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112669

BY THE COMPTROLLER GENERAL

Report To The Committee On Environment And Public Works United States Senate

OF THE UNITED STATES

General Services Administration's Lease Versus Construction Present-Value Cost Analyses Submitted To The Congress Were Inaccurate

The Committee is concerned over the substantial increase in leased space in recent years with no appreciable increase in Government-owned space. The Committee requested GAO to review the General Services Administration's use of Office of Management and Budget Circular No. A-104's prescribed procedures for comparing the present-value cost of leasing versus construction.

GAO's review of the present-value analyses in five lease prospectuses disclosed that they

- --were based on incorrect cost estimates,
- --omitted some relevant costs,
- --contained computational errors,
- --were based on unrealistic assumptions, and
- --used an inappropriate discount rate.

GAO recommended that GSA improve the accuracy of present-value analyses and OMB revise the prescribed discount rate.

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-198922

The Honorable Jennings Randolph
Chairman, Committee on Environment
and Public Works
United States Senate

SEN06402

The Honorable Robert T. Stafford
Ranking Minority Member
Committee on Environment and
Public Works
United States Senate

This report is in response to your August 9, 1979, request that we review the lease versus construction present-value cost comparison procedures prescribed by the Office of Management and Budget Circular No. A-104 and the accuracy of General Services Administration present-value cost analyses in prospectuses submitted to the Congress.

We discussed the matters contained in this report with General Services Administration and Office of Management and Budget officials, and their comments are included in the report. As arranged with your office, we are sending copies of the report to the Administrator of General Services and the Director of the Office of Management and Budget. Unless you publicly announce its contents earlier, no further distribution of this report will be made until 10 days from the date of the report. At that time, we will send copies to interested committees and agencies and make copies available to others upon request.

Milton J. Socolar

ACTING Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT TO THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

GENERAL SERVICES ADMINISTRATION'S LEASE VERSUS CONSTRUCTION PRESENT-VALUE COST ANALYSES SUBMITTED TO THE CONGRESS WERE INACCURATE

D I G E S T

GAO found that the General Services Administration's lease versus construction present-value cost analyses in five lease prospectuses submitted to the Congress in 1979 were inaccurate, and therefore, did not provide a reliable basis for evaluating acquisition alternatives. The analyses

--were based on incorrect operating cost estimates (see p. 4),

--omitted some relevant costs (see p. 6),

--contained computational errors (see p. 8),

--did not reflect rental payments escalated at renewal periods (see p. 9),

--assumed an unrealistic year of occupancy (see p. 9),

--did not consider the lack of comparability between federally constructed and leased privately constructed buildings (see p. 10), and

--used an inappropriate discount rate (see p. 11).

General Services needs to improve its procedures for preparing present-value cost analyses in order to provide the Congress with accurate cost comparisons of space acquisition alternatives.

PRESENT-VALUE ANALYSIS A USEFUL TOOL

Present-value analysis can be a useful tool in evaluating the comparative cost of investment alternatives, provided that underlying assumptions and criteria are realistic and are applied objectively and consistently. However, a present-value analysis--like any situation where future events and costs are estimated--necessarily involves assumptions and estimates. Therefore, the analysis results may vary depending upon assumptions made and precision of estimates. Among the variables which may affect analysis results are the discount rate, assumptions as to the timing of cash outlays, estimated costs, and projected inflation rates. (See p. 15.)

OFFICE OF MANAGEMENT AND BUDGET CRITERIA NEED TO BE REVISED

GAO disagrees with the Office of Management and Budget Circular No. A-104's prescribed 7-percent discount rate, price deflator for leasing costs, and assumption that construction costs are paid in a lump sum as of the present-value date and therefore not discounted. In previous reports, GAO stated that:

--The discount rate should be based on the Government's borrowing costs.

--The deflator for leasing costs is inappropriate because it would be inconsistent to remove inflation from the leasing alternative and include it under the Federal construction and ownership alternative.

--General Services' estimates of future costs should be discounted to more closely correspond with the timing of cash outlays. Construction payments begin after contract award and continue throughout the construction period. They should not be viewed as occurring in a lump sum as of the present-value date. (See p. 16.)

GROWTH OF LEASING RELATED TO FUNDING RESTRICTIONS

Decisions to lease have been based primarily on the lack of funds for construction, regardless of present-value analysis results. Several recent lease prospectuses contained present-value analyses showing constuction as the less costly alternative. Nevertheless, the prospectuses recommended leasing because there were no funds available for construction. (See p. 16.)

