

NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

**AN EXAMINATION OF THE STABILIZED
RATE SETTING PROCESS WITHIN THE
DEFENSE BUSINESS OPERATIONS FUND**

by

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June, 1995

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19951121 064

DTIC QUALITY INSPECTED 5

REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE JUNE 1995	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE AN EXAMINATION OF THE STABILIZED RATE SETTING PROCESS WITHIN THE DEFENSE BUSINESS OPERATIONS FUND		5. FUNDING NUMBERS	
6. AUTHOR(S) Gregory C. Friend			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.		12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) The Defense Business Operations Fund (DBOF) utilizes a system of stabilized rates in order to facilitate orderly budget planning and execution by DBOF customers. This thesis examines the process of rate setting. Data from a number of budget years is examined in order to analyze the fluctuation pattern of the rates from year to year. The extent of the fluctuation and their underlying causes will be addressed. Background information includes an explanation of DBOF, how it operates, the activities that it encompasses, as well as its strengths and weaknesses.			
14. SUBJECT TERMS Defense Business Operations Fund, DBOF, Revolving Fund, Stabilized Rates.		15. NUMBER OF PAGES 66	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18 298-102

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**AN EXAMINATION OF THE STABILIZED RATE SETTING PROCESS
WITHIN THE DEFENSE BUSINESS OPERATIONS FUND**

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Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

**NAVAL POSTGRADUATE SCHOOL
June 1995**

Accession For	
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DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
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Availability Codes	
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A-1	

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ABSTRACT

The Defense Business Operations Fund (DBOF) utilizes a system of stabilized rates in order to facilitate orderly budget planning and execution by DBOF customers. This thesis examines the process of rate setting. Data from a number of budget years is examined in order to analyze the fluctuation pattern of the rates from year to year. The extent of the fluctuation and their underlying causes will be addressed. Background information includes an explanation of DBOF, how it operates, the activities that it encompasses, as well as its strengths and weaknesses.

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I. INTRODUCTION

A. DECLINING DEFENSE BUDGETS

Since 1985, the overall military budget has decreased in real terms (Bixler and Jones, 1992). This shrinkage has forced Pentagon and administration planners to continually look for innovative ways of providing more with less; more, or a relatively stable level of defense with fewer expenditures. One of the ideas developed to accomplish this has been the formation of a revolving fund that provides and pays for the maintenance and other support services needed by operating units. Revolving funds have been successfully used for over three decades by the various services and their operations have been well received by Congress in the past. The fund formed to provide these services is the Defense Business Operations Fund (DBOF).

On October 1, 1991 (FY 92), Congress approved the formation of the DBOF. Although it was planned for several years and was sold to Congress as primarily a paper change to, or streamlining of, the support process, the implementation of DBOF has not necessarily been a smooth one.

B. REVOLVING FUND USAGE EXPANDED

Beginning in fiscal year 1992, military support activities were consolidated and began operating under the DBOF, a revolving fund that was designed to operate military support activities in a businesslike manner. Operating units were to be viewed as customers and would be directly funded for the costs of their needed maintenance, supplies, etc. Support units were to be operated as businesses that provided those needed services. This alone was not radically different from the way defense revolving funds had operated in the past.

What changed under DBOF was that each support unit or business activity was required to operate under full cost

recovery using the unit cost concept. In the past, many costs such as salaries, had not been included in customer rates. With DBOF, the price of each unit of maintenance or service included all previously hidden costs, such as military salaries or civilian worker benefits, that went into providing that service. These hidden subsidies were eliminated in DBOF. Prices were expected to rise as these costs were included in the price of the service. The monies that normally went to support units to cover these subsidies were instead distributed to operating units to make up for the higher expected service prices.

Viewed another way, DBOF prices were designed to recover overhead costs associated with producing support services and goods. Prior to DBOF, fleet customers had paid the direct cost of that service (although there was some movement away from this practice). The direct price was the price that the government paid for the commercially procured good or, for government produced goods, a compilation of the direct materials, direct labor, etc. that went into the production of that good. Overhead costs, which typically include indirect expenses, general and administrative expenses, etc. were not recovered. DBOF prices include a share of overhead costs. Under DBOF, prices are supposed to recover the entire cost of operations.

C. AREA OF RESEARCH

This thesis investigates the manner in which stabilized rates are set for DBOF activities and attempts to explain that process to end users.

1. Primary Question

The primary question addressed in this thesis is: How does the DBOF determine the annual stabilized rates, how much do those rates fluctuate from year to year, and what are the driving forces behind those fluctuations?

2. Secondary Questions

In answering the primary question, the following secondary questions will be addressed:

1. What are revolving funds and why are they used? How does DBOF differ? Why use DBOF?
2. What are the potential strengths and weaknesses of DBOF?
3. Is DBOF a sound idea in a time of declining (or rising) budgets? Why has Congress recently considered further action on DBOF?
4. What are the impacts/implications of the rate fluctuations on the fleet users? Can a method be found for dampening the effects of the driving forces behind the rate fluctuations?

D. SCOPE

This thesis is applicable to all fleet components of the U.S. Navy that utilize depot level maintenance. The thesis will:

1. report the process by which stabilized rates are developed for depot level maintenance;
2. explain the general workings of the DBOF and how it differs from previous revolving funds;
3. examine the fluctuation of the depot repair overhead rate since DBOF implementation;
4. provide conclusions and recommendations regarding the fluctuation of the stabilized rates.

Due to the short time that DBOF has been in existence, it is not practical to conduct an extended statistical analysis of the stabilized rate fluctuations. Further research in this area will undoubtedly be of interest to the Navy and DoD in future years when more DBOF operating data has been assembled and as more support services are considered for inclusion in the Fund.

E. METHODOLOGY

Numerous sources were gleaned for information and data on the DBOF. The methodology utilized here included an extensive literature search for background information on the structure of DBOF and the principles of unit costing. A search of the INFOTRAC and ECONLIT databases provided current articles and research theses on these subjects as well.

Informal interviews with officers at Commander Naval Air Forces Pacific (COMNAVAIRPAC) were instrumental in highlighting many of the concerns which form the basis for this study. Additional interviews with personnel at the Naval Comptroller's Office (NAVCOMPT) who deal with DBOF on a daily basis were also conducted. These interviews, with such persons as the Head, Revolving and Other Funds Branch, provided invaluable insight into how the rates are actually determined and why they fluctuate as they do. Any proposed changes will be based on the experience and opinions of those involved as well as the author.

F. BENEFITS OF RESEARCH

This study will benefit the Navy by providing operating forces with an understanding of what DBOF is, how it operates, and how its rates are set. In the current environment of shrinking budgets it is imperative to know where each and every dollar is spent and to determine the appropriateness of that spending.

This study will highlight what the Navy and DoD are doing with DBOF in an effort to save the fleet user money on support expenditures. By understanding the workings of the rate setting process, the fleet user will better understand how his actions affect future prices and can assist him in determining the amount and type of support he can afford. If the data shows that the rates do fluctuate excessively, it will provide a recommendation to dampen that fluctuation and ease the

hardships associated with it. Additional research may provide follow on data as to the statistical significance of DBOF stabilized rate fluctuation and regulator actions.

G. ORGANIZATION OF RESEARCH

This sections highlights the content of the remaining sections of this thesis.

Chapter II (Background): Chapter II features the workings of a standard revolving fund as well as the DBOF. The activities that comprise DBOF, the magnitude of the fund and its attributes are also discussed.

Chapter III (Stabilized Rate Setting): Chapter III describes the method by which stabilized rates are actually set. The macro level model used by NAVCOMPT to set stabilized rates for a business area is shown and explained.

Chapter IV (Interpretation and Analysis): Chapter IV shows how the rates have fluctuated for a business area and discusses how the practice of rate setting detailed in Chapter III influences this fluctuation.

Chapter V (Recommendations and Conclusions): Chapter V describes the impact that the DBOF rate setting practice has had on the fleet user. Recommendations and conclusions complete the chapter.

A list of references concludes the thesis.

