

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672

1314 SCOMM 50: HOUSE SPECIAL COMMITTEE ON STATE LOANS 1985-86

Role of the State Bond Committee

The Alaska State Bond Committee was established by the State Bonding Act (AS 37.15.110). The statute requires that the Committee be composed of three members, as follows:

Commissioner of Commerce and Economic Development
(as permanent Chairman),

Commissioner of Revenue,
(as Secretary), and the

Commissioner of Administration

The principal role for the Committee is to authorize the sale of Alaska's general obligation bonds. The Committee also approves the allocation of funding to capital projects, authorizes the prefinancing of projects to be bonded (i.e., the use of general fund loans in anticipation of bond sale receipts), and is responsible for International Airport Revenue Bond sales. In the past, the Governor has supplemented the membership of the State Bond Committee with ex officio members. During Governor Hammond's administration the ex officio members were the Commissioner of Transportation and Public Facilities and the Director of the Office of Management and Budget.

Based largely upon interviews with individuals who have been members of the Committee over the past ten years, there appears to be a consensus that the Committee's present role is limited and that it is not substantively active in the State's debt management. We believe this to be the result of several factors, chiefly: 1) legislative design of a routine, perfunctory board rather than an active management- and oversight-oriented board, and 2) lack of staff to the Committee.

Each corporate-type entity of the State that is authorized to issue debt has virtual autonomous power of self-governance over its debt issuance and debt management. The autonomy enjoyed by these issuers is, however, subject to review and oversight by the Legislature through its approval of upset or maximum debt authorization levels. In addition, through appointment privileges, the Governor of the State has effective control over the governing boards of most State government corporations and authorities. Yet, each of these levels of legislative and executive oversight is subject to the dynamics of the political process, and, as a practical matter, the Executive Board positions are frequently more ceremonial than substantive. This is due to the inherent remoteness of Board members from day-to-day involvement in the State corporations and the practical limitations on the commitment of time to a wide array of corporate-type activities.

It is important that some body at the State level take responsibility for monitoring, analyzing, and reporting on the total amount of debt outstanding in the State and State debt management practices. As pointed out elsewhere in this report, the size and scope of State debt in Alaska is significant, and on a

per capita basis greater than anywhere else in the United States. The rate of growth in overall public debt is among the highest in the nation, due principally to the debt issued under the auspices of the State through its public authorities and corporations. Unlike the State's full faith and credit bonds, this debt does not require approval by vote of the people at public referendum. In addition, nearly 40 percent of the State's revenue-supported debt is backed by a pledge of the State's moral obligation and, therefore, represents a contingent liability of the State (see Table 3.16).

The experience of New York State with its Urban Development Corporation is the most graphic example of the consequence of inadequate control of public authority debt issuance. In fact, New York only regained financial credibility after what had been very limited control over the borrowings of its vast and diverse public corporations was tightened through several oversight mechanisms. Of course, Alaska is not in a comparable position, nor is the State threatened in any similar way to the fiscal crisis of New York State and City in the early to mid-1970's. Yet, it is the uncontrolled growth of enormous amounts of debt that brought New York State to the brink of bankruptcy. A revamping of the role and responsibility of the State Bond Committee in Alaska, at this time, would be a positive sign to the financial markets that the State is sensitive to its fiscal posture and in control of its financial destiny.

Considering the role and impact of both direct (tax-supported) and indirect (contingent or moral obligation) debt upon the State's fiscal condition and economic well-being, and considering recent developments in oil prices that alerted the rest of the nation to the volatility of the State's basic revenue source, we believe that the mid-1980's is a good time for the State to broaden and strengthen the role of the State Bond Committee. Revising both the membership and its scope of responsibility would be a timely signal to the investment, underwriting, and credit analyst communities that the State is on top of its overall debt management program and that the State's debt issuance is being controlled so as to prevent getting in "over-its-head". A departure from business-as-usual is appropriate at this time as a sign of fiscal responsibility, especially regarding debt management.

In order to carry out its expanded scope of activity, the Committee should be reconstituted. The chairmanship should reside in a senior-level fiscal official, such as the Commissioner of Revenue or the Director of the Office of Management and Budget who is close to and familiar with the State's debt management practices. Voting membership should also include the Commissioners of Commerce and Economic Development, Administration, Transportation and Public Facilities, and Community and Regional Affairs, and a representative from the governing board of a State corporation who does not hold any other official State position. In addition, a State legislator, such as the Chair of the Legislative Budget and Audit Committee or the Senate Finance Committee, could be informally added to the committee in an ex-officio capacity. This would constitute a seven member voting board. To assist in fulfilling its expanded duties, the State Bond Committee should be staffed by a professional in the field of public finance who, as Executive Secretary to the Committee, sits ex-officio on the Committee itself as a member.

One major role for the newly reconstituted State Bond Committee would be continual oversight of the State's total indebtedness -- including all State-level debt -- as a final check on debt issues before going to market. The impact of the magnitude of both direct and indirect debt upon the State's creditworthiness is a matter of balanced fiscal judgment. Neither Standard & Poor's nor Moody's, the two predominant national credit rating agencies, has a quantifiable parameter for signaling dangerously high contingent liability levels (due to large amounts of moral obligation debt, for example). The amount of State guaranteed debt will effect the credit rating of all guaranteed debt, and, depending upon the degree of the guaranteed bonds' self-sufficiency, the amount and type of moral obligation bonds may affect the credit rating and market access of State debt of any description, including general obligation bonds.

The Committee should be required to take a global view of debt-related activities in a formal way, not in the loose, informal manner that presently exists. Determining the level where aggregate indebtedness adversely affects credit quality and market access is a matter of judgment. Those closest to the scene are in the best position to make such judgment. An active and involved State Bond Committee, with the advice and counsel of bond market experts, would be in a position to oversee all State debt activities and serve as an effective mechanism to promote fiscal management and avert fiscal misfortune. Several persons who are close to the Bond Committee noted that the overlapping membership of Bond Committee appointees as appointees to the governing boards of other State level issuers, such as AIDA, AHFC, and the Bond Bank, provided for an informal linkage of information among and between most all State debt issuers. Such high-level officials, however, do not have the time to follow and analyze the trends in State-level debt issuance necessary to make informed decisions about financing methods and the structuring and timing of bond issues. Hence, it is important that the responsibility for overseeing coordinative, and analyzing state debt issuance be given to one central body.