LONG-RANGE PLANNING

Senate bill 2080, 96th Congress, reported out by the Senate Committee on Environment and Public Works, would require emphasis on, and disclosure of, General Services' long-range planning for its public buildings program. GAO believes the authorization and planning procedure required by Senate bill 2080, if enacted, should provide the Congress with better overview and visibility over General Services' buildings program.

General Services has begun development of a planning and evaluation system which is expected to produce a 5-year program plan by 1983. The plan is expected to consider the relative priorities among space proposals and show projected lease/construction mixes, as well as funding requirements. (See p. 17.)

UNDISCOUNTED CASH OUTLAYS ANALYSIS USEFUL

While an analysis comparing the discounted present-value of future cash outlays is the appropriate way of evaluating the cost of investment alternatives, an analysis comparing future outlays on an undiscounted basis would provide the Congress and others responsible for appropriations and budgeting with useful information on amounts that may have to be appropriated under each alternative. (See p. 18.)

RECOMMENDATIONS TO THE ADMINISTRATOR OF GENERAL SERVICES

The Administrator of General Services should direct that present-value analyses

--be based on correct operating cost estimates,

--include all relevant costs,

--are computed accurately,

--reflect rental payments escalated at renewal periods, and

--assume a realistic year of occupancy. (See p. 13.)

RECOMMENDATION TO THE DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

The Director, Office of Management and Budget, should revise its Circular No. A-104 to provide that the discount rate, to be used in comparative cost analyses for decisions to lease or construct general purpose real property, will be based on the average yield on outstanding marketable Treasury obligations with remaining maturities comparable to the analysis period. (See p. 14.)

AGENCY COMMENTS

General Services officials generally agreed with GAO's findings and recommendations. They said that many of the agency's problems in preparing present-value analyses were attributable to technical problems in using its recently implemented computer-based model. The officials said that General Services may scrap the model and develop an alternative procedure for preparing present-value analyses.

Office of Management and Budget officials said that they will give GAO's recommendation on using a discount rate based on the average yield on outstanding marketable long-term Treasury obligations further consideration when they receive this report. (See p. 14.)

Contents

ABBREVIATIONS

GAO General Accounting Office

GSA General Services Administration

OMB Office of Management and Budget

CHAPTER 1

INTRODUCTION

The Public Buildings Act of 1959 (40 U.S.C. 602 et seq.) authorizes the Administrator of General Services to acquire public buildings by purchase, condemnation, donation, or exchange. Generally buildings are acquired by Federal construction or leasing. The Federal Property and Administrative Services Act of 1949 (40 U.S.C. 490) authorizes the Administrator to lease, for periods up to 20 years, existing buildings or buildings to be erected for Government use by private or public lessors.

The House and Senate Committees on Appropriations and on Public Works have, on several occasions, expressed concern about the increasing amount and cost of leased space. They have advocated Federal construction as the most economical way to provide space for Federal agencies. However, due primarily to budgetary restrictions on construction, the General Services Administration (GSA) has relied primarily on leasing to meet increased space needs. There has been a sizable increase in leased space under GSA's control since fiscal year 1966, but no appreciable increase in Government-owned space acquired through direct Federal construction. The amount of leased space increased from 44.6 million square feet in fiscal year 1966 to 93.3 million square feet in fiscal year 1979. Annual lease payments increased from $131 to $520 million during the same period, and this trend is expected to continue.

Section 7 of the Public Buildings Act of 1959, as amended (40 U.S.C. 606), requires GSA to obtain prospectus approval from the House Committee on Public Works and Transportation and the Senate Committee on Environment and Public Works on all leases having an average annual rent in excess of $500,000. A prospectus is a proposal document which contains information about the project, including a comparative present-value analysis of the cost of leasing versus the cost of Federal construction and ownership.

The present-value method of analysis is generally recommended by economists and systems analysts for evaluating alternatives, such as leasing or constructing. The Office of Management and Budget (OMB) Circular No. A-104, dated June 14, 1972, prescribes the overall procedures, assumptions, and format to be used in a comparative present-value cost analysis to support decisions to lease or purchase general purpose real property. GSA's present-value analysis procedures are based on the criteria in the OMB circular.

SCOPE OF REVIEW

By letter of August 9, 1979 (see app. I), the Chairman and the Ranking Minority Member of the Senate Committee on Environment and Public Works jointly requested that we review the procedures prescribed by OMB Circular No. A-104 and report on their validity as a tool in comparing leasing and construction costs. They requested our views on

--the appropriateness of various assumptions made in the procedures,

--the accuracy of costs used in GSA's present-value analyses,

--the general usefulness of present-value analysis in these matters, and

--other factors that should be considered in lease versus construction decisions.