II. BACKGROUND

A. INTRODUCTION

The 1990s have seen dramatic changes in the military threat faced by the United States. With the fall of the Berlin Wall and the subsequent collapse of the Soviet Union, the major adversary that the U.S. military faced off against and trained for has disappeared. Congressional budget analysts have seen these changes as a golden opportunity; a chance to cut military spending and use the "peace dividend" to finance a number of social concerns at home. The resultant military force downsizing has compelled the Department of Defense (DoD) to devise more efficient ways in which to operate. Every dollar saved through increased efficiency is a dollar that can be used by operating forces.

The formation of the Defense Business Operations Fund was designed to improve financial information available to managers and to increase cost awareness (Maroni, 1993). DBOF was intended to squeeze every bit of utility possible from an ever shrinking military budget by instituting new business oriented cost management practices within the DoD.

While the thrust of this thesis deals with the setting of stabilized rates, one must first understand what DBOF is and how it is structured. DBOF's strengths and weaknesses, its relative size in a financial sense, and the variety of business areas included in DBOF must also be grasped to understand its impact on the fleet.

B. WHAT IS DBOF?

The DBOF is a revolving fund through which the military services finance and perform a variety of products and support services. For fiscal year 1993, DBOF was estimated to control the sale of goods and services valued at \$81 billion and assets of \$126 billion. Approximately 360,000 persons were

employed by DBOF activities (Byrnes, 1993). DBOF consolidated numerous separate stock and industrial funds into a single business management structure in order to concentrate attention on the costs associated with providing support services. DBOF is divided into subaccounts or "business activities". Each business activity is still run by the individual service. A list of the activities initially included in DBOF includes:

- Supply Management (A, N, AF, DA)
- Distribution Depots (A, N, AF, DA)
- Depot Maintenance (A, N, AF)
- Base Support (N, AF)
- Transportation (A, N, AF)
- Research and Development (N)
- Printing and Publication (N)
- Information Services (N, DA)
- Defense Commissary Agency (DA)
- Defense Clothing Factory (DA)
- Defense Finance and Accounting Service (DA)
- Defense Technical Information Center (DA)
- Defense Reutilization and Marketing Service (DA)
- Defense Industrial Plant Equipment Center (DA)

(Legend: "A" = Army, "N" = Navy, "AF" = Air Force, "DA" = Defense Agency)

Some of these business areas were limited to a single service or agency even though they were performed by all services. This occurred due to the fact that some services

did not have that activity designated as a revolving fund prior to formation of the DBOF. DoD continues to evaluate other support functions for eventual inclusion in or removal from the Fund (DBOF Implementation Plan Report, 1992).

What is a revolving fund? In layman's terms, a revolving fund is basically a "checking account" against which business activities can write checks. It is first established with a lump sum of cash, called the corpus. Activities in the fund purchase goods for resale or provide some service to customers. These goods and services are financed by drawing against the corpus. When those goods/services are supplied to customers, the customers are billed for the cost of the goods plus a modest charge to cover the costs associated with providing that service. When customers pay their bills, they replenish the corpus. Customers are generally combat or operating units who are appropriated operations and maintenance (O&M) monies with which to carry out their assigned tasking. This circular flow of money is where the revolving fund gets its name. The revolving fund process is illustrated in Figure 1.

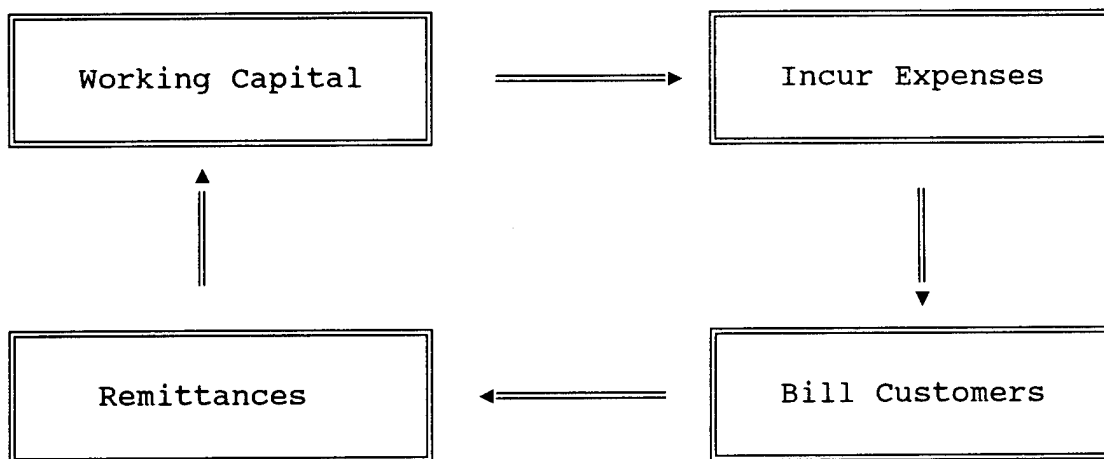


Figure 1. Revolving Fund Cycle

DBOF took the revolving fund concept one step further. After combining the stock and industrial funds into a single account, DBOF moved cash management authority to the DoD Comptroller level. This served two purposes. First, the services and the DBOF business activities were no longer required to focus large amounts of time and attention on cash management. They could now concentrate primarily on cost management, with the goal of reducing costs (DBOF Implementation Plan Report, 1992). They were free to focus on providing the highest quality goods and services at the lowest possible cost. Secondly, they were free from the danger of committing an Anti Deficiency Act violation (commonly called a 1517 violation) while they were implementing DBOF. Service financial managers were cleared to proceed full force with DBOF implementation. DoD, by assuming cash control, had maintained 1517 responsibility upon themselves (Grant, 1995).

Now that they are combined under DBOF, business activities have more incentive to bid on contracts that were previously under the purview of another service. For example, a Navy aviation depot that is relatively efficient is now free to bid on Air Force contracts and vice versa. This increases the inducement for depot managers to make critical business tradeoffs, such as new equipment purchases or facility modernization, necessary to increase efficiency and productivity. The customer has every reason to expect this competition to drive down his prices and has every incentive to go with the low cost quality producer.

C. STRENGTHS OF THE FUND

DBOF has several formidable strengths over previous systems. These include:

1. Support Funding Resides in Customer Accounts

DBOF uses the simple business principle that customers with money determine what services they need and what tradeoffs they can make in order to get the most for their money. Customers will "shop around" for the best value. They can award long term service contracts to take advantage of economies of scale or maintain short term contracts to respond to changing market conditions. They can contract with other DoD agencies to keep the work "in house" or purchase from the private sector and take advantage of newer innovations and civilian expertise. The key point is that the customer, not a bureaucrat, decides.

2. Support Organizations Become More Responsive

Business activities that supply goods and services must become more responsive to their customers in order to remain in business. They must be willing to modernize, economize, and transform in order to provide high quality services as inexpensively as possible. Competition with other activities and with the private sector obliges managers to be creative in their responses to customer demands. If they are not, their competition has a good chance of robbing them of their customer base and eventually eliminating them from the business.

3. O&M Programs Executed as Approved by Congress

A major advantage of DBOF is the use of stabilized rates. Once the rates are set and announced, they are not altered for the duration of the fiscal year. This allows operating units to submit budget requests for the amount of support services that they can expect to afford for the year. For example, if COMNAVAIRPAC expects to overhaul 100 aircraft during a fiscal year, they will request funding at a stabilized rate for 100 overhauls as part of their annual budget (Wallner, 1993). The stabilized rate reduces variation in the budget; the first overhaul of the fiscal year will cost the same as the last

overhaul of that year (provided all other factors remain constant). This allows units to execute the budget within the limits established in the appropriation laws. There are fewer changes and reprogramming decisions with the usage of stabilized rates.

4. Serves as Alternative to Obligation Management

DBOF business activity "budgets" are derived from a budgeted unit cost goal which is multiplied by the expected number of units to be produced. In execution, the budgeted unit cost is compared to the actual unit cost and then analyzed to evaluate performance and make management decisions regarding operations of the activity (Juola, 1993). Under unit cost, DBOF activities concentrate on cost per output, not appropriated "topline" execution. Any spending that does not directly result in more output will only drive up the activity's rates and make it less competitive. Keeping prices down benefits the customer and the activity.

