts and reporting requirements (DoN FY12, Note 18 Disclosure).

Figure 11. Consolidated Statement of Changes in Net Position (after DON, 2012)

5. Combined Statement of Budgetary Resources

The combined statement of budgetary resources (SBR) is a summary of service component appropriation account-level budgetary information for the entire reporting period. The SBR is the only federal financial statement primarily prepared with budgetary accounting rules regarding information from the Department of the Treasury United States Standard General Ledger (USSGL) (DOD, 2013b). The information contained within the SBR should match the entity’s submission into the Federal Agencies' Centralized Trial-Balance System (FACTS II) (DON, 2012). The SBR is a combined statement that includes intra-entity transactions. The SBR displays all budgetary resources that were brought forward or made available, the status of all

budgetary resources at the end of period, the change in obligated balance, and the total net outlays over the reporting period (DOD, 2013b).

(1) Total Budgetary Resources

The first section of the SBR is the summation of all budgetary resources available to the reporting entity from a calculation of a beginning period unobligated balance plus new resources (Figure 12). Any obligations incurred, but not “outlaid,” are recovered into the beginning balance, along with any adjustments, in order to obtain a beginning balance of unobligated budget authority. Total budgetary resources are then calculated by adding all enacted appropriations, actual and anticipated, during the period along with adjustments of spending authority from offsetting collections. Offsetting collections can be any advances, reimbursements, refunds, and other income to the agency (OMB A-34, 2000).

<i>(From Department of the Navy Fiscal Year 2012 SBR)</i>		
Budgetary resources:	CY	PY
Unobligated Balance, Brought Forward, October 1	xxx	xxx
Recoveries of Prior Year Unpaid Obligations	xxx	xxx
Other Changes in Unobligated Balance	<u>xxx</u>	<u>xxx</u>
Unobligated Balance from Prior Year Budget Authority	xxx	xxx
Appropriations	xxx	xxx
Spending Authority from Offsetting Collections	<u>xxx</u>	<u>xxx</u>
Total Budgetary Resources	<u>xxx</u>	<u>xxx</u>
Status Of Budgetary Resources:		
Obligations Incurred	xxx	xxx
Unobligated Balance, End of Year		
Apportioned	xxx	xxx
Unapportioned	<u>xxx</u>	<u>xxx</u>
Unobligated Balance Brought Forward, End of Year	<u>xxx</u>	<u>xxx</u>
Total Budgetary Resources	<u>xxx</u>	<u>xxx</u>

Both Budgetary Resources and Status of Budgetary Resources should arrive at the same amount of Total Budgetary Resources

Figure 12. Combined Statement of Budgetary Resources—Total Budgetary Resources by Appropriations or End of Year Unobligated Balance (after DON, 2012)

(2) Status of Budgetary Resources

The second section of the SBR also arrives at a calculation of total budgetary resources by adding the obligations incurred to the unobligated balance at the end of the period. Spending authority from offsetting collections is already included within the end-of-period balance. This is different than adding appropriations to a beginning balance, yet would be calculated at the same amount of total budgetary resources available as of the reporting date (DOD, 2012). It is important to note that unobligated balances are split between apportioned and unapportioned categories to show the amount of unobligated appropriations that have not yet been approved for apportionment by the OMB via the Office of the Secretary of Defense (OSD) (OMB A-11, 2013).

(3) Change in Obligated Balance

The third section of the SBR displays the unobligated balance at the beginning of the period plus all incurred obligations, less all outlays and prior-year incurred obligations not yet outlaid, to arrive at an ending period obligated balance (Figure 13). Figure 13 is adjusted for all uncollected payments from federal sources at corresponding beginning-, change-, and ending-period balances (DOD, 2012).

<i>(From Department of the Navy Fiscal Year 2012 SBR)</i>		
Change in obligated Balance:	CY	PY
Unpaid Obligations, Brought Forward, October 1	xxx	xxx
Uncollected Customer Payments from Federal Sources, Brought Forward, October 1	(xxx)	(xxx)
Obligated Balance Start of Year, Net	xxx	xxx
Obligations Incurred	xxx	xxx
Outlays, Gross	(xxx)	(xxx)
Change in Uncollected Customer Payments from Federal Sources	xxx	xxx
Recoveries of Prior Year Unpaid Obligations	(xxx)	(xxx)
Obligated Balance, End of Year		
Unpaid Obligations, End of Year, Gross	xxx	xxx
Uncollected Customer Payments from Federal Sources, End of Year	(xxx)	(xxx)
Obligated Balance, End of Year	<u>xxx</u>	<u>xxx</u>

Figure 13. Combined Statement of Budgetary Resources—Change in Obligated Balance (after DON, 2012)

(4) Budget Authority and Outlays, Net

The final section of the SBR develops net budget authority and outlays from gross amounts (Figure 14). Gross budget authority is the summation of all appropriations, borrowing authority, contract authority (incurred obligation in advance of appropriation), and spending authority from offsetting collections. Net budget authority is all funds available for obligation adjusted for any changes to uncollected payments from federal sources and actual offsetting collections. Gross Outlays are subtracted by all offsetting collections (unexpired and expired) and adjusted by distributed offsetting receipts to determine Agency Net Outlays (OMB A-11, 2013).

<i>(From Department of the Navy Fiscal Year 2012 SBR)</i>		
Budget authority and outlays, net:	CY	PY
Budget Authority, Gross	xxx	xxx
Actual Offsetting Collections	(xxx)	(xxx)
Change in Uncollected Customer Payments from Federal Sources	<u>xxx</u>	<u>xxx</u>
Budget Authority, Net	<u>xxx</u>	<u>xxx</u>
Outlays, Gross	xxx	xxx
Actual Offsetting Collections	(xxx)	(xxx)
Outlays, Net	xxx	xxx
Distributed Offsetting Receipts	<u>xxx</u>	<u>xxx</u>
Agency Outlays, Net	<u>xxx</u>	<u>xxx</u>

Figure 14. Combined Statement of Budgetary Resources—Budget Authority and Outlays (after DON, 2012)

(5) Statement of Disaggregated Budgetary Resources

All line items within the SBR are disaggregated into the appropriation category described in the supplementary notes of DOD service component annual financial reports (DOD, 2012).

6. Limitations of DON and USAF Principal Financial Statements

DON and USAF principal financial statements involve the combination of information from component non-financial and financial feeder systems and comparison to information from Defense Finance and Accounting Service (DFAS) financial systems. Due to limitations within feeder systems and the majority of asset and liability information being derived from nonfinancial systems (inventory and logistic systems), the U.S. generally accepted accounting principle (US GAAP) of full accrual accounting is only feasibly accomplished to a “maximum extent practical.” While the reconciliation of Net Cost of Operations facilitates the comparison of accrual-based amounts used in the SNC to obligation-based (budgetary) amounts in the SBR, issues remain in balancing intragovernmental activity and entity records with the Department of Treasury. The following section discusses corporate financial statement ratio analysis.

H. CORPORATE FINANCIAL STATEMENT RATIO ANALYSIS

As previously stated, corporate financial statements have many users and serve myriad purposes. This section discusses how users utilize ratio analysis to meet their objectives.

1. Financial Statement Analysis

Financial statements serve as a conduit for communicating financial information both internally to management and externally to a multitude of stakeholders (Gibson, 1982). Analysis of corporate financial statements may take place in many forms and is often dependent on how the user wants to interpret the data. The task of financial statement analysis can be laborious and complicated because data may be presented in a manner that makes a corporation appear more financially sound than it actually is. Additionally, many significant details may need to be discovered in corresponding note sections (Managing Credit, Receivables and Collections, 2010).

One possible analytical concept is to research relational trends of financial data over time. While analysis does not provide detailed solutions to managerial decisions, it does provide insight regarding areas that may warrant further investigation (Albrecht et al., 2008). Figure 15 shows a typical process of corporate financial statement analysis.

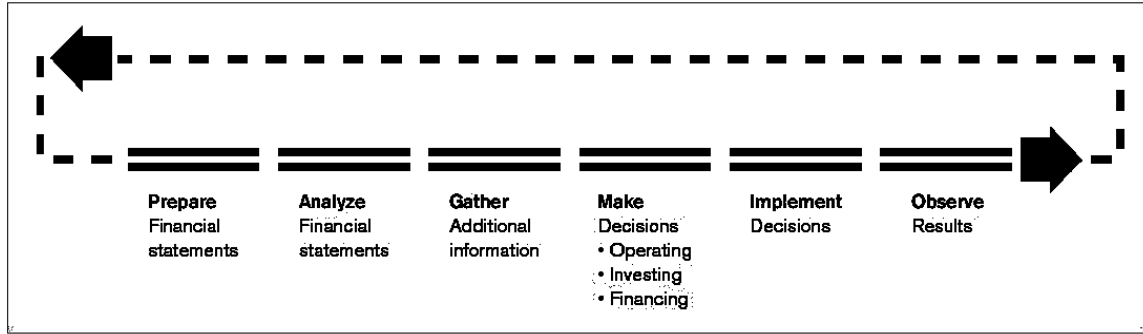


Figure 15. Need for Financial Statement Analysis
(from Albrecht et al., 2008, p. 665)

A common method to analyze corporate financial statements is the comparison of data from previous years. In fact, this process is used to create comparative financial statements for private sector businesses. This allows the user to interpret the data side-by-side and highlights possible corresponding increases or decreases in value over a selected time period. A fundamental understanding of accounting language enables users to quickly identify the necessary financial information required to determine conclusions regarding the financial position of a business. It is important for users to acknowledge that a ratio analysis is only one of the many tools that should be utilized to assist management decision-making (Chabotar, 1989).

Financial statement analysis can also be performed by creating “common-size” percentages of data within the same category. For example, each current asset on a balance sheet can be displayed as a percentage in relation to total assets. According to Chabotar (1989, p. 189), “The most frequently cited motivation for analyzing financial ratios is that they control for the effects of size differences over time and across organizations.” This process allows the user to determine which specific assets comprise the majority, or minority, of total assets. Percentage relationships are a basic form of ratio analysis.

Many business leaders argue that corporate financial ratios, which have been leveraged in making critical business decisions for years, may provide similar benefits to non-profit organizations (Chabotar, 1989). Therefore, it is reasonable to suggest that ratio analysis can also be advantageous when applied to DOD service component financial statements. Moreover, the computation and interpretation of financial ratios should be

included when conducting an analysis of the financial information contained within financial statements (Gibson, 1982).

2. Financial Ratio Analysis

Ratios highlight existing relationships between different categories of data. Ratios offer a logical relationship between the chosen numerator and denominator. Specifically, an economic, or functional, relationship exists between data within a ratio (Lev, 1974). When using ratio analysis, the ratio is more beneficial when comparing it to similar ratios used in previous years (time-series), or the industry average (cross-sectional) (Lev, 1974). In fact, to identify trends and minimize outlying results, Chabotar (1989) suggests using a time period of 3 to 5 years. Without a method of comparison, the ratios themselves are useless.

For users to achieve the greatest utility from corporate financial statement analysis, they must first understand the composition of the data found on the financial statements. This knowledge will enable the user to derive a more beneficial comprehension of the ratios they choose to use in the analysis process. For example, research suggests that in the year prior to declaration of bankruptcy, financially distressed companies can be distinguished from successful companies at an accuracy rate greater than 90 percent when examining appropriate financial ratios (Chen & Shimerda, 1981). This is a significant concept as this research project explores which commonly used corporate financial statement ratios may be applicable to data found in DOD service component principal financial statements.

The following section describes common corporate financial statement ratio categories and purposes. Due to the nature of this research project, the differences between corporate and service component financial statements will determine which ratios may be most relevant to service component financial statements. Therefore, the analysis portion of this research project includes a more detailed explanation pertaining to the selected corporate financial statement ratios.

(1) Liquidity Ratios

Liquidity ratios reveal a corporation's ability to meet its short-term debt or obligations that have durations less than a year. In theory, this would indicate the corporation's ability to convert their current assets into cash to finance their current liabilities. The basic liquidity ratio is the Current Ratio, which is determined by dividing current assets by current liabilities. If the ratio is high relative to industry averages, the corporation is considered to be at lower risk if circumstances force them to liquidate assets to pay short-term debt (Table 2).

COMMON LIQUIDITY RATIOS	
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Quick Ratio	$\frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$
Cash Flow Liquidity Ratio	$\frac{\text{Cash Flow From Operating Activities}}{\text{Current Liabilities}}$
Cash Flow Margin Ratio	$\frac{\text{Cash Flow From Operating Activities}}{\text{Net Sales}}$

Table 2. Common Liquidity Ratios (from Rendon, 2013)

(2) Debt Management Ratios

Debt and equity management ratios indicate the extent to which a corporation relies upon debt and equity to conduct business operations. Similarly, non-profit organizations and government agencies also want to minimize debt levels and avoid deficits (Chabotar, 1989). The standard debt ratio, also known as a leverage ratio, is calculated by dividing total liabilities by total assets. If this calculated ratio is low relative to industry standards, it may indicate the corporation is managing its debt well and that its assets are accounted for by equity, including retained earnings. Because financial information is often used as a predictor of future financial positions, debt management ratios are monitored closely to determine possible risk associated with investing activities. According to Hitchings (1999, p. 48), "A high level of debt is generally considered risky because of the comparatively thin level of equity available to absorb losses." Common debt

COMMON DEBT MANAGEMENT RATIOS	
Debt Ratio	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$
Debt to Equity	$\frac{\text{Total Liabilities}}{\text{Total Equity}}$
Financial Leverage	$\frac{\text{Total Assets}}{\text{Total Stockholder's Equity}}$
Times Interest Earned	$\frac{\text{Operating Income}}{\text{Interest Expense}}$
Cash from Operations/ Average Liabilities	$\frac{\text{Cash Flow from Operating Activities}}{\text{Average Total Liabilities}}$

Table 3. Common Debt Management Ratios (from Rendon, 2013)

(3) Efficiency Ratios

Efficiency is a measurement of output relative to input, where the goal is to minimize losses. For a business, the profits may be considered as the output, while sales or revenues are often considered to be the inputs. Also known as turnover ratios or asset management ratios, efficiency ratios are typically ratios of sales to some other denominator. Potential investors often use these ratios to determine how efficient a corporation is at using and controlling their assets to maximize profitability (Duns Analytical Services, 1989). Examples of common efficiency ratios used to analyze corporate financial statements are provided in Table 4.

COMMON EFFICIENCY RATIOS	
Accounts Receivable Turnover	$\frac{\text{Sales Revenue}}{\text{Accounts Receivable}}$
Inventory Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Inventory}}$
Fixed Asset Turnover	$\frac{\text{Sales Revenue}}{\text{Fixed Assets}}$
Total Asset Turnover	$\frac{\text{Sales Revenue}}{\text{Total Assets}}$
Days' Sales Outstanding	$\frac{\text{Accounts Receivable}}{\text{Average Sales Per Day}}$
Days' Sales in Inventory	$\frac{\text{Inventory}}{\text{Average COGS Per Day}}$
Total Expense	$\frac{\text{Total Expense}}{\text{Net Sales}}$

Table 4. Common Efficiency Ratios (from Rendon, 2013)

(4) Profitability Ratios

Profitability ratios provide an indication of how effective a corporation is at earning a profit or increasing revenues. Survey results from financial executives at Fortune 500 corporations found that profitability ratios were rated as the most significant ratios used in business decision-making (Gibson, 1982). Because profits are a result of revenue minus expenses, and companies must exchange assets to achieve this revenue, profitability ratios often highlight the relationship of these accounts. Many of the common profitability ratios used in the analysis of corporate financial statements are shown in Table 5.

COMMON PROFITABILITY RATIOS	
Gross Profit Margin	$\frac{\text{Gross Profit}}{\text{Sales Revenue}}$
Operating Profit Margin	$\frac{\text{Operating Profit}}{\text{Sales Revenue}}$
Net Profit Margin	$\frac{\text{Net Profit}}{\text{Sales Revenue}}$
Return on Assets	$\frac{\text{Net Income}}{\text{Total Assets}}$
Return on Equity	$\frac{\text{Net Income}}{\text{Total Stockholders' Equity}}$
Operating Leverage Multiplier	$\frac{\text{Net Income Growth}}{\text{Sales Revenue Growth}}$

Table 5. Common Profitability Ratios (from Rendon, 2013)

(5) Market Value Ratios

Market value ratios portray the relationship between a corporation's operations and their activity relating to stockholders' equity. These value ratios are the most widely used analytical tools used by potential stock investors. Investors desire an appropriate return on their investment; therefore, these ratios will often display relationships regarding shares of stock and dividends. Table 6 shows some common market value ratios used in the analysis of corporate financial statements.

COMMON MARKET VALUE RATIOS	
Earnings Per Share (EPS)	$\frac{\text{Net Earnings}}{\text{Average Shares Outstanding}}$
Price/Earnings	$\frac{\text{Market Price of Common Stock}}{\text{EPS}}$
Dividends Payout Ratio	$\frac{\text{Dividends}}{\text{Net Income}}$
Dividend Yield	$\frac{\text{Cash Dividends Per Share}}{\text{Market Price of Common Stock Per Share}}$
Market-to-Book Value per Share	$\frac{\text{Market Value Per Share}}{\text{Book Value Per Share}}$

Table 6. Common Market Value Ratios (from Rendon, 2013)

(6) Fraud Ratios

Fraud ratios are indicators of possible fraudulent financial reporting or misrepresentation of assets (Rendon, 2013). These ratios are designed to highlight possible outlying financial data. These outliers act as red flags that may lessen their appeal to potential investors and perhaps warrant further investigation by oversight agencies. Common fraud ratios used to analyze corporate financial statements are provided in Table 7.

COMMON FRAUD RATIOS	
Sales Growth Index	$\frac{\text{Sales current year}}{\text{Sales prior year}}$
Gross Margin Index	$\frac{\text{Gross Margin prior year/Sales prior year}}{\text{Gross Margin current year/Sales current year}}$
Days' Sales In Receivables Index	$\frac{\text{Receivables current year/Sales current year}}{\text{Receivables prior year/Sales prior year}}$
Asset Quality Index	$\frac{(1 - (\text{Current Assets} + \text{Net Fixed Assets})/\text{Total Assets}) \text{ current year}}{(1 - (\text{Current Assets} + \text{Net Fixed Assets})/\text{Total Assets}) \text{ prior year}}$

Table 7. Common Fraud Ratios (from Beneish, 1999; Rendon, 2013)

I. SUMMARY

This literature review presented information to build a foundation of knowledge necessary to answer the research questions posed in this research project. A review of historical legislation regarding corporate financial statements was discussed as well as their key components. A historical review of federal financial management legislation

was discussed in addition to common terminologies used in the budgeting and execution process. Being the bedrock of this research project, particular attention was given to the description of each of the four principal statements that comprise the service component financial statements. The chapter concluded by presenting common categories used in corporate financial statement ratio analysis. The next chapter introduces the methodology used in this research project to determine the similarities and differences between service component financial statements and corporate financial statements and which modified financial statement ratios may be beneficial to service components.

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III. METHODOLOGY

A. INTRODUCTION

This chapter discusses the methodology used in this research project. This research includes a review of literature related to financial statements, scholarly research, and government documents to provide a foundation of knowledge for the analysis of both corporate and service component financial statements. This literature review includes historical legislation regarding corporate financial statements and federal financial management practices and discusses current accounting standards in use. From the literature review, the interrelationship of data found within a corporate balance sheet, statement of cash flows, statement of retained earnings, and income statement will be examined. This research utilizes three approaches to answer the research questions: a comparison approach, a ratio approach, and an empirical approach.

B. COMPARISON APPROACH

The comparison approach is utilized to identify the similarities and differences between corporate financial statements and service component financial statements. The comparison approach builds a foundational understanding of the interrelationship of data found within a comparison of the parts of corporate and service component financial statements (Table 8).