We reviewed the present-value analyses in five lease prospectuses submitted to the Congress in 1979. The prospectuses were for leased space in the Commonwealth Building and the Webb Building, Arlington, Virginia; the Page Building 1, Washington, D.C.; the Tishman Building, San Francisco, California; and a building for the Veterans Administration, Atlanta, Georgia.

We previously commented on OMB Circular No. A-104 and GSA's present-value analyses in the following GAO reports:

--Letter report to the Director of OMB and the Administrator of General Services on improvements needed in the criteria prescribed for use by executive agencies in making cost comparisons (B-163762, Nov. 14, 1974).

--"Improved Procedures Needed For Justifying Lease Acquisitions of Federal Buildings" (LCD-74-334, Feb. 13, 1975).

--"Procedures And Assumptions Used In Making Present-Value Cost Comparisons For Alternative Methods of Acquiring Federal Buildings" (LCD-75-345, Nov. 4, 1975).

In reviewing GSA's present-value analyses, we reviewed the User Guide manual containing the description and documentation of the computer-based model used by GSA to prepare the analyses. We reviewed GSA's documentation and computations supporting various data inputs and reviewed and analyzed the model's output reports. We also interviewed GSA personnel responsible for preparing the present-value analyses.

CHAPTER 2

GSA'S LEASE VERSUS CONSTRUCTION

PRESENT-VALUE COST ANALYSES WERE INACCURATE

The present-value analyses for the cost of leasing space versus the cost of constructing and owning Federal buildings in five lease prospectuses GSA submitted to the Congress in 1979 were inaccurate. Consequently, the analyses did not provide a reliable basis for evaluating space acquisition alternatives. We found that the analyses

--were based on incorrect operating cost estimates,

--omitted some relevant costs,

--contained computational errors,

--did not reflect rental payments escalated at renewal periods,

--assumed an unrealistic year of occupancy,

--did not consider the lack of comparability between federally constructed and leased privately constructed buildings, and

--used an inappropriate discount rate.

Since March 1978, GSA has used a computer-based system called the Life Cycle Planning and Budgeting Model to prepare the present-value cost analyses. The model is designed to estimate future cost streams for each acquisition alternative based on parameters in user inputs and stored assumptions, and to discount those costs to the present-value base year. However, the acquisition cost for the construction alternative is manually estimated and then input to the system for discounting because GSA officials considered the model's estimates of acquisition cost incorrect. The net rent and services and utilities costs for the lease alternative are also manual inputs because they can be readily estimated based on actual leases. All other cost streams in the analysis are calculated internally by the model based on user inputs and stored assumptions.

INCORRECT OPERATING COST ESTIMATES

Some operating cost estimates generated by the model for the construction alternative were incorrect. In order to test the model's reliability in estimating operating costs, we compared the model's estimated 1979 custodial, utilities, and imputed real estate tax costs 1/ for the construction alternatives in the Page Building 1, the Tishman Building, and the Veterans Administration building cases with our estimates of those costs for fiscal year 1979. We were unable to obtain the model's estimated 1979 operating costs for the construction alternatives in the Commonwealth Building and the Webb Building cases because GSA had inadvertantly deleted the computer files needed to develop these cost estimates. The results of our comparison were as follows:

	1979 costs estimated by model (note a)	1979 costs estimated by GAO (note b)
Page Building 1:		
Custodial cost	$ 54,806	$119,992
Utilities cost	63,604	62,754
Imputed real estate tax cost	174,811	44,564
Tishman Building:		
Custodial cost	121,892	103,546
Utilities cost	81,708	56,509
Imputed real estate tax cost	157,752	71,330
Veterans Administration building:		
Custodial cost	91,819	104,364
Utilities cost	104,243	81,198
Imputed real estate tax cost	414,426	73,600

a/The User Guide for the model does not indicate whether the model uses a calendar year or a fiscal year basis.

b/The custodial and utilities costs estimates were based on costs reported by GSA's National Electronic Accounting and Reporting System for the fiscal year ended September 30, 1978, which we escalated to the fiscal year ended September 30, 1979, based on the budgeted increase in unit operating costs for fiscal year 1979.

The imputed real estate tax cost estimates were based on information obtained from GSA regional appraisal staffs. The estimates for the Page Building 1 and the Tishman Building were based on the tax year July 1, 1978, to June 30, 1979. The estimate for the Veterans Administration building was based on the tax year January 1, 1979, to December 31, 1979.