Under obligation management, any excess funds remaining at the end of a fiscal year would be spent for fear that they would be taken away in the next budget. This is the old "use it or lose it" budget mentality that is eliminated with the use of unit costing. DBOF activities are run on a break even basis over the long run; they can make a profit or loss from year to year. However, if they make a profit, the excess is returned to operating units in the form of lower rates next year. If they suffer an operating loss, that shortfall is passed on to customers as higher rates the following year. The result over time is a zero sum gain or loss.

5. Highlights "True" Cost of a Good or Service

Before DBOF, many business activities were providing services at well below their actual costs. Hidden "subsidies" made many services appear cheaper through the military than could be found through a comparable civilian supplier. Under DBOF, customers now pay for the full cost of the service they

order. Full or total costs include all the operations and maintenance, military personnel, investment, and depreciation costs of capital assets associated with these business activities (Alderman, 1993). No longer are hidden subsidies lowering the direct cost to the customer. The cost to provide a good or service remains relatively the same with or without DBOF. The manner in which the cost of that service is appropriated (to customers under DBOF; to customers AND providers absent DBOF) is the critical difference. To illustrate, consider Figure 2 which highlights some of the hidden costs associated with an average base plumber (Kalmar, 1994).

<u>Non-DBOF Plumber</u>	<u>DBOF Plumber</u>
Price per hour = \$23	Price per hour = \$37
Hidden Costs: \$14	Hidden Costs: \$0
Military Salaries	None
Payroll Services	
Comptroller	
ADP Services	
Security	
Vehicle	
Asset Depreciation	
Environmental Compliance	
Benefits	
Supply Support	
Capital Purchases	
<hr/> Grand Total = \$37	<hr/> Grand Total = \$37

Figure 2. Comparison of DBOF vs non-DBOF Costs

When factors or subsidies such as those shown in the preceding figure are considered, the differences in supplying that service (DBOF vs non DBOF) quickly disappear. From the customer's viewpoint, DBOF initially appears to be more expensive; it forces him to pay more for a service. However,

customers receive more money added to their O&M appropriations in order to cover those higher costs. Customers now have the power to decide what services they actually need based on the true cost of those services.

6. Requires the Use of Capital Budgets

For activities that participate in DBOF, the budget is divided into two primary parts: operating budget and capital budget. Investments in new equipment, minor construction, software, etc. costing more than a preset limit (currently \$50,000) will be funded through the capital budget. Costs will be amortized or depreciated over a predetermined period of years (DBOF Implementation Plan Report, 1992). Major construction projects and capital outlays are still required to pass congressional muster. However the ability to make significant changes that require some capital investment allows activity managers greater latitude than before. They can now modernize or upgrade items in their activity in order to provide their services more economically. Prior to DBOF, not all of the various support activities had a capital budget, or this flexibility to improve.

7. Requires Standardized Accounting Practices

Another major advantage of DBOF is that it requires the increasing use of standardized accounting practices. The Chief Financial Officers Act of 1990 put a premium on developing more useful financial information that goes well beyond traditional obligation and expenditure data. There are more than 80 disparate, unlinked financial systems in use within DoD that are identified under the Federal Managers' Financial Integrity Act. Additionally DoD uses another 200 ancillary systems to provide various bits of financial information (Maroni, 1993). Managers have never been able to operate with information from a centralized source. For years they have "gotten by" through pulling together necessary information from various sources. Standardized accounting

practices will go a long way towards providing financial data that is timely, consistent, pertinent, and complete.

8. Criteria for Entry

Lastly, DBOF has set criteria for inclusion into the Fund. To be considered for entry, a business activity must be able to:

- Identify a specific output
- Identify specific customers
- Possess a cost accounting system that can accurately collect the costs of producing outputs

Failure to meet any of the above criteria is grounds for denying an activity permission to enter DBOF. Additionally, any activity already in DBOF can petition for removal from the Fund if it discovers that it can no longer meet these criteria.

D. WEAKNESSES OF THE FUND

Weaknesses found under the DBOF system include:

1. All Costs Treated as Variable

One key weakness of DBOF is the tendency of appropriators to consider all costs as variable costs. Variable costs are those expenses that vary in direct proportion to the output (Hough, 1993). For example, the amount of fuel that a ship's boiler burns is directly related to the number of steaming hours that the ship is underway. Fixed costs are those costs that cannot be altered in the short run or do not vary with output (Hough, 1993). Pier maintenance is a perfect example of this. Whether a ship is present at the pier or underway, the pier must be repaired, painted, and otherwise maintained. There is no relationship between the amount of maintenance conducted on the pier and steaming hours performed by ships using that pier.

In the long run all costs are considered variable; facilities can be closed or mothballed; workers can be laid off or fired; and contracts can be canceled. But in the short run, a fiscal year for example, a certain portion of a business activity's costs are fixed. These are the costs that must be incurred to maintain an activity in existence at a minimum level of output. These costs must be paid even if the minimum level of output is zero (Hough, 1993). Figure 3 illustrates this.

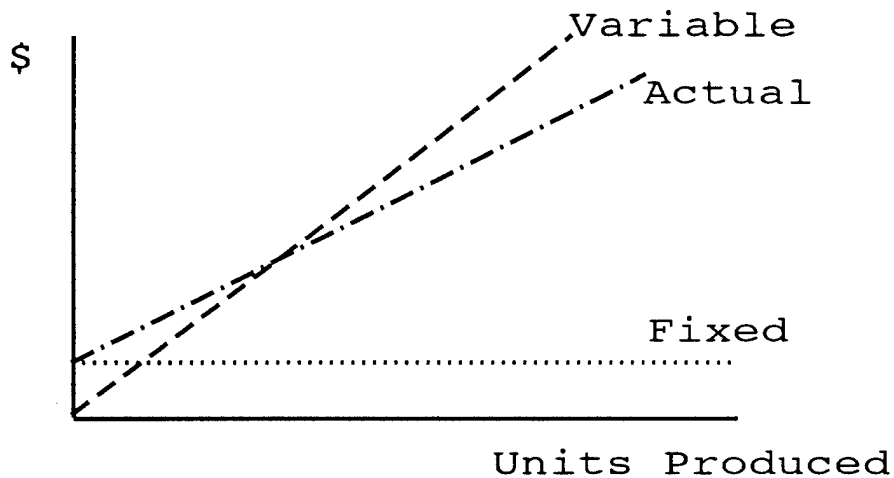


Figure 3. Comparison of Cost Curves

Under current guidelines, activities cannot quickly lay off federal workers or close portions of their facilities without first going through an extensive approval process. This creates a situation where an activity commander cannot quickly react to a business trend, and could result in the activity becoming seriously under funded as customer demand

for a given service falls. Most services require the existence of fixed assets (machinery, supply stocks, tools, etc.) as well as variable assets (the number of workers). This situation is represented by the actual cost curve in Figure 3. Congress tends to view the situation in a long term mindset where all costs are variable. This is represented by the variable cost curve in Figure 3. Above a certain level of production, a windfall accumulates to the business activity. As customer demand falls, funding that is based on the variable cost curve will eventually not cover the costs of the activity's operations. If the reduced demand continues, the activity becomes increasingly non competitive. This situation could ultimately force the closure of a viable activity solely because the nature of the business requires a larger fixed cost component than that seen in other areas.

2. Excessive Oversight Hurts Business Decisions

Another weakness of DBOF is a result of the excessive Congressional micromanagement of DoD spending. Business activity managers are not allowed to make many of the decisions necessary to streamline and economize without first receiving approval from DoD, who must seek approval from Congress. This approval process generally takes time as Congressional committees and subcommittees mull over the nuances and economic impacts of those changes. Congress is well within their purview to be meticulous in making decisions that affect how taxpayer monies are spent. However, excessive time costs the business activity. Monies that could have been saved months ago are now be viewed as expenses. These expenses are then passed on to customers as increased costs. A perfect example is the hiring or firing of government workers. An activity manager cannot quickly expand or reduce the number of workers at his facility. The number of workers that an activity may employ is fundamentally capped (through

the use of "full time equivalent" topline). To release a federal worker for the "benefit of the government" usually requires the payment of severance, payment to relocate that worker in another federal position, transition assistance benefits, etc. As General John Loh stated:

Some people rationalize...by saying that our support forces cannot be reduced by the same percentage or as quickly as our direct combat forces. Not so. Industry does it, and we must do it as well.

These mandated costs are folded into the rates charged to customers while activity commanders continue to push for relief.