We believe that the oversight exercised by the State Bond Committee should be passive in nature. The State Bond Committee should not supplant the activities or authority of independent agencies and corporations. The Committee should serve both as an information center and as a final check-off point for debt issues. In order to carry out this role, the Committee should receive annually a financing plan from each entity of the State authorized to issue bonds. The plan would identify the amounts to be borrowed, the approximate time of bond sale, describe the projects or programs to be financed, explain the basic security structure supporting the proposed debt, and otherwise provide an explanation of the purpose of the financing along with the key features to the extent then known. The Committee should annually compile a master debt issuance schedule from the individual financing plans and inform all State and local local issuers of announced plans in order to facilitate coordination of bond issue timing.

The overview of proposed bond sales could become the basis for analyzing the aggregate impact of debt issues upon the financial condition of the State. In this connection, as described in the chapter on debt affordability, the

Committee should annually prepare a comprehensive profile of outstanding debt and monitor its impact on the State's fiscal condition. Analysis and categorization of outstanding debt in a manner similar to that presented in Table 3.16 should be an element of this comprehensive profile. The inclusion of such a report in the State's official statement would improve its disclosure and usefulness to investors.

Closely related to this activity would be responsibility on behalf of the Committee to review each financing before it is brought to market. When bond or note issues are formulated and near completion, approximately thirty days in advance of the scheduled sale date, the Bond Committee would receive all pertinent project documents for review. The Committee's only power would be to defer or veto the issue because, in the judgment of the Committee, the security structure or sources of repayment are inadequate or the issue jeopardizes the credit of the State. The committee would not be responsible for approving all State-level debt issuance.

It should be noted that the Municipal Bond Bank should be included within the scope of authority of the State Bond Committee. Likewise, any local unit of government expecting to sell instruments of indebtedness outside the State Bond Bank would be expected to file with the Committee its annual financing plan, but the Committee would have no responsibility other than including such local government issues in the master debt issuance schedule as an information item. The primary purpose of the master debt issuance schedule is to alert all issuers of bonds and notes as to the timing of what are potentially competing issues in the marketplace. This allows for coordination of bond issue timing among and between the issuers themselves, facilitates market access, may tend to increase the number of bids when issues are sold competitively, and may allow for rearranging the size (amount) and frequency of certain issues in order to more effectively attract buyers. All of the Committee's procedures and policies should be implemented by rule and regulation, and failure to comply should subject the negligent agency or local unit to loss of, or withholding of, State financial assistance.

The Moral Obligation Pledge

The State itself does not issue moral obligation bonds. Such bonds are issued by public authorities and corporations under statutory authorization that provides for the creation out of funds raised by the bonds, or otherwise, of a reserve fund equal to the maximum annual debt service on the bonds. Typically, the moral obligation language states that if an issuer (public authority or corporation), because it does not have sufficient revenues, is obliged to draw on its reserve fund to meet debt service payments, the governor must be notified and shall inform the legislature of the deficiency in the debt service reserve fund. The legislature must then consider whether it will or will not appropriate the amount needed to make up the deficiency in the reserve fund. An example of the State's moral obligation is given on page 71.

Customarily and traditionally, public corporations and authorities issue revenue bonds which are backed-up by revenues generated by the projects financed by the bonds. The projects are considered self-liquidating, and the public authority is thus considered self-supporting. The moral obligation pledge is a useful and sometimes necessary supplement to the guaranteed pledge of revenues when the issuing corporation or authority is a relatively new enterprise; when there is an insufficient track record of repayment capacity for the type of projects being financed; or when there are other unusual elements of risk involved for the investors. Unusual elements of risk in the State of Alaska might, for example, be considered to be reliance on a single industry (oil production) for a substantial portion of statewide economic productivity, the State's geographic isolation, climate, and susceptibility to natural disaster or acts of terrorism against the pipeline. Hence, we do not see the possibility of entirely eliminating the use of the moral obligation bond in the case of all Alaska financings.

The term "moral obligation" is a phrase which takes on different meanings depending upon the perspective of the interpreter. The language surrounding moral obligation bonds may mislead those not trained in public finance words-of-art. To bond counsel, and others experienced in structuring programs of public indebtedness, the moral obligation pledge means that if the primary source of revenues guaranteed to repay a particular debt is insufficient, the legislative intent is to examine the situation and determine if supplemental revenues will be made available to meet debt repayment requirements. The moral obligation pledge is a contingent liability -- a potential call -- upon State resources. It is not a legal liability. It does not, as a matter of law, mandate that the legislature or the governor provide any funds to repay bonded indebtedness.

To legislators and many public officials, the moral obligation pledge is removed from any linkage to direct fiscal responsibility because the projects and programs to which the moral obligation pledge has been given are understood to be self-supporting. Public officials view the moral obligation as merely a device which helps to sell revenue bonds at a lower interest rate, and at no cost to the State. They generally assume that those persons responsible

for the financing have thoroughly analyzed and approved two financial assumptions supporting the debt issue.

To investors, the moral obligation is viewed just one step below the credit quality of the State's general obligation pledge. Although investors know that the moral obligation is not a legal obligation, they nonetheless tend to treat it close to the equivalent of a guarantee by the state. The popular perception is that Alaska, or any other state, will never let its moral obligation bonds go into default. The practical reality is that if a state moral obligation bond were to enter default the fiscal credibility of the state would be impaired, and the state would be at least temporarily barred from access to the bond market. Perhaps even more troublesome is the fact that the value of the moral obligation as a financing security device would be eroded which would make certain future revenue financings more costly and more difficult.