Corporate Financial Statements	VS.	Service Component Financial Statements
Balance Sheet		Balance Sheet
Statement of Cash Flows		Combined Statement of Budgetary Resources
Statement of Retained Earnings		Statement of Changes in Net Position
Income Statement		Statement of Net Cost

Table 8. Comparison Approach

This approach yields the necessary information to identify similarities and differences between corporate financial statements and service component financial statements, including the interrelationships of data between corresponding statements.

While corporate and service component financial statements may not have a high correlation, this comparison is necessary to identify similarities and differences for reference in selecting which corporate financial statement ratios will be used in the analysis portion of this research. The following section discusses the ratio approach used in this research project.

C. RATIO APPROACH

The ratio approach builds upon the conclusions developed within the comparison approach by modifying corporate financial statement ratios to become applicable to service component financial statements. Estes, Savich, and Ivanova (2007) consider best-practice financial statement ratios as those that enable an organization to compare themselves with established industry benchmarks and provide a means to conduct a time-series analysis. The ratios examine the utility of relating separate items of federal financial information to each other in order to enhance understanding. Similar to corporate financial statement ratio analysis, these ratios will highlight the functional relationship between the data. This approach leverages the conclusions made in the comparison approach and examines corporate financial statement ratio categories, in a modified application, to meet the Federal Accounting Standards Advisory Board's (FASAB, 2013) objectives of:

- Budgetary Integrity
- Operating Performance
- Stewardship
- Systems and Control

The following section discusses the empirical approach used in this research.

D. EMPIRICAL APPROACH

The final approach uses time-series and cross-sectional analysis to apply the modified corporate financial ratios against historical data from the FY2002–2012 Department of the Navy (DON) and United States Air Force (USAF) financial statements. This approach will provide the analytical results, such as baselines and trends,

which will provide a basis for determining the utility of selected ratios. To accomplish this task, the financial data from historical DON and USAF financial statements are entered into Microsoft Excel to produce computational results using modified corporate financial statement ratios.

Because the modified corporate financial statement ratios will be representative of the previously mentioned objectives, creating a baseline assists in identifying possible outlying data that may highlight the need for further analysis or research. The results of this analysis provide the benefits service components may achieve using these modified financial statement ratios. Through this process, the chosen modified corporate financial statement ratios may yield analytical benefits for users of DOD service component financial statements by establishing baselines and trend analysis.

E. SUMMARY

The methodology chapter explained how the research first builds a foundation of knowledge through a comparison approach of DOD service component financial statements to corporate financial statements. Based on the financial statement interrelationships found within the comparison approach, the ratio approach identifies modified financial statement ratios that fit the user categories and objectives defined by Statement of Federal Financial Accounting Concept One (SFFAC-1). By establishing baselines for the selected modified financial statement ratios in the time-series and cross-sectional analysis in the empirical approach, these modified financial statement ratios may highlight unusual activity that warrants further investigation by decision makers. The following chapter discusses the analysis, which includes the comparison approach, ratio approach, and empirical approach outlined in this chapter.

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IV. ANALYSIS

A. INTRODUCTION

This chapter details the comparison approach, ratio approach, and empirical approach used to answer the research questions. First, the comparison approach is presented to answer the first two research questions:

- What are the similarities and differences between corporate financial statements and DOD service component financial statements?
- What are the similarities and differences between the interrelationships within corporate financial statements and DOD service component financial statements?

The ratio approach modifies corporate financial statement ratios to be applied to DOD service component financial statements. These ratios relate to user objectives, defined by Statement of Federal Financial Accounting Concepts No. 1 (SFFAC-1), and answer the third question:

- How can corporate financial statement ratios be modified and applied to DOD service component financial statements?

The empirical approach uses the modified financial statement ratios selected in the ratio approach to conduct time-series and comparative analysis using historical Department of the Navy (DON) and U.S. Air Force (USAF) financial data to determine baselines and trends. The results of these analyses will be presented to answer the last research question:

- What are the similarities and differences between the Department of the Navy and U.S. Air Force regarding modified financial statement ratios?

This chapter concludes by providing answers to the research questions based on the results of the comparison approach, ratio approach, and empirical approach used in this research project.

B. COMPARISON APPROACH—CORPORATE FINANCIAL STATEMENTS TO DOD SERVICE COMPONENT FINANCIAL STATEMENTS

A primary goal of a corporation is to generate revenues and cash from selling goods or services. This cash may be used to cover expenses, settle debt obligations, or

fund investing and financing activities aimed at growing the corporation. While some government transactions may generate revenues, the primary means of obtaining funds is through the programming, planning, budgeting, and execution (PPBE) process. This creates a fundamental difference between corporate accounting and federal governmental accounting. Corporate financial statements are primarily based on accrual accounting using generally accepted accounting principles (GAAP), while DOD service component financial statements may incorporate budgetary, cash, accrual, modified cash, and modified accrual-based accounting (Ewer, 2013). This section discusses the comparison of corporate-style financial statements with DOD service component financial statements in order to identify similarities and differences that may provide insight for users of DOD service component statements.

- 1. Comparison of Corporate Balance Sheet to DOD Service Component Consolidated Balance Sheet**

- a. Similarities*

- (1) Objectives of Stewardship and Operating Performance

Users of the corporate balance sheet may determine liquidity and debt management aspects that may assist in determining the financial strength of a corporation. Financial strength, or lack thereof, may assist users in identifying possible risks associated with financing or investing in a corporation. Similarly, users of a DOD service component consolidated balance sheet are able to investigate the stewardship of the entity by assessing the improvement or deterioration of the overall financial position. Additionally, users can determine operating performance efficiencies by analyzing the values of assets and liabilities (SFFAC-1, 2013).

- (2) General Composition

Both corporate balance sheets and DOD service component consolidated balance sheets use accrual-based accounting principles and describe amplifying information in the note section. Both entities display comparative components, relating the current balance sheet to the previous year's balance sheet data. All of the accounts presented on the DOD service component consolidated balance sheet are considered proprietary, meaning that

assets are physically present, unlike budgeting accounts displayed on other DOD service component statements (Herko, 2012). Neither corporate balance sheets nor DOD service component consolidated balance sheets represent transactions over a given timeframe, but rather a snapshot in time of the financial position.

(3) Financial Position

The financial position of both a corporation and a DOD service component is presented in a manner that reflects the accounting equation. This basic understanding is best described in a video by the Nonprofits Assistance Fund (2011) entitled Balance Sheet Basics: What We Have, What We Owe, And What We're Worth. "What We Have" describes assets, while "What We Owe" describes liabilities for both corporate and DOD service components. "What We're Worth" describes stockholders' equity for a corporation and net position for DOD service components.

(4) Disclosure

Corporate balance sheets and DOD service component consolidated balance sheets contain disclosures stating that amplifying information is contained in the note section. The service component consolidated balance sheet also states that some assets and liabilities, such as stewardship property, plant, and equipment, do not need to be accompanied with monetary value in accordance with federal accounting standards. These assets and liabilities are not included because they could be misleading if they were represented by a monetary value (Ewer, 2013).

b. Differences

(1) General Composition

The primary difference in general composition between corporate balance sheets and DOD service component consolidated balance sheets is the replacement of corporate stockholders' equity with DOD service component net position. Furthermore, DOD service component consolidated balance sheets are not classified; therefore, there is no differentiation between current and long-term assets and liabilities.

(2) Accounting Equation

Corporate balance sheets depict the standard accounting equation, where assets equal liabilities plus stockholders' equity (Figure 16). DOD service component balance sheets have a different equation, where assets equal liabilities plus net position (Figure 17). The primary difference between stockholders' equity and net position is budgetary, or governmental, accounting. Stockholder's equity represents the claim that stockholders have on corporate assets, while net position represents the results of the government's operations, plus any unexpended appropriations, since inception (Brook, 2013). DOD service components are appropriated funds on a timeline consistent with specific appropriation categories, while corporations generate revenue to promote growth. In the corporate accounting equation, stockholders' equity is comprised of capital stock and retained earnings. In the federal government accounting equation, net position is comprised of unexpended appropriations and cumulative results of operations. Both unexpended appropriations and cumulative results of operations data are articulated from the consolidated statement of changes in net position, much like capital stock and retained earnings are articulated from the statement of stockholders' equity. While the interrelationships between financial statements are similar, the determination of values for unexpended appropriations and cumulative results of operations show substantial differences from retained earnings and stockholders' equity. These differences are discussed in more detail later in this chapter with the comparison of the statement of stockholders' equity to the statement of changes in net position.

$$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$$

Figure 16. Accounting Equation (from Albrecht et al., 2008, p. 28)

$$\text{Assets} = \text{Liabilities} + \text{Net Position}$$

Figure 17. Federal Government Accounting Equation (Brook, 2013, p. 140)

2. Comparison of Corporate Income Statement to DOD Service Component Consolidated Statement of Net Cost

a. Similarities

(1) Objective of Operating Performance

Despite the difference in “net cost” versus “net profit or loss,” corporate financial income statements (IS) and service component consolidated statements of net cost (SNC) are similar in overall purpose. Both statements aim to display overall performance in terms of the cost of activities over a period of time. Similar to a corporation comparing net profits or losses against competitors and previous years, the SNC displays program costs that allow comparison to other agencies, and internally, over time. The SNC may be the most important federal financial statement for evaluation and comparison of service component costs (Surdick, 2007). The display of actual costs of services rendered and goods purchased in a SNC, if accurate, could help in program budgeting and decision making, with analysis of costs versus tradeoffs and alternatives between service components (Brook, 2012). A metric of operating performance exists within this comparison of program costs to specific national defense goals (public value) and is similar to a corporate comparison of specific expenses to amount of revenue generated from that activity (private value).

(2) Accrual Accounting

Both the IS and SNC display accrual costs, meaning revenues and costs are recognized when they are incurred, regardless of whether cash is disbursed. This accounting of services rendered or goods sold is critical to the IS’s display of real-time performance, and not just cash flow. Similarly, the SNC displays actual program area costs as they are incurred, instead of the timings of apportionments, obligations, and outlays.

(3) Disclosure

In both the IS and the SNC, it is necessary to disclose the methodology used to assemble and modify data. While a corporate income statement is assumed to be in accordance with generally accepted accounting principles (GAAP), it may not offer

perfect standardization and data display. Estimation errors, the integrity of the matching principle, the correspondence of a unique event to a categorized entry, and the likelihood of recurrence of an event or transaction may all affect the precision of accrual accounting entries (Fairfield, Sweeney, & Yohn, 1996). Similarly, the DOD service components face difficult standardization challenges in determining entries for intragovernmental transactions and the translation of budgetary and nonfinancial data to the accrual basis of accounting.

b. Differences

(1) Profitability versus the Accomplishment of Goals

A major difference between a service component SNC and a corporate IS is that corporate earnings, reported on an IS, may be compared against expenses to assess overall profitability. Profitability performance is neither existent nor applicable to a service component SNC. Although effort and accomplishment of program goals can loosely be related to revenue on an IS, they are not uniformly quantifiable in terms of public value earned. The SNC may provide gross and net cost information, but a well-informed user needs to be able to relate cost to an amount of output, or outcome, for a given program (DON, 2012). While an everyday user can assess profitability of a corporate IS, even an experienced user of the SNC may need considerably more data to form conclusions about the information displayed.

(2) Corporate Revenue versus Service Component Earned Revenue

There are significant differences between the meaning and relative magnitudes of revenues displayed on an IS and earned revenues displayed on a SNC. As previously stated, the relationship between revenue and expenses is an important aspect of a corporate income statement. Instead of revenue, DOD service components use congressional appropriations as a primary financing source. Earned revenue displayed on an SNC is exchange revenue, which is reported when goods and services are provided to the public or another government entity (intragovernmental) for a price (DOD, 2012). While the importance of earned revenue to a user of the SNC is arguable, it is of

questionable value in determining overall entity performance, since the primary means of financing operations is budgetary.

(3) Cash Basis versus Adjustment of Budgetary and Nonfinancial Feeder Data

Another significant difference between the IS and the SNC is the difficulty of adjusting DOD service component budgetary and nonfinancial information into auditable financial data. While a corporation may be able to easily adjust cash to accrual accounting, DOD historical processes and systems do not yet account for major programs in a manner conducive to the adjustment of budgetary information. Therefore, DOD service component SNCs are not yet in accordance with the GAAP used in corporate income statements. Until DOD managerial accounting systems meet the performance criteria of the Statement of Federal Financial Accounting Standards No. 4 (SFFAS-4), the SNCs will rely on the adjustment of budgetary and nonfinancial feeder transactions with known accruals for major items (payroll expense, accounts payable, and environmental liabilities) in order to develop program costs (DOD, 2012).

(4) Cost versus Expense Categorization

One of the major differences between the IS and the SNC is within the categorization of costs versus expenses. On a DOD service component SNC, cost data are displayed by appropriation program. This allows clear delineation of direct costs associated with the execution of the program budget. Indirect costs, or costs not specifically identifiable to a single program, or jointly used, must be assigned or split in accordance with SFFAS-4 (Surdick, 2007). On a corporate IS, direct expenses from the sale of a product or service are separated from indirect administrative or general expenses. This delineation allows for analysis of selling and product expenses against revenue gained. A service component SNC does not offer this comparison. The only comparison to expense categorization exists within cost delineations in the notes and disclosure sections of DOD service component annual financial statements. The reconciliation of net cost of operations to the budget attempts to include components of cost that do not require or generate resources (e.g., depreciation, environmental liabilities, etc.) and subtract resources not directly relating to cost (e.g., acquisition financing,

undelivered orders, etc.). Intragovernmental costs for each program are also found within the note disclosures.

(5) Inapplicability of the Matching Principle to the SNC

Perhaps the most important difference between the IS and the SNC is that the matching principle cannot be applied to the SNC. U.S. GAAP requires corporate income statements to recognize revenue in the period earned and “match” the expenses associated with the production of the specific revenue within the same period. The matching principle ensures that an income statement is not driven by cash transactions (IOMA’s Institute of Finance & Management, 2010). While the DOD service components recognize revenue when earned, within the constraints of current capabilities, the SNC does not intend to match transactions in intragovernmental gross costs versus intragovernmental earned revenue, or public costs versus public earned revenue (Surdick, 2007). The term “intragovernmental” represents transactions made between two reporting entities within the federal government. The term “public” concerns transactions made between the reporting entity and a nonfederal entity (USAF, 2012). Furthermore, current DOD systems do not track intragovernmental transactions by customer at the transaction level. Expenses on the buyer’s side require adjustment to agree with internal revenue on the seller’s side (USAF, 2012).

3. Comparison of Corporate Statement of Stockholder’s Equity to DOD Service Component Consolidated Statement of Changes in Net Position

a. Similarities

(1) Objective of Stewardship

The main principle in the objective of stewardship is the determination of improving or worsening financial conditions and provisions made for the future (FASAB, 1993). Current and future financial conditions may be determined from financial data reported on the corporate statement of stockholders’ equity (SSE) and DOD service component consolidated statement of changes in net position (SCNP). A SSE for a corporation displays how much stockholders’ equity (or private value) has been added (or

lost) during the period, amounts distributed to stockholders in dividends, and how much capital is being retained for future operations (By, 2000). Similarly, a DOD service component SCNP displays the difference in financing resources used against accrued costs of operations during the reporting period and the retention of financing sources for future operations. Both the SSE and SCNP can help users determine stewardship with their display of value and retained resources.

(2) Accumulated Value

Both statements adjust ending balances by accumulating net changes to arrive at an ending accumulated balance (retained earnings and stockholders' equity or cumulative results of operations and unexpended appropriations). The SSE displays a beginning balance of adjusted equity since inception, plus net changes in a reporting period. While there are two beginning balances on the SCNP, the "bottom line" is a summation of beginning net position and any net change during the reporting period. Despite the fact that both "appropriations used" line items are important in displaying beginning and ending balances of cumulative results of operations and unexpended appropriations, they ultimately have zero net effect on the ending balance of net position. Simplification may offer more insight into what affects ending net position. A change in net position is the prior year's net position balance, plus appropriations received and adjustments (e.g., transfers, donations, forfeitures, rescissions, etc.) less the net cost of operations. Figure 18 offers a visualization of this simplification. In this example, appropriations received would compare to corporate revenue, and net cost of operations would compare to corporate expenses. Moreover, a service component's appropriations received less the net cost of operations would be similar to corporate net income, and the net position would be similar to stockholders' equity. Ultimately, both statements display a singular accumulative balance, with net position mirroring a corporate balancing entry in stockholders' equity (Brook, 2013).

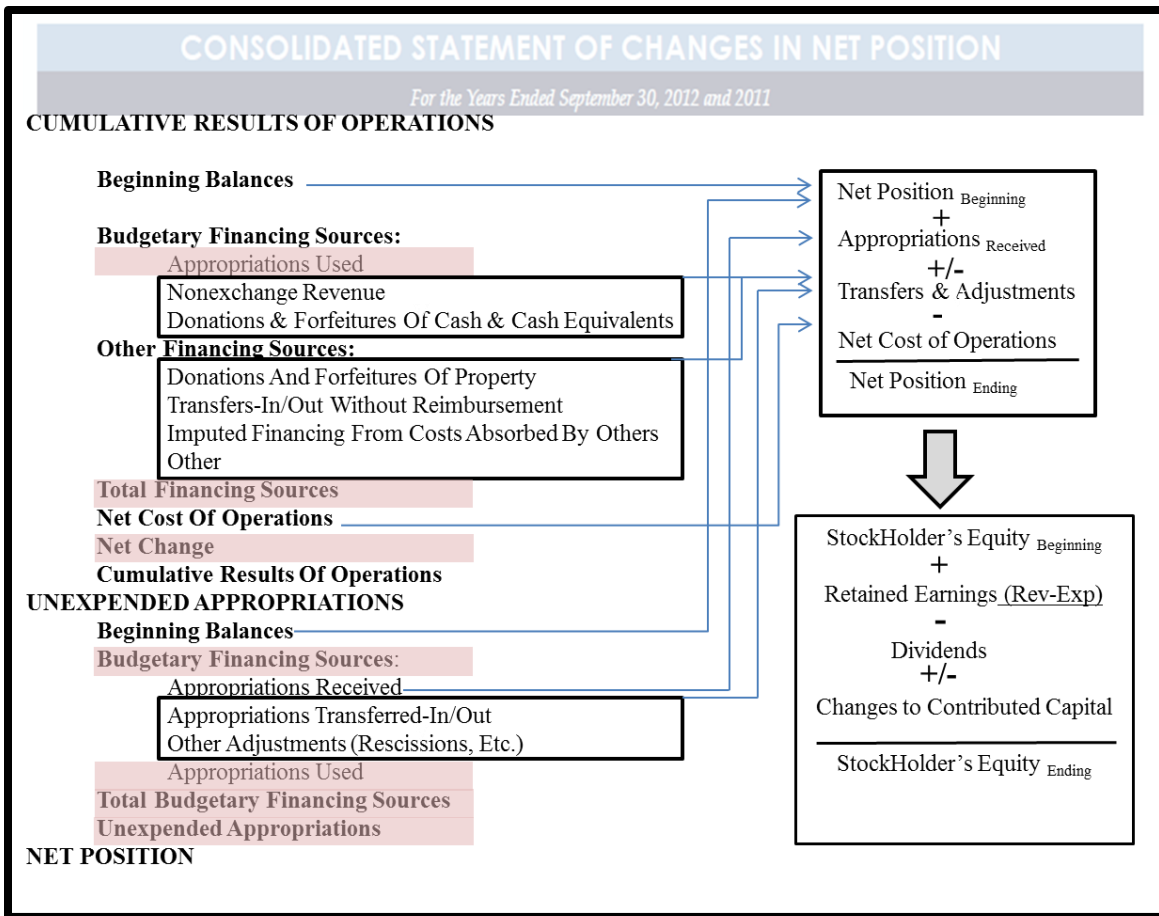


Figure 18. Accumulated Value: Net Position Compared to Stockholder's Equity (after DON, 2012)

b. Differences

(1) Determination of Net Position

The determination of net position is a major difference between the SSE and SCNP. As previously mentioned, net position is compared in its entirety to stockholders' equity and equals the difference between assets and liabilities in the federal government accounting equation. While this comparison is useful to understanding relationships of data within the corporate and DOD service component financial statements, similarities cease once a user determines how net position, in terms of cumulative results of operations and unexpended appropriations line items on the SCNP, balances the equation.