3. "Death spiral" of Demand

The death spiral is another major weakness of DBOF. Activity budgets are based on an expected number of output units. If that expectation is not realized, the activity will suffer an operating loss. Operating losses from a previous year are recovered the following year through higher rates charged to customers. As those rates increase, the overall prices that the activity charges for its services also increase. As these prices climb, operating unit commanders, who have limited funds available, may economize and reduce the number of units that they submit for repair. The decline in the number of units submitted means that the support activity must spread his overhead costs over fewer units, thus driving up the per unit price even further. This again reduces the number of units flowing through the system thus resulting in another operating loss. Again the rates increase to cover the loss. The spiral continues until the activity either ceases to be viable or until an infusion of cash from an external source corrects the imbalance. To avoid this, managers must make the tradeoff decisions necessary to remain competitive and must do so in time to avoid the spiral effect. Failure to

do so could be disastrous.

4. How to Manage Excess Capacity

With the implementation of DBOF came the question: who should pay for excess capacity? The services readily admit that some excess capacity must be maintained to ensure that the U.S. has the ability to respond to a mobilization. However, should the DBOF customer be expected to subsidize that war reserve capacity in peacetime? Ideally, DBOF should be competitive in the vein of private producers. Private enterprises would not maintain excess capacity unless there was an extraordinary or specific reason to do so. Otherwise, it merely increases overhead costs that must then be passed on to the customer.

One reason why this is such a pressing issue is that infrastructure drawdown has not kept pace with force downsizing. This has created capacity in excess of our planned war reserve. By 1997, the defense budget will have declined by over 40 percent since 1985, and active military end strength by about 30 percent. In contrast, even full approval of the 1993 round of base closures represents a total reduction of only 15 percent in the domestic base structure since the closure process started in 1988 (Maroni, 1993). Operating forces require only a set amount of depot support. Maintaining additional facilities open adds to the overhead costs that are passed on to DBOF customers.

To solve this problem, DBOF has resorted to funding mandated excess capacity through a direct appropriation. This appears to violate the spirit of DBOF however. A war reserve is figuratively a fixed cost. By directly appropriating money to cover a component of the business activity's cost structure, does DBOF remove the incentive for the activity manager economize? After all, the manager can attempt to "play" the system; he can argue that the amount of appropriation is insufficient to cover the actual level of

excess capacity and thus the appropriation needs to be increased.

A possible answer to this is to increase the amount of depot maintenance awarded to private contractors. This would allow them to remain proficient in the current downsizing environment and maintain the skills they will need for future weapons purchases. However, this option poses risks as well. Pentagon comptroller John Hamre explains (Gregory, 1994):

It could be cheaper in the near term to go private. But what happens if...the private company decides 'Hey, I'm not making the 10-12 percent return on investment I want.'?

In this scenario, if the government had drastically reduced or closed its facilities, it would have no recourse but to pay more for services from contractors that it may have been able to provide for less in government run facilities. Clearly excess capacity remains a difficult point to ponder.

5. Implementation Problems

One of the areas in which DBOF continues to take considerable criticism is in its implementation. Three criticisms that are most often voiced are: lack of initial training for users, spotty DoD guidance, and the originally proposed timetable.

Initially, there was virtually no initial training given to the customers and/or the producers as to how the DBOF concept was to affect them. Few of the participants knew exactly what they were supposed to be doing, especially those charged with implementation of DBOF and unit costing in the military departments (Jones and Thompson, 1994). This can be attributed to the fact that, by most accounts, DBOF was sold as a name change. Indeed, DoD comptroller Sean O'Keefe described it as such before Congress in March, 1991 when he testified:

By confining our approach to taking all the existing defense and military department stock and industrial funds into the Business Operations Fund for this year, we have cut down on the problem of having the procedures in place.... They will operate no differently next year than today, because those procedures remain the same.

Reference and training materials are now being produced and are to be available for distribution in the summer of 1995, four years after DBOF's introduction.

Secondly, there appeared to be little groundwork laid for DBOF from DoD. Almost no one outside the DoD Comptroller's immediate circle appreciated the need for changes in the responsibility structure and management philosophy (Jones and Thompson, 1994). Despite the requirement that DBOF operate under full cost recovery, there were few accounting systems in place that could accurately determine what the full cost of a specific item was. There were many hopes voiced for the success of DBOF, but no single high ranking "champion" was appointed or volunteered to ensure that a successful transformation took place. Indeed, in August, 1991, less than two months before its introduction, the General Accounting Office warned:

In this context DoD is also proposing to establish a Defense Business Operations Fund to initially consolidate its industrial and stock fund operations into a single entity..... The Fund would provide services to DoD customers and be reimbursed from the customers' operations and maintenance funds. While we believe the underlying concepts of the Fund to be valid, we have expressed reservations over whether DoD has adequately laid the groundwork necessary to ensure that the Fund's implementation would yield the benefits intended. Accordingly, we are encouraging DoD to develop and clearly spell out the policies, procedures, and controls it would put in place to govern the Fund's operations.

The GAO clearly held and published their reservations about the preparedness of DoD to successfully implement DBOF. Difficulties that have been experienced by DBOF would appear to bear out GAO's suspicions.

Lastly, DBOF was implemented during the early days of the current force drawdown. Operational commanders were told they would be given additional funds to cover the higher prices associated with full costing: the same funds that formerly were appropriated to support activities as hidden subsidies. With that extra money these commanders were told to purchase the support services they required from DBOF activities. Alas, even as their O&M budgets were increased to cover DBOF expenses, the military budget as a whole was being sliced as a result of across-the-board force downsizing budget cuts. Operational units were given more money from one source only to have it taken away from another. As a result, these units realized virtually no increase in their budgets and many units faced drastically reduced budgets. With implementation, DBOF prices skyrocketed at a time when combat units were getting relatively the same or fewer dollars. To them the DBOF concept made no sense. DBOF appeared to drive prices up while budgets dollars disappeared.

To add insult to injury, this situation took place in the post Gulf War environment. Many combat commands had deferred normal maintenance during the war and needed to submit units to depots in order to reduce the maintenance backlog. More units needing repair, at a time when the price per unit was rising due to full costing and budgets were shrinking, made for an unpleasant climate in which to launch any new venture. DBOF quickly struck a sour note with fleet users and has been blamed for virtually every problem since. A more thorough implementation plan could have alleviated many of these problems.

E. SUMMARY

In summary, the DBOF combines the operations of revolving funds, which had established themselves through 40+ years of DoD usage, with the concepts of unit costing and full cost recovery. DBOF requires business activities to recover the entire cost of conducting business through the prices charged to customers. It is an extremely large enterprise that controls over \$80+ billion worth of support goods and services every year in roughly fourteen business areas. These areas range from supply management and depot maintenance to the commissary agency and clothing factory. The Fund touches nearly everyone involved with DoD and has numerous strengths, including:

- Support funding resides in customer accounts
- Support organizations become more responsive
- O&M programs are executed as approved
- Unit costing serves as alternative to obligation management
- Highlights true cost of a good or service
- Requires the use of capital budgets
- Requires standardized accounting practices
- Established criteria for entry into DBOF

The Fund also has the following weaknesses:

- All costs treated as variable
- Excessive oversight hurts business decisions
- Death spiral of demand
- Excess capacity management

- Implementation problems

Chapter II provided the background necessary to proceed to a description of the rate setting process found in the next chapter.

III. STABILIZED RATE SETTING

A. INTRODUCTION

With the theory underlying DBOF and its operations firmly established, the next task is to describe the actual rate setting process. The DoD Financial Management Regulations, Volume 2B, illustrate how stabilized rates are set and serves as the foundation for this chapter.

The DBOF first categorizes business areas into two major subgroups: Supply Management Business Areas and Non-Supply Management Business Areas. The former sets customer rates by merely adding a surcharge to the initial cost of goods supplied. The surcharge covers the various costs (such as warehouse rental, manpower expenses, operating costs, etc) of providing goods or commodities, while the initial cost of the good itself is that cost that the government must pay to acquire it for the stock system. The latter category applies measurable or representative unit outputs to cost data to arrive at a cost per output rate. Maintenance depots fall within the Non-Supply Business Management Area category and generally use units such as direct labor hours as their output measure. To proceed further, common terminology must be established.

B. DEFINITIONS

To remove ambiguity in the processes described later, several definitions are necessary for a thorough understanding and are provided below.

The Accumulated Operating Result (AOR) is the term used to describe the profit or loss realized from the operations of a business activity. Since DBOF business areas are not intended to run a profit or loss over time, and if DBOF forecasts of operating levels are accurate, then ideally, the

AOR is to be zero at the end of the year. When AOR does not equal zero, a recoupment is added (either positive or negative) to the stabilized rates in order to bring the AOR to zero in the following year.

The total Cost of Goods Sold (CoGS) is comprised of all costs associated with all outputs that will generate revenue in the affected year. This includes expenditures for materials, labor, machinery, and so forth. Put another way, CoGS refers to all dollars spent to produce revenue generating outputs for a given year.

A Direct Labor Hour (DLH) refers to all work physically performed on a job to produce an output, measured in hours. It includes expenses for maintenance, repair, overhaul, testing and other direct work performed by all workers on the output unit. Direct labor hours do not include indirect expenses, general & administrative (G&A) costs, or other support work. These indirect costs are included in business activity overhead costs.

Maintenance depots are required by DBOF to maintain a catalog, either electronically or in print, of the products and services that they provide. These catalogs furnish activity customers with the number of direct labor hours the depot requires to perform a given task. When this hour figure is multiplied by the stabilized rate for a given fiscal year, the fixed price for that good or service is established. Therefore these service catalogs are referred to as Fixed Price Catalogs.

A Program Budget Decision (PBD) is the final approval document(s) from the DoD Comptroller that finalizes and approves the stabilized rates that business activities may charge customers. The PBD is passed down to each service, who then promulgates that guidance to each applicable business activity.

Stabilized Rates are the final adjusted costs per direct

labor hour that customers are charged for goods or services. The rates do vary by business area. Maintenance depots then charge this rate for all new jobs that are accepted during the fiscal year, even if the work is accepted but not actually completed in that same fiscal year. Stabilized rates serve to protect customers from unforeseen inflationary increases and other cost uncertainties and to assure customers that they will not have to reduce programs to pay for potentially higher-than-anticipated prices (Navy Comptroller Manual, 1993).

C. RATE FORMULATION GENERAL DESCRIPTION

DoD regulations mandate that customer rates be established by a general process that is summarized in the following paragraphs.

Initially, each service carefully reviews all projected costs for operations for a given fiscal year, formulates the most cost efficient operation possible, and then proposes that level of operations.

Secondly, customer requirements are projected, based on identified outputs such as direct labor hours, by product. These requirements include not only all work already programmed for the fiscal year, but all work anticipated to be accepted for accomplishment during the fiscal year.

Next, the services must adjust their proposed rates for inflation, pay raises, and other program or policy changes required by Office of the Secretary of Defense (OSD) or Office of Management and Budget (OMB).

Each service then submits expected costs, proposed program levels, and foreseen rate changes by business area, as part of their budget estimate submissions.

Lastly, final costs, program levels, and rate changes are established by Program Budget Decision documents after adjustments are made to bring the Accumulated Operating Result

to zero for the budget year for each business area.

As always, there is at least one proviso attached. Services are also permitted to develop, report, and use subsidiary rates as long as those rates are rolled into a single composite rate for business area rate setting (DoD Financial Management Regulations, 1993). This means that business activities may actually formulate several different rates for different services and then compile them into one overall stabilized rate for charge to the customer.

D. FORMULATION MODEL

The "model" that NAVCOMPT uses to formulate stabilized rate proposals for Non-Supply Management Business Areas is best portrayed by Exhibit 7b from the DoD Financial Management Regulations and is reproduced on the following pages as Figure 4. The model summarizes the completion of the steps that comprise the actual process of setting proposed customer rates. For illustration purposes, this section will assess the model in the context of setting rates for naval aviation depots (NADEPs).

To commence, the Navy first establishes the total DLHs necessary to accomplish the fiscal year work program. This work program, also known as projected customer requirements, is the number of aircraft that the Navy expects to submit for depot maintenance multiplied by the number of DLHs necessary to perform the various jobs required on each aircraft. Customer requirements are broken into the following subcategories:

- Current unfilled customer orders expected to be completed during the fiscal year (carry-in orders, backlog of aircraft awaiting depot maintenance)
- Work in Process (WIP) that will be completed during fiscal year (aircraft that are currently undergoing maintenance that will be completed)

- New orders expected to be accepted and completed during the fiscal year
- New orders expected to be accepted but not completed during the fiscal year (carry-over to next year)

The Navy then subtracts the number of DLHs associated with carry-over orders from the previous year, as these have already been funded in the prior year. When summed, this is the total number of hours expected to be completed during budget execution. Model steps one, three, five and eight contain this procedure.

Subsequently, the Navy estimates the total costs that will be incurred to complete the aircraft work program. This estimation process includes corrections for inflation, pay raises, and other mandated price adjustments. The Navy subtracts costs associated with DLHs that are funded from another source, such as direct appropriations. When these adjustments are tallied with materials, depreciation, employee salaries, and so forth, the total is the estimate of total CoGS. This portion of the process can be seen in steps two, four, six, nine and ten of the model.

To set proposed program financing levels and initial rates, the Navy divides the total CoGS estimate by the programmed output or total DLHs. The result is an initial cost per direct labor hour, or an "initial" rate.

Now that the Navy has an initial cost per DLH, they must adjust that figure for prior year gains or losses. This adjustment can be positive or negative, depending on whether the adjustment is meant to recover a previous loss or refund a prior excess, and is commonly referred to as the "surcharge" (although that is a term reserved for Supply Management Business Areas) or more simply "recoupment". This adjustment is the step that drives the business area towards an AOR of

CUSTOMER RATE COMPUTATIONS
 Department of (Component Name)
 Business Area: _____

New Order
 FY 19--

Adjustment	Direct Labor Hours	Program Cost	Rate (\$)
Prior Year Stabilized Rate:			\$xx.xx
1. Total programmed Direct Labor Hours anticipated to be executed during the fiscal year:	xxx,xxx,xxx		
2. Total Cost of Goods Sold during year:		\$xxx,xxx,xxx	
3. Minus DLHs associated with carry-in orders:	-xxx,xxx		
4. Minus non-stabilized rate revenue and revenue from carry-in orders at prior year Rate (including BRAC funding, direct reimbursables, UPC funds, pass throughs, etc.):	BRAC pass throughs direct reimburse	-\$xx,xxx,xxx -\$ -\$	
5. Total Direct Labor Hours for New Orders accepted and programmed for execution this year:	xxx,xxx,xxx		
6. Adjusted Cost of Goods Sold (from step 4):		\$xxx,xxx,xxx	
7. Initial Cost Per Direct Labor Hour for New Orders (step 6 divided by step 5):			\$xx.xx
8. DLHs associated with new orders anticipated to be carried over for execution in the next fiscal year:	xxx,xxx		
9. Add inflation differential value for New Orders accepted but programmed for carry over to next fiscal year (step 7 times step 8 times inflation rate):		+\$xxx,xxx	
10. Adjusted Cost of Goods Sold:		\$xxx,xxx,xxx	

<p>11. Adjusted Cost Per Direct Labor Hour (Adjusted Cost of Goods Sold (step 10) divided by the sum of the DLHs from step 5 and step 8):</p>		\$xx.xx
<p>12. Adjustemnt for prior year gains or losses necessary to achieve an end-of-year AOR of zero for the budget year: Calculated as follows:</p> <p>(a.) Take the BY-2 end-of-year AOR and add to any known gains or losses in BY-1. (b.) The resulting dollar value is then multiplied by the following ratio: (step 5 DLHs + step 8 DLHs) / step 5 DLHs where: - step 5 equals the number of DLHs for new orders estimated to be accepted during the year for execution in that year (BY), and - step 8 equals the number of new orders accepted in the budget year but anticipated to be carried-over for actual execution in the next fiscal year.</p> <p>The resulting dollar value, either positive (if your AOR is negative) or negative (if your AOR is positive), is then used as an adjustment to program cost in item 12. This will ensure that all prior gains or losses planned to be recouped or distributed will be accomplished during the budget year for which rates are being set.</p>	<p>+/- \$xxx,xxx,xxx</p>	
<p>13. Adjusted Cost of Goods Sold (sum of step 10 and step 12):</p>	<p>\$xxx,xxx,xxx</p>	
<p>14. New Customer Order Stabilized Rate (Cost Per Direct Labor Hour): Calculated by dividing step 13 by the sum of steps 5 and 8.</p>		\$xx.xx
<p>15. Percentage rate change from prior year: Calculated by dividing step 14 by the prior year stabilized rate.</p>		+/- xx.xx%

*Note - When determining inflation adjustments for carry-over orders you may include those orders from multiple year projects that were carried-in from the prior year, but will not be accomplished in the current year. The total carry-over DLHs should match the number reported on the Fund-7a exhibit.