1/Although the Government pays no property taxes on Government-owned buildings, an imputed cost is included in an economic analysis for property taxes that would have been paid to State and local governments if the property were privately owned.

Custodial and utilities costs

Unit custodial and utilities costs stored in the model were based on fourth quarter 1976 costs for Washington, D.C. The model applied annual price inflators to update these unit costs. The model then applied custodial staff-hours, quantities of custodial materials, and units of utility to the corresponding unit costs. The model estimated these quantity factors on the basis of the building space configuration assumed by the model.

GSA officials believe that the model's incorrect estimates of custodial and utilities costs were due to the fact that the model's assumed building configuration was irrelevant to the configuration of a building that would actually be built.

Imputed real estate tax cost

The model estimated the imputed real estate tax cost by applying the tax rate in the applicable locality to the model's estimate of the assessed valuation of a federally constructed building. In our opinion, the imputed real estate tax cost should have been based on the assessed valuation of Government space in the leased building under consideration because the imputed cost represents taxes that would have been paid to State and local governments if the property were privately owned.

As discussed on page 10, Federal buildings cost more than leased privately constructed buildings. We believe the model's higher estimates for imputed real estate tax costs were due in part to the fact that the model's estimates were based on a federally constructed (higher cost) building rather than on a leased building.

SOME RELEVANT COSTS OMITTED

GSA omitted some relevant costs under both the construction alternative and the leasing alternative in one or more of the five analyses we reviewed.

Construction alternative

Site cost

GSA omitted site cost in estimating the acquisition cost for the construction alternative in the Page Building 1 analysis on the basis that suitable Government-owned property was available. Site cost includes land cost, appraisal, legal fees, survey, demolition, and site preparation. The omission of the site cost of Government-owned land is contrary to the guidance in OMB Circular No. A-104 which says:

> "All economic costs incurred as a result of Federal acquisition of property must be included whether or not actually paid by the Federal Government. Such costs not generally involving a direct Federal payment include imputed market values of public property * * *."

The cost of the construction alternative for the Page Building 1 was understated because site cost was omitted. A GSA cost estimator told us that the fair market value of the site involved was about $2,185,000 in 1979.

Interim housing cost

Interim housing cost was omitted from the construction alternative in each of the five analyses we reviewed. According to GSA, it takes a minimum of 5 years to plan, approve, fund, design, and construct a Federal office building. Therefore, occupancy for a leased building would precede anticipated occupancy for a new Federal building by several years. We believe that the differences in occupancy dates should be recognized and the interim cost of occupying existing space until the new building is ready for occupancy included in the present-value analyses as a cost for the construction alternative.

In our earlier reports (LCD-74-334, Feb. 13, 1975, and LCD-75-345, Nov. 4, 1975), we said that when two different periods of occupancy exist, the leasing and Federal construction alternatives cannot be accurately compared without considering the interim cost of occupying other facilities until the new Federal building is ready for occupancy. The estimated 5-year cost of occupying existing space under the lease proposed in the prospectus would be an appropriate basis for determining the interim housing cost. Cash outlays for operating costs of the new Federal building would begin in the sixth year, the year of occupancy. The cost of the construction alternative was understated because interim housing cost was omitted.

Moving cost

Moving cost was omitted from the construction alternative in each of the five analyses we reviewed even though these moving costs would be incurred in moving from existing leased space to a new Federal building. (The leasing alternative in the five cases contemplated continued occupancy of existing leased space and therefore did not involve moving cost.) The model computed moving cost for the construction alternative, but GSA excluded it from the analyses. However, moving costs were too small to affect the economic choice among alternatives in the five analyses.

Leasing alternative

Escalation for real estate taxes

The five prospectuses we reviewed stated that the proposed leases will include an escalation clause providing for annual rental adjustments for real estate tax increases or decreases. The GSA appraisal staff expects real estate taxes on the five leased buildings to increase over the 30-year analysis period. However, the present-value analyses did not include real estate tax escalation as a cost under the lease alternative. As a result, lease costs were understated.

Alteration cost

The GSA analyses included estimated cost for alterations as part of the Federal construction and ownership alternative. GSA also spends sizable amounts for alterations in leased buildings. For example, past Government expenditures for alterations of leased space in the five buildings discussed in the prospectuses we reviewed totaled $2,577,000. However, GSA's analyses did not include alterations as a cost under the lease alternative. This omission also caused lease costs to be understated.

Supervision and management cost

Supervision and management cost was omitted under the lease alternative in three of the five analyses we reviewed. According to the User Guide for the model, this cost includes partition layout cost in the year before occupancy and GSA's annual lease administration cost. The Webb Building, the Tishman Building, and the Veterans Administration building analyses omitted this cost. Consequently, lease costs in these three cases were understated.