In a corporate accounting equation, the purchase or sale of assets corresponds to entries to cash and/or liabilities. The sale or purchase of stock and the accrual of revenue and expenses also balance with changes in assets and liabilities. On the service component SCNP, net position cannot represent the difference between assets and liabilities by simply accumulating the changes in financing sources available less the accrued net cost of operations. The interrelationship is achieved through changes in cumulative results of operations through the reconciliation of assets and liabilities within the net cost of operations. This reconciliation is necessary due to the inherent differences between public and private sources of financing.

(2) Cumulative Results of Operations versus Capital Stock

In the accumulated value comparison, and on the statement of net cost of operations, net cost of operations compares to corporate expenses. On the SCNP, however, a reconciled value of net cost of operations affects net change to cumulative results of operations and balances changes in the valuation of assets and accrued liabilities that have not been budgeted. The value of net cost of operations displayed on service component financial statements has been reconciled for resources used to finance items and for components that will not require or generate resources. When appropriations are “used” to finance items not part of the net cost of operations, like the acquisition of an asset, the adjustment is represented by a corresponding increase in cumulative results of operations. Similarly, the cumulative results of operations ending balance decreases with depreciation of assets and the use of operating materials and supplies. Because depreciation expense and the use of supplies do not require budgetary resources, net cost of operations is increased, resulting in a decrease to cumulative results of operations. Similarly, net cost of operations is reconciled for increases and decreases in liabilities such as military leave and environmental and disposal liabilities. The reconciliation of net cost of operations is critical to balancing net position against assets and liabilities, by adjusting the net change of cumulative results of operations. If the SCNP displays net cost of operations as an asset adjustment, cumulative results of operations may compare better to capital stock.

(3) Unexpended Appropriations versus Retained Earnings

Another difference becomes evident if the unexpended appropriations line item is compared singularly. If the line item for cumulative results of operations is compared to capital stock, the unexpended appropriations line item must become the comparison to retained earnings. The unexpended appropriations line item displays the adjusted amount of appropriations received less appropriations used in a period. As appropriations are “outlaid,” corresponding entries with unexpended appropriations and the fund balance with the treasury balance the federal government accounting equation (SFFAC-2, 1995).

(4) Distribution and Determination of Value

Despite the ability to compare concepts, interrelationships, and values on a DOD service component statement in changes to net position to a corporate statement of stockholders’ equity, the similarities encountered should be considered against the distinct differences between the distribution of public and private value. Comparing private capital, which produces financial growth and distributions to stakeholders, to government operations, which use public financing to produce national defense activities, is conceptual at best. In theory, the DOD should provide 100-percent distribution of public value, in terms of national military strategy, to the entire U.S. population. The SSE can offer a clear interpretation of shareholder value in terms of price changes to shares, dividends, and other distributions to holders (By, 2000). The SCNP, however, cannot accurately display a “book value” to a U.S. citizen, nor display an accurate distribution of benefit.

4. Comparison of Corporate Statement of Cash Flows with Service Component Combined Statement of Budgetary Resources

a. Similarities

(1) Objectives of Budgetary Integrity, Stewardship, and Systems and Controls

The primary objective of the statement of cash flows is to present a corporation's transactions in operating, investing, and financing activities in a cash-basis format. In 1978, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Concepts No. 1 (SFFAC-1), highlighting the importance of cash flows to

creditors and investors. The corporate financial statement ratios most often associated with cash flow data focus on liquidity and debt management (Gibson, 1992).

The primary objective of the combined statement of budgetary resources (SBR) is to accurately present information regarding budgetary integrity and stewardship. According to Brook (2013), “The Statement of Budgetary Resources reports the source, use, and balances in budgetary resources, and is the only statement in the financial reports that is based on budgetary (cash-basis) accounting” (p. 140). The SBR illustrates service component stewardship of taxpayer revenue by presenting budgetary resources, as enacted by Congress, in the form of appropriations, and the status of these budgetary resources. Tierney (2000) stresses the importance of SBR financial data by stating, “These data are also reported government-wide in the Treasury’s monthly statement and its annual report, as well as in the President’s budget request submitted annually to Congress” (p. 195). Additionally, tracking obligations and outlays, or cash disbursements, from the U.S. Treasury may provide an effective method of implementing systems and controls.

The key similarity between these financial statements is that they both provide stakeholders an opportunity to examine the inflows and outflows of an entity's financial resources. Specifically, the statement of cash flows and the SBR provide evidence of how an entity obtains financial resources and how they are spent (Tierney, 2000). As stated by Easton and Quinn (2012), “The SBR presents all departmental outlays against the budgetary resources available to cover such costs” (p. 18). The importance of these financial statements may be summarized as providing an accurate depiction of whether future financial resources will be adequate to fund planned activities.

According to Albrecht et al. (2011), users “need information about a corporation's cash flows in order to evaluate the corporation's ability to generate positive net cash flows in the future to meet its obligations and to pay dividends” (p. 612). Similarly, the SBR reveals service component appropriations received, specific obligated values, and the amounts spent from the U.S. Treasury (Easton & Quinn, 2012). This information is important when investigating if future monetary resources will be sufficient to fund future obligations and services (FASAB, 1993).

(2) Reporting Period and Format

A DOD service component SBR and a corporate statement of cash flows both report over a specific time period. Because these statements display financial information pertaining to a selected time period, they are commonly presented in a comparative format. This provides potential users with the ability to quickly compare financial information from the current year to the previous year. Additionally, this format yields a constant period of reporting, which may be beneficial for time-series analysis.

(3) Disclosure

Statements of cash flows and SBRs both include disclosure statements, which may be found as a supplement to corresponding statements or in the financial statement notes. Disclosures relating to the statement of cash flows often detail financial transactions that have occurred in balance sheet asset and liability accounts that do not involve cash payments or receipts (Revsine, Collins, & Johnson, 2002). For example, corporations may acquire plants, property, or equipment by incurring a mortgage, issuing stock, or entering into a capital lease. According to Revsine et al. (2002), firms are required by law "...to disclose these non-cash simultaneous financing and investing activities in a narrative or in a schedule, which is sometimes included as a separate section of the statement of cash flows" (pp. 903–904). This is important because statement of cash flows disclosures reveal the extent to which companies may be leveraging debt or additional stock issuances to finance investing and financing activities.

SBR disclosures often provide explanations for separate financial statements reporting different values for similar line items. These variances arise due to differences between budgetary accounting, which is used to create combined statements of budgetary resources, and the proprietary accounting method utilized for all other service component financial statements. For example, the FY2012 DON disclosure related to the SBR states, "Appropriations Received on the Statement of Changes in Net Position does not agree with Appropriations Received on the SBR due to differences between proprietary and budgeting accounting concepts and reporting requirements" (p. 72). Additionally,

because the SBR is a combined financial statement, disclosures provide users of financial statements with details regarding intra-entity transactions.

b. Differences

(1) Accounting Principles

The statement of cash flows and the SBR use different accounting practices to produce their corresponding financial statements. The SBR utilizes the budgetary accounting method, which tracks budget authority through its life cycle. The life cycle of budget authority includes congressional authorization, enacted appropriations, apportionment, obligations, and the final outlays, or cash disbursements, from the U.S. Treasury (Tierney, 2000). As previously discussed, the SBR is the only service component financial statement to create financial reports using a budgetary accounting basis (Brook, 2013).

The statement of cash flows is produced using one of two alternative methods: the direct or indirect approach. Because most U.S. corporations utilize the indirect method to produce statements of cash flows, it is used in this discussion (Albrecht et al., 2008). Although there are two approaches to producing the statement of cash flows, both approaches ultimately present similar financial information. According to Revsine et al. (2002), “Most firms use the indirect approach that begins with accrual-basis earnings and adjusts for depreciation, amortization, non-cash gains and losses, and changes in non-cash working capital accounts...that cause earnings to differ from operating cash flows for the period” (p. 907).

(2) Reporting Categories

Statements of cash flows report the sources and uses of cash based on three types of activities (Revsine et al., 2002):

- Operating cash flows—Represent the cash-basis revenues and expenses of a corporation related to the production and delivery of goods and services
- Investing cash flows—Represent the purchase or sale of assets, such as property, plant, and equipment, and the purchase or sale of marketable securities

- Financing cash flows—Represent cash transactions involving a corporation selling stock or bonds, paying dividends, borrowing money, or paying on debt

While the statement of cash flows reports on the basis of operating activities, investing activities, and financing activities, service component SBRs classify budget authority into three primary sections (Tierney, 2000):

- Budgetary Resources—Reports any unobligated balances from a prior year's budget authority, new appropriations, and spending authority from offsetting collections. The sum of budgetary resources represents the total amount of budget authority available to a service component in a fiscal period.
- Status of Budgetary Resources—Reports obligations incurred, end-of-year unobligated balance, unobligated balance brought forward from the previous year, and the amount apportioned. The sum of the status of budgetary resources represents the total amount of budget authority still available to a service component as of the reporting date.
- Outlays—Reports the net outlays or cash disbursements of a service component to settle obligations incurred in a fiscal period. This represents the total amount of disbursement requests made to the U.S. Treasury by a service component in a fiscal period.

5. Comparison of Interrelationships within Corporate Financial Statements and DOD Service Component Financial Statements

Having identified the similarities and differences between corporate financial statements and DOD service component financial statements using a comparison approach, this section discusses the similarities and differences between the interrelationships within corporate financial statements and DOD service component financial statements. To accomplish this task, this section uses a comparison approach to identify the articulation of data within corporate financial statements and DOD service component financial statements.

a. Similarities

According to Skousen, Albrecht, and Langenderfer (1994), “articulation refers to the relationship between an operating statement (the income statement or the statement of cash flows) and comparative balance sheets, whereby an item on the operating statement helps explain the change in an item on the balance sheet from one period to the next” (p.

38). For example, an increase in net income found on the income statement can explain, in large part, a corresponding increase in stockholders' equity on the balance sheet. Additionally, Barton and Simko (2002) state, "The articulation between the income statement and the balance sheet ensures that accruals reflected in earnings also are reflected in net assets" (p. 2). Figure 19 provides an illustration of articulation between operating statements and balance sheets for corporate financial statements.

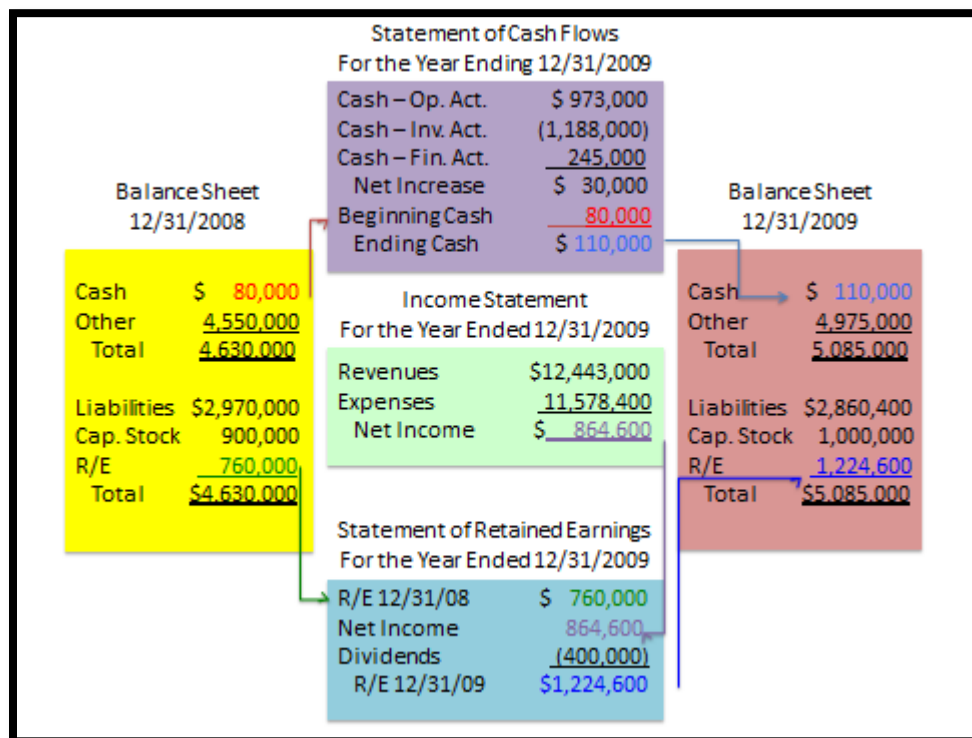


Figure 19. Articulation in Corporate Financial Statements (from Albrecht et al., 2008)

For the comparison of DOD service component financial statements to corporate financial statements, this research relies on the assumption that the SNC and SCNP may be defined as operating statements. Using this assumption, DOD service component financial statements articulate financial data between operating statements and the balance sheet in a similar manner as corporate financial statements. For example, net cost of operations presented on the SNC is transferred to the SCNP, where it is a critical factor in calculating the cumulative results of operations. The cumulative results of operations

line item is subsequently articulated to the balance sheet, where it is displayed in the summation of net position. Figure 20 provides an illustration of this articulation process between DOD service component operating statements and the balance sheet.

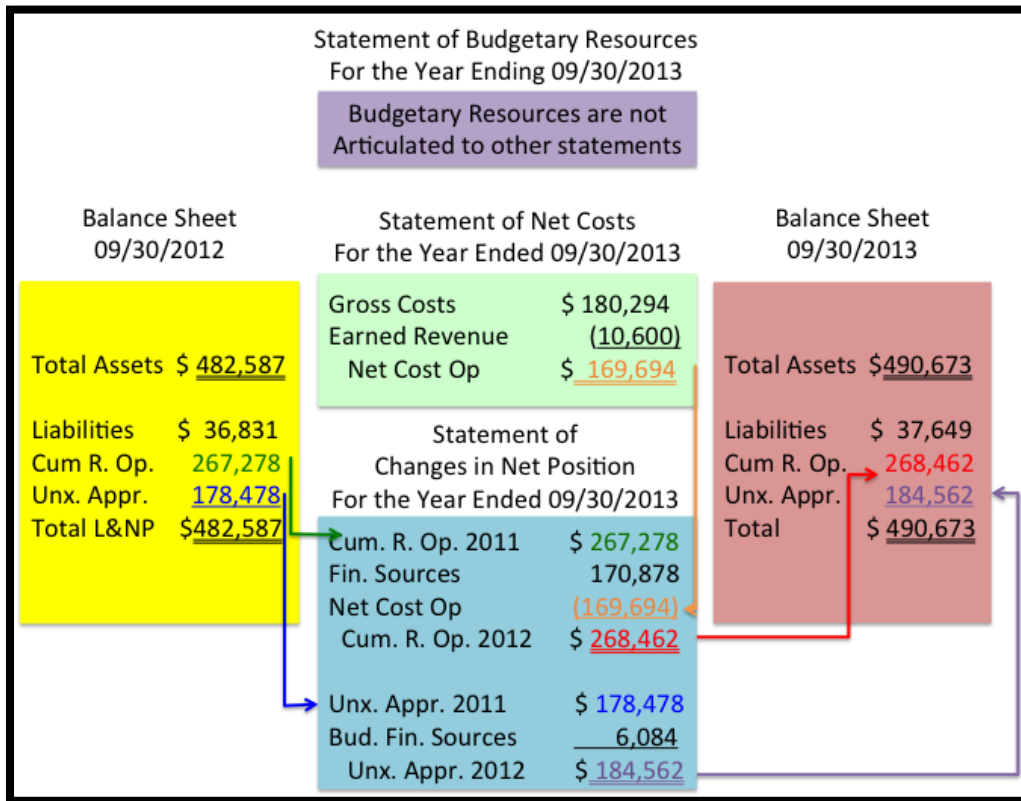


Figure 20. Articulation in DOD Service Component Financial Statements

b. Differences

A review of articulation among corporate financial statements identifies that all corporate operating statements have interrelationships with the balance sheet. Not all DOD service component operating statements articulate with the balance sheet, however, primarily due to accounting principles used in creating the SBR. As previously discussed, the SBR is the only service component financial statement that uses the budgetary accounting method (Brook, 2013). Because of this different method of accounting, financial results presented on the SBR do not reconcile with corresponding line items on the SNC and SCNP operating statements. The inability of financial data to reconcile with

similar line items on separate financial statements prevents articulation between the SBR and the balance sheet. The following section discusses the ratio and empirical approaches used in this research project.

C. RATIO AND EMPIRICAL APPROACHES—MODIFICATION OF CORPORATE RATIOS FOR APPLICATION TO DOD SERVICE COMPONENT FINANCIAL STATEMENTS

The ratio approach used in this research selects corporate financial statement ratios that may be modified and applied to DOD service component financial statements. These modified ratios are presented in a manner that highlights their relationship to the following FASAB defined financial statement user objectives (SFFAC-1, 2013):

- Budgetary Integrity
- Operating Performance
- Stewardship
- Systems and Control

Based on this project research and analysis, it was determined that simply applying existing corporate financial statement ratios to DOD service component financial statements was sub-optimal. Therefore, modifications to selected corporate financial statement ratios were made to address the FASAB user objectives more effectively. The ratio modifications were based on the conclusions made in the comparison approach, and new financial statement ratios were created to be applied to DOD service component financial statements. Table 9 contains the selected modified ratios that are used for the ratio and empirical approaches of this research. Details concerning the relationship between the selected modified ratios and their corresponding corporate financial statement ratios are presented in this section.

Corporate Ratio Name	Modified Ratio Name	Modified Ratio Formula	User Objective
Gross Profit	Budget Compliance Ratio	$(\text{Appr. Used} - \text{Net Cost of Operations}) / \text{Appropriations Used}$	Budgetary Integrity
Sales Growth/ Asset Growth	Outlays to Asset Growth Ratio	Gross Outlays Growth Ratio Total Assets Growth Ratio	Budgetary Integrity
Income Common Size	Cost Common Size	Specific Program Cost Net Cost of Operations	Operating Performance
Return On Equity	Efficiency Ratio	$(\text{Appropriations Received} - \text{Net Cost of Operations}) / \text{Net Position}$	Operating Performance
Financial Position	Appr. Received to Liabilities	Annual Appropriations Total Liabilities	Stewardship
Financial Leverage	Financial Position	Total Assets Net Position	Stewardship
Operating Ratio	Expenditure Ratio	Gross Outlays Total Budgetary Resources	Systems and Control
Accounts Payable to Sales	Obligation Ratio	Obligations Incurred Total Budgetary Resources	Systems and Control

Table 9. Modified Ratios

1. User Objective of Budgetary Integrity

a. *Gross Profit Ratio Modified to Budget Compliance Ratio*

(1) Ratio Approach

The gross profit ratio is a measure of spread between sales and cost of goods sold (Gates, 1927). If the ratio value is low, it may be an indication that the corporation is paying too much for merchandise or cost of goods sold. It may also reflect a reduced selling price for a service or good. Similarly, if the ratio value is high, it may indicate the corporation is making a large profit on the merchandise where sales revenue exceeds cost of goods sold by a larger margin.

For the modification of this corporate financial statement ratio, the closest equivalent to revenue is appropriations received. Because appropriations may not have to be spent during the fiscal year in which they are received, it is common for unexpended

appropriations to carry a balance forward. For this reason, appropriations used, reported on the cumulative results of operations, is a more relevant equivalent to revenue throughout a given time period. The closest equivalent for cost of goods sold is net cost of operations. Therefore, the gross profit ratio may be modified as depicted in Table 10.

MODIFIED GROSS PROFIT RATIO	
Gross Profit Ratio (Corporate ratio)	$\frac{(\text{Sales Revenue} - \text{Cost of Goods Sold})}{\text{Sales Revenue}}$
Budget Compliance Ratio (Modified ratio)	$\frac{(\text{Appr. Used} - \text{Net Cost of Operations})}{\text{Appr. Used}}$

Table 10. Modified Gross Profit Ratio

(2) Empirical Approach

Because DOD service components are not in the business of making profits, this ratio value is expected to be close to zero. In an ideal reporting environment, cash in would equal cash out for a governmental entity. Due to governmental accounting variations and multiple accounting systems, the ratio value may end up either positive or negative, but over time, it should revert to a mean of zero. Application of this modified financial statement ratio to DOD service component financial statements indicates how appropriations are being used, therefore corresponding to the budgetary integrity objective set forth by FASAB.

Figure 21 presents the results of the budget compliance ratio using historical DON and USAF financial data. If the average ratio value increases over time, it may indicate that the service component is receiving more budget authority than it is expending. If the ratio decreases over time, it may indicate that the service component is expending more budgetary resources than it was receiving solely through appropriations. Thus, outlying ratio values from the budget compliance ratio may indicate to management that further research is warranted regarding the additional financial resources being used to finance these operations.

The results indicate positive and negative fluctuations near zero. In FY2009, both DON and USAF indicate fairly high values (9 percent and 7 percent, respectively), which

may indicate more appropriations used that year than net cost of operations. Any significant outlying ratio values, such as the negative 15 percent found in USAF data for FY2010, may warrant further analysis. Since the value is negative, it may lead to inquiring why net cost of operations was so large in comparison to appropriations used during that year.

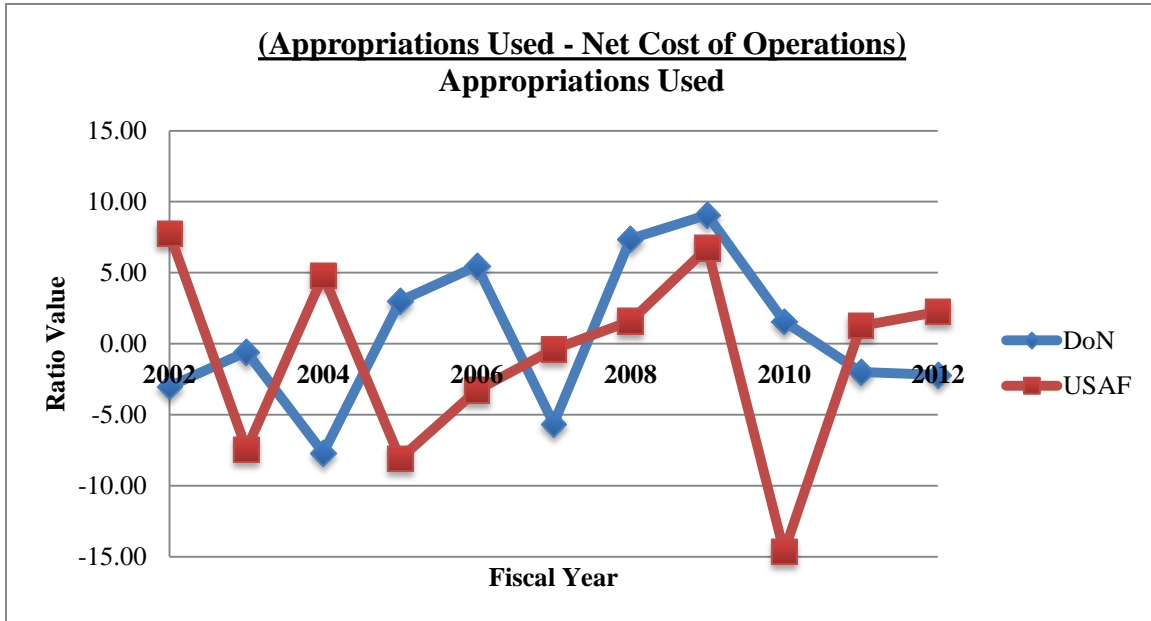


Figure 21. Budget Compliance Ratio—DON and USAF FY2002–FY2012

b. Sales to Asset Growth Ratios Modified to Outlays to Asset Growth Ratio

(1) Ratio Approach

Growth ratios are used to determine the growth or decline of a particular aspect of a corporation over a given period of time. In this example, only year-to-year growth is being examined. It is not uncommon for managers to determine the growth over five or ten years (Duns, 1989). Users of corporate financial statements gain insight regarding the direction of the corporation by tracking growth of sales and assets. A change in sales or asset growth may be an indicator of changing factors that could warrant further analysis.

SFFAC-1 states that the budgetary integrity objective gives users insight on how the “status of budgetary resources is consistent with accounting information on assets and

liabilities” (2013, p. 1). These growth ratios may be modified to relate budgetary accounting with accrual accounting principles in order to compare growth of gross outlays to growth of assets. Because of the similarities between corporate and service component assets, the asset growth ratio does not require modification.

The sales growth ratio can be modified to the outlays growth ratio. The outlays growth ratio highlights the relationship between assets and outlays resulting from budgetary spending (Table 11). This modified ratio relies on the assumption that service component financial statements can receive an unqualified audit opinion in order to accurately reflect a relationship between assets and budgetary outlays. A positive ratio value indicates growth, while a negative ratio value indicates a decline from the previous year.

When combining these two growth ratios, users can compare the growth of outlays to the growth of assets. If the value is greater than one, outlays experienced more growth than assets. Conversely, if the value is less than one, assets experienced more growth. If the number is negative, either outlays or assets displayed a decline from the previous year. Outlying data from the outlays to assets growth ratio may warrant further analysis.

MODIFIED GROWTH RATIOS	
Total Asset Growth Ratio (Same for both)	$\frac{\text{Assets Current Year} - \text{Asset Previous Year}}{\text{Assets Previous Year}}$
Sales Growth Ratio (Corporate ratio)	$\frac{\text{Sales Current Year} - \text{Sales Previous Year}}{\text{Sales Previous Year}}$
Outlay Growth Ratio (Modified ratio)	$\frac{\text{Outlays Current Year} - \text{Outlays Previous Year}}{\text{Outlays Previous Year}}$
Outlays to Asset Growth Ratio (Combined ratio)	$\frac{\text{Gross Outlays Growth Ratio}}{\text{Total Asset Growth Ratio}}$

Table 11. Modified Growth Ratios

(2) Empirical Approach

When the outlay growth ratio is applied to historical DON and USAF financial data, users are able to identify a percentage of growth or decline in budgetary resource spending relative to the previous year (Figure 22). From these results, users can then

compare those outlay growth rates to asset growth rates (Figure 23). Because the relationship between assets and outlays is not directly represented in budgetary accounting, combining the outlay growth ratio to the asset growth ratio enables a user to determine significant outliers in growth or decline using one ratio. This combined ratio is titled as the outlays to assets growth ratio in Figure 24. This ratio can be used to compare service components and determine how possible fiscal constraints are affecting growth in outlays and assets.

Applying the outlay growth ratio to DON and USAF financial data from FY2005 to FY2012 highlights the spending trends experienced during this time period (Figure 22). For example, it is easy to see increased growth, or spending, for both DON and USAF in FY2008, then a subsequent decrease in growth beginning in FY2010. These ratio values also highlight the decline experienced in FY2012 for both service components.

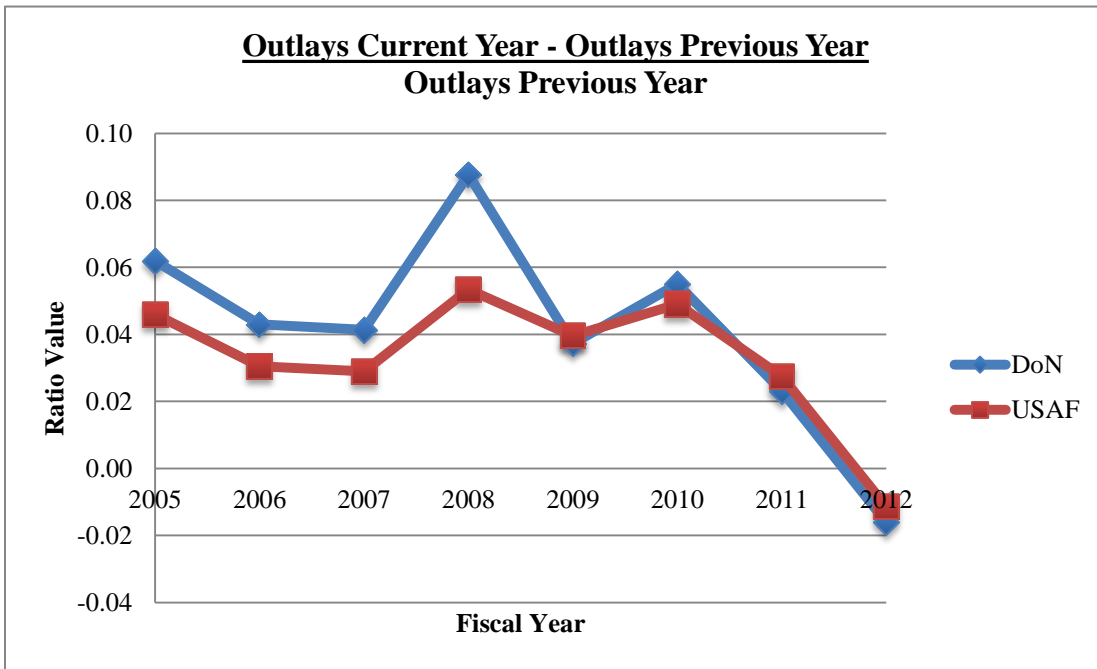


Figure 22. Outlay Growth Ratio–DON and USAF FY2005–FY2012

Applying the asset growth ratio to financial data from DON financial statements depicts positive values that indicate continued growth. The growth rate started to

decrease in FY2008, but remains positive. USAF experienced continued growth in assets as well, but experienced a decline in FY2010 (Figure 23). Therefore, this ratio value may indicate a need for further research to determine potential causal factors relating to the decline in assets for USAF in FY2010.

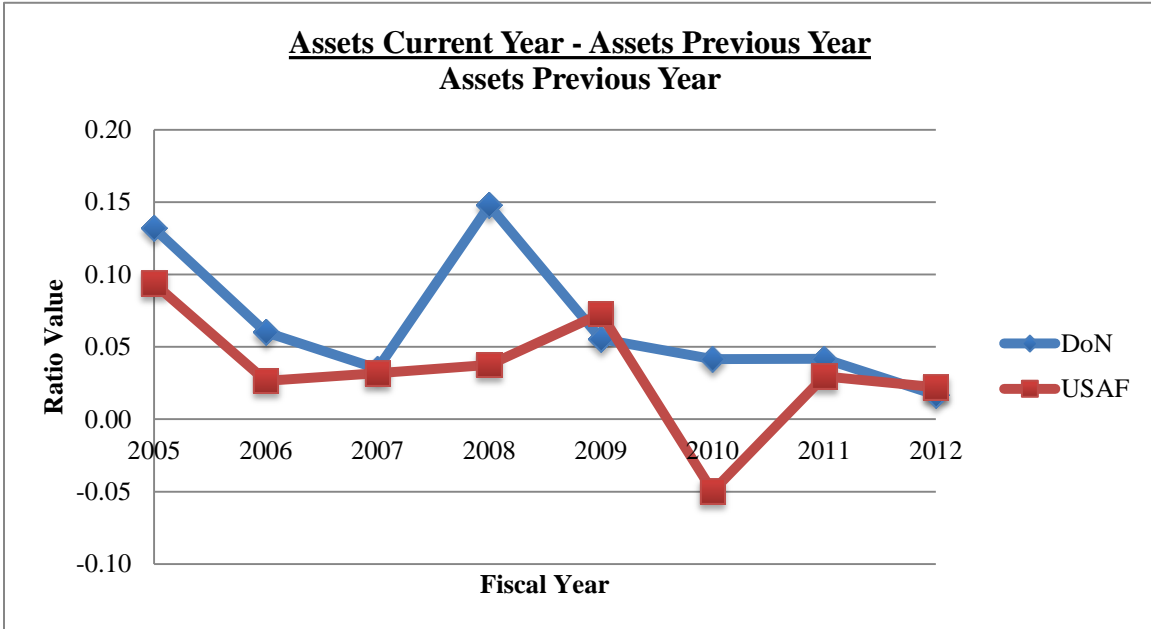


Figure 23. Asset Growth Ratio–DON and USAF FY2005–FY2012

Applying the outlays to asset ratio to historical DON and USAF financial data highlights the previously mentioned outliers in a single chart. With the exception of FY2010 and FY2012, growth for both service components average a nearly one-to-one ratio value (Figure 24). This indicates that outlays, or actual spending, are contributing to increased asset growth.

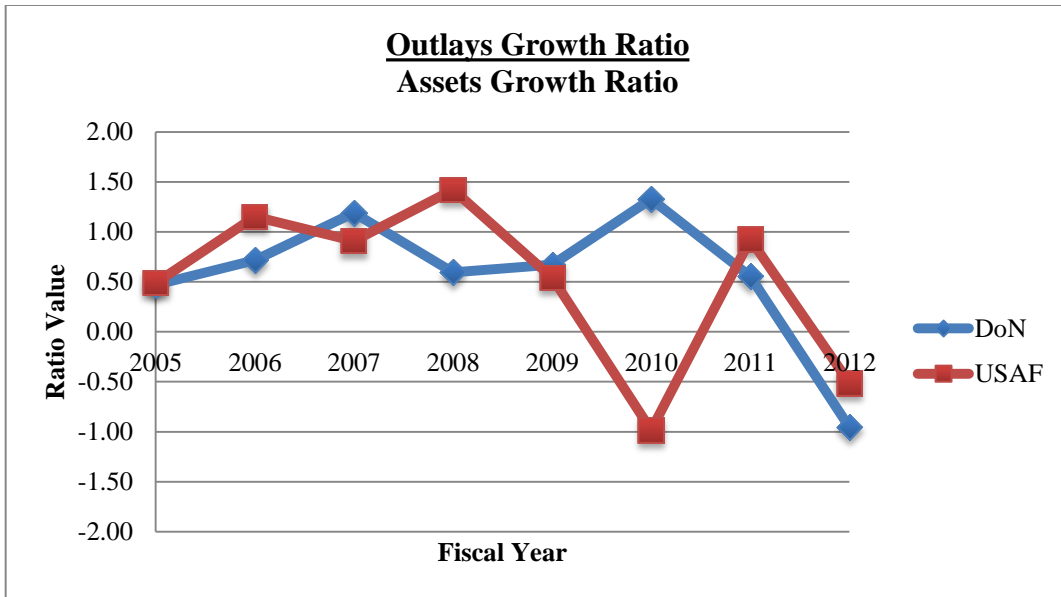


Figure 24. Outlays to Asset Growth–DON and USAF FY2005–FY2012

2. User Objective of Operating Performance

a. *Corporate Income Statement Common Size Ratios Modified to Statement of Net Cost of Operations*

(1) Ratio Approach

Common size analysis may help display line items on a financial statement as a percentage of one common figure. On a corporate financial income statement, the common figure generally used is total sales. Along with a quick analysis of the net profit margin by comparing net income divided by sales, the common size analysis of total sales can also portray sales in proportion to research and development (R&D) and to sales, general, and administrative expenses. This analysis may be helpful in determining performance against industry peers of varying size and over time (Fuhrmann, 2014).

The creation of common size ratios from the relationship of program costs to service component overall gross costs may offer insight into operating performance. Ratios of program costs to the net cost of operations data found on the SNC may be used to track inter-service component cost proportions over time. This method is similar to a corporate financial income statement common size analysis of different expenses to total sales, although the process requires using net cost as the common figure. A service

component does not, nor is it intended to, generate revenue. Instead, the DOD’s purpose is to create valuable capabilities and execute services beneficial to the nation’s defense through the expenditure of federal budgetary sources. Therefore, the proportion of overall accrued costs attributed to a specific program category, such as military personnel (MILPERS), operations, readiness, and support (OR&S), or R&D, present in proportion to total service component accrued gross costs, may offer enhanced comparative vertical and horizontal analysis to the data displayed on service component consolidated statements of net cost (SNC). Table 12 presents modified income statement common size ratios used in this research.

MODIFIED INCOME STATEMENT COMMON SIZE	
Income Statement Common Size (Corporate ratio)	$\frac{\text{Expense}}{\text{Total Sales}}$
Net Cost of Operations Common Size (Modified ratio)	$\frac{\text{Specific Program Costs}}{\text{Gross Costs}}$

Table 12. Modified Income Statement Common Size Ratio

(2) Empirical Approach

The difference in relative service component size can increase the value of figures and make comparison difficult. Moreover, material differences in asset valuation and operating expenses exist between all service components. Therefore, common size analysis is helpful in determining differences in costs between the USAF and DON. Figures 25–28 display vertical and horizontal common size analysis of USAF and DON proportional costs from FY2009 to FY2012.

(3) Ratio of Operation Readiness, and Support to Gross Cost

The DON OR&S ratio shows a slight 2.5 percent decline of the four-year period (Figure 25). The USAF OR&S ratio displays an abrupt 7 percent drop from FY2009 to FY2010 that corrects to almost the same proportion of approximately 37 percent of total net cost in FY2011. In FY2012, the USAF OR&S declines around 3.5 percent, suggesting a short-term cyclical nature of OR&S cost.

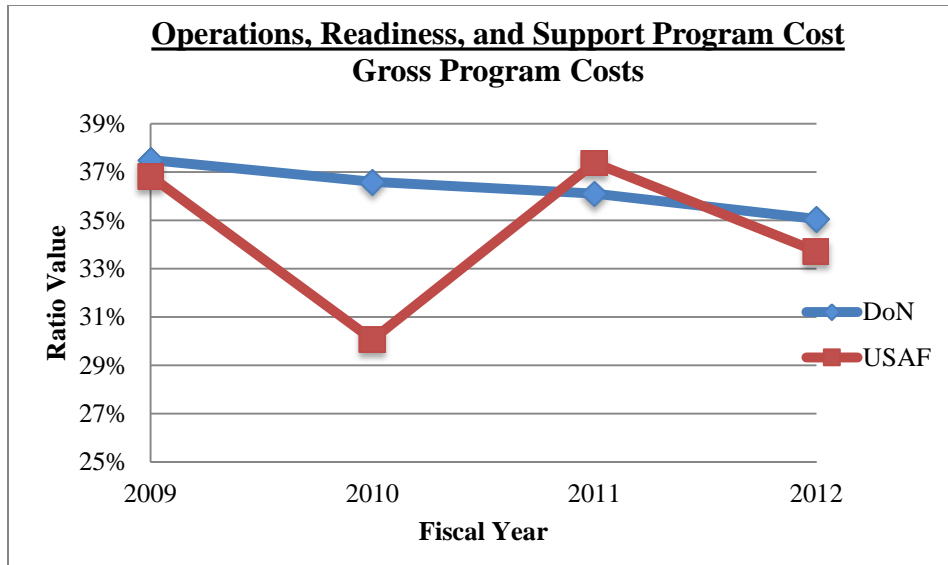


Figure 25. Operations, Readiness, and Support Program Cost–DON and USAF FY2009–FY2012

(4) Ratio of Military Personnel Costs to Gross Cost

Both service components show relatively steady MILPERS ratio values, yet the DON appears to spend approximately 5 percent more of proportional gross costs on MILPERS than the USAF (Figure 26). From FY2010 to FY2011, the DON showed a decrease in the MILPERS ratio, while the USAF displayed an increase.