Although most legislators approve moral obligation debt issuance on the premise that the projects or programs being financed are self-sufficient, the perception on the part of investors and the investment banking community is quite different. We discovered through interviews with members of the banking and underwriting communities that the moral obligation of the State and the concomitant strength of State revenues was the basis for securing a letter of credit which backs-up the Alaska Power Authority's bond anticipation notes, and not the fiscal merits of the projects being financed. This interpretation of the moral obligation is widely held among bond market participants. Many investors and underwriters look through the projects being financed to the moral obligation backing. If a moral obligation pledge is present, they may not be concerned with the financial feasibility of the project, rather, they will assume that State officials have thoroughly assessed the project before granting the moral obligation.

A careful look at the procedure for implementing a call upon the moral obligation pledge reveals that the legislature must appropriate monies from available revenues. In light of the structure of the State revenue system, the value of Alaska's moral obligation pledge has several limitations. The limited sources of State revenue, and the unstable nature of oil prices may make it difficult for the State to allocate substantial amounts to meet moral obligation debt service requirements, especially in the face of other budgetary commitments and obligations. This fact has not gone unnoticed among bankers and underwriters of State moral obligation bonds. For this reason, the existence of the Permanent Fund provides comfort to bond holders. In spite of the State's current financial stability, investors believe that the State would be able to meet its moral obligations, if necessary, through the assets of the Permanent Fund. This is true even though such action could not be taken automatically nor without a change in law.

The State's moral obligation pledge has facilitated the borrowing activities of APA, AIDA, AHFC, and the Municipal Bond Bank. When these public corporations were in their infancy, it is unlikely that they would have been able to borrow from the national credit markets without the State's moral obligation backing due to the absence of a mature, diversified and stable State economy.

For certain programs, such as the APA and the Municipal Bond Bank, the presence of the moral obligation may be necessary for continued borrowing at reasonable interest rates. Other issuers, such as the AHFC, may have established themselves among investors through frequent and sizeable borrowings to the point where the moral obligation is no longer necessary as a marketing tool, nor to obtain lower interest rates. Where it is possible to borrow funds without use of the State's moral obligation pledge, its use should be avoided. When it is necessary to enhance the credit quality of a revenue bond with the moral obligation, it should be applied with discretion and sensitivity to the fact that it will encumber, albeit to an indeterminate degree, the State's overall creditworthiness and may in the future be a burden on the Permanent Fund or other State revenues.

It should be the responsibility of the State Bond Committee to determine the importance of the State's moral obligation to the success of the agency's (or public corporation) borrowing program and its potential impact on the State's creditworthiness. Based upon this analysis, the Committee should recommend whether or not the State should grant its moral obligation. The moral obligation pledge should not be treated as a right, available to most State debt issuers, as it is at present. Rather, it should be an indication to the bond market that, after close scrutiny, the State believes the project meets State objectives and is financially sound.

Moody's Investor Service does not consider the presence of a moral obligation pledge in the assignment of credit ratings to revenue bonds because they believe that the moral obligation itself is fraught with many risks and considerable speculation. Standard & Poor's acknowledges the moral obligation as a component of the security behind a revenue bond, but also acknowledges that it is impossible to determine at what point and under what set of political and economic circumstances meeting the State's moral commitments would be too large a burden to bear. These factors considered, it is evident that the strength or utility of the moral obligation commitment varies in inverse proportion to the frequency or amount of its use. The more heavily it is used, the more diluted it becomes.

Some may suggest that because the moral obligation is interpreted by many investors as tantamount to the State's general obligation pledge, the State should abandon the use of the moral obligation and substitute its full faith and credit pledge. The supposed objective would be the lowest possible borrowing costs which the general obligation pledge would bring. Such a policy change would not be in the best interests of the State. This is due to the fact that the State has specifically identifiable revenues and budgetary allocations which support its general obligation bonds, and the repayment of these bonds has a reasonable sense of predictability since the debt retirement schedule is tailored to the flow of receipts from known oil resources. Burdening the general obligation pledge with what would otherwise have been moral obligation commitments would quickly erode the State's credit rating and drive the cost of borrowing for general public purposes upward. This would occur without a concomitant decrease in the cost of borrowing for the revenue-type bonds because of the imbalance that this type of borrowing would place on the

creditworthiness of the State as a result of adding a large direct obligation to a limited source of revenue.

Capital Planning and Capital Financing

The effectiveness of the State's capital planning process will have very important implications for its future financial condition, since adequate physical facilities and public infrastructure have a major impact on the State's future tax base and its economic development, and, as well, important implications for its credit rating.

For many years, tax-exempt credit analysts have emphasized the significant relationship between a government's financing plan and the creditworthiness of the government's bonds. The importance of this relationship has been reflected in credit ratings assigned to the debt obligations, and in the reception afforded the bonds in the markets. It is especially informative to review comments offered by Moody's Investors Service, Inc., the national credit rating agency, on this subject:

Most governments, however, have recurring needs for (capital) improvements, and consequently must plan for those needs. Even having no plan is, in a sense, planning -- to a municipal bond analyst, it is a plan to meet the problem hit or miss, instead of systematically. The annual preparation of such programs, comprising appropriations for the next year and estimates or projections for the five years following, has been standard practice for well-run (local) governments for nearly a generation now...It (capital improvement program) should be comprehensive in scope of projects covered and should show not only the amount to be spent but also the source of funds -- how much from current budget contributions (taxes, etc.), how much from Federal and State grants, how much from Capital Fund balances carried forward, how much from the sale of new bonds.