COMPUTATIONAL ERRORS

Site costs of $1,737,000 and $1,211,000 were included twice in the estimated acquisition cost input for the construction alternative in the Commonwealth Building and Webb

Building cost analyses, respectively. The costs were properly shown as site costs but were also included in the design supervision and management cost due to a computational error. As a result, the estimated design supervision and management cost for the construction alternative in the two cases was overstated.

RENTAL PAYMENTS NOT ESCALATED AT RENEWAL PERIODS

Procedures used by GSA for projecting future net rent cost (gross rent less the value of services and utilities furnished by the lessor) in four of the five analyses we reviewed were contrary to a GSA commitment to OMB. According to a GSA factsheet dated April 12, 1978, GSA made a commitment to OMB that "The analysis should reflect * * * rental payments escalated at renewal periods." We agree with that position. However, GSA did not adhere to that procedure in four of the analyses.

In the analyses for the Commonwealth Building, the Page Building 1, and the Veterans Administration building, the net rent was escalated at about 1 percent each year over the 30-year analysis period. The prospectuses in these three cases proposed a 10-year lease. Thus, if the procedure described in GSA's April 1978 factsheet had been followed, the net rent should have been escalated (based on an assumed rate of inflation) beginning with the 11th year and continued at the escalated rate until the next lease renewal, if any.

In the analysis for the Webb Building, the net rent was not escalated at all. The analysis assumed a fixed net rent for the 30-year analysis period. The prospectus for the Webb Building proposed a maximum 10-year lease. Under the GSA factsheet's criteria, the net rent should have been escalated beginning with the 11th year and continued at the escalated rate until the next lease renewal, if any.

UNREALISTIC YEAR OF OCCUPANCY ASSUMED

GSA assumed an unrealistic year of occupancy for the construction alternative in all five analyses we reviewed. GSA assumed an unrealistic year of occupancy for the leasing alternative in two of the five analyses.

Construction alternative

GSA assumed an unrealistic year of occupancy for the construction alternative in the five analyses we reviewed. The years of occupancy assumed were as follows:

Veterans Administration building	1979
Commonwealth Building	1980
Page Building 1	1980
Webb Building	1982
Tishman Building	1982

The present-value base year in the five cases was 1979. Since no buildings were under construction, and it takes at least 5 years to plan, approve, fund, design, and construct a Federal building, the earliest possible occupancy would be in 1984. The assumed occupancy date determines when outlays for operating costs would commence and therefore has a direct effect on the present-value analysis. A 30-year cost stream beginning 5 years hence would have a lower present-value than a cost stream beginning sooner.

Leasing alternative

The assumed years of occupancy shown under the leasing alternative in two of the analyses were also unrealistic as follows:

Commonwealth Building	1980
Page Building 1	1980

Both cases involved proposed succeeding leases for continued occupancy of existing space. The lease on the Commonwealth Building expired October 6, 1978, and the lease on the Page Building 1 expired September 30, 1979. Therefore, an assumed occupancy year of 1980 seems inappropriate.

LACK OF COMPARABILITY BETWEEN FEDERALLY CONSTRUCTED AND LEASED PRIVATELY CONSTRUCTED BUILDINGS

Economic analyses which compare the costs of Federal construction and ownership with leasing, compare alternatives that are not fully comparable because of differences in quality and cost between federally constructed buildings and leased privately constructed buildings. Engineering studies indicate that Federal buildings cost more to construct than leased buildings for the same amount of occupiable space. In comparing federally constructed buildings with leased privately constructed buildings, the analyses force comparisons between noncomparable buildings and may result in misleading and invalid conclusions.

Federal buildings generally have higher ceilings, more area for elevators and other services, and better quality materials and mechanical equipment. The differences in standards affect both construction and operating costs.

As we pointed out in our November 4, 1975, report (LCD-75-345), GSA construction contract provisions, resulting from specific acts of Congress, also increased the costs of Federal buildings. For example, the Davis-Bacon Act (40 U.S.C. 276a) imposes minimum wage standards on certain Federal construction contracts and the Buy American Act (41 U.S.C. 10) and related measures generally exclude use of construction materials from foreign sources which may be less costly than domestic materials. Since such contract provisions do not apply to privately constructed buildings, similar cost increases do not occur.

GSA is currently experimenting with a "design-to-rent" concept to lower Federal construction costs. This concept, also called a capitalized income approach to budget development, seeks to lower the cost of a Federal building by linking the building's cost to its ability to generate income based on the anticipated standard level user charges to tenant agencies. GSA believes that implementation of the design-to-rent concept will make new construction more competitive with leasing by setting rational, lower attainable construction cost targets. It will not, however, eliminate differences between Federal and private construction because the concept allows increased costs associated with Federal buildings when justified on the basis of life-cycle cost benefits, statutory requirements, and GSA policy.

In December 1979, GSA issued interim instructions requiring all new construction cost estimates developed for prospectuses and building project surveys pursuant to section 11b of the Public Buildings Act of 1959, as amended, initiated on or after October 1, 1980, to be developed in accordance with the design-to-rent concept. According to a GSA official, this means that new construction cost estimates for present-value cost comparisons in lease prospectuses will be based on this concept. We believe that proper implementation of this procedure should improve the comparability of federally constructed buildings and leased buildings in present-value analyses.

INAPPROPRIATE DISCOUNT RATE USED

Our November 14, 1974, report (B-163762), our February 13, 1975, report (LCD-74-334) and our November 4, 1975, report (LCD-75-345) discussed the problem of selecting an appropriate discount rate for present-value cost comparisons. The discount rate used has a direct and overriding effect on the results and conclusions of a present-value comparison of lease and construction costs. As a rule, Federal construction and ownership will be more economically advantageous as the discount rate decreases; conversely, leasing normally will be more economically advantageous as the discount rate increases.

GSA uses an OMB-prescribed 7-percent discount rate. 1/ OMB Circular No. A-104 states that this rate represents an estimate of the internal rate of return on general-purpose real property leased from the private sector, exclusive of property taxes and expected inflation. In other words, the rate is based on the concept of opportunity cost foregone in the private sector. We believe that the use of a discount rate based on rates of return experienced in the private sector is inappropriate in Government cost comparisons.

Since the time value of money is a valid consideration in computing Government costs, it logically follows that the interest the Government pays on borrowings should be the basis used for measuring its time value of money. Because the U.S. Treasury does not publish a rate that represents its total cost of borrowings, we believe the average yield on outstanding marketable obligations of the U.S. Treasury with remaining maturities comparable to the analysis period of the comparison should be used to measure the Government's borrowing cost. The yield rate is established through trading by private investors of outstanding Government securities on the over-the-counter market and is a good indicator of the rate that Treasury would have to offer on new issuances. At the time GSA prepared the five analyses, the average yield on outstanding marketable long-term Treasury obligations was about 9 percent.

1/GSA used a 6.5-percent discount rate in three of the five analyses we reviewed and a 7-percent discount rate for the other two. A GSA analyst told us that during 1978 and the early part of 1979, GSA used a 6.5-percent discount rate instead of 7 percent on some analyses to compensate for the fact that the model uses beginning-of-year discount factors whereas OMB Circular A-104 prescribes the use of either continuous or end-of-year discount factors. However, GSA has discontinued using the 6.5-percent rate and uses the 7-percent discount rate for all present-value analyses.

We discussed our position on the discount rate with OMB officials. They said that perhaps the 7-percent discount rate needs to be reevaluated and a future revision of Circular No. A-104 may provide for it; however, the circular as currently written represents OMB's official policy. The officials said that OMB will consider the matter further when it receives our report.

CONCLUSIONS

GSA needs to improve its procedures for preparing present-value cost analyses in order to provide the Congress with accurate cost comparisons of space acquisition alternatives. Appropriate steps should be taken to assure that present-value analyses are based on correct operating cost estimates, include all relevant costs, are accurately computed, reflect rental payments escalated at renewal periods, and assume a realistic year of occupancy.

GSA's present-value analyses compare alternatives that are not fully comparable because a federally constructed building costs more and is generally a better quality building than a leased privately constructed building. GSA is currently experimenting with a design-to-rent concept to lower Federal construction costs and thereby make new construction more competitive with leasing. Effective October 1, 1980, GSA plans to apply this concept to construction cost estimates for present-value cost comparisons in lease prospectuses. If properly implemented, this should improve the comparability of federally constructed buildings and leased buildings in present-value analyses.

Selecting an appropriate discount rate is very important in present-value cost comparisons because the discount rate used has a direct effect on the results and conclusions of the comparison. We believe that the discount rate for GSA's present-value analyses should be based on the cost of Treasury borrowing, as measured by the average yield on outstanding marketable long-term Treasury obligations.

RECOMMENDATIONS TO THE ADMINISTRATOR OF GENERAL SERVICES

The Administrator of General Services should direct that present-value analyses

--be based on correct operating cost estimates,

--include all relevant costs,

--are computed accurately,

--reflect rental payments escalated at renewal periods, and

--assume a realistic year of occupancy.

RECOMMENDATION TO THE DIRECTOR, OMB

The Director, OMB, should revise OMB Circular No. A-104 to provide that the discount rate, to be used in comparative cost analyses for decisions to lease or construct general purpose real property, will be based on the average yield on outstanding marketable Treasury obligations with remaining maturities comparable to the analysis period.

AGENCY COMMENTS

The matters in this report were discussed with GSA and OMB officials. GSA officials generally agreed with our findings and recommendations. They said that many of GSA's problems in preparing present-value analyses were attributable to the various technical problems GSA has experienced in using the model as a tool for preparing the analyses. The officials said that some improvements have been made since the five analyses we reviewed were prepared. However, they doubt that they will be able to overcome all of the problems associated with the model and use it effectively. As a result, they said GSA is seriously considering scrapping the model and developing an alternative procedure for preparing present-value analyses.

OMB officials said that Circular No. A-104, as currently written, represents official policy, but that OMB will give our recommendation on using a discount rate based on the average yield on outstanding marketable long-term Treasury obligations further consideration when it receives our report.

CHAPTER 3

OBSERVATIONS ON PRESENT-VALUE ANALYSIS, OMB CRITERIA, AND OTHER MATTERS PERTINENT TO LEASE VERSUS CONSTRUCTION DECISIONS

PRESENT-VALUE ANALYSIS A USEFUL TOOL

Present-value analysis can be a useful tool in evaluating the comparative cost of investment alternatives, provided that underlying assumptions and criteria are realistic and are applied objectively and consistently. However, a present-value analysis--like any situation where future events and costs are estimated--necessarily involves assumptions and estimates. Therefore, the analysis results may vary depending upon assumptions made and precision of estimates. Among the variables which may affect analysis results are the discount rate, assumptions as to the timing of cash outlays, estimated costs, and projected inflation rates.

GSA's present-value analyses frequently show leasing to be the less costly alternative even when total payments under this alternative over a 30-year period may actually be greater than for Federal construction and ownership. This is due to differences in the timing of cash outlays under the two alternatives. In a typical case, the construction and ownership alternative requires large dollar outlays during the first 5 years of the analysis period whereas leasing involves a series of smaller annual costs spread over a 30-year analysis period that, in total, however, are greater than those of construction.

The implication of this time difference, for the comparison of costs under the two alternatives, is that the costs to be incurred under each cannot be merely summed and compared, since to do so would imply that a unit of money, such as a dollar, has equal value regardless of when it is received or spent.

It is important to recognize that a dollar received today is worth more than a dollar received next year and to postpone spending a dollar until next year affords the opportunity to earn interest on that dollar or otherwise productively use it for the 1-year period.

OMB CRITERIA NEED TO BE REVISED

With the exception of the OMB prescribed 7-percent discount rate, price deflator for leasing costs, and assumption that construction costs are paid in a lump sum as of the present-value date and therefore not discounted, we believe that the procedures prescribed by OMB Circular No. A-104 are generally acceptable.

In our February 13, 1975, report (LCD-74-334) and our November 4, 1975, report (LCD-75-345), we stated that the average yield on outstanding marketable long-term Treasury obligations is a fair indication of the Government's cost of money and is an acceptable basis for establishing the discount rate. GSA, however, still uses the OMB prescribed 7-percent discount rate. At the time GSA prepared the five analyses we reviewed, the average yield on outstanding marketable long-term Treasury obligations was about 9 percent.

In our November 4, 1975, report, we stated that we consider the OMB prescribed price deflator for leasing costs inappropriate because it would be inconsistent to remove inflation from the leasing alternative and include it under the Federal construction and ownership alternative. GSA discontinued the use of the leasing cost deflator when it implemented the model in early 1978.

Our two earlier reports also stated that GSA estimates of future costs should be discounted to more closely correspond with the timing of cash outlays. Construction payments begin after contract award and continue throughout the construction period. They should not be viewed as occurring in a lump sum as of the present-value date. GSA agreed with our position, and since implementation of the model, spreads construction costs over a 3-year construction period assuming that one-sixth of the total is incurred in the first year of construction, one-third in the second, and one-half in the third.

GROWTH OF LEASING RELATED TO FUNDING RESTRICTIONS

The five prospectuses we reviewed justified leasing on the grounds that no Federal construction was underway, planned, or authorized. To further justify the choice of leasing, GSA furnished present-value analyses showing leasing as the less costly alternative in four of the five prospectuses. In the remaining prospectus, construction was shown as less costly but the prospectus nevertheless recommended leasing as the only feasible alternative.