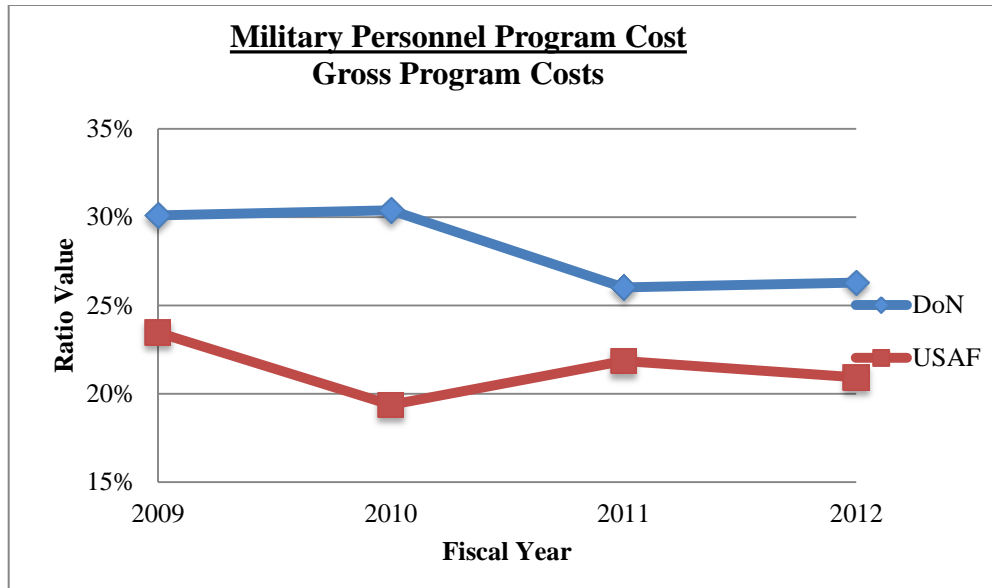


Figure 26. Military Personnel Program Cost–DON and USAF FY2009–FY2012

(5) Ratio of Research and Development Cost to Gross Cost

Both ratio values show a decrease in R&D from FY2009 to FY2012, yet the USAF ratio values consistently have a greater proportional cost for R&D (Figure 27). The DON ratio values display a steady decline of about 4 percent of OR&S to total net cost from FY2009 to FY2012. The USAF ratio displays an abrupt 4 percent drop in FY2010 then stabilizes between 16 percent and 17 percent in FY2011 and FY2012.

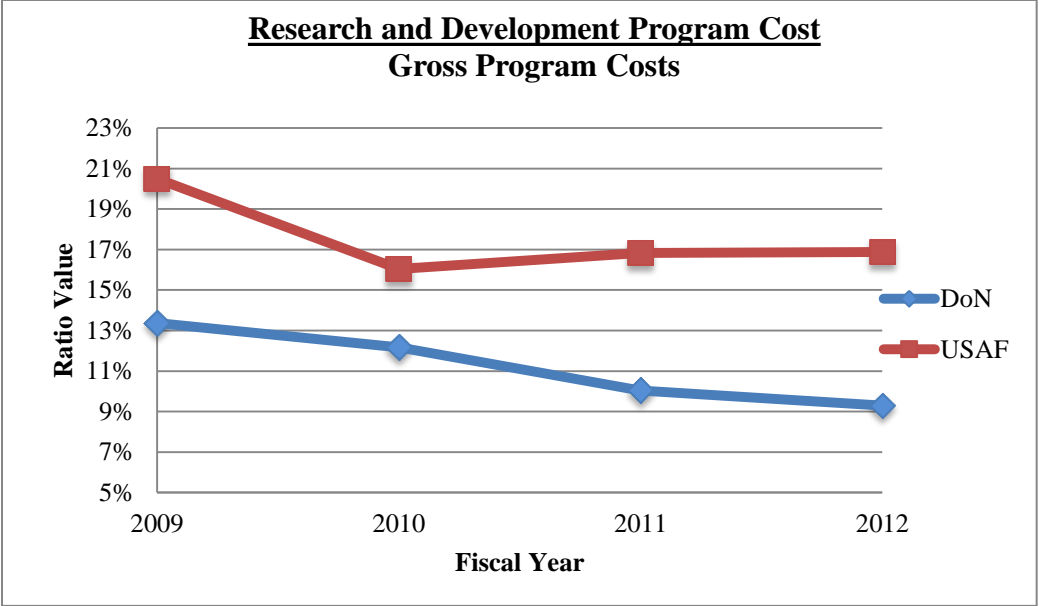


Figure 27. Research and Development Program Cost–DON and USAF FY2009–FY2012

(6) Ratio of Procurement Cost to Gross Cost

USAF procurement costs spiked from FY2009 to FY2010, while DON showed a steady increase from 18 percent to 28 percent over the four years analyzed (Figure 28). The drastic change in procurement expenses for the USAF most likely drives major changes in proportions of costs in the previous common size ratios.

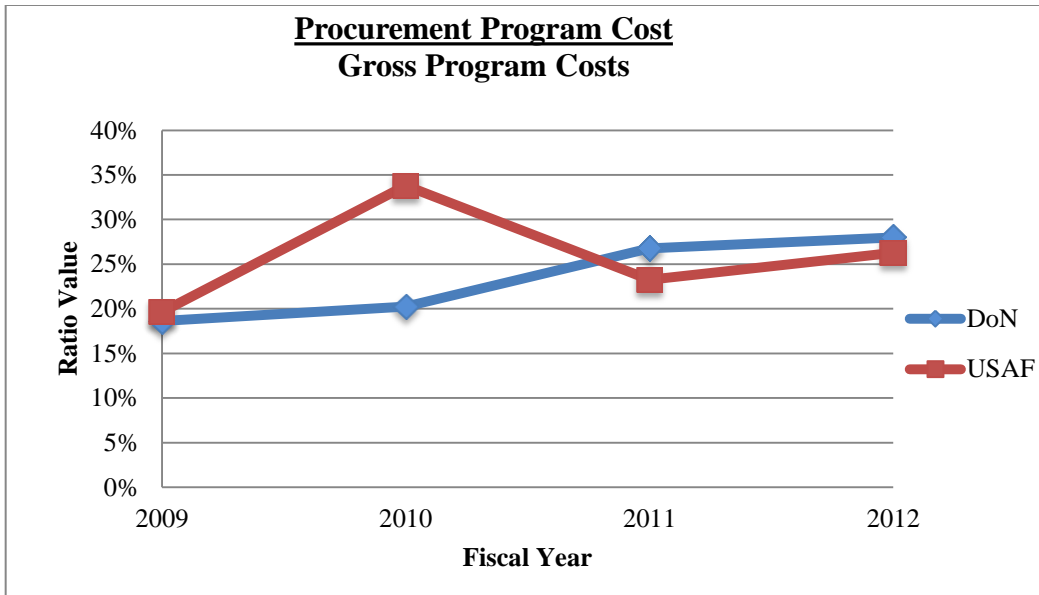


Figure 28. Procurement Program Cost–DON and USAF FY2009–FY2012

b. Return on Equity Modified to Efficiency Ratio

(1) Ratio Approach

As discussed in the comparison approach used in the SCNP, the accumulated value similarity identified a comparison of corporate net income as appropriations received less net cost of operation when net position compares with stockholders’ equity. This comparison can be used to develop a modified financial ratio from a corporate return-on-equity ratio, as depicted in Table 13.

MODIFIED RETURN-ON-EQUITY RATIO	
Return on Equity (Corporate ratio)	$\frac{\text{Net Income}}{\text{Total Stockholders' Equity}}$
Efficiency Ratio (Modified ratio)	$\frac{\text{Appropriations Received} - \text{Net Cost of Operations}}{\text{Net Position}}$

Table 13. Modified Return-on-Equity Ratio

(2) Empirical Approach

When the modified financial ratio is applied to DON and USAF financial data, a user can see the growth and decline of financing sources compared to the accumulated

value of the service component. Ratio values should be small, relatively stable percentages. A value close to zero may be indicative of excessive values of depreciation without growth in financing sources or the acquisition of additional assets.

The USAF financial ratio displays a buildup of financing sources from FY2006 to FY2009, with a drastic decline in FY2010 (Figure 29). From FY2010 to FY2011, growth in financing sources remained steady versus total net position, and then fell to almost zero in FY2012. The DON financing ratio displays slightly less amplitude and decreases in financing growth rate by 3.5 percent from FY2008 to FY2009.

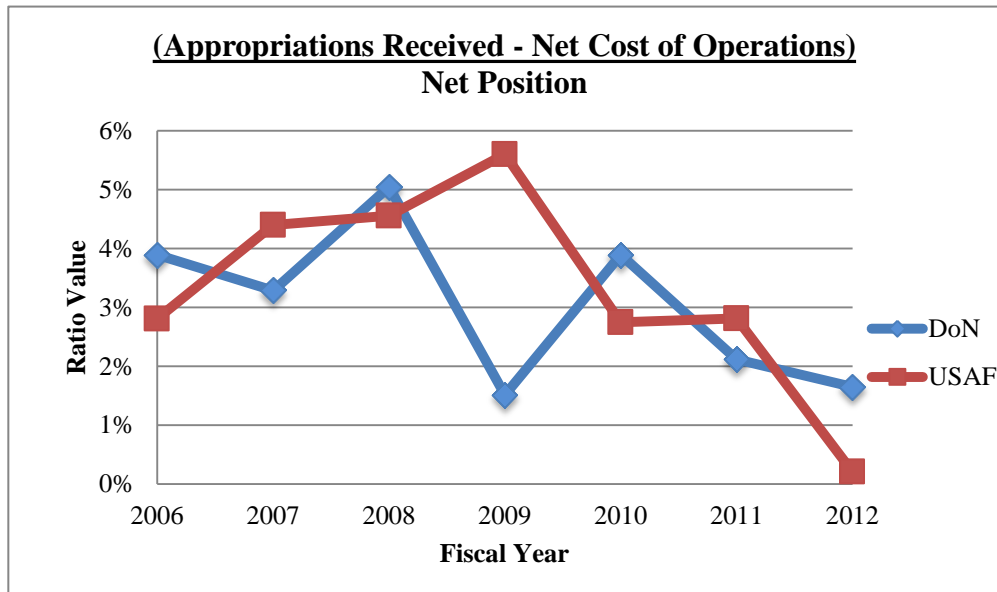


Figure 29. Efficiency Ratio–DON and USAF FY2006–FY2012

3. User Objective of Stewardship

a. Operating Cash Flow/Total Debt Modified to Annual Appropriations/Total Liabilities

(1) Ratio Approach

The operating cash flow to total debt ratio indicates a corporation’s ability to fund total debt with annual cash flow (Gibson, 1992). This ratio is significant because it may provide evidence relating to an entity's long-term solvency. A high ratio value may

indicate a corporation has a higher likelihood of covering its total debt by utilizing its annual stream of cash flows from operating activities.

The operating cash flow to total debt ratio may be modified and applied to DOD service component financial statements to provide a similar analysis to total debt. The ratio is modified by replacing operating cash flow with annual appropriations, which is the primary source of budget authority in a given time period. As previously discussed, appropriations and operating cash flows both provide indications of whether future funding inflows will sufficiently cover future expenses and liabilities. The modification is completed by replacing total debt with total liabilities reported on the service component consolidated balance sheet (Table 14). Using this modified corporate financial statement ratio provides information regarding a service component's ability to fund total liabilities with enacted annual appropriations. Similar to the operating cash flow to total debt ratio, a higher ratio value may be an indication that a DOD service component has a higher likelihood of covering liabilities with enacted appropriations. Additionally, this modified financial statement ratio may identify when additional appropriations may be sought by individual service components to fund liabilities.

MODIFIED OPERATING CASH FLOW TO DEBT RATIO	
Operating Cash Flow to Debt (Corporate ratio)	$\frac{\text{Operating Cash Flow}}{\text{Total Debt}}$
Annual Appropriations to Liabilities (Modified ratio)	$\frac{\text{Annual Appropriations}}{\text{Total Liabilities}}$

Table 14. Modified Operating Cash Flow to Debt Ratio

(2) Empirical Approach

When the annual appropriations to total liabilities ratio is applied to DON and USAF financial data, the results capture the service component's ability to finance its total liabilities with annual appropriations. Using time-series analysis, the user is able to develop a historical trend representing the relationship between these values. These trends may identify outlying values that may warrant further analysis regarding the relationship between liabilities and appropriations.

As illustrated in Figure 30, the relationship of USAF and DON ratio values are similar from FY2003 to FY2004. A widening gap between these values begins to develop in FY2005 and increases through FY2007. This trend may warrant a user to conduct further research to determine the exact cause of this divergence. The ratio values begin to parallel each other from FY2008 through FY2012, which indicates a similar relationship of appropriations received to total liabilities.

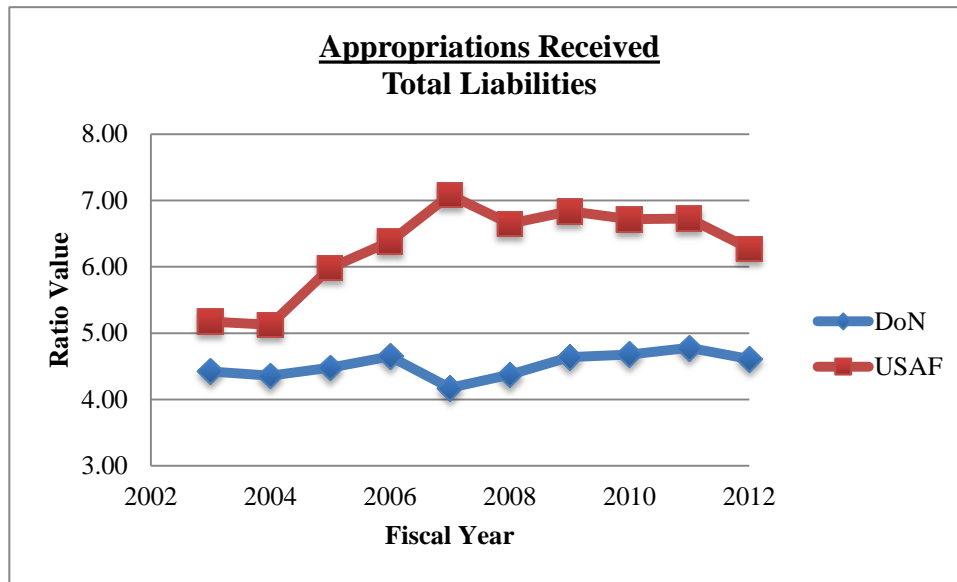


Figure 30. Annual Appropriations to Liabilities Ratio–DON and USAF FY2003–FY2012

b. Financial Leverage Ratio Modified to Financial Position Ratio

(1) Ratio Approach

The financial leverage ratio, also referred to as the equity multiplier, highlights the relationship between assets and stockholders’ equity. Assets can be financed through either debt or equity. This ratio indicates to what extent assets are being financed through equity (Albrecht et al., 2008). The higher the ratio value, the more assets are being financed through debt or liabilities.

Because equity does not exist in governmental accounting, modification of this ratio will indicate the extent assets are financed through the results of government

operations, referred to as net position. By modifying the ratio with net position, vice stockholders' equity as presented in Table 15, users of DOD service component financial statements may be able to determine if the financial position is improving or deteriorating over a reporting period.

MODIFIED FINANCIAL LEVERAGE	
Financial Leverage (Corporate ratio)	$\frac{\text{Total Assets}}{\text{Stockholders' Equity}}$
Financial Position (Modified ratio)	$\frac{\text{Total Assets}}{\text{Net Position}}$

Table 15. Modified Financial Leverage Ratio

(2) Empirical Approach

Consistent with the objective of stewardship, this modified ratio presents an accurate representation of an overall financial position. The ratio value is expected to be near one because nearly all assets are financed using governmental activities, which are represented by net position. An increased ratio value may be an indication of more assets being financed through liabilities, which may concern users of service component financial statements.

The results from applying the financial position ratio to historical DON and USAF financial data indicate a decreasing ratio value for DON and an increasing ratio value for USAF (Figure 31). This may be an indicator that DON is decreasing the financing of assets through liabilities while USAF is slightly increasing their financing of assets through liabilities. These differing ratio values may warrant further analysis by users of service component financial statements.

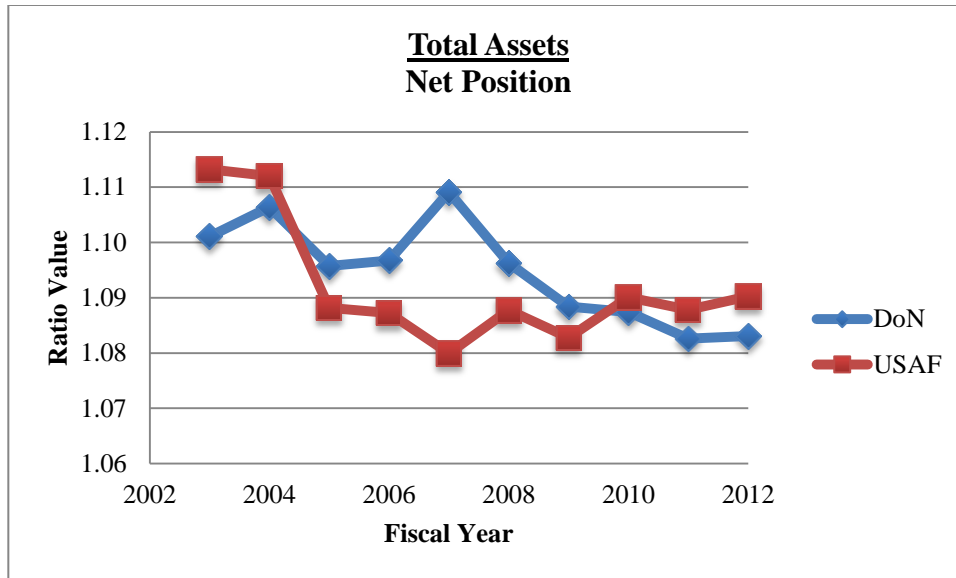


Figure 31. Financial Position–DON and USAF FY2003–FY2012

4. User Objective of System and Control

a. Operating Ratio Modified to Expenditure Ratio

(1) Ratio Approach

The operating ratio compares revenues earned to expenses incurred within the operating activities of a corporation. Because the operating ratio is a measure of cost, a lower ratio value may be favorable when evaluating corporations (Gibson, 1992). The revenues and expenses used in calculating this ratio are dependent on various changes that occur within the operating activities of a corporation. To mitigate these variations in revenues and expenses for varying reporting periods, common size analysis is often helpful in identifying changes in the operating ratio (Gibson, 1992).

The operating ratio may be applicable to DOD service component financial statements to determine various expenditure rates that result when obligations are ultimately settled through cash disbursements from the U.S. Treasury. While this modified corporate financial ratio is a measure of cost, the ratio values may be viewed differently by users because DOD service component expenditure rates are often mandated by federal law. In fact, Potvin (2012) found that expenditure rates should closely follow the goals established by the Under Secretary of Defense Comptroller

(USD[C]). Moreover, expenditure rates are significant because they track outlays, and outlays are closely monitored by Congress (Potvin, 2012).

To modify the operating ratio to an expenditure ratio for use by DOD service components, operating expenses are replaced with gross outlays reported in the SBR. This requires the assumption that corporate operating expenses are similar to outlays, or cash disbursements, made on behalf of DOD service components. To complete the modification of the operating ratio, corporate operating revenues are replaced by DOD service component total budgetary resources, which are reported on the SBR. Of course, replacing operating revenue with total budgetary resources requires the assumption that both represent spending authority. The modification of the operating ratio to the expenditure ratio is presented in Table 16.