Many other credit market analysts have also stressed that careful capital planning and orderly debt execution are essential for meeting the physical needs of a government. The development of a coordinated approach toward the capital budget and debt management programs can improve the credit posture and marketability of debt obligations for issuers of tax-exempt securities. Indeed, a comprehensive capital improvement program and an associated financing plan are important priority-setting devices which indicate to the investment community an astute sense of managerial awareness. Demonstrating keen managerial attention to capital financing is important in Alaska's case because of the developing nature of its economy and the need to allocate scarce resources to projects producing the greatest return on investment. It is important that the State promote capital projects that will encourage the development of a diverse economy that will be able to support the investment in public infrastructure. A comprehensive capital investment program and financing plan will help the State achieve these goals. In formulating such a plan one key element will be the decision to use current revenues, as opposed to bonded indebtedness, to pay for capital investments.

Pay-as-You-Go Vs. Debt Financing

Capital financing decisions typically involve a trade-off between paying for the project through otherwise available current revenues or through the issuance of bonds. Many factors influence this decision, including other demands for current revenues, the type of project to be financed, and the financial costs of either approach. When revenues are tight, there often is little choice between bonding and paying from current revenues; capital projects must be bond-financed unless the government chooses to raise taxes.

If the capital project is expected to generate revenues sufficient to service bonds, it may be fiscally responsible to finance construction through project revenue bonds even if current general revenues are available to cover project costs. Revenue-supported debt does not increase the direct (general obligation) debt burden of a government, and may encourage sound financial management of the particular public enterprise.

One of the final decision-making criteria in the choice between long-term debt and current revenue financing is the anticipated costs of either financing alternative. Other important criteria include the affordability of future debt, as discussed in Chapter Seven. The ultimate financing decision must be based upon a careful assessment of all financial and economic costs. Certain economic conditions tend to favor the use of one or the other technique. Below, we develop a framework for choosing between bond and current revenue financing from an economic and financial perspective. At one extreme will be the "pay-as-you-go" approach, wherein all capital investments are paid for out of current revenues. At the other extreme is the debt financing approach where all long-term investment is financed over a long time period through the issuance of debt. Realistically, most capital improvement budgets will be financed using a combination of the two financing strategies. However, in order to appreciate the trade-offs involved in both approaches, it is useful to look at them as two distinct alternatives.

Arguments for and against "pay-as-you-go" versus borrowing are not based solely on the external economic climate. Other reasons why one or the other method may be preferred are to promote intergenerational equity, i.e., to share the financing burden among current and future taxpayers, or to smooth out the peak cash needs of major capital outlays. The approach taken in this section is to apply a valuation of the savings or costs to individual taxpayers of using either current revenues or borrowing under varying assumptions regarding the probable future course of prices and interest rates versus their current levels.

In periods of prosperity when prices are rising, current-dollar costs are growing, and real demands for investment seem endless, the propensity has been to use the debt market. As the economy slows down, however, and inflation abates, there tends to be a greater reliance on financing fewer projects and doing so through current revenues or taxation. "Taxation" will refer to the "pay-as-you-go" school of thought -- financing investment through current

revenues raised from a government's own sources. It will use the economic and financial consequences to individual taxpayers of the two alternatives as the basis for deciding between the two. Likewise, "debt" will refer to the issuance of a long-term security on which the local government is obligated to make annual debt service payments. The general arguments for each approach will first be presented, followed by a model illustrating the net cost of either approach.

The fundamental characteristic of taxation is the compulsory reduction in income (or wealth) imposed on the individual in order that the government may finance some service or capital investment which, in turn, will yield in the future some addition to real income. Residents of a particular community have little choice (aside from moving) but to pay their annually assessed taxes. In order to finance a capital improvement plan solely through current revenues a government must choose between:

1. undertaking fewer capital projects than if debt were issued because the current budget does not have a sufficient amount of "excess" funds to finance the needed amount of investment; or

2. raising taxes in each year of the construction period by an amount that will cover construction cost.

It is likely that, given a slate of necessary capital investments, deciding to use pay-as-you-go financing from current revenues rather than debt issuance will most frequently entail taking the second alternative of raising taxes.

Borrowing, on the other hand, enables governments to finance public investments without much reduction in the purchasing power of private taxpayers during the period in which the funds are required. Debt service is paid over a period of years, and the effect on the annual budget is minimized in any given period. Thus, current taxes have to be raised only slightly to support higher levels of debt service resulting from a given capital project. But, because of interest payments, a much larger total amount is paid out overall.

From an individual taxpayer's standpoint, the difference between the two alternatives is important. Paying the increased tax to finance the construction forces individuals to forgo using relatively large amounts of their income for alternative purposes for the years that the tax is levied. For states which tax mineral resources rather than incomes, the opportunity cost of not using current revenues for other purposes is borne by its citizens, and also can be viewed as a reduction in real income. The "cost" of this forced reduction in income, what may be viewed as an individual's "time value of money", is short-term interest rates. This assumes that the alternative use for the income paid out in taxes is investment in short-term, highly-liquid, non-risk securities. This is essentially the current-period cost of the use of money devoid of any credit or liquidity risk. For lower-income individuals with no excess income to invest, the time value of money may be higher. Conversely, for individuals who keep their excess income in non-interest-bearing checking accounts, the time-value of money may be lower.

The total cost to the government of the two financing alternatives also varies considerably. This is especially true in times of high tax-exempt interest rates when the sum of required annual debt service payments over the life of an issue may exceed the actual proceeds of an issue by as much as two and one-half times. However, when inflation is expected to be at high levels or productivity is growing, the future dollars paying the debt service will be worth less (or easier to come by) than the dollars when they were borrowed. High growth, therefore, may largely offset the effect of high interest rates by lowering the true cost of borrowing. This ability to repay in cheaper dollars is a major supporting argument for borrowing to finance long-term capital investment. But when inflation or growth are slowing, perhaps to a level half that of the cost of borrowing, the financial arguments for borrowing will require reconsideration.

In order to illustrate a comparison of the two alternatives, a hypothetical project and two financing schemes are presented in Table One. The project under consideration is estimated to cost \$30 million and take three years to complete. The two financing options available are:

-- Taxation -- The government raises taxes on a per-capita basis for each of the three years in the construction period. The model assumes that taxes are levied to cover one-third of the total project cost each year. It is further assumed that there are one million residents for whom taxes will be raised. This alternative results in a per capita burden of \$10 for each of three years.

-- Borrowing -- The government issues 20-year bonds with equal annual debt service payments. The costs of this alternative are presented at interest rates of 8, 9, 10, 11, and 12 percent. To comport with reality, it is also assumed that during the three-year construction period, unused proceeds from the bond sale are invested in securities paying the same rate as on the long-term borrowing. Such investment earnings are used to reduce the debt service payments.

Table 6.1 presents the annual costs of the taxation alternative and the five borrowing alternatives. The annual figures are on a per capita basis. In order to compare the total costs of either alternative, it is necessary to look at the discounted or present value of the annual pay-as-you-go tax payment and annual debt service under the five borrowing assumptions. These present value figures are presented in Table 6.2.

It should be noted that the per capita figures assume a constant population base of one million persons throughout the 20 years of the example. If population over this time period grows or, indeed, shrinks, the per capita figures would also decline or grow.

For evaluation purposes, the rate at which the two streams of payments are discounted will not necessarily be the same. In the taxation case, the

Table 6.1

Pay As You Go versus Debt Financing

Assumptions:

Cost of Capital Improvements:	30000000
Length of Project:	3
Population:	1000000
Term of Bond:	20
Annual Tax Increase per capita:	10

Interest Rate:	8.00	9.00	10.00	11.00	12.00
Annual Debt Service:	3055566	3286394	3523789	3767269	4016363 (2)
Per Cap.	3.06	3.29	3.52	3.77	4.02

YEAR	TAX	DEBT	DEBT	DEBT	DEBT	DEBT
1	10	1.06	1.04	1.02	1.02	1.02
2	10	1.86	1.94	2.02	2.12	2.22
3	10	2.66	2.84	3.02	3.22	3.42
4		3.06	3.29	3.52	3.77	4.02
5		3.06	3.29	3.52	3.77	4.02
6		3.06	3.29	3.52	3.77	4.02
7		3.06	3.29	3.52	3.77	4.02
8		3.06	3.29	3.52	3.77	4.02
9		3.06	3.29	3.52	3.77	4.02
10		3.06	3.29	3.52	3.77	4.02
11		3.06	3.29	3.52	3.77	4.02
12		3.06	3.29	3.52	3.77	4.02
13		3.06	3.29	3.52	3.77	4.02
14		3.06	3.29	3.52	3.77	4.02
15		3.06	3.29	3.52	3.77	4.02
16		3.06	3.29	3.52	3.77	4.02
17		3.06	3.29	3.52	3.77	4.02
18		3.06	3.29	3.52	3.77	4.02
19		3.06	3.29	3.52	3.77	4.02
20		3.06	3.29	3.52	3.77	4.02
TOTAL COST:	30.00	57.51	61.68	65.98	70.40	74.93
Cost without Arbitrage Earnings:		61.11	65.73	70.48	75.35	80.33

Debt service calculation for years 1,2,3 assumes arbitrage earnings at a rate equal to the bond interest rate. Drawdown of the construction fund takesplace at a rate of 33.3%, 33.3% & 33.3% of the total bond issue.

TABLE 6.2: Present Value of Financing Alternatives on a Per Capita Basis

	3-YEAR TAX -----	LONG-TERM FINANCING ALTERNATIVE				
		8 % Coupon	9 % Coupon	10 % Coupon	11 % Coupon	12 % Coupon
Dollar Cost:	30	58	62	66	70	75
Discount Rate:						
2	29	46	50	53	57	60
4	28	38	41	44	47	50
6	27	32	34	36	39	41
8	26	27	29	31	33	35
10	25	23	24	26	28	30
12	24	20	21	23	24	25

timeframe is much shorter (3 years) than in the borrowing alternative (20 years), and it is assumed that income or short-term savings will actually be reduced in order to pay the tax. As was discussed above, the proxy for the near-term time value of money in this case is risk-free short-term interest rates.

For long-term debt, however, there is little annual reduction in income, and it occurs over a long period of time. A more appropriate discount rate would appear to be the expected average rate of nominal growth in the economy over the 20 years. For example, 3 percent growth in GNP coupled with a 9 percent of inflation yields a nominal growth rate of slightly over 12 percent. Looking at the discounted or present values (P.V.) in Table 6.2 for the five long-term financing alternatives, it is clear that as the nominal growth rate (in the column headed "Discount Rate") rises from zero (total dollar cost) to 12 percent, the P.V. cost of borrowing drops dramatically. Under the 12 percent coupon-rate hypothesis, the P.V. cost drops from \$75 (at a zero discount) to \$25 (at a 12 percent discount) on a per capita basis.

Assuming a short-term time value of money equal to 8 percent (close to current levels of low-risk money market interest rates), the P.V. cost per capita of raising taxes over three years for the project is \$26 (see Table 6.2). The long-term borrowing alternatives that result in a lower P.V. cost than \$26 can be depicted using the graph shown in Exhibit 6.3. Each line of the graph shows the present value of various short- and long-term financing alternatives under varying discount rate assumptions.

The graph facilitates comparison of the total P.V. cost of the financing alternatives. For example, at an 8 percent short-term discount rate, the combinations of long-term discount rates and coupon rates that yield a lower P.V. fall in the shaded area shown in Exhibit 6.4. Generally, the long-term discount rate must exceed the borrowing coupon rate to produce a lower P.V. For example, if the long-term discount rate is 12 percent and the coupon rate is 11 percent, the P.V. per capita is \$24 — it is cheaper to borrow than it is to use pay-as-you-go financing.

Using the discounted values as a guide, it can be seen that long-term borrowing is a more competitive alternative to current taxation when expected inflation and/or real growth in the economy are relatively high. Borrowing is, however, always relatively more attractive at lower interest rates, whatever the expected rate of growth in the economy. However, the figures show that changing assumptions on the nominal growth rate has a greater impact on the P.V. cost of borrowing than does the coupon interest rate on the bonds. As the level of future expected inflation plus growth in GNP falls toward 5 percent, the borrowing alternative becomes much more expensive in present value terms, whatever the level of short-term discount rates.

It might be noted that if the project were to be paid for in one year (rather than over three), the short-term P.V. line in Exhibit 6.4 would shift to become horizontal at \$30 per capita. At this point borrowing becomes more attractive at higher coupon rates and lower discount rates than before. If, however, one attempts to extend the pay-as-you-go payment period beyond a

Exhibit 6.3
PRESENT VALUE OF DEBT AND TAX FINANCING ALTERNATIVES

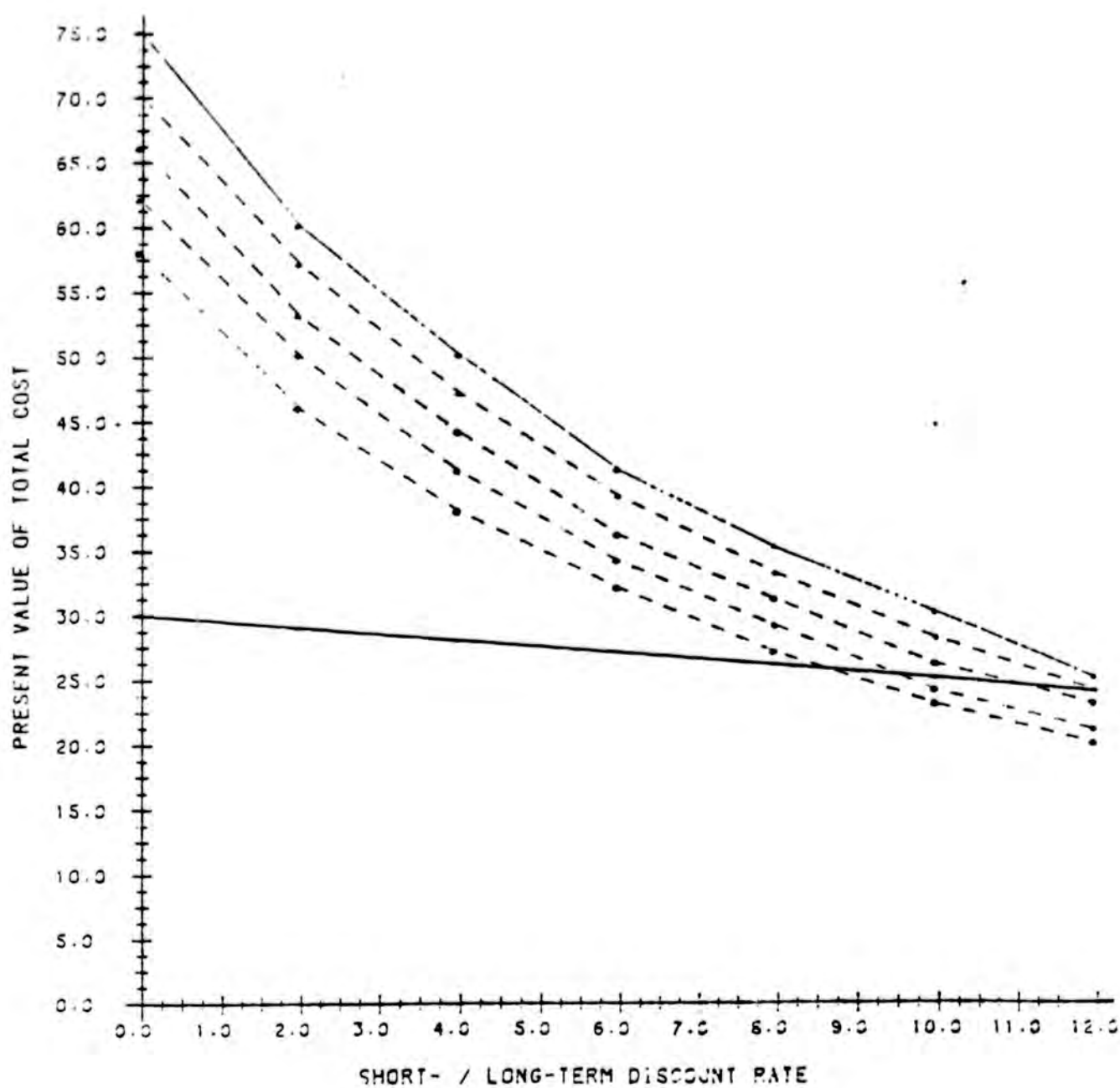
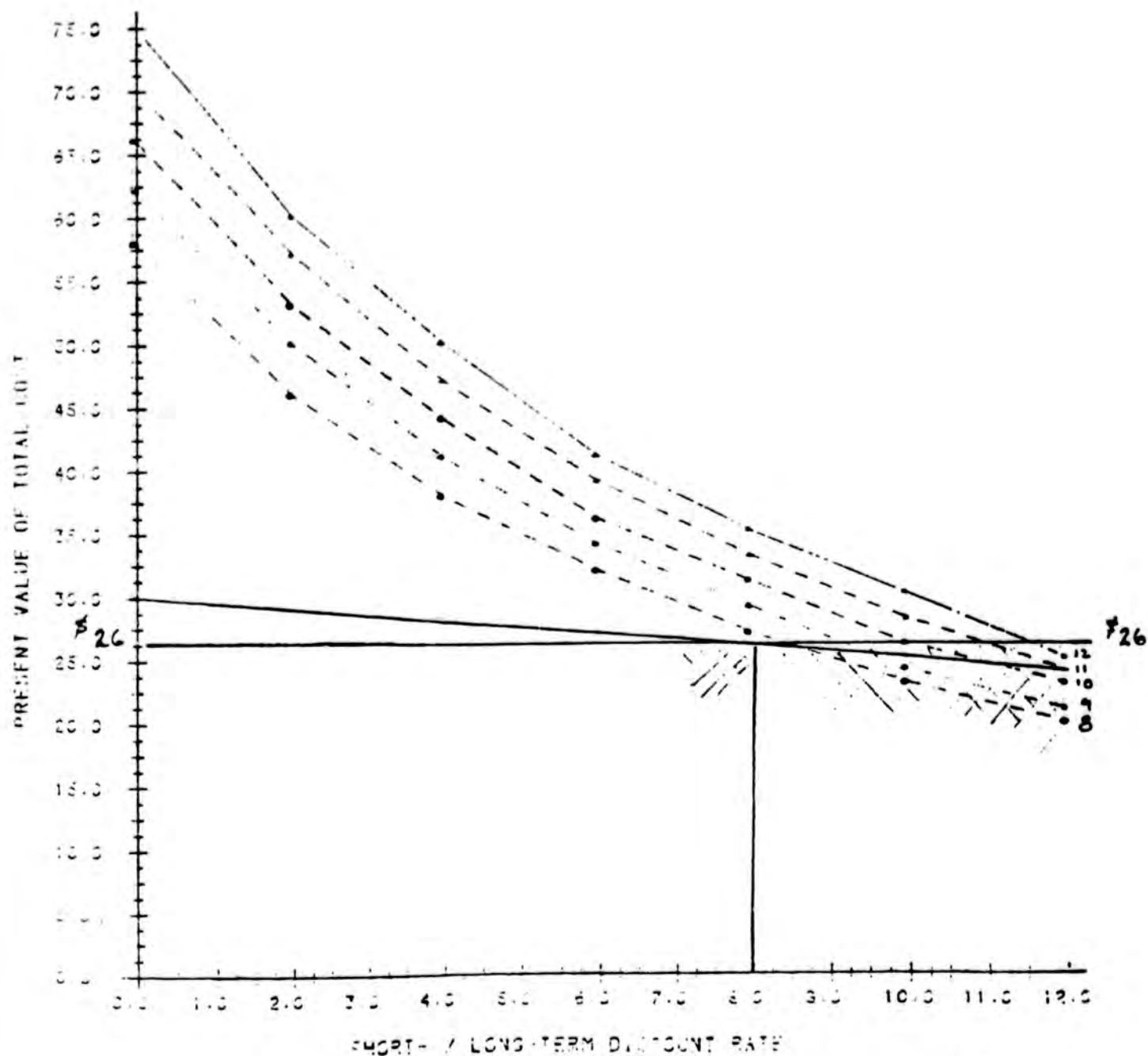


Exhibit 6.4

PRESENT VALUE OF DEBT AND TAX FINANCING ALTERNATIVES



relatively short period (for example, to five years), the above cost differentials become much less significant. This is because the community would delay having the use of the facility (which it is assumed to enjoy within 3 years in the above exercise and such things as prices and interest rate risks transform the short-term "consumption" choice into a long-term "investment" phenomenon. It would no longer be valid to differentiate between long- and short-term discount rates.

It is important to note that the examples given are dependent on the particular assumptions regarding project build-out, structure of principal repayments, growth in population, and so forth, and the trade-offs depicted will be somewhat altered under differing assumptions.

In summary, the lower the interest coupon on long-term bonds in relation to the expected rate of long-term nominal growth in the economy, the more desirable it is to borrow.

The lower the interest coupon on long-term bonds in relation to short-term discount rates used for the taxation alternative, the more desirable it is to borrow.

The higher the long-term discount rate in relation to the short-term discount rate, the more desirable it is to borrow for any given coupon rate.

Generally, the use of long-term borrowing will be more desirable if the long-term coupon rate is equal to or less than the short-term rate and/or less than the long-term expected nominal growth rate.

Financial Reporting

In addition to capital planning and capital financing, financial reporting is an important element in the total debt management picture. States that use an accounting system that conforms to, and is consistent with, generally accepted accounting principles (GAAP) benefit in several ways. Because GAAP financial reports require that the accounts and the annual reports reflect the unified accounting entity — which in Alaska's case would be likely to include all of its public corporate borrowers -- in addition to the State itself, preparation of GAAP would force the State to take the global view that is necessary to manage debt and the State's entire finances effectively. The footnotes to a GAAP-based financial report regarding governmental debt would alone result in a much more comprehensive picture of the State's indebtedness than is currently provided in the State's Annual Financial Report or the other fine publications of the Departments of Administration and Revenue.

Investors and the credit rating agencies also prefer to see GAAP financial statements when assessing credit quality. Standard & Poor's requests that financial statements submitted for review conform to GAAP, and they estimate that governmental borrowers who do not conform to GAAP pay a penalty of between 0.125 and 0.25 percentage points in ultimate interest rates¹⁴.

According to the Maryland State Comptroller, the conversion to GAAP by the State in 1975 has been a contributing factor to the State's ability to maintain a very strong AAA credit rating¹⁵. The States of New York, Delaware, Iowa, and Tennessee are among those using or in the stages of conversion into GAAP accounting.

Last year, Standard & Poor's placed the State of Florida's general obligation bonds on CreditWatch -- an early warning system alerting investors to changes in credit quality -- because of several factors including a decline in financial position and weak accounting practices. Because the State's records were not kept on a GAAP basis, there was no way, without a site visit, for Standard & Poor's to ascertain the State's true financial position. Florida, whose debt has been removed from CreditWatch, is now working toward a GAAP-based financial report for Statewide financial operations.¹⁶

It is recommended that the State consider converting its annual financial reports to generally accepted accounting principles. Such action will provide the State with vital information on its financial condition, improve financial management, and will be looked upon favorably by investors in the State's bonds.

Debt Ceilings and Limits

A legislatively mandated limit on state debt issuance is often suggested as the simple solution to over-indebtedness. The most convincing argument for a debt ceiling is that it would serve as a device which forces public policy makers to assess the level of outstanding debt on a regular basis in a formalized manner. In the absence of this type of limitation, some fear, bonded debt will grow at uncontrolled paces. This certainly is something to be fearful of since it implies unlimited spending for capital projects with little serious evaluation of need or the necessity for deciding priorities among alternative projects. In order for debt ceilings to be effective in controlling debt issuance they must be linked in some manner to resources and ability to pay. Obviously, both resources and ability to pay are constantly changing and, accordingly, any debt ceiling must be flexible. One need only observe the apparent ineffectiveness of the federal debt limit to grasp the futility of using an absolute debt ceiling to control the amount of debt. At the federal level, it has become necessary for the Congress to change the ceiling at frequent intervals in order to provide funds for financing of the huge budgetary deficit. This inherent contradiction, raising a debt ceiling to finance going further into debt, suggests that an absolute ceiling on debt issuance is of little usefulness.

This is not to say that debt limits or ceilings are always inappropriate. They are most appropriate for smaller units of government that have relatively simple revenue and expenditure structures. At the state level of government, where the revenue structure is usually more complex and the expenditure pattern is quite diversified, the application of a single debt ceiling would be futile. When one considers the scope of Alaska's State government, including its general budgetary operations, local assistance programs, and the various independent agencies and corporations, it becomes impractical to establish a debt limit that will have widespread applicability.

The standards and ceiling-setting methodology that would apply to general obligation debt are unrelated to the criteria that would be appropriate in setting a debt limit for AHFC mortgage revenue bonds, or the borrowings of AIDA, APA, the Bond Bank and others. Thus, if ceilings were to be used it would be necessary to establish a discrete limit for each category of debt. Even if this could be accomplished, and such an exercise would entail considerable technical analyses and require complex fiscal judgments, the ceiling, in order to be of any value, would have to be reexamined periodically and changed as appropriate to reflect the changing character of resources and ability to pay.

Furthermore, a debt limit or ceiling is a second-best alternative to control the impact of debt on governmental budgets. Bonded indebtedness works its way into the State's fiscal structure not as an aggregate sum but rather through semi-annual payments of debt service. Hence, the length of the term of the debt, the timing of the maturity of principal, and the annual interest rate all combine to reflect the true "debt burden". An absolute ceiling on outstanding debt does not reflect the terms of the bonds outstanding, the principal retirement schedule, or the interest rate. Debt ceilings are, therefore, only approximations of debt burden.

Exhibit 6.5
Debt Ceilings

Pro

- Fiscally conservative: puts constraints on changing political environment.
- Brings debt management closer to the legislators because laws must be changed to change ceiling.
- Sets a measurable standard so that debt managers know where they stand in relation to debt issues.
- Apparent political accountability and fiscal responsibility: visible affordability limit.
- Device to force policy makers to come to grips with priority setting for projects to be debt financed.
- Ceilings force elected officials to a day of reckoning with the amount of total debt on a periodic basis.

Con

- Ceiling standards are set in today's economy whereas future economy will be source of repayment.
- Encourages debt manipulation to get around ceiling.
- State debt ceilings do not reflect margins for overlapping debt or "participation" debt.
- Ceilings are usually arbitrary; i.e., the standard of measurement is difficult to define (income, assessable base, percent of revenue, per capita, etc.) and determine.
- Ceiling is an "illusion" because it only reflects principal portion of debt and the interest impact may vary from 25% to 150% of the debt itself.
- Ceilings usually inflexible and difficult to change when circumstances vary.
- Ceilings for one debt category are usually different from those for another (general obligation vs. revenue bonds).
- Ceilings usually bear no relationship to capital requirements; ceiling may cause legitimate needs for capital facilities to go unmet because peak has been reached.

In discussion with officials from the credit rating agencies concerning the imposition of debt limits for states, it was determined that they believe debt limits may have a more negative than positive effect on debt management and should be avoided or be of such a flexible nature that they are virtually meaningless. This interpretation is due to the nature of debt limits; they are usually set at some arbitrary level, based on easily measurable criteria, and do not reflect the actual capital "needs" of the state. Too much emphasis, therefore, may be placed on the size of the debt, which is only one of the criteria for a favorable debt posture, and too little emphasis may be placed on the reasons for debt -- the actual capital needs of the state as perceived by the executive and legislative bodies. It is for this reason -- important capital needs may be postponed indefinitely -- that the credit rating agencies believe limitations on the absolute level of state debt issuance should be avoided. The amount of State debt issuance should not be determined artificially or based solely upon the desire for favorable interest rates or high credit ratings. Rather, debt issuance should be based on a thorough assessment of capital needs and the ability to pay for them.

A summary of the positive and negative attributes of debt ceilings discussed above is presented in Exhibit 6.5. While we do not believe that Alaska should institute a ceiling on the amount of State debt issuance, it is essential that the State exercise some degree of oversight and control of debt issuance by the State and its public corporations. The responsibility for oversight should be given to the State Bond Committee, and be part of its effort to follow and analyze the impact of debt issuance on the State. The State Bond Committee should develop guidelines for assessing debt capacity and affordability of general obligation debt and for contingent liabilities such as moral obligation debt. Using fiscal standards and criteria as outlined in the chapter on affordability, and as refined over time, the Committee should evaluate each debt issuance proposal in light of current trends and circumstances and determine the impact of each debt financing upon the State's ability to repay, its ability to meet contingent liabilities in the future, and the effect on the overall financial condition of the State and its agencies and corporations. These guidelines will serve the purposes of a legislatively mandated limit on debt issuance.

Interest Rate Ceilings

Although not directly related to a ceiling on debt issuance, a ceiling on the interest rate that State obligations may carry can also impair a debt management program. The State's current interest rate ceiling is a floating rate equal to the higher of 110 percent of the Bond Buyer 20-bond index for the week preceeding the bond sale or 11 percent. While this type of ceiling allows for greater flexibility than the fixed-rate of 10 percent that it replaced, the State may wish to consider removal of the legislative interest rate ