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LEASING AS A STRATEGIC FINANCING OPTION: THE NAVY'S MARITIME PREPOSITIONED SHIPS EXPERIENCE

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ABSTRACT. Recently, leasing has been prominent in the press due to the Air Force's recent ill-fated attempt to obtain the use of Boeing re-fueling tankers. Forgotten is that, in the early 1980's, a highly controversial Navy long-term leasing program of Maritime Prepositioned Ships had a different result. However, an unintended consequence of the Navy's success was that future government leases were practically eliminated. This research examines the issues and parties involved in this unprecedented creative and innovative leasing program for ships used by the Navy's Military Sealift Command. While the analysis concludes that the Navy's leasing program was successful and cost effective, laws and policies were changed so that long-term leasing is no longer viable for the strategic financing of military requirements. The case is presented here that existing laws and regulations should be reconsidered so that leased military resources can once again be used to provide and maintain national security.

INTRODUCTION

On January 25 and February 7, 2005, *The Wall Street Journal* confirmed a widely reported major shift in Department of Defense

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(DOD) weapons acquisition policy over the next decade (Jaffe & Karp, 2005; Pasztor, 2005). They cite retired Admiral Arthur Cebrowski, head of the Pentagon's Office of Force Transformation, who sees a significant shift away from capital-intensive weapons towards the more labor-intensive systems used in guerilla wars.

Notwithstanding this transformative agenda, the Navy's 2007 and 2008 President's Budget still makes a strong case for a steadily growing capital investment budget between 2006 and 2011. The budget proposal submitted on February 23, 2005, by Admiral Bruce Engelhardt, Director of the Office of Budget in the Office of the Assistant Secretary of the Navy (Financial Management and Controller), shows proposed growth in annual weapons investments from $26 billion in 2004 to $42 billion in 2011 (Engelhardt, 2005). The key components of this budget include the new Joint Strike Fighters, DD(X) destroyers, Virginia-class nuclear submarines, and Multi-mission Maritime Aircraft (MMA) to replace the aging P3 Fleet, among many other programs. Not mentioned explicitly in Admiral Engelhardt's report is the question of how to replace thirteen currently leased Maritime Prepositioned Ships (MPS) which support the readiness of three Marine Expeditionary Brigades. The use of these ships was arranged in the early 1980's through 25-year leases (five renewable periods of five years each), which will expire between 2009 and 2011.

This paper reviews the history of the MPS program to help assess the lessons for current Navy acquisition policy. Today, there is a strong disposition against leasing as a financing strategy for the US military. As just one piece of evidence, consider the recent firestorm of criticism, which met the Air Force's attempt in 2002 to lease, instead of buy, replacements for 100 aging KC135E refueling tankers (Furber & Jaeger, 2004). The evaluation of the MPS history presented here contributes significantly to an assessment of the efficacy of leasing as a component of future acquisition policy.

SOME HISTORY ON THE POLICY PERSPECTIVE

The Navy has a long history of leasing ships to augment military capability in times of war (Peters, 1979). Over 450 supply ships, using merchant marine crews, were leased and deployed during World War II. During the Korean War, over 200 leased ships were deployed. More recently, during the Vietnam War in 1972, the Navy entered into a lease agreement to charter nine new T-2 fuel tankers to replace 14 worn out World War II-vintage tankers. Originally, appropriated funds were earmarked to build these new tankers. However, when acquisition proved infeasible because of budget limitations, DoD opted to approve a long-term lease (Haslam, Koenig, & Mitchell, 2004).

The Navy also has a long history of leasing several categories of what might be called “off the shelf” auxiliary support equipment. For example, leasing (rather than buying) is the financing mechanism of choice for such items as power storage batteries on nuclear submarines, reduction gears on surface warfare ships, and medical equipment in Navy hospitals.

In spite of this historical context, the MPS program generated substantial controversy and political conflict between 1981 and 1983. It was the first peace time attempt to use leasing to acquire a multi-billion dollar pool of specially designed military equipment—thirteen ships, each valued at more than $182 million. But, the program was not originally intended to bypass normal acquisition and appropriation review channels.

The MPS program grew out of the successful “Prepositioned Force” deployed in the late 1970’s at Diego Garcia in the Indian Ocean, which was made up of older cargo vessels. Between 1977 and 1979, this idea was expanded to a proposed fleet of thirteen specially designed cargo ships with sufficient Lift-off/Lift-on (LO-LO) and Roll-on/Roll-off (RO-RO) capabilities to support the equipment and supplies necessary for a rapid deployment of three Marine Expeditionary Brigades for thirty days of combat. Depending on the technical characteristics, three or four ships were required for each Brigade. This so-called TAKX Program was officially authorized by the Naval Sea Systems Command (NAVSEA) in 1979 (Haslam, Koenig, & Mitchell, 2004).