Figure 4. Customer Rate Computation

zero. Step twelve contains this procedure.

By adding the AOR adjustment and the previous CoGS figures, the Navy arrives at a new, adjusted CoGS (step thirteen). Simply dividing that adjusted CoGS by the total DLHs for the fiscal year yields the stabilized rate for the coming fiscal year (step fourteen). This is the proposed rate that NADEPs will charge for each DLH of work performed on naval aircraft.

Lastly, the percentage rate change from the prior year is calculated for Business area management visibility. If initial estimates prove accurate, the percentage change should be small. This would indicate that initial Navy estimates of costs and expected DLHs were relatively close to the outputs actually realized. When that occurs, stabilized rates remain relatively flat and prices do not climb.

E. PERFORMANCE OF PROCESS

As stated above, the Navy tracks costs and estimates DLHs. But who in the Navy actually performs those tasks? The answer is surprising. It varies by business area! The Navy does not have a single office or center where assigned personnel conduct these functions (Doyle, 1995). In the case of naval aviation depots, the individual depots report their costs and direct labor hour data to Naval Air Systems Command (NAVAIR) via the Defense Finance and Accounting Service (DFAS) database. NAVAIR is one example of a component that develops subsidiary rates. They contend that spreading costs evenly over all cost drivers, the "peanut butter" approach, does not correctly reflect the cost of doing business in each specialty. Therefore, for NADEPs, NAVAIR formulates initial subsidiary rates for airframe work, engine work, modification work, etc. Once these rates are determined, the initial stabilized rate is calculated by taking a weighted average of the subsidiary rates. The weighing is done based on the

number of direct labor hours expected to be accomplished in each area. For example, if airframe work accounts for 25 percent of the direct labor hours generally performed by NADEPs, then the airframe rate will account for 25 percent of the stabilized rate. NAVCOMPT then scrutinizes the proposed rates prior to forwarding them to DoD. Once adjusted at the DoD level, the rates are returned to NAVCOMPT in a PBD document for promulgation to Navy DBOF business activities. Assuming that the final stabilized rate (from DoD) varies from that submitted, NAVCOMPT returns the final rates to NAVAIR, who adjusts the subsidiary rates.

F. SUMMARY

To summarize, stabilized rates are set through a multiple step process that takes into account:

- Unfilled customer orders from the previous year
- WIP that will be completed during the year
- New orders expected to be accepted and completed during the year
- New orders expected to be accepted but not completed until the following year
- Inflation, pay raises, and other mandated expenses
- Prior year operating profits or losses

Stabilized rates may be calculated directly or through the use of subsidiary rates. Due to the fact that various cost drivers contribute to overall costs disproportionately, subsidiary rates are often calculated and used to determine the stabilized rate. Thus, the stabilized rate can be merely a weighted average of the subsidiary rates. Finally, as an illustration, the stabilized rate setting process for naval aviation depots was described in the following manner:

1. NADEPs report the total DLHs, anticipated costs, etc necessary to complete work that is programmed for the coming fiscal year.
2. DFAS maintains this information in database and reports same to NAVAIR.
3. NAVAIR develops subsidiary rates based on inputs from NADEPS. Proposed stabilized rate is calculated.
4. NAVCOMPT scrutinizes proposed rates, adjusts them, and forwards same to DoD Comptroller.
5. DoD adjusts rates and returns PBDs with approved rates to NAVCOMPT.
6. NAVCOMPT promulgates approved rates to NAVAIR. NADEPs informed of final stabilized rates by NAVAIR.

Now that the rate setting process is known, the discussion will turn to an analysis of available data.

IV. INTERPRETATION AND ANALYSIS

A. INTRODUCTION

The most publicized complaint about DBOF has been the rapid boosting of stabilized rates. Indeed, the original impetus for this thesis came when COMNAVAIRPAC expressed such concern with the rates charged by naval aviation depots for depot level maintenance. During a visit to NAVCOMPT, the author of this thesis was fortunate enough to attend a briefing given by NAVCOMPT personnel, to staff members of the House of Representatives Survey & Investigations (HAC S&I) subcommittee.

The HAC S&I staff members were keenly interested in several key questions:

1. Why have the stabilized rates charged by NADEPs grown extraordinarily over the past several years?
2. How do DBOF practices or regulations specifically figure into the rapid rise in aviation depot prices?
3. How does the Navy intended to correct the problem with the stabilized rates charged by NADEPs? Is pass-through funding necessary?

The staff members confessed to not fully understanding the factors that went into the setting of stabilized rates nor to the operations of DBOF as a whole. The NAVCOMPT personnel present were perceptive to this and went out of their way to keep their answers informative and direct. The discussion was kept at a more theoretical level rather than degenerating to page after page of printouts and exhibits. The analysis that follows relies heavily on information distributed at that meeting as well as proposed rate calculations from the Naval Air Systems Command.

B. COMPARISON OF YEARS

The rates for fiscal year 1993 and subsequent years of DBOF operations are listed in Figure 5. Fiscal year 1993 will be used here as the base year because it was the first year in which rates were constructed under the DBOF model described in Chapter III. It also was the first year in which the Navy included environmental compliance costs as part of activity overhead costs. This was in keeping with the concept of full cost visibility; that DBOF supplied goods or services should reflect the full cost of production in their prices. Other services may or may not have included these costs in their cost computations. It was, additionally, the first year in which a recoupment could be charged to make up for prior years' operating losses or to refund excess operating profits via the rate structure. Previously this had been done through a lump sum refund method. Although FY92 was the first year under DBOF, it did not meet these criteria and thus will not be used for comparison.

Fiscal Year	Rate	% Change
1993	\$100.40	
1994	\$106.24	+5.8
1995	\$133.80	+25.9
1996	\$110.42	-17.5

Figure 5. Stabilized Rates by Year

Figure 5 shows that the stabilized rates charged by naval aviation depots did experience a rapid rise from 1993 to 1995. To contrast this rapid growth, Figure 6 shows what the 1993 rate would be in 1996 had it grown at a typical annual inflation rate of 3 percent.

1993	1994	1995	1996
\$100.40	\$103.42	\$106.52	\$109.71

Figure 6. Base Year Adjusted for 3% Inflation

Why did the stabilized rate rapidly climb through 1995 and suddenly drop to a relatively normal level again in 1996? The following analysis will shed some light on the subject.

C. ANALYSIS: 1993 to 1995

Between fiscal 1993 and 1995, the stabilized rates charged by naval aviation depots for maintenance work increased by a substantial 31.7 percent. This far outstripped increases due to inflation and placed serious strain on the already overstressed operating budgets of fleet aviation units. A breakdown of general cost categories associated with naval aviation depots is shown in Figure 7.

Category	FY94	FY95	FY96*
Funded DLHs	15,521,792	14,447,952	13,918,800
JLSC Surcharge	0	\$26,556,000	\$25,800,000
Allocated DLHs	16,389,510	15,400,436	14,382,243
Recoupment	-\$33,999,000	\$228,518,000	0
Overhead Costs	\$824,154,000	\$745,517,000	\$681,815,000
Direct Material	\$484,412,000	\$716,163,000	\$571,431,000
Total Costs (in \$000)	\$1,764,100	\$2,097,169	\$1,866,691

* FY96 data is shown for trend comparison purposes only. The reasons behind the falling of the fiscal year 1996 rate will be discussed in a later analysis section.