MODIFIED OPERATING RATIO	
Operating Ratio (Corporate ratio)	$\frac{\text{Operating Expenses}}{\text{Operating Revenues}}$
Expenditure Ratio (Modified ratio)	$\frac{\text{Gross Outlays}}{\text{Total Budgetary Resources}}$

Table 16. Modified Operating Ratio

(2) Empirical Approach

When the expenditure rate ratio is applied to DOD service component data, it enables users to determine the relationship between available budget authority and the rate at which it is being expended. Stated differently, it identifies the rate at which obligations are being settled with cash disbursements from the U.S. Treasury on behalf of a service component. Because expenditure rates are regulated by federal law, and often specified on a quarterly basis, a user should expect a trend analysis to closely follow these established rates. Therefore, the expenditure rate ratio may be a beneficial method for tracking and ensuring expenditure rates for DOD service components are properly tracking mandated rates.

The results of a time-series and cross-sectional analysis applying the expenditure rate ratio to DON and USAF financial data are displayed in Figure 32. The graph

illustrates a widening gap from FY2003 to FY2005, representing a higher ratio value for the USAF during this time period. This divergence may be explained by either an increase in USAF gross outlays or a decrease in total budgetary resources during this time period. Beginning in FY2006, the trend lines for DON and USAF parallel each other for the remainder of the time period examined, representing similar expenditure rates for this six-year period.

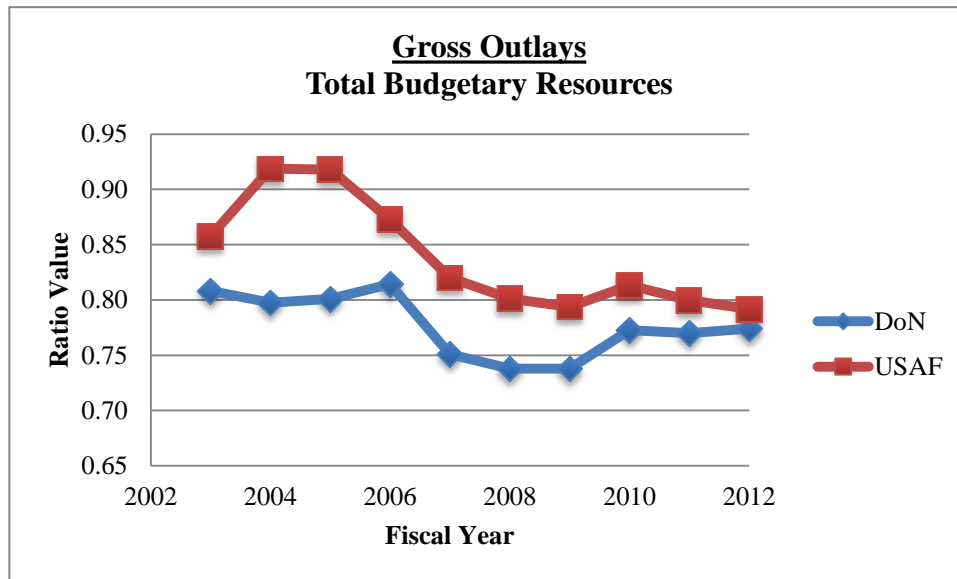


Figure 32. Expenditure Ratio–DON and USAF FY2003–FY2012

b. Accounts Payable to Sales Ratio Modified to Obligation Ratio

(1) Ratio Approach

The accounts payable to sales ratio compares unpaid liabilities to suppliers to sales revenues generated in an accounting period. According to Peterson and Rajan (1997), accounts payable is considered a form of trade credit extended to a corporation. Research has found a strong positive relationship between a firm's size and the amount of its accounts payable to sales ratio (Peterson & Rajan, 1997).

To modify the accounts payable to sales ratio to an obligation ratio, an assumption must be made that accounts payable are similar to obligations incurred in a specific reporting period. Additionally, sales revenue is compared to DOD service component

total budgetary resources because they are both primary sources of spending authority. Both obligations incurred and total budgetary resources are reported on the SBR. Table 17 presents the accounts payable to sales ratio modified to the obligation ratio.

MODIFIED ACCOUNTS PAYABLE TO SALES RATIO	
Accounts Payable to Sales Ratio (corporate ratio)	Accounts Payable Sales Revenue
Obligation Ratio (modified ratio)	Obligations Incurred Total Budgetary Resources

Table 17. Modified Accounts Payable to Sales Ratio

(2) Empirical Approach

DOD service components may find obligation ratios beneficial because of requirements to monitor obligation rates set forth by the DOD Comptroller (Potvin, 2012). For example, the “twenty-two rule” prohibits DOD service components from obligating more than 20 percent of their budget authority in the final two months of a fiscal year. The primary reason for this rule is to avoid the perception that may arise when a significant obligation rate is detected late in the fiscal year, such as the service component being mis-managed or excessively funded (Potvin, 2012). During the midyear review, a service component that is under-executing may become a target to lose a percentage of funding (Potvin, 2012). Additionally, the obligation ratio may assist in complying with the DOD Appropriations Act, which mandates that DOD service component obligations incurred in the fourth quarter not to exceed those incurred in the third quarter (Potvin, 2012).

The results from a time-series and cross-sectional analysis using DON and USAF financial data are presented in Figure 33. As expected, the ratio values are less than one. This is consistent with requirements set forth in the Anti-Deficiency Act that obligations not exceed appropriations enacted by Congress. The DON and USAF ratio values parallel each other from FY2004 to FY2006, and again from FY2010 to FY2012. The sharp increase in the DON obligation ratio value in FY2007 is an indication of increased spending for this period and may cause a user to conduct further research to determine the underlying causes of this increase. The graph also illustrates the DON’s steeper

decreasing slope from FY2007 to FY2010, as the obligation rate ratio values converge to values similar to those displayed for the USAF.

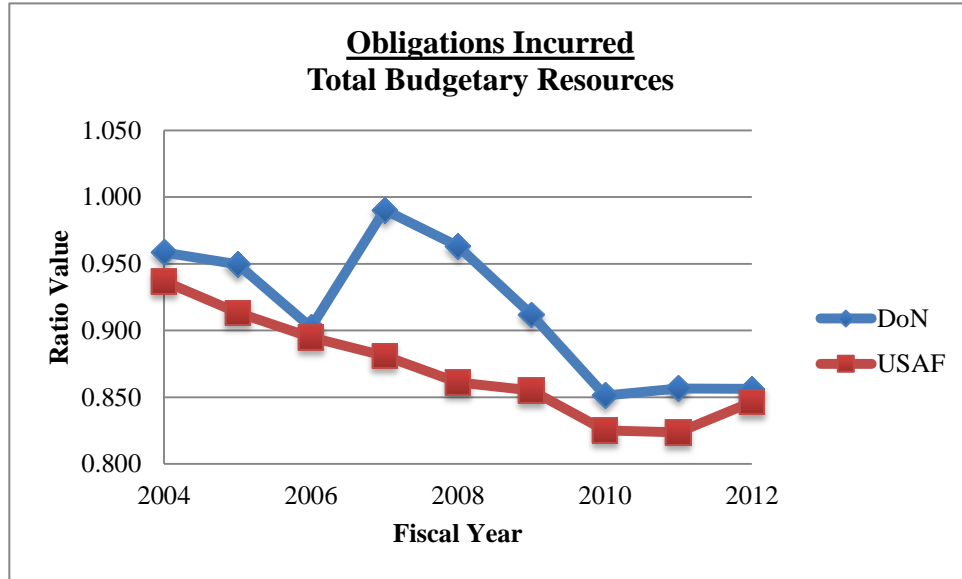


Figure 33. Obligation Ratio–DON and USAF FY2004–FY2012

The following section discusses the implications of findings related to the research questions using the results of the comparison approach, ratio approach, and empirical approach utilized in this research.

D. IMPLICATIONS OF FINDINGS RELATED TO RESEARCH QUESTIONS

1. What are the similarities and differences between corporate financial statements and DOD service component financial statements?

a. Similarities

Corporate financial statements and DOD service component financial statements are intended to provide users with detailed information regarding their financial operations. The financial data reported on corporate financial statements and DOD service component financial statements enable users to achieve the FASB and FASAB stated user objectives. Additionally, the composition and appearance of corporate and DOD service component financial statements are similar, to include disclosures and note

sections. Both corporate financial statements and DOD service component financial statements present financial position in a manner consistent with the accounting principles that are used for a particular financial statement. Three of the four financial statements for both corporate and DOD service components are accrual-based. Similar to the corporate balance sheet, the DOD service component consolidated balance sheet represents a snapshot in time, while all other financial statements represent transactions over a specified period.

b. Differences

Notwithstanding similarities in composition and appearance, the comparison approach revealed many fundamental differences that exist between corporate accrual-based accounting and federal governmental accounting. Corporations rely on equity and revenue to grow, while DOD service components rely on appropriated funds to provide public goods and services. Therefore, corporate financial statements are primarily based on accrual accounting principles while DOD service component financial statements incorporate accrual, budgetary, cash, modified cash, and modified accrual-based accounting.

These differences were evident in the comparison of stockholders' equity to net position, and the statement of cash flows to the SBR. Net position has a unique composition that reflects proprietary and budgetary elements that may not have a direct relationship with assets and liabilities that may be familiar to users of corporate financial statements. Similarly, the statement of cash flows bears little resemblance to the SBR due to budgetary accounting and unique reporting categories.

2. What are the similarities and differences between the interrelationships within corporate financial statements and DOD service component financial statements?

a. Similarities

Financial data reported on corporate financial statements have a direct relationship to the values of financial data reported on the balance sheet. For example, an increase in net income found on the income statement can explain, in large part, a

corresponding increase in stockholders' equity on the balance sheet. Similarly, DOD service component financial statements, such as the SNC and the SCNP, have a direct relationship to the values of financial data reported on the consolidated balance sheet. For example, net cost of operations presented on the SNC is also displayed on the SCNP, where it is a critical factor used in reporting the ending balance of cumulative results of operations. Moreover, as service components receive and use appropriations, the balance of unexpended appropriations correspondingly adjusts on the SCNP. Subsequently, cumulative results of operations and unexpended appropriations are articulated to the consolidated balance sheet, where they are displayed in the summation of net position, balanced with corresponding changes in values of assets, fund balances with the Treasury, and non-budgetary liabilities.

b. Differences

The primary difference between the interrelationships within corporate financial statements and DOD service component financial statements is that all corporate financial statements articulate, while not all DOD service component financial statements articulate. This difference is based on the fact that the SBR is created using budgetary accounting principles. Because of this different method of accounting, financial results presented on the SBR do not reconcile with corresponding line items on the SNC and SCNP operating statements.

3. How can financial statement ratios be modified and applied to DOD service component financial statements?

Ratios highlight existing relationships between different categories of data and render a logical relationship between the chosen numerator and denominator. Modifying corporate financial statement ratios to be applicable to DOD service component financial statements leverages similar relationships and comprehension of financial data identified in the comparison approach. The resulting modified ratios depicted in Table 18 are potential tools for users to interpret DOD service component financial statements conforming to FASAB objectives.

Ratio Name	Formula
Gross Profit Ratio (Corporate Ratio)	$\frac{(\text{Sales Revenue} - \text{Cost of Goods Sold})}{\text{Sales Revenue}}$
Budget Compliance Ratio (Modified Ratio)	$\frac{(\text{Appr. Used} - \text{Net Cost of Operations})}{\text{Appropriations Used}}$
Total Asset Growth Ratio (Corporate Ratio)	$\frac{\text{Assets Current Year} - \text{Asset Previous Year}}{\text{Assets Previous Year}}$
Sales Growth Ratio (Corporate Ratio)	$\frac{\text{Sales Current Year} - \text{Sales Previous Year}}{\text{Sales Previous Year}}$
Outlay Growth Ratio (Modified Ratio)	$\frac{\text{Outlays Current Year} - \text{Outlays Previous Year}}{\text{Outlays Previous Year}}$
Outlays to Asset Growth Ratio (Modified Ratio)	$\frac{\text{Gross Outlays Growth Ratio}}{\text{Total Assets Growth Ratio}}$
Income Statement Common Size (Corporate Ratio)	$\frac{\text{Expense}}{\text{Total Sales}}$
Common Size Analysis (Modified Ratio)	$\frac{\text{Specific Program Cost}}{\text{Net Cost of Operations}}$
Return on Equity (Corporate Ratio)	$\frac{\text{Net Income}}{\text{Total Stockholder's Equity}}$
Efficiency Ratio (Modified Ratio)	$\frac{(\text{Appropriations Received} - \text{Net Cost of Operations})}{\text{Net Position}}$
Operating Cash Flow to Debt (Corporate Ratio)	$\frac{\text{Operating Cash Flow}}{\text{Total Debt}}$
Appr. Received to Liabilities Ratio (Modified Ratio)	$\frac{\text{Annual Appropriations}}{\text{Total Liabilities}}$
Financial Leverage (Corporate Ratio)	$\frac{\text{Total Assets}}{\text{Stockholder's Equity}}$
Financial Position (Modified Ratio)	$\frac{\text{Total Assets}}{\text{Net Position}}$
Operating Ratio (Corporate Ratio)	$\frac{\text{Operating Expenses}}{\text{Operating Revenues}}$
Expenditure Ratio (Modified Ratio)	$\frac{\text{Gross Outlays}}{\text{Total Budgetary Resources}}$
Accounts Payable to Sales Ratio (Corporate Ratio)	$\frac{\text{Accounts Payable}}{\text{Sales Revenue}}$
Obligation Ratio (Modified Ratio)	$\frac{\text{Obligations Incurred}}{\text{Total Budgetary Resources}}$

Table 18. Modified Ratios

By using these modified ratios, DOD service component financial statement users are able to determine trends in financial position, growth, and efficiency of governmental activities. Ratio values that appear as outliers assist users in developing relevant questions regarding the PPBE process, very similar to the use of corporate financial statement ratios in corporate analysis.

Superficially, these ratios contain logical relationships; however, significant conceptual assumptions are required. The fundamental differences identified in the comparison approach resonated throughout the ratio approach. For example, stockholders' equity, comprised of retained earnings and capital stock, do not have a direct relationship to net position. Additionally, the relationships between assets, liabilities, and net position do not include the budgetary accounting principles, which significantly contribute to the values reported on DOD service component financial statements in a given time period.

4. What are the similarities and differences between the Department of the Navy and U.S. Air Force regarding modified financial statement ratios?

a. Similarities

The modified financial statement ratios proved useful when applied to historical DON and USAF financial data. Overall, the service components displayed similar ratio values when modified financial statement ratios were applied. In addition, the modified financial statement ratios displayed significant similarities in time-series application. The comparison of trends highlights the increase in assets and financing sources prior to FY2009 and the subsequent decline from FY2010 to FY2012. Identifying causal factors that contribute to trends may be useful; this analysis, however, is beyond the scope of this research. Correspondingly, common-size application of modified financial statement ratios to service component program costs showed similar time-series trends between service components.

b. Differences

Despite the similarities between the DON and USAF regarding modified financial statement ratios, the empirical results of the USAF financial data showed significantly more fluctuation relative to DON financial data in nearly every selected modified ratio. Specifically, outliers were found in FY2010 USAF assets and sources of funding. In regards to common-size application, DON ratios displayed higher proportional spending on military personnel over time, while the USAF ratios displayed higher proportional spending on research and development. Furthermore, while time-series trends showed a relationship between service components, it must be noted that the small changes in ratio percentages, over time and between service components, can equate to changes in the order of billions of U.S. Dollars due to the sheer magnitude of the DOD annual budget.

E. RECOMMENDATIONS BASED ON ANALYSIS

On the surface, corporate financial statements and DOD service component financial statement may appear similar. The interpretation of data, however, cannot be taken at face value. In addition to the primary differences in the accrual and budgetary accounting principles, the functions of the intended users also vary greatly. Users of DOD service component financial statements are concerned with budgetary integrity, operating performance, stewardship, and systems and controls. Users of corporate financial statements are concerned with determining objectives such as liquidity, debt management, efficiency, profitability, and market value.

Despite these differences, ratios can still be determined to highlight relationships between categories of data, similar to corporate financial statement ratios. Until DOD service components develop auditable financial statements that accurately represent the PPBE process, assumptions have to be made when modifying ratios. Because corporate financial statements are auditable, corporate financial statement ratios provide more relevance and reliability to the relationships they represent. Relationships of data on DOD service component financial statements are unique and require an understanding of governmental accounting, which encompasses not only accrual, but also budgetary, cash, modified cash, and modified accrual-based accounting.

The recommendation of this research is to develop a format for presenting timely and detailed financial information reported within DOD service component financial statements in a manner that leadership may use on a day-to-day basis. To accomplish this task, this research recommends using the modified financial statement ratios created in this research project as a means to identify and present significant relationships within the financial data that are most relevant to leaders and decision-makers. Additionally, the application of ratios may offer an efficient way to present stewardship, operating performance, budgetary integrity, and systems and controls to stakeholders. This approach is critical because it enables leaders to achieve increased utility from the financial data reported on DOD service component financial statements without requiring them to research the financial statements themselves or the government accounting principles used to prepare the statements.

One example of how modified ratios could help defense leaders use service component financial data in their decision-making is the net cost of operations common size ratio. The creation of common size ratios from the relationship of program costs to service component overall gross costs may offer insight into operating performance. Ratios of program costs to the net cost of operations data found on the Statement of Net Cost (SNC) may be used to track inter-service component cost proportions over time. The DOD's purpose is to create valuable capabilities and execute services beneficial to the nation's defense through the expenditure of federal budgetary sources. Therefore, the proportion of overall accrued costs attributed to a specific program category, such as military personnel (MILPERS), operations, readiness, and support (OR&S), or R&D, present in proportion to total service component accrued gross costs, may offer enhanced comparative vertical and horizontal analysis to the data displayed on service component consolidated statements of net cost (SNC).

Another example of how modified ratios could help defense leaders use service component financial data is the modified ratio of annual appropriations to liabilities which provides information regarding a service component's ability to fund total liabilities with enacted annual appropriations. A higher ratio value may be an indication that a DOD service component has a higher likelihood of covering liabilities with enacted

appropriations. Appropriations and operating cash flows both provide indications of whether future funding inflows will sufficiently cover future expenses and liabilities. Therefore, this ratio may help defense leaders identify when additional appropriations need to be sought by individual service components to fund liabilities.

Once leadership recognizes the beneficial impact that timely financial data, displayed in ratio analysis format, may have on their decision-making process, they may be more likely to support efforts aimed at creating and maintaining auditable DOD service component financial statements.

F. SUMMARY

This chapter presented the comparison approach, ratio approach, and empirical approach used to answer the research questions. First, the comparison approach was used to determine the similarities and differences between corporate financial statements and DOD service component financial statements. Additionally, the comparison approach was used to determine the similarities and differences between the relationships within corporate financial statements and DOD service component financial statements. Next, the ratio approach was utilized to modify corporate financial statement ratios to be applied to DOD service component financial statements based on a framework of SFFAC-1 user objectives. The empirical approach used the modified financial statement ratios selected in the ratio approach to conduct time-series and comparative analysis using historical DON and USAF financial data to identify trends. This chapter concluded by providing answers to the research questions based on the results of the comparison approach, ratio approach, and empirical approach. The final chapter includes a summary, conclusion, and areas for further research.

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V. SUMMARY, CONCLUSIONS, AND AREAS FOR FURTHER RESEARCH

A. SUMMARY

Recent Department of Defense (DOD) service component efforts directed towards producing financial statements capable of receiving unqualified audit opinions are largely attributable to the federal government's commitment to American citizens regarding stewardship and accountability of tax revenues. Moreover, DOD service component financial statements provide an effective means to present the accountability of their budget execution. Indeed, the Secretary of Defense has mandated that DOD components achieve audit-ready statements of budgetary resources (SBR) by the end of FY2014, and set the date of September 30, 2017 as the deadline for full audit readiness.

This research determined the usability and potential benefits of modified financial statement ratios as applied to DOD service component statements. The first chapter provided the introduction and background of this research. Chapter II included a literature review to build a foundation of knowledge necessary to answer the research questions. Particular attention was given to the description of each of the four principal statements that comprise the DOD service component financial statements.