Between 1979 and 1981, NAVSEA struggled to find a way to fit TAKX into the Navy’s procurement backlog. In 1981, President Reagan launched a program to vigorously rebuild US military forces, including the vision of a “600 ship Navy” and increasing amphibious capabilities of the Marines. Because many programs involving high-priority combat systems were simultaneously under consideration, Congress could not fund non-combat support ships (Peters, 1979).

Yet, the Navy and the Pentagon felt strongly that the TAKX Program was indeed a high priority. Updating the Military Sealift Command (MSC) was an essential component of the overall expansion program dictated by the threat of Soviet military power in the post-Vietnam stage of the Cold War. MSC operates a Combat Prepositioned Force for the Marine Corps and a Logistics Prepositioned Force for the Navy, Air Force, and Defense Logistics Agency (DLA), as well as the Maritime Prepositioned Ships (Military Sealift Command, 2003), but only the MPS are leased.

It is worth repeating, in this context, that the MPS leases were not seen primarily as a financing device for the TAKX Program. The choice was not seen as "lease versus purchase," but rather as "lease versus do without." In the detailed analysis of the MPS Program, it is important to keep this distinction in mind. Either leasing is a financing option for assets whose acquisition has already been approved, or it is a mechanism to expand the asset base beyond the limits of the overall acquisition program.

A SYNOPSIS OF THE POLICY DILEMMA

There is no question that the legislative, regulatory, and political context today is structured such that leasing is not a viable option for billion dollar military programs. If leasing is, in fact, not cost effective for US military acquisitions, the current structure is appropriate.

The MPS Program, in retrospect, is seen as a significant military success. Bailey and Escoe (2004) and Haslam, Koenig, and Mitchell (2004) document many important uses of the ships between 1985 and 2005, including their crucial role in Operation Desert Storm in 1991. Without leasing, the TAKX ships would not have been acquired. Thus, leasing can be seen as one of the crucial elements in the success of Desert Storm.

Even if one were to grant the proposition that leasing is only an acceptable extension of acquisition policy under the exigencies of wartime, it is possible to counter that the events of September 11, 2001, mean the US is "at war," and will be for the foreseeable future. In that context, one can question whether it is appropriate to take leasing off the table today as an option to finance the on-going

"Global War on Terror (GWOT)." Leasing should be considered very carefully, prospectively, as a mechanism to augment defense capabilities without forcing cut backs in acquisition planning for other programs. That is, based on its merits, leasing is a way to expand defense capabilities beyond what can be paid for in the context of the year-by-year acquisition process.

The Structure of the MPS Deal

In October 1981, NAVSEA issued the Request for Proposal (RFP), which sought bids to supply thirteen ships for the MPS Program. This was the largest single ship- financing program ever undertaken by the Navy, representing $2.65 billion. Because of the tremendous scope and complexity of this program, the Navy also issued an RFP for consulting services. Argent Group, Ltd. (AGL), a small investment banking firm specializing in leveraged-lease financing, was engaged.

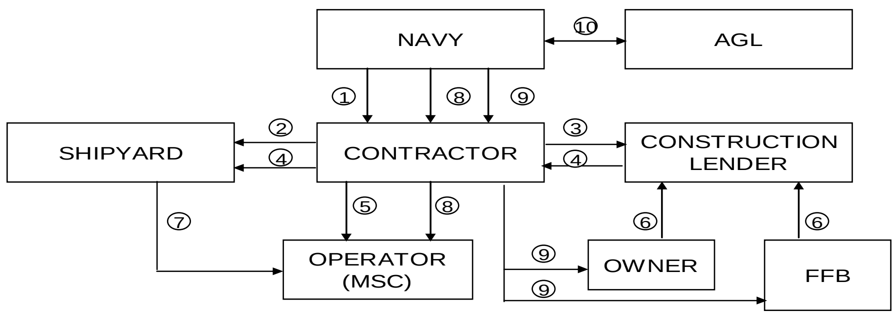
Although the program involved thirteen separate lease contracts, the structure of each lease contract was the same and all were implemented at the same time. Each lease involved six principal participants: The Owner/Lessor, Federal Financing Bank (FFB), Shipyard, Contractor, Operator (MSC), and the Navy. Table 1 summarizes the legal relationships in each lease and Figure 1 summarizes the financial flows and business relationships.

TABLE 1

The Legal Relationships

Contractor	Award	Private Investor/Owner	Shipyard
Special Purpose Entity			
General Dynamics Corp.	5 TAKX Ships	Salomon Brothers, Inc.	General Dynamics Corp.
Maersk Line, Limited	5 TAKX Ships	Morgan Guaranty Trust Co. of NY	Bethlehem Steel Corp.
Waterman Steamship Corp.	3 TAKX Ships	Citibank, N.A. and Manufacturers Hanover Leasing Corporation, acting jointly	National Steel and Shipbuilding Co.