GSA has cited such economic evaluations as one of the most important factors in determining whether to recommend Federal construction or leasing. However, as the Deputy Administrator of General Services told the Subcommittee on Treasury, Postal Service, and General Government, House Committee on Appropriations, in 1979, "* * * GSA also recognizes that its recommendations must be compatible with the Administration's restraints on funding that will be available for capital improvements."

At the time of our review, GSA had no major construction program underway or planned. For budgetary reasons, OMB rarely approves the direct Federal construction of a building. The large initial outlays for Federal construction affect the national budget in the year that appropriations are approved. Consequently, GSA has relied increasingly on leasing rather than Federal construction and ownership to provide space for Federal agencies.

Several recent lease prospectuses contained present-value analyses showing construction as the preferred economic alternative. Nevertheless the prospectuses recommended leasing because there were no funds available for construction. Thus, decisions to lease have been primarily based on the lack of funds for construction, regardless of present-value analysis results.

LONG-RANGE PLANNING

The Senate Committee on Environment and Public Works has reported out Senate bill 2080, 96th Congress, which would repeal the Public Buildings Act of 1959, as amended, and make a number of changes in the way GSA conducts its public buildings program. It would require emphasis on, and disclosure of, GSA's long-range planning for its buildings program. We furnished comments on the proposed legislation at hearings held on January 29, 1980.

The authorization and planning procedure proposed in Senate bill 2080 would be an improvement over the current prospectus authorization procedure now in effect wherein projects are approved individually on a piecemeal basis, without any indication of total needs and priorities. The proposed procedure should provide the Congress with better overview and visibility over GSA's entire buildings program.

GSA has begun development of a planning and evaluation system which is expected to produce a 5-year program plan. The plan is expected to consider the relative priorities among space proposals and show projected lease/construction mixes, as well as funding requirements. A GSA official told us that formal implementation of the system will begin in June 1980 and will be fully integrated with the fiscal year 1983 budget preparation cycle.

UNDISCOUNTED CASH OUTLAYS ANALYSIS USEFUL

While an analysis comparing the discounted present-value of future cash outlays is the appropriate way of evaluating the cost of investment alternatives, an analysis comparing future outlays on an undiscounted basis would provide the Congress and others responsible for appropriations and budgeting with useful information on amounts that may have to be appropriated under each alternative.

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, D.C. 20510

August 8, 1979

The Honorable Elmer B. Staats
Comptroller General of the United States
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Staats:

Examination by the Senate Committee on Environment and Public Works of a number of lease proposals of the General Services Administration has raised several issues which we wish to refer to you for study and a report to the Committee.

First, our examination indicates that in the course of some leases, they are amended numberable times. We would value your analysis of several such leases to ascertain the extent to which their implementation conforms with the terms and limits of their prospectus authorization. How have amendments compared with the authorization limitations contained in the original prospectuses with respect to rental rates, square footage limitations and maximum cost ceilings contained in their respective prospectuses?

Do prospectuses constitute an authorization ceiling in practice--as they are implemented by GSA? If so, how is that authorized limitation measured? Is there realistic meaning to the Congressional approval of prospectuses when they are amended numberable times within one prospectus authorization?

Second, we find that in some prospectuses for which GSA sought Committee approval, alternative space apparently was rejected where the accepted space contained the same deficiencies given as cause for rejecting the alternate space. Is the basis for the recommendations made to the Senate and House Committees valid, including comparisons of alternative space?

An underlying question in both the above issues is whether the information upon which the Committees are asked to act is accurate, whether it is meaningful, and whether it is sufficient to bear scrutiny similar to that exercised by the Congress in other authorization and budget reviews. Does each prospectus constitute a valid and reliable authorizing document?

Finally, the Committee would value a legal opinion of the Comptroller General as to whether or not a Committee resolution approving a prospectus constitutes an authorization. If so, what are its limitations and terms and how is it defined and measured.

The Committee is currently conducting a series of oversight hearings of the Public Buildings Service of GSA and the Public Buildings Act of 1959. It hopes to complete this review and prepare amendments to the Act this Fall. It would be appreciated if you could review these issues by examining a select group of prospectuses and leases and report at least your preliminary findings by October 1, 1979.

We would be happy to confer with you regarding this matter, and the Committee staff is available to you and your staff.

Sincerely,

Robert T. Stafford
Ranking Minority Member

Jennings Randolph
Chairman

(945173)

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