Figure 7. Comparison of NADEP Business Area Costs

Two aspects about Figure 7 that deserve clarification are the Joint Logistics Support Center (JLSC) surcharge and the difference between allocated and funded direct labor hours. The JLSC is a joint command that is tasked with designing common software, computer and accounting systems, common criteria and specifications, etc. that will eventually be used by all services. DBOF activities are currently "taxed" with a surcharge in order to support their efforts. Allocated DLHs commonly exceed Funded DLHs as they include direct labor hours associated with carry-over orders from prior years (which are already funded) as well as direct labor hours associated with the Base Realignment and Closure (BRAC) effort, which are directly appropriated. BRAC funded DLHs of 1,679,000 for FY95 and 1,303,957 for FY96 were subtracted from the DLH numbers expressed in Figure 7.

Disregarding the JLSC surcharge which is charged to all business areas and was first charged to the NADEP business area in FY95, every major cost category affecting naval aviation depots showed a steady decrease in costs from 1994 to 1995 with one exception, direct materials. Direct materials showed an increase of 47.8 percent over that period. Considering that the Defense Department was undergoing the largest force reduction since the 1920's during those years, the question remains, what was the Navy purchasing that drove aviation depot rates so much higher?

To determine this, a review of a portion of the cost driver information maintained by NAVAIR for the period in question appears in Figure 8.

Driver	FY94	FY95	% Change
Airframe Rate	\$88.69	\$114.35	28.9
Engine Rate	\$220.10	\$307.19	39.6
Mod Cost Rate	\$64.82	\$88.46	36.5
Component Rate	\$184.38	\$222.90*	20.9
Engineering Rate	\$56.33	\$77.32	37.3
Other Rate	\$93.06	\$112.91	21.3

* FY95 component costs were broken into two categories that were previously reported as one. The rates have been added together, with consideration given to their relative weighting, for comparison purposes.

Figure 8. Comparison of Cost Driver Rates

The reason that prices went up appears to be linked to the problems with the F404 engines used in several naval aircraft. As problems developed, rather than repair certain parts as had been the practice in the past, NADEPs were instructed to replace those parts, or entire subassemblies, for safety reasons (Doyle, 1995). The Aircraft Engine Life Reductions substantially increased engine costs. Engines had to be changed out and repaired more often than originally planned thus resulting in higher than anticipated engine costs. Additionally, engineering and consultation costs rose as contractor engineering support was necessary to help identify and rectify the engine problems. Modification costs rose as changes were made to engines to bring them up to specifications. Finally, as engines experienced maintenance problems, airframe maintenance costs also rose. This was caused by a number of maintenance actions that must be accomplished every time an engine is removed from the airframe. For example, as safety wires are removed and reinstalled, the holes strip out over time, requiring repair. Cannon plugs that are the primary electrical connectors to the

engine often must be replaced. Many of these plugs have in excess of 200 hundred wires, all of which must be reinstalled in a new plug. Solvents used to remove dye used in the non-destructive testing of airframe components, such as engine mounts, often remove paint which must be repaired to prevent corrosion. All of these airframe costs are directly associated with engine maintenance. All of the cost drivers mentioned previously experienced dramatic expansion, almost all in the mid 30 percent range.

To a large degree, this unplanned engine work is the crux of the problem. Stabilized rates are based on an anticipated number of direct labor hours. Expected work program composition helps outline the assets needed for the coming year. For example, if NAVAIR expects to conduct substantially more airframe maintenance than engine maintenance, the stabilized rate will be weighted towards the less expensive extreme. If, in reality, the reverse happens, the activity will suffer an operating loss which will then be passed on to future customers in the form of higher rates. In this case, unexpected problems with a large number of aircraft engines, which are expensive to have repaired and which usually account for only a small portion of the usual workload, resulted in large operating losses for the NADEP business area. Had these problems been anticipated, the stabilized rates could have been weighted towards the more expensive extreme. As it is generally impossible to predict such occurrences, there appears to be no simple method of dampening this type of fluctuation.

D. ANALYSIS: 1996

The proposed stabilized rate for 1996 (from Figure 5) shows the first decrease since DBOF officially came into existence. This can be attributed to the fact that the Navy is asking for "pass-through" funding from Congress in order to

bring the rates back down to a reasonable level. This funding is to be appropriated to the Operations & Maintenance account which will then fund the DBOF account directly for the amount of the pass-through (Doyle, 1995). Customers will still pay for the work that they order. They will not get a special rebate or direct price break in exchange for the pass-through. The pass-through is designed primarily as a one time correction of the price structure. As can be seen from comparing the 1996 rate (Figure 5) with the inflation adjusted rate (Figure 6), the general effect of the pass-through will be to restore the stabilized rate to a level consistent with general inflation.

Another aspect of the pass-through is that it provides working capital to finance work that has already been accepted but not yet performed. When DBOF was first formed and the cash assets in the various revolving funds was combined, the Navy had over \$6 billion in working cash assets. Reports vary over how much of that cash was recovered and reappropriated by Congress; estimates range from \$1.5 billion to \$3.5 billion. To recover from a cash loss of that magnitude, the Navy resorted to advance billing for work to be accomplished in the coming year. They then used that cash to conduct operations in the current year. Thus, every year since, the Navy has relied upon the revenues from at least a portion of accepted future work to finance current year work programs. Approval of the full amount of the pass-through will allow the Navy to finance more current year work out of current year dollars, and forego reliance on future year advance billing revenues.

E. SUMMARY .

To recap, an analysis of the discussion and data presented to staff members of the House Survey & Investigations subcommittee by NAVCOMPT personnel, shows that the stabilized rates charged by naval aviation depots have

increased considerably. The analysis showed that much of the blame on the upward spiral of the rates rested with the inability of managers to accurately predict fluctuations in the work load mix. The use of subsidiary rates to formulate an overall stabilized rates contributed to this problem. When unexpected increases occurred in the work load of areas that had a high subsidiary rate, the stabilized rate was improperly weighted and resulted in an operating loss. If this trend were to continue, the stabilized rate would spiral upward, attempting to make up lost ground from previous years. NAVCOMPT revealed that the Navy is asking for pass-through appropriations in the FY96 budget request that will allow the stabilized rate to return to a normal level. The pass-through funding would also be used to alleviate the need for so much advance billing of future work. It would provide some of the cash necessary to allow the Navy to fund current year work with current year dollars and not be so reliant on advance billing revenues.

V. RECOMMENDATIONS AND CONCLUSIONS

A. INTRODUCTION

The DBOF officially came into existence on 1 October, 1991. Since its creation, DBOF business activity managers have tried to make daily operating decisions in a commercial businesslike fashion. Chapter II recounted how DBOF combines the operations of revolving funds, both stock and industrial revolving funds had proven themselves through more than 40 years of DoD usage, with the concepts of unit costing and full cost recovery. DBOF was designed to pattern support and maintenance operations after more conventional commercial enterprises. It requires business activities to recover the entire cost of conducting business through the prices charged to customers for support services and goods. DBOF is an extremely large enterprise which controls roughly \$80 billion worth of goods and services yearly in approximately fourteen business areas. These areas range from supply management and depot maintenance to the commissary agency and clothing factory. The chapter continued with an explanation of a typical revolving fund and how DBOF differed from it. Some differences of DBOF that were mentioned included:

1. The consolidation of cash management authority at the DoD level
2. Freedom of business activities to concentrate solely on cost control
3. Freedom to bid on contracts that were previously denied them.

Chapter II also listed and expounded upon several of the numerous strengths of DBOF. These strengths were the prime movers behind the formation of DBOF and included:

- Support funding resides in customer accounts
- Support organizations become more responsive
- O&M programs are executed as approved
- Unit costing serves as alternative to obligation management
- Highlights true cost of a good or service
- Requires the use of capital budgets
- Requires standardized accounting practices
- Established criteria for entry into DBOF

How these strengths benefited the fleet customer and why they were preferable to the status quo was discussed. Five specific weaknesses of DBOF were also addressed. These were some of the key factors on which DBOF was initially opposed and included:

- All costs treated as variable
- Excessive oversight hurts business decisions
- Death spiral of demand
- Excess capacity management
- Implementation problems

Overall, Chapter II provided the background necessary to fully understand the rate setting process described later.

Chapter III describes the process of setting stabilized rates for DBOF activities. Stabilized rates are set through a multiple step process that takes a variety of inputs into account. Some of the universal inputs are:

- Unfilled customer orders from the previous year
- WIP that will be completed during the year

- New orders expected to be accepted and completed during the year
- New orders expected to be accepted but not completed until the following year
- Inflation, pay raises, and other mandated expenses
- Prior year operating profits or losses

Stabilized rates may be calculated directly or through the use of subsidiary rates. Subsidiary rates are often calculated for use by specific business area managers. They can also be used to determine the stabilized rate when various cost drivers contribute to overall costs disproportionately. In this situation, the stabilized rate is merely a weighted average of the subsidiary rates. As an illustration, the stabilized rate setting process for naval aviation maintenance depots is summarized as follows:

1. NADEPs report the total DLHs, anticipated costs, etc necessary to complete work that is programmed for the coming fiscal year.
2. DFAS maintains this information in database and reports same to NAVAIR.
3. NAVAIR develops subsidiary rates based on inputs from NADEPS. Proposed stabilized rate is calculated.
4. NAVCOMPT scrutinizes proposed rates, adjusts them, and forwards same to DoD Comptroller.
5. DoD adjusts rates and returns PBDs with approved rates to NAVCOMPT.
6. NAVCOMPT promulgates approved rates to NAVAIR. NADEPs informed of final stabilized rates by NAVAIR.

Refer to Figure 4 for a tabular version of this process.

Finally, Chapter IV analyzed the fluctuation of the stabilized rates and the underlying causes of that

oscillation. This analysis showed that the stabilized rates charged by naval aviation depots have increased considerably. The analysis revealed that much of the blame for the spiraling of the rates was beyond the control of business managers. They were simply unable to accurately predict unexpected fluctuations in the work load mix. There is no method with which they can forecast the unexpected and thereby account for ways to react to it.

Chapter IV also noted that the use of subsidiary rates also contributed to the problem of rising prices. Stabilized rates are weighted averages of subsidiary rates. If unexpected work load increases occur in areas that have a low subsidiary rate, the stabilized rate will be improperly weighted and result in an operating profit. If that same unexpected work load increase occurs in an area that has a high subsidiary rate, the stabilized rate will be improperly weighted and result in an operating loss. If this latter trend continues, the stabilized rate spirals upward. The Navy is currently asking for pass-through appropriations in the FY96 budget request. These monies will initially be appropriated to the O&M account. NAVCOMPT will then forward those monies directly to DBOF. It is expected that this appropriation will allow the stabilized rate to return to a level consistent with inflation. Pass-through funding would also reduce the need for much of the advance billing of future work that now occurs. It would provide a share of the cash necessary to free the Navy from reliance on advance billing revenues and allow it to finance current year work with current year dollars.

B. RECOMMENDATIONS

1. Institute a DBOF training program

For fleet users to fully embrace and use the DBOF system to their fullest advantage, they must first understand the goals and operating principles of DBOF. Junior officer schools (SWOS, OCS, AOCs, etc.) should require a basic understanding of DBOF as a prerequisite for graduation. Topics for these officers should include:

- Revolving fund principles
- DBOF strengths and weaknesses
- Goals of the DBOF
- Criteria for DBOF entry

Department Head training should cover the workings of DBOF in more sufficient detail to allow those officers to make educated recommendations to the Commanding Officer on the type and level of services they require. Topics for these officers should include:

- Stabilized rate setting and formulation
- Budgeting for unexpected fluctuations in rates over the long run
- Rebuttal and input procedures for rate formulation
- Documentation of problems requiring higher level attention or correction

Additionally, the enlisted personnel whose ratings require them to operate in DBOF related areas, such as the SK rating, should receive this training as part of their class "A" school rate training. Proper preparation of the officers and men who use DBOF on a daily basis is imperative to its success.

2. Allow customers to purchase outside of DBOF

By easing restrictions that require numerous services to be purchased solely from DBOF activities, operating units will have an incentive to shop for the best value for their support dollars. An often cited example of this is crane services. Ships that require crane services for antenna maintenance, heavy equipment removal, or other such task, currently must purchase those services from the local base public works center that supplies crane services. If ships had the option of purchasing crane services from a private vendor, Acme Cranes for example, the ship would have the incentive to shop for the best deal. Not only would this provide incentive for DBOF activity managers, in this case the local public works center, to make the tradeoff decisions that will increase efficiency, it would allow simple market pressure to keep prices low. In the end, the efficient producer gets the job, the ship receives service at the lowest available rate, and the Navy saves money.

3. Appoint a permanent DBOF governing board

Typically, creating an additional oversight office or layer of bureaucracy is not a popular alternative. However, DBOF needs a permanent leader to resolve its problems and force it, in a sense, to become commercially viable. DBOF oversees businesses that generate a combined \$80 billion in sales of goods and services each year. As a comparison, 1995 reported revenues for Sears, Roebuck & Company was \$50.84 billion, for General Electric was \$60.6 billion, and for the Ford Motor Company was \$108.52 billion (Standard & Poor's, 1995). DBOF must have high level continuous leadership. Currently, DBOF has what can only be referred to as a part-time governing board. When problems arise, this board advises the Secretary of Defense on changes that could or should be made to enhance DBOF operations. Based on the state of rate fluctuations, it would not appear to be a stellar performer.

Specifically, a new, permanent governing board, that remains under DoD jurisdiction, could be set up on the pattern of the Federal Reserve Board. This board could be comprised of seven members who are appointed and Congressionally approved for terms of six, eight, or ten years. Their terms would expire at different intervals so that a core portion of the board would always be composed of experienced members. This structure would also alleviate the partisan politics that permeate political appointee controlled departments. Perhaps retired corporate executives could then be recruited to fill positions on the board.

The permanent board would nominally report to the Secretary and be tasked with solving operational and/or structural problems within the Fund as well as defining common systems, developing common reports, and acting as the administrative head of the Fund. The board would retain authority to conduct business and would not be directly tied to DoD edicts. DoD would control force levels while the board would control support levels. Congress would continue to control any additional funding for DBOF. However, once appropriated, the monies would fall to the governing board for use. The governing board would operate DBOF as a service enterprise, making regular reports to the Secretary and Congress, publishing regular financial statements, and undergoing periodic audits. The benefits garnered from DBOF under this type of operation could be astounding.

4. Freeze further entries into DBOF

DBOF is a tool for cutting costs. However, DBOF should be in place prior to budget reductions in order to avoid the blame for increased prices in a time of decreasing revenues. Implementation of DBOF in the current business areas was not done in this manner. It was implemented during the post Cold War drawdown and quickly gained a reputation for raising prices. While this reputation may be unfounded, it has led to

much resistance to expanding DBOF. Freezing further DBOF participation until budget levels stabilize, until the base realignment and closure savings are recognized, and until the support infrastructure has completed its contraction, will allow the services to become more adept at their estimations and projections, and to stabilize the fluctuations in the current rates. Further entries into DBOF, at this time, will only add another factor to the already overtaxed DBOF structure.

C. CONCLUSIONS

DBOF was heralded upon its inception as the answer to all of the Pentagon's budget woes in the support area. Expectations were exceedingly high and have not been met by most standards. As such, many now look down upon the whole idea of DBOF and revolving funds as unworkable and unwise, even though they have been used successfully by the Navy since the mid 1950's. The point is that many of DoD's financial problems would have existed whether or not the DBOF had been created (Maroni, 1993).

Implementation can be described as full or partial. The long range goal of DBOF is full implementation, where all support services fall under the DBOF umbrella. The DBOF that is currently in existence is only a partial implementation. It is comprised of those activities that planners felt would make the transition to DBOF relatively easily. Full implementation of DBOF is necessary to realize the full benefits of the Fund. The proponents of DBOF claim that savings can accrue with only a partial implementation. However, full implementation would rely much more heavily on the market economics of supply and demand, economies of scale, and competition, which has proven time and again to be the ultimate vehicle for setting prices. Until that time comes, the partial implementation of DBOF that DoD is now using will

continue to disappoint those with expectations of success.

Finally, DBOF must have a champion if it is ever to be fully implemented and to operate as planned. Without a high level manager or board that is responsible for day to day operations, business activities will continue to operate on piecemeal leadership, as they do now. Strong leadership, that has the power and authority to make necessary changes, is vital to the success of the Fund. Without it, DBOF is doomed to the chaos in which it is now mired.

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