FIGURE 1
Business Relationships During Construction and Subsequently during Operation



Construction Period	Operating Period
(1) Agreement to Charter, after construction (2) Construction Contract (3) Construction Loan Agreement (4) Construction Progress Payments (5) Construction Supervision Payments	(6) Repay Construction Loans (30% Owner/70% FFB) (7) Delivery, subject to terms of construction contract (8) Operating Hire Payments (9) Capital Hire Payments (10) Ongoing Consulting Fees

The four stages of the lease for each ship were construction, financing, delivery, and time charter (Argent, 1982). Following is a discussion of each stage.

Construction

- The Contractor negotiated a fixed-price construction contract with the shipyard and provided progress payments during construction.
- The Contractor arranged interim loans to finance the construction. The Contractor assumed all risk associated with the loans until an acceptable ship was delivered to the Contractor.

- The Contractor was responsible for supervising the construction to ensure the ship was completed according to the specifications and plans, including the Navy's operational and technical requirements. The Contractor paid a supervisory fee to the Operator (MSC) to supervise construction.
- The Navy retained the right to inspect the construction, but it could not deal directly with the shipyard, nor did it have any supervisory obligations, unilateral design change rights, or liability to the shipyard in the event of cost overruns.
- The ships were constructed using current <u>commercial</u> specifications, known as American Bureau of Shipping (ABS) standards. The ships were not built to the higher standards of <u>military</u> specifications.

Financing

- Prior to delivery, the Contractor arranged permanent financing for the ship, consisting of equity from private investors (30 percent) and debt from the Federal Financing Bank (FFB) (70 percent).
- The private investors assumed ownership upon delivery of the ship. They were eligible, under existing legislation, to receive accelerated depreciation tax benefits associated with ownership.
- The debt was in the form of 25-year bonds purchased by the FFB, which holds a mortgage on each ship to secure the debt.

Delivery

- When the shipyard completed the vessel, it was delivered to the owner who simultaneously delivered it to the Contractor under a "bareboat charter." The proceeds of the debt and equity financing were used to pay off the interim construction loans.
- The Contractor turned the ship over to the MSC under an operating contract. The ship was chartered to the Navy under the Time Charter provisions.
- Upon delivery, the construction cost of each ship was adjusted to reflect actual interest rates paid during construction on the interim construction loans.

Time Charter

- The Navy began its charter hire payments (comprising both the capital hire and operating hire payments) upon delivery and acceptance of each ship.
- The semi-annual capital hire payments are made on a "hell or high water" basis. Upon delivery, the capital hire rates were adjusted to reflect the actual debt and equity financing rates. Once adjusted, the Navy's capital hire rates were fixed for the entire charter period.
- Each Time Charter was an initial five-year contract with four five-year renewal periods, for a total of 25 years. If the Navy failed to exercise renewal options or terminated for convenience after the initial period, the vessel would be sold and the Navy would pay the difference between the selling price and the contractual termination value which was designed to repay the debt and give the owners their agreed upon return on investment of 11.745 percent (after tax). However, the Navy held an option to purchase the ships at the higher of the termination fee or market value.
- The operating hire component is paid to the Contractor who in turn pays the MSC. It includes operating expenses and a margin as agreed to in the contract. The Contractor assumed the risk for all off-hire provisions and ship non-performance. The Time Charter contains inflation provisions to compensate for increases in crew wages, stores and subsistence, maintenance, and insurance. Provision for loss of the ship was also included.

THE POLITICS AND POLEMICS OF THE MPS DEAL

From its formal authorization by the Secretary of Defense in August 1979, to its approval by the Office of Management and Budget (OMB) in December 1981 (to be included in the 1983 Budget), the TAKX Program moved along without any significant challenges or controversy. It was first authorized by Congress in September 1980. The tax aspects of the lease contract were reviewed with the Internal Revenue Service (IRS) in November 1981. The Navy commissioned a financial review by the international accounting firm Coopers and Lybrand (C&L) in February 1982. C&L concluded that the lease agreement was substantially cheaper for the government than purchasing the ships, when considering the net present value of all payments over the term of the lease, based on existing laws and tax regulations (Bailey & Escoe, 2004). In response to the RFP, several bids were received in March 1982. In April 1982, AGL began its work to help the Navy zero-in on the best bids and begin signing contracts.

However, Congressional interest in the TAKX Program increased in 1982. In early May, the Secretary of the Navy, John F. Lehman, received inquiries from Congress as to whether the TAKX Program complied with federal standards in support of the American Merchant Marine and the American shipbuilding industry. Secretary Lehman responded by letter in late May to the House Appropriations Committee, assuring them that all federal standards were being fully met (Haslam, Koenig, & Mitchell, 2004).

A letter from the Chairman of the Defense Subcommittee of the House Appropriations Committee to Secretary Lehman, dated July 20, 1982, noted that the 1980 authorization by Congress presumed procurement of the MPS through normal appropriations channels. Congressman Joseph Addabbo directed the Navy not to enter into any contractual agreements until a Surveys and Investigations (S&I) report could be commissioned and completed (Addabbo, 1982a). Secretary Lehman agreed to this request on July 30.