Chapter III explained how the research first builds a foundation of knowledge through a comparison approach of DOD service component financial statements to corporate financial statements. Next, it discussed how interrelationships found within the comparison approach could be applied to the ratio approach, which would be used to identify the modified financial statement ratios. Lastly, it described how the empirical approach would be used for time-series and cross-sectional application of the modified corporate financial ratios using historical data from the FY2002–2012 Department of the Navy (DON) and United States Air Force (USAF) financial statements.

Chapter IV applied the comparison approach, ratio approach, and empirical approach and answered the research questions. Similarities and differences between corporate financial statements and DOD service component financial statements were

identified. Additionally, similarities and differences between the relationships within corporate financial statements and DOD service component financial statements were determined. Next, ratios were modified from corporate financial statement ratios to be applied to DOD service component financial statements. The modified financial statement ratios were applied to historical DON and USAF financial data to conduct time-series and comparative analysis. Basic trends were identified. The chapter concluded by providing answers to the research questions based on the results of the comparison approach, ratio approach, and empirical approach.

B. CONCLUSIONS BASED ON RESEARCH QUESTIONS

In a resource-constrained fiscal environment, it is critical that DOD service components maximize the level of utility from audited financial statements. Though public accountability and increased stewardship are commonly cited as primary benefits of audited financial statements, the challenge still remains to ascertain possible analytical tools that could serve a beneficial purpose to DOD managers and leadership (Brook, 2010). Analytical tools currently utilized by private sector entities, using data contained within corporate financial statements, could possibly be modified to serve a similar purpose for individual DOD service components.

1. What are the similarities and differences between corporate financial statements and DOD service component financial statements?

a. Similarities

- Corporate financial statements and DOD service component financial statements both provide users with detailed information regarding their financial operations that enable multiple user objectives.
- The composition and appearance of corporate and DOD service component financial statements are similar, including disclosures and note sections.
- Three of the four financial statements for both corporate and DOD service components are accrual-based.
- Similar to the corporate balance sheet, the DOD service component consolidated balance sheet represents a snapshot in time, while all other financial statements represent transactions over a specified reporting period.

b. Differences

- Corporations rely on equity and revenue to grow, while DOD service components rely on enacted appropriations to fund operations.
- Corporate financial statement data are primarily based on accrual accounting principles, while DOD service component financial statements data incorporate accrual, budgetary, cash, modified cash, and modified accrual-based accounting.
- Stockholder's equity cannot be directly compared to net position, although both are significant aspects of each respective basic accounting equation.
- Though they share a similar purpose, the statement of cash flows and the SBR are created using different accounting principles.

2. What are the similarities and differences between the interrelationships within corporate financial statements and DOD service component financial statements?

a. Similarities

- Financial data reported on corporate financial statements have a direct relationship to the values of financial data reported on the balance sheet.
- DOD service component financial statements, such as the SNC and SCNP, have a direct relationship to the values of financial data reported on the DOD service component consolidated balance sheet.

b. Differences

- The SBR does not articulate to any other DOD service component financial statements, while all corporate financial statements articulate financial data.

3. How can financial statement ratios be modified and applied to DOD service component financial statements?

- Similar relationships between corporate financial statement data and DOD service component financial statement data need to be identified.
- Assumptions must be made about these relationships for the purpose of relating them to FASAB user objectives.
- DOD service component financial statement users may be able to use modified ratios to determine trends in financial position, growth, and efficiency within DOD service component activities.
- Ratio values that appear as outliers may assist users to develop relevant questions regarding the PPBE process.

- Superficially, these ratios contain logical relationships, but significant conceptual assumptions are required. The fundamental differences identified in the comparison approach resonated throughout the ratio approach.
- 4. What are the similarities and differences between the Department of the Navy and U.S. Air Force regarding modified financial statement ratios?**
- a. Similarities*
- The modified financial statement ratios displayed significant similarities in time-series application.
 - The comparison of trends highlights the increase in assets and financing sources prior to FY2009 and the subsequent decline from FY2010 to FY2012.
 - The results from applying common-size modified financial statement ratios to DOD service component program costs illustrated similar time-series trends between service components.
- b. Differences*
- USAF financial data displayed significantly more fluctuation relative to DON financial data in nearly every selected modified ratio.
 - Outliers were found in FY2010 USAF assets and sources of funding.
 - DON ratio values displayed higher proportional spending on military personnel over time, while the USAF ratio values displayed higher proportional spending on research and development.

C. AREAS FOR FURTHER RESEARCH

The first proposed area for further research might be to summarize the detailed financial information reported within DOD service component financial statements into a format that leadership will use on a day-to-day basis. Presently, auditability remains the primary focus. In the near term, there may be further incentive to achieve an unqualified audit opinion of the DOD budget if conceptual tools can be developed that realize utility from DOD service component financial statements. In the long term, efforts to achieve auditability and usability may enable decision-making and financial management through transparent interfaces with accurate and timely financial data. Analysis from the

application of ratios within this research may offer more efficient ways to display stewardship, operating performance, budgetary integrity, and systems and controls.

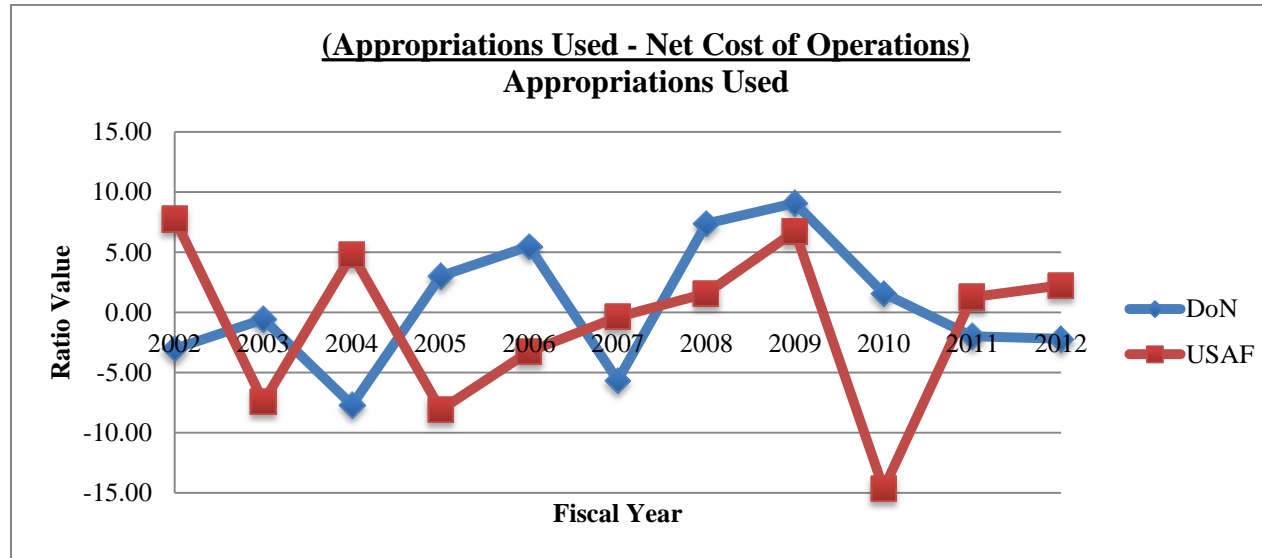
Secondly, further research is needed regarding the implications to DOD budgetary and accrual accounting practices once legacy financial systems are modernized with enterprise resource planning (ERP) systems. As transaction-based accounts become accurate and timely, will methods used to develop DOD service component financial statements change? Moreover, how can DOD service component financial statements change to more accurately reflect the planning, programming, budgeting, and execution (PPBE) process?

An analysis of the modernization of DOD service component financial management practices through the timely implementation of an enterprise resource planning (ERP) system may be appropriate for further research. A standardized ERP system might enable greater unity of effort among financial management offices by allowing them to report financial data on a common accounting system. The resultant synergy from an integrated ERP system is likely to serve as a catalyst to DOD service components' ability to achieve auditable financial statements. An integrated ERP system could provide the timely financial data necessary for using modified financial statement ratios as a means to identify and present significant relationships within the financial data most relevant to leaders and decision-makers.

Finally, further research needs to determine what specific financial data reported on DOD service component financial statements is desired by defense leadership, financial and non-financial leadership, and policy-makers that are influential in financial decisions. Polls and surveys containing a sample of modified financial statement ratios derived from DOD service component financial statement line items could be used to accomplish this task. Once the needs of financial management leadership are identified, research could be directed towards establishing a dashboard application.

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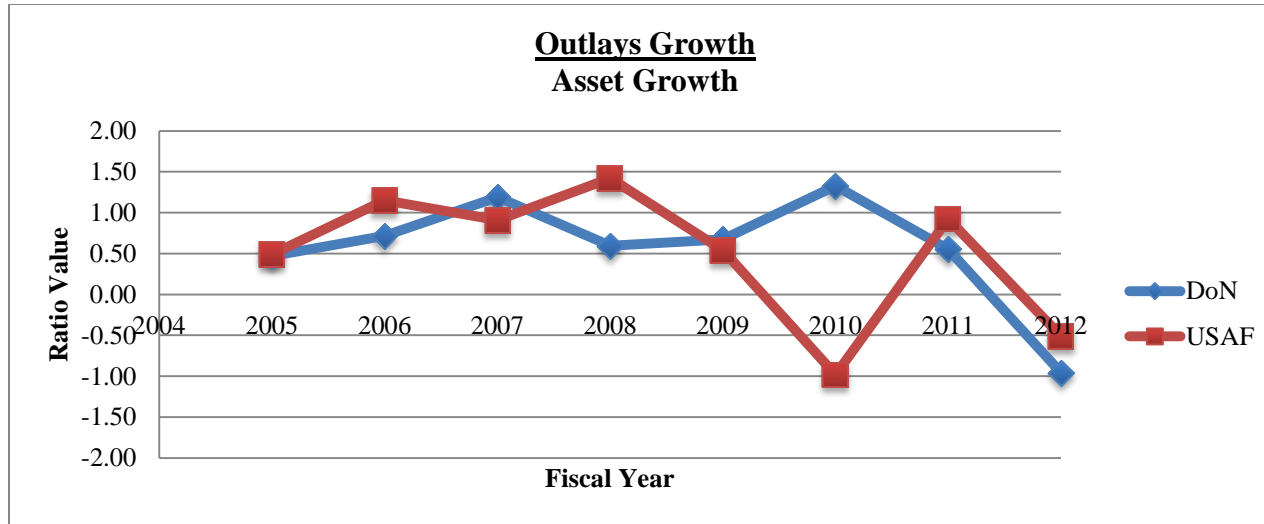
APPENDIX. EMPIRICAL DATA



DON	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cumulative Results of Operations: Appropriations Used	\$99,437,408	\$113,384,126	\$124,686,986	\$114,969,992	\$132,718,936	\$136,203,035	\$144,550,203	\$147,746,152	\$157,921,032	\$159,703,254	\$162,287,754
Net Cost of Operations	\$102,615,527	\$111,204,693	\$129,442,403	\$115,429,659	\$125,617,966	\$147,765,905	\$132,742,293	\$144,610,656	\$155,104,998	\$168,936,424	\$169,694,384
(Appr. Used - Net Cost of Operations)/Appr. Used	-3.01	-0.58	-7.69	3.01	5.48	-5.65	7.39	9.08	1.57	-1.99	-2.19

USAF	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cumulative Results of Operations: Appropriations Used	\$99,437,408	\$113,384,126	\$124,686,986	\$114,969,992	\$132,718,936	\$136,203,035	\$144,550,203	\$147,746,152	\$157,921,032	\$159,703,254	\$162,287,754
Net Cost of Operations	\$91,739,815	\$121,827,362	\$118,689,270	\$124,294,397	\$137,058,150	\$136,746,831	\$142,259,868	\$137,785,280	\$181,090,989	\$157,699,915	\$158,658,205
Budget Compliance Ratio	7.74	-7.45	4.81	-8.11	-3.27	-0.40	1.58	6.74	-14.67	1.25	2.24

Figure 34. Budget Compliance Ratio



DON	2005	2006	2007	2008	2009	2010	2011	2012
Gross Outlays	\$134,815,308	\$140,615,673	\$146,437,179	\$159,279,403	\$165,217,414	\$174,313,017	\$178,343,901	\$175,479,471
Outlays Growth	0.062	0.043	0.041	0.088	0.037	0.055	0.023	-0.016
Total Assets	\$265,916,125	\$272,950,626	\$281,635,455	\$292,229,461	\$313,568,618	\$297,936,022	\$306,768,656	\$313,549,104
Asset Growth	0.132	0.060	0.035	0.148	0.055	0.041	0.042	0.017
Outlays Growth/ Asset Growth	0.47	0.72	1.19	0.59	0.67	1.33	0.55	-0.96

USAF	2005	2006	2007	2008	2009	2010	2011	2012
Gross Outlays	\$137,805,147	\$142,001,769	\$146,107,640	\$153,915,590	\$160,002,387	\$167,845,279	\$172,446,017	\$170,489,664
Outlays Growth	0.046	0.030	0.029	0.053	0.040	0.049	0.027	-0.011
Total Assets	\$265,916,125	\$272,950,626	\$281,635,455	\$292,229,461	\$313,568,618	\$297,936,022	\$306,768,656	\$313,549,104
Asset Growth	0.094	0.026	0.032	0.038	0.073	-0.050	0.030	0.022
Outlays Growth/ Asset Growth	0.49	1.15	0.91	1.42	0.54	-0.98	0.92	-0.51

Figure 35. Outlays to Asset Growth Ratio

DON	2009	2010	2011	2012
OR&S	\$56,015,152	\$58,676,332	\$65,501,114	\$63,204,636
MILPERS	\$44,985,257	\$48,744,274	\$47,198,600	\$47,405,225
R&D	\$19,975,119	\$19,526,997	\$18,201,273	\$16,764,357
PROC	\$27,839,617	\$32,484,136	\$48,531,687	\$50,485,242
Gross Cost	\$149,391,922	\$160,351,993	\$181,399,451	\$180,294,291

USAF	2009	2010	2011	2012
OR&S	\$52,991,623	\$56,229,265	\$62,207,918	\$56,975,553
MILPERS	\$33,781,926	\$36,221,498	\$36,391,504	\$35,365,094
R&D	\$29,495,285	\$30,012,123	\$28,007,745	\$28,534,874
PROC	\$28,276,737	\$63,191,812	\$38,706,085	\$44,410,025
Gross Cost	\$143,926,714	\$187,004,658	\$166,451,900	\$168,983,383

DON	2009	2010	2011	2012
OR&S/GC	37%	37%	36%	35%
MILPERS/GC	30%	30%	26%	26%
R&D/GC	13%	12%	10%	9%
PROC/GC	19%	20%	27%	28%

USAF	2009	2010	2011	2012
OR&S/GC	37%	30%	37%	34%
MILPERS/GC	23%	19%	22%	21%
R&D/GC	20%	16%	17%	17%
PROC/GC	20%	34%	23%	26%

Table 19. Program Common Size Analysis

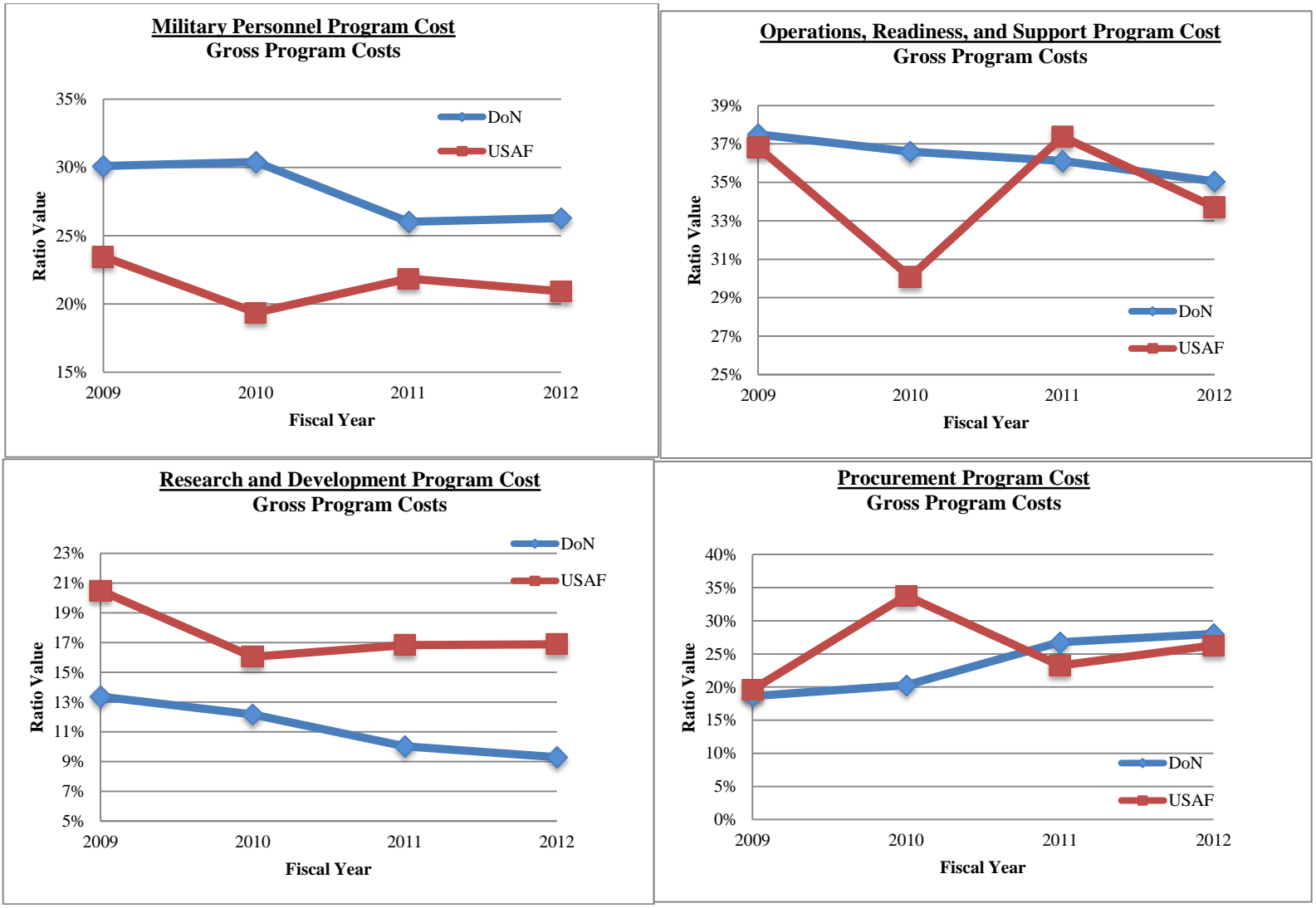
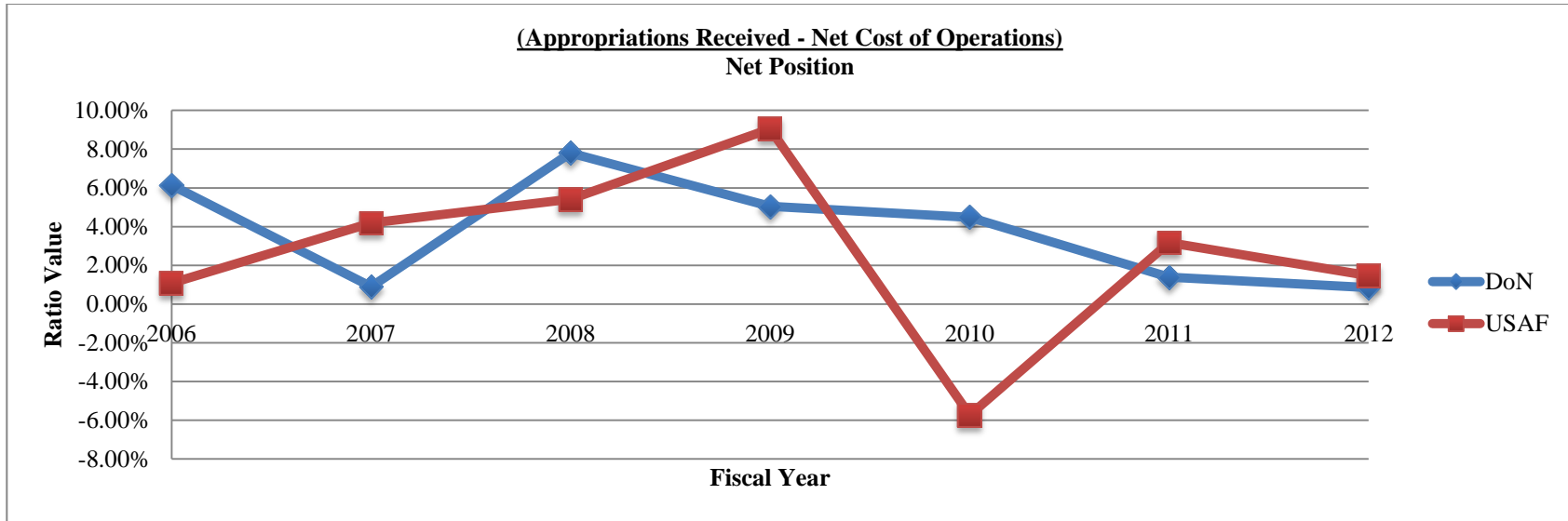


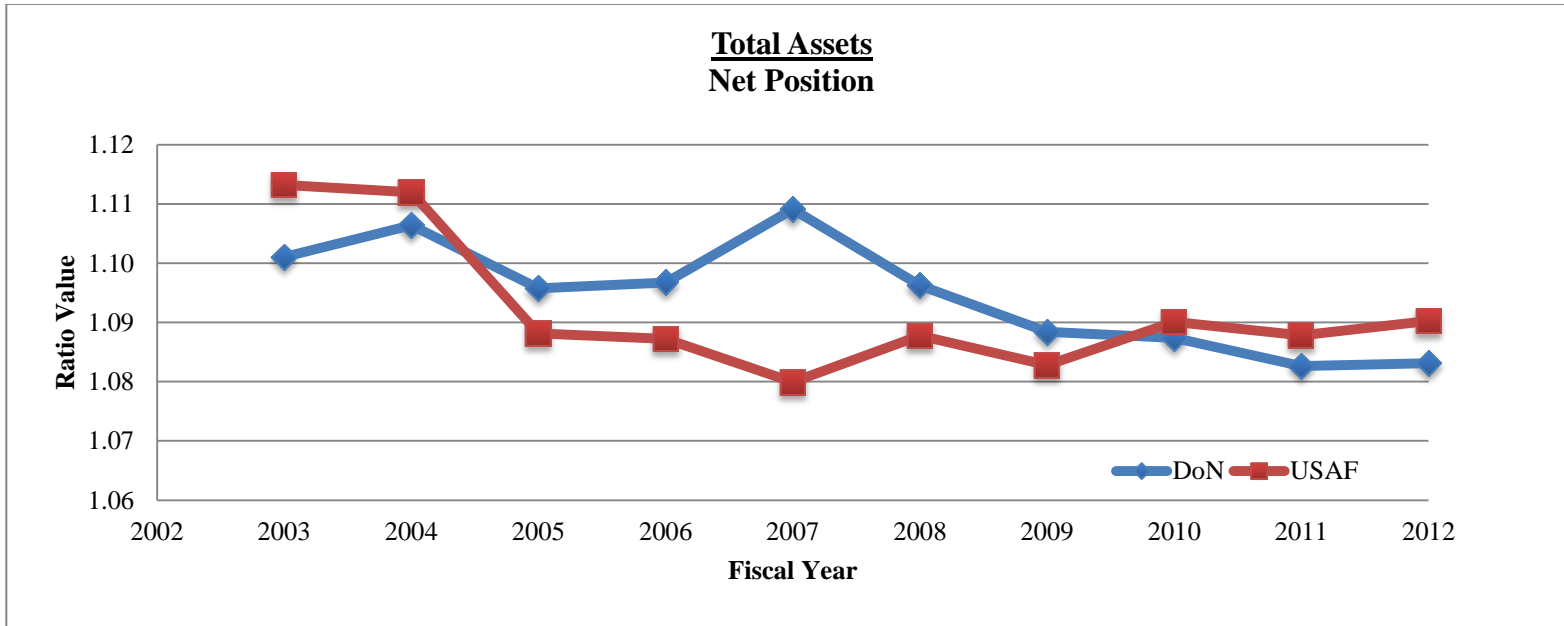
Figure 36. Program Common Size Analysis



DON	2006	2007	2008	2009	2010	2011	2012
Unexpended Appropriations: Appropriations Received	\$145,492,245	\$150,734,232	\$162,715,443	\$165,233,492	\$174,174,405	\$175,092,446	\$173,531,259
Net Cost of Operations	\$125,617,966	\$147,765,905	\$132,742,293	\$144,610,656	\$155,104,998	\$168,936,424	\$169,694,384
Net Position	\$323,551,193	\$331,076,482	\$384,392,211	\$408,637,493	\$425,985,228	\$445,756,141	\$453,023,817
Efficiency Ratio	6.1%	0.9%	7.8%	5.0%	4.5%	1.4%	0.8%

USAF	2006	2007	2008	2009	2010	2011	2012
Unexpended Appropriations: Appropriations Received	\$139,767,610	\$147,674,697	\$156,791,805	\$163,975,253	\$165,422,165	\$166,644,250	\$162,892,954
Net Cost of Operations	\$137,058,150	\$136,746,831	\$142,259,868	\$137,785,280	\$181,090,989	\$157,699,915	\$158,658,205
Net Position	251,045,056	260,785,356	268,654,235	289,592,952	273,307,760	282,001,773	287,585,547
Efficiency Ratio	1.1%	4.2%	5.4%	9.0%	-5.7%	3.2%	1.5%

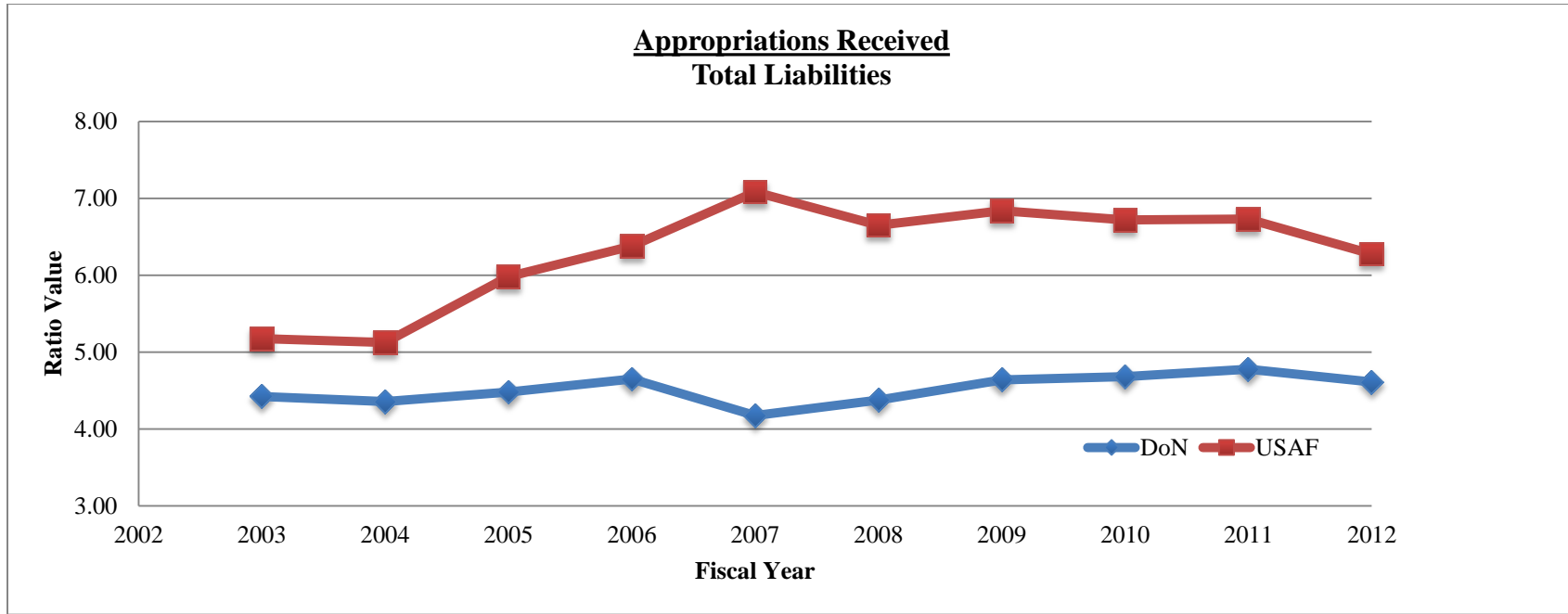
Figure 37. Efficiency Ratio



DON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Assets	\$300,974,243	\$295,778,145	\$334,736,149	\$354,844,146	\$367,196,528	\$421,399,312	\$444,767,631	\$463,220,448	\$482,587,293	\$490,672,981
Total Net Position	\$273,346,418	\$267,332,099	\$305,478,258	\$323,551,193	\$331,076,482	\$384,392,211	\$408,637,493	\$425,985,228	\$445,756,141	\$453,023,817
Financial Position Ratio	1.1	1.11	1.1	1.1	1.11	1.1	1.09	1.09	1.08	1.08

USAF	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Assets	\$236,082,313	\$243,129,992	\$265,916,125	\$272,950,626	\$281,635,455	\$292,229,461	\$313,568,618	\$297,936,022	\$306,768,656	\$313,549,104
Total Net Position	\$212,070,001	\$218,642,804	\$244,370,050	\$251,045,056	\$260,785,356	\$268,654,235	\$289,592,952	\$273,307,760	\$282,001,773	\$287,585,547
Financial Position Ratio	1.11	1.11	1.09	1.09	1.08	1.09	1.08	1.09	1.09	1.09

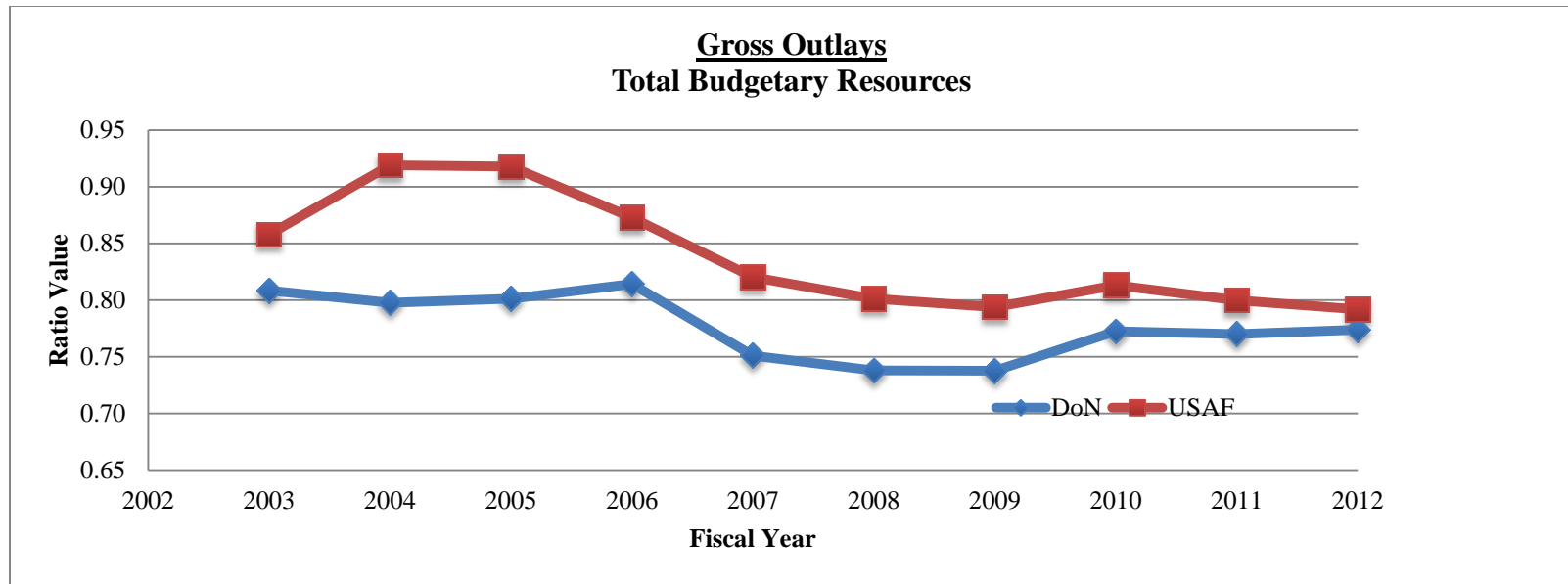
Figure 38. Financial Position Ratio



DON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Appropriations Received (SBR)	\$122,169,428	\$123,948,477	\$131,002,361	\$145,511,602	\$150,757,067	\$162,740,229	\$165,257,844	\$174,202,102	\$175,961,434	\$173,505,214
Total Liabilities	\$27,627,825	\$28,446,046	\$29,257,891	\$31,292,953	\$36,120,046	\$37,208,207	\$35,624,566	\$37,235,220	\$36,831,152	\$37,649,164
Appr. Received to Liabilities	4.42	4.36	4.48	4.65	4.17	4.37	4.64	4.68	4.78	4.61

USAF	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Appropriations Received (SBR)	\$124,235,723	\$125,483,786	\$128,890,968	\$139,767,610	\$147,674,697	\$156,791,805	\$163,975,253	\$165,422,165	\$166,644,250	\$162,892,954
Total Liabilities	\$24,012,312	\$24,487,188	\$21,546,075	\$21,905,570	\$20,850,099	\$23,575,226	\$23,975,666	\$24,628,262	\$24,766,883	\$25,963,557
Appr. Received to Liabilities	5.17	5.12	5.98	6.38	7.08	6.65	6.84	6.72	6.73	6.27

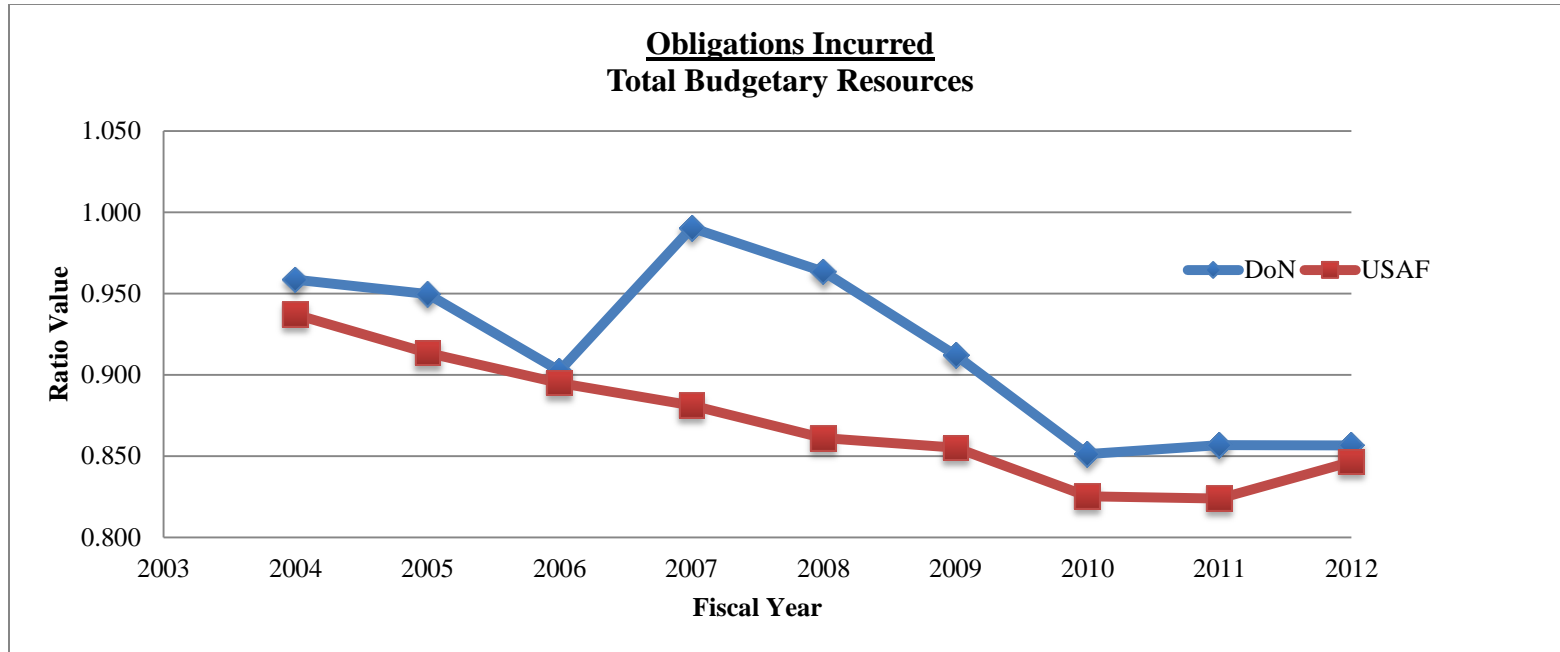
Figure 39. Appropriations Received to Liabilities Ratio



DON	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gross Outlays	\$119,051,033	\$126,955,319	\$134,815,308	\$140,615,673	\$146,437,179	\$159,279,403	\$165,217,414	\$174,313,017	\$178,343,901	\$175,479,471
Total Budgetary Resources	\$147,273,067	\$159,182,848	\$168,286,644	\$172,708,470	\$194,983,084	\$215,860,256	\$223,921,758	\$225,613,745	\$231,595,583	\$226,727,619
Expenditure Ratio	0.81	0.80	0.80	0.81	0.75	0.74	0.74	0.77	0.77	0.77

USAF	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gross Outlays	\$120,782,356	\$131,752,381	\$137,805,147	\$142,001,769	\$146,107,640	\$153,915,590	\$160,002,387	\$167,845,279	\$172,446,017	\$170,489,664
Total Budgetary Resources	\$140,796,897	\$143,396,963	\$150,144,188	\$162,713,922	\$178,149,186	\$192,074,395	\$201,591,288	\$206,419,660	\$215,635,022	\$215,329,629
Expenditure Ratio	0.86	0.92	0.92	0.87	0.82	0.80	0.79	0.81	0.80	0.79

Figure 40. Expenditure Ratio



DON	2004	2005	2006	2007	2008	2009	2010	2011	2012
Obligations Incurred	\$141,154,852	\$151,158,165	\$151,872,496	\$171,048,537	\$187,831,460	\$196,873,397	\$190,611,070	\$198,389,702	\$194,177,904
Total Budgetary Resources	\$159,182,848	\$168,286,644	\$172,708,470	\$194,983,084	\$215,860,256	\$223,921,758	\$225,613,745	\$231,595,583	\$226,727,619
Obligation Ratio	0.958	0.950	0.902	0.990	0.963	0.912	0.851	0.857	0.856

USAF	2004	2005	2006	2007	2008	2009	2010	2011	2012
Obligations Incurred	\$134,360,659	\$137,137,979	\$145,600,995	\$156,973,842	\$165,397,504	\$172,379,940	\$170,329,389	\$177,628,001	\$182,251,093
Total Budgetary Resources	\$143,396,963	\$150,144,188	\$162,713,922	\$178,149,186	\$192,074,395	\$201,591,288	\$206,419,660	\$215,635,022	\$215,329,629
Obligation Ratio	0.937	0.913	0.895	0.881	0.861	0.855	0.825	0.824	0.846

Figure 41. Obligation Ratio

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