On August 17, the Senate Armed Forces Committee and the House Appropriations Committee notified the Navy that they were undertaking a review of the TAKX lease contracts under Section 303 of the *FY1983 Authorization Act*. Section 303 required a 30-day review period for Congress to determine that leasing was preferable to purchasing through normal appropriations channels before lease contracts could be signed.

By mid-August, AGL's own financial analysis of the lease program confirmed C&L's favorable conclusion (Argent, 1982). Based on a firm belief that the Deal was "cost-effective," the Navy awarded contracts for six TAKX ships on August 17, 1982, with the option for seven additional ships during the 1983 fiscal year (Haslam, Koenig, & Mitchell, 2004). These contracts were publicly announced on August 18. The next day, AGL released its conclusion that the net present value of each lease was $140.6 million versus a net purchase cost of $184.0 million per ship (Argent, 1982).

One major component of the attractiveness of the leases to private owners was a tax savings from the use of accelerated depreciation. Under applicable laws in 1981, the owners of the TAKX ships could use a five-year life and the Accelerated Cost Recovery System (ACRS) rates. In 1982, there was significant public indignation about the drain on the US Treasury from these generous tax "write offs" for wealthy private investors, which Congress had enacted in 1981 (Haslam, Koenig, & Mitchell, 2004). Many in Congress were sympathetic to this criticism of "special tax deals." In 1982, Congress passed the "*Tax Equity and Fiscal Responsibility Act* (TEFRA)," which eliminated special tax benefits due to short tax lives and accelerated depreciation for assets used by non-profit entities. The TEFRA provision would have reduced the present value of the depreciation tax benefits on each TAKX ship by $8.3 million, but TEFRA did not become effective until December 1983, by which time all the TAKX ships were already under construction.

Another component of the tax incentives to the lessor/owners was the Investment Tax Credit (ITC), which existed in the tax code at this time. If the leases qualified for the ITC, 10 percent of the purchase cost of the ships was available to the owner as an immediate tax credit. Both C&L and AGL argued that the leases qualified for the ITC (Argent Group, 1982). However, this tax benefit depended on the owners, not the Navy, having significant risks of ownership. A ruling by the IRS on December 10, 1984, disallowed the ITC for the owners (Forman, 1983; 1985). This ruling resulted in an increase in the annual lease payment to compensate the owners for the lost tax benefits.

On September 1, 1982, the Surveys and Investigations (S&I) Report commissioned by Congress to review the MPS was released. It confirmed the cost advantage of leasing over purchasing for then current discount rates. The report also confirmed the appropriateness of the 10 percent interest rate used in the AGL analysis under applicable OMB and DoD regulations (Anderson, 1982).

However, the S&I Report raised a major concern that the TAKX Program should increase encumbrances to the Navy Industrial Fund (NIF). The TAKX leases presumed that only the annual lease payments would be charged against the NIF, year by year. The S&I Report noted instead that the present value of all future lease commitments and potential termination penalties would need to be encumbered in the NIF, as a matter of law. Since the leases' full present value exceeded $2.6 billion and the NIF's current unencumbered balance was about $2.2 billion (Anderson, 1982), the Navy faced an unexpected problem of a potential *Anti-Deficiency Act* violation

Meanwhile, both the Senate Armed Forces Committee and the House Appropriations Defense Subcommittee notified the Navy on September 16, one day before their 30-day deadline, that the provisions of Article 303 of the *1983 Authorization Act* were successfully met and the lease contracts could proceed (Addabbo, 1982b).

Also, on September 17, 1982, the House Subcommittee on Readiness held a hearing on the TAKX Program. Chairman Dan Daniel expressed serious dissatisfaction with the leases which he said inappropriately circumvented the Congressional authorization/appropriations process and thus impeded effective legislative review. He noted that the leases obligated the Government to 25 years of lease payments or to substantial termination penalties if the leases were terminated. He concluded that although the TAKX leases were already approved, he would do his utmost to see that appropriate action was taken to prevent a recurrence of similar lease programs (Sawyer, Daniel, & Gottlieb, 1982).

On December 2, 1982, the Comptroller of the Navy requested that the US General Accounting Office (GAO) examine the question regarding the encumbrance to the NIF. The GAO (1983) reported on January 28, 1983, that the Navy must encumber the NIF for five years of lease payments (the initial guarantee period) plus the full termination payments that would be due in five years if the leases were cancelled. This requirement would likely over-encumber the NIF, which was a violation of Anti-Deficiency laws. The GAO raised no legal objection to the TAKX leases, as long as the NIF had sufficient available unencumbered funds. If not, the GAO suggested that the Navy seek explicit legislative action to resolve this issue (U.S. Comptroller General, 1982).

The Navy sought Congressional action and the *Supplemental Appropriations Act of 1983* (P.L. 95-63) authorized the Navy to proceed with the TAKX Program in the absence of an appropriation covering the total termination liability under the leases. This legislation kept the TAKX program on track, but it did not resolve the NIF encumbrance issue.

Please note as a final legal action to settle the NIF encumbrance issue, a specific provision of the *Appropriations Act of 1985* (P.L. 98-473) required the Navy to annually encumber the NIF for only that year's lease payments and 10 percent of the possible termination fees. Without this special legislation, the TAKX leases would have over-encumbered the NIF.

On February 15, 1983 the Joint Committee on Taxation (JCT) issued a comprehensive analysis of the TAKX leases that contradicted the AGL conclusion that leasing was more cost effective than purchase (Foreman, 1983). The JCT's overriding premise was that leasing is only cheaper if the borrowing cost of the lessor is lower than the borrowing cost of the lessee. Since the Federal Government (the lessee) has the lowest borrowing cost, the TAKX program compensated the lessors for higher financing costs than the Government's costs if it had borrowed the money and purchased the ships. The JCT report also challenged many of the assumptions and calculations in the AGL report with detailed alternative calculations. The JCT concluded that leasing each ship was $9.7 million more expensive than purchasing. The difference between the AGL and JCT positions will be summarized in a later section of this article.

On February 23, 1983, Senator Metzenbaum wrote to the Secretary of the Treasury to describe parts of the TAKX leases as an "outrageous" subsidization by the Navy of a lawsuit against the IRS (Foreman, 1983). He reasoned that a provision in the TAKX lease rates allowed increases if the IRS were to reject any of the tax benefits in the contract. Senator Metzenbaum argued that this amounted to the Navy paying the legal costs of private investors seeking to overrule the IRS.

An article in the *Washington Post* on February 25, 1983, reiterated Senator Metzenbaum's charges under the headline—"Navy Promises Suppliers Tax Breaks" (Edsall, 1983). The Navy's response was that the contracts constituted very normal business practice regarding tax issues of leveraged-lease deals. The *Washington Post*, however, likened these "tax breaks" to the buying and selling of tax advantages by wealthy investors that were targeted by Congress in the pending TEFRA legislation. Previously, on January 31, 1983, a *Washington Post* article entitled, "Rent-a-Navy," concluded that the TAKX Program should be terminated because the lost tax revenue to the Treasury was hidden forever from public scrutiny. Also, it argued that the TAKX leases should be prohibited as a blatant "evasion of budgetary limits" ("Rent-a-Navy," 1983). Apparently, the *Washington Post* also viewed the TAKX leases as bad public policy.

Congressional debate continued on the cost efficiency of the TAKX leases. On February 28, 1983, Chairman Charles Rangel of the Subcommittee on Oversight of the House Ways and Means Committee held hearings questioning the Navy's circumvention of Congressional review and oversight of the TAKX leases. Everett Pyatt, Principal Deputy Assistant Secretary of the Navy (Shipbuilding and Logistics), testified that the use of "commercial standards" versus "military standards" saved the Navy $35 million per ship (Pyatt, 1983). He argued that the existing appropriations law would have required the use of "military standards," which were inappropriate for a cargo ship. Following the hearings, on March 18, 1983, Chairman Rangel sent a public letter to the Secretary of the Navy, John Lehman (Rangel, 1983). Secretary Lehman's response reiterated the terms of the leases. Chairman Rangel's Subcommittee subsequently acknowledged they had no continuing objections to the TAKX Program (Haslam, Koenig, & Mitchell, 2004)

On March 25, 1983, AGL issued a comprehensive rebuttal to the JCT report which challenged the bases for the JCT opinion that leasing was not cost effective (Argent Group, 1983). The original AGL report, the JCT rebuttal, and the AGL response are very lengthy, complex, and technical documents, which require very careful study of difficult business concepts. The August 1982 AGL report served its purpose as a careful report from a credible professional source that reaffirmed the superiority of leasing over buying (Argent Group, 1982). The JCT rebuttal of February 1983 challenged the superiority of leasing from a credible, professional source (U.S. Joint Committee on Taxation, 1983). The AGL response in March 1983 served its purpose of reasserting the superiority of leasing by carefully rebutting all of the challenges raised by the JCT. There was no additional response to the AGL refutation.

Following publication of the different complex present value outcomes, the Navy was still convinced that leasing was cost effective. Furthermore, all necessary Congressional pre-approvals had been obtained in public disclosures. There was never an attempt to hide the transactions from public oversight.

Alternative leasing analyses presented different public policy positions on financing arrangements for the use of assets required for a military mission. It is important to present an analytic base for one's policy positions, just as it is important to present an analytic base when challenging a policy. The complex intellectual arguments and counterarguments regarding the cost-effectiveness of the TAKX leases were designed more to influence policy than to advance understanding. These arguments are important in understanding the political success of the program. They also are important in understanding the success of the program's opponents in stopping any repetition. But the role they played is largely unrelated to the supporting analysis.

Although the Congressional and public media challenges to the TAKX Program stopped by June 1983 and the ships were being built, Congressional attention focused on ensuring that similar leasing arrangements would never be repeated in the federal government by enacting the legislation detailed in the next section.

Political Response to the Approval of the TAKX Program

The MPS were not yet completed when three legislative actions were enacted which were clearly intended to give Congress greater oversight and to prevent future government leasing programs similar to the TAKX Program. In June 1983, the GAO issued an analytic report on the use of leasing by DoD in which it recommended legislation that would prevent any future long-term leases without Congressional analysis and authorization (U.S. Comptroller General, 1983). As a result, the *Defense Authorization Act of 1984* (P.L. 98-94) contained specific conditions for future leases by DoD:

- All DoD long-term leases must be specially authorized by law.
- A notice of intent to solicit such leases must be given to the appropriate committees in both houses of Congress.

- A detailed justification for lease versus purchase must be submitted to Congress and that justification must be approved by the OMB and Treasury.
- The OMB and Treasury must jointly issue guidelines as to when leasing may be appropriate.

Clarification of just how restrictive these conditions would be soon followed. The required joint OMB/Treasury guidelines were published in 1984 and required that any special tax incentives for ship owners (such as accelerated depreciation) be disregarded in any lease versus purchase analysis for DoD leases. In related action, *The Deficit Reduction Act of 1984* (P.L. 98-369) disallowed accelerated depreciation tax deductions to the owners of all assets leased to Government entities. The *Balanced Budget and Emergency Deficit Control Act of 1985* (P.L. 99-177) further restricted leasing by requiring full up front budgetary authority for the estimated present value of all estimated obligations over the life of any lease.

Finally, OMB Circular A-94, dated October 29, 1992, requires that any lease versus purchase analysis must exclude consideration of any tax revenues to the Treasury from lease payments received by the lessor and must use the Treasury's borrowing cost as the discount rate. This is a significant limitation on leasing, because a lower discount rate makes the lease option less attractive.

Thus, within a few years, Congress, GAO, OMB, and the Treasury Department created new laws or established new regulations that made future government long-term leases virtually impossible.

Unraveling the Present Value Polemic

As noted earlier, AGL originally concluded that leasing was $43.4 million cheaper, per ship, while the JCT concluded that leasing was $9.7 million more expensive. AGL's rebuttal to the JCT showed leasing as still $34.2 million cheaper than purchasing. The differences are due primarily to the impact of the tax aspects of the TAKX program on Treasury revenues. The leasing advantage depends on the impact on Treasury revenue from interest income and depreciation deductions.

Table 2 summarizes the key differences between the AGL, JCT, and the authors' (SSS) positions. Conclusions about the key differences are also included. Both the JCT and AGL reports ran to more than sixty pages. Whether leasing is cheaper or not hinges on three judgments about the impact of the TAKX program on Treasury revenues. The conclusion is that leasing was substantially more cost-effective than purchase–$64.4 million per ship. In a sensitivity analysis of this conclusion, calculations show that leasing is cost-effective at interest rates as low as 5 percent (the prevailing interest rate as recently as 2005). This is fairly strong evidence of the cost effectiveness of the TAKX program under the conditions that existed in the early 1980s.

THE DESIRABILITY OF LEASING: TODAY'S PERSPECTIVE

A significant advantage not quantified in the alternative analyses by proponents and opponents of the TAKX leases was its impact on the availability of the ships. Leasing reduced the acquisition cycle time from five to seven years to about two years. The normal acquisition process for DoD assets requires lengthy, detailed steps and documentation. The benefits from satisfying the Federal Acquisition Regulations (FAR) established by Congress are assumed to exceed the costs involved. Annual lease payments included in operation and maintenance budgets avoid the costs.

Another omitted advantage in the debate was that the use of commercial shipbuilding standards reduced the planned cost of each TAKX ship by $35 million ($182 million versus $217 million). Actually, the thirteen MPS were built for an average ship cost of $177.9 million. The authors believe there are at least four conditions under which leasing should not be viewed so unfavorably.

When Support Equipment is Mission Critical and Funding Is Not Available

Since the end of the cold war the military has consistently experienced tight budget constraints. During any budget year, there are always programs that go unfunded. The all-important question is "How critical is the unfunded program for national security?" For a military requirement that is mission critical, perhaps long-term leasing is a viable option. It allows the Government to use assets immediately and spread the cash outlays over the lease period rather

TABLE 2

Comparing Purchase to Three Different Viewpoints on the Net Total Cost to the Government from Leasing (5% Semiannual Discounting = 10.25% per Year) (In Millions)

	AGL	JCT	SSS
Shipping Cost If Purchased	(182.4)	(178.2)[1]	(182,4)
Tax revenue from interest on Treasury Bonds Issued to finance the purchase		39.7	2.5[2]
Total Present Value with Purchase	(182.4)	(138.5)	(179.9)
Present value of 25 years of capital hire payments by the Navy	(135.1)	(135.1)	(135.1)
Residual value payments by the Navy at termination, net of tax	(1.7)	(1.7)	(1.7)
Lost tax revenue from the amortization deduction	(.7)	(.7)	(.7)
Tax payments by the lessor on capital hire payments received (46% tax rate)			
Return of capital component	22.0	22.0	22.0
Interest component[3]	39.7	39.7	-
Lost tax revenue from depreciation deductions[4]	(72.4)	(72.4)	-
Total PV with Leasing	(148.2)	(148.2)	(115.5)
Leasing benefit versus purchase	34.2	(9.7)	64.4

than front-loading 100 percent of the cost in an appropriation. Thus, leasing can provide the Government with an extremely powerful tool to augment defense requirements beyond what would normally be available within limited funds.

When Leasing Provides Advantages Over Procurement

In the normal military procurement process, before Congress approves or appropriates procurement funds it must receive an Operations Requirements Document (ORD). This contains detailed operating characteristics and military specifications for each item of military equipment. The military specifications generally require higher standards than commercially built items. Unique features and/or functions for military use almost always increase purchase costs. However, the objectives are to ensure survivability and mission execution.

The primary objective for MPS vessels was to operate in a peaceful environment with only a slight possibility of going in harm's way. Thus, it was not necessary to build the TAKX ships to military specifications. However, normal acquisition policy would require the use of military specifications as the construction standard. As pointed out earlier, building the ships to commercial standards (ABS) resulted in Government cost savings of $35 million per ship.

Leasing also provides another advantage because, by contract, the Navy was not allowed to intervene in the commercial construction process. Each shipyard incurred severe penalties for delays in delivery of the completed ship. Furthermore, design changes were not allowed. In fact, severe penalties were imposed for late delivery of any ship. These factors motivated the shipbuilder to stay on schedule and ensured on-time delivery. The ships were in use within about 24 months.

In situations where commercial design can be adequate, construction under private ownership can avoid the delays and changes common in military-initiated construction. Such changes often place the project over-budget which increases Congressional oversight. The ability to avoid all these problems through leasing may be extremely beneficial in terms of delivery and mission when the assets do not require special design to military specifications.

Therefore, leasing should be considered a viable option when the military requirement can be filled with a "commercial-off-the-shelf" (COTS) application such as computers, medical equipment, standard industrial components, or general purpose supply equipment. Since the COTS item is designed and built for a specific use, the lengthy procurement process is not necessary.

When Timing is Critical

It might also be advantageous to lease when a requirement is mission-essential and there is not sufficient time for the full procurement process. Shortly after 9-11, for example, there were a multitude of immediate security requirements. One viable option for fulfilling some of these requirements could have been long-term leases. Arguably, this context might have applied to the refueling tankers which the Air Force wanted to lease from Boeing in 2002. By using leasing, the Government could have fulfilled its requirements in a much shorter time and at greatly reduced up-front outlays.

Reduced Present Value of Outflows

Based on the analyses in Table 2, the reduced present value of outflows can also be an additional inducement for leasing when one or more of the other conditions cited here are present.

CURRENT LEGISLATIVE CONTEXT

Today leasing as a part of acquisition strategy is effectively prohibited by legislation passed in 1984 and 1985, and by OMB Circular A-94, as discussed earlier. Re-opening the leasing option would require re-evaluating four consciously constructed impediments. Each of these is examined next.

Tax Deductibility of Depreciation Expense

The *Economic Recovery Act* of 1981 allowed companies to realize accelerated depreciation tax benefits over a very short time period. Under this Act, ACRS depreciation schedules allowed a five-year depreciation period for TAKX ships. The 25-year term of the lease was not relevant here. ACRS also permitted more depreciation in the early years than straight-line depreciation, which provided a significant advantage in the time value of money calculations. The present value of this depreciation tax shelter was over $72 million per ship, a major component of the economic return to the private investors.

In 1984, the *Deficit Reduction Act* (P.L. 98-369) modified tax laws to disallow taxpayers the use of ACRS for assets leased to tax-exempt entities such as the Government. The Legislation also reduced the impact of the tax benefits by lengthening the tax life for depreciation to a period equal to 125 percent of the lease term. While this Legislation was not retroactive, if the TAKX vessels had been built after 1984, depreciation lives would have been increased from 5 years to 31.25 years.

While the 1984 Act significantly discouraged leasing by reducing the tax benefits, a 1984 OMB ruling disallowed all depreciation deductions for leases to the Government. If the military hopes to foster an environment where owners desire to lease to the military, Congress needs to re-institute the ability of lessors to take depreciation deductions, at least on a straight-line basis over the useful life of the asset.

NIF Encumbrance

The *Balanced Budget and Emergency Deficit Control Act* of 1985 (P.L. 99-177) required DoD to request up-front budget authority for the estimated full present value of all long-term lease payments and termination provisions. This is a complete reversal of the reason that leasing was established over forty years ago in the private sector. One of the benefits of leasing in the commercial world is the ability to spread payments over the asset's useful life. If American Airlines were required to pay 100 percent of the present value of future lease payments for a new airplane at the start of the lease, leasing would be of no value. The same concept applies to the Government.

If the Government requires its agencies to obligate the sum of total payments for the first option period plus the termination value (which virtually equals the cost of the total lease) then it will never make financial sense to lease. In order to make Government leasing a viable financing option, special legislation is needed to frame lease payments as annual obligations. In this way, the Navy and other military services would not encumber their Working Capital Fund (such as the NIF) beyond one year.

Full Cash Flows to the Government

In a broader context, a comprehensive cost/benefit analysis for the leasing option should include the cash flow implications for the Treasury, as well as the Navy. OMB (1992) Circular A-94 rules out considering Treasury cash flows in the analysis. Why should an important part of the analysis be excluded? To be economically realistic, evaluations of leasing options in the private sector include all cash flows, especially the tax consequences that often drive the decision. In fact, present value or time value of money techniques are widely used for the very reason that amounts and timing of all cash flows are accurately quantified.

Prior Approval

The *1984 Department of Defense Authorization Act* (P.L. 98-94) further restricted Government leasing by requiring all long-term leases with substantial termination values to be specifically authorized by law. It further required Congressional notification prior to issuing a solicitation for leasing. Finally, the Act required a present value cost comparison be submitted to Congress after OMB and Treasury Department reviews and evaluations. Given the above exclusions of specific tax and cash flows in lease evaluations by OMB and Treasury, this law effectively eliminates serious consideration of leasing.

In summary, these three laws and regulations make it nearly impossible for leasing to be an effective long-term financing alternative to traditional purchasing. Without reversals of these laws and regulations, DoD departments are constrained to use the full procurement process for all military requirements no matter what the urgency or mission in providing and maintaining national security.

CONCLUSION

Which is more important to National Security in today's overall political context: full compliance with the conventional appropriations process; or allowing the possibility of leasing, under certain specified circumstances, which circumvents much of the conventional process?

With a different legislative context and regulatory climate, leasing could provide DoD and military departments with a potentially viable long-term financing tool. Whether such action is desirable depends on a personal interpretation of the current environment that effectively precludes leasing and the existing threats to national well-being. This research was intended to review the Navy's experience with the TAKX Program to frame a discussion of the prospective efficacy of such programs today.

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NOTES

1. The JCT report excludes from the purchase cost $4.2 million in base year legal costs paid to arrange the purchase contracts. AGL treats those costs as part of the purchase price.
2. This analysis does not assume that the purchase would be fully funded out of tax revenues (as AGL originally did) or fully funded by Treasury borrowing (as JCT did). The SSS analysis assumes that the purchase is financed by a mix of tax revenues and government borrowing that reflects the overall percentage of deficit financing in the federal budget that year (21% deficit financing via Treasury borrowing). Also, assume the purchasers of Treasury bonds were, on average, in a 13.5% tax bracket because many investors pay no US tax at all (foreign investors and tax exempt organizations). Thus, the government will receive only 6.2% as much tax revenue as if the purchase price was all borrowed from investors who were in the normal 46% tax bracket [.21*(.135/.46)=.062]. The $2.5 million offset to the purchase price is 6.2% of the multiyear present value of the full tax revenue from interest income under the lease option ($39.7 million).
3. AGL counts the present value of the tax payments by the lessor on the interest component of the capital hire payments as revenue to the Treasury and thus as an offset to the Navy cost. The JCT report argued that the investors would receive taxable interest income and pay tax on it regardless of whether they invest in the TAKX leases or something else. The item is thus not incremental to the TAKX deal and should not be offset against the lease cost. AGL argued that investors would put their money in tax exempt investments if the TAKX leases were not available. Thus, the tax revenue is incremental to the TAKX deal. The SSS analysis views the JCT is correct that investors would earn taxable interest, whether or not they invested in the TAKX leases. Thus, the SSS analysis does not include this offset as incremental to the TAKX leases.
4. This item is the present value of the depreciation deductions available to the ship owners. AGL and the JCT argue that this

item represents lost tax revenue to the Treasury and thus is considered an additional cost of the TAKX leases. The SSS analysis, as AGL argued elsewhere in their report, assumes that there is a finite pool of investment funds for leveraged lease deals, based on the pool of investors sophisticated enough to understand such deals and act on them. The TAKX deal does not change the total pool; it only allocates a portion of it to the government because of the favorable risk/return profile (an 11.745% after-tax return on a "hell or high water" basis with the federal government). The leveraged-lease investors will gain these tax deductions, whether or not the TAKX leases exist. Thus, the lost tax revenue is not incremental to the TAKX Program and should not be considered an additional cost of the deal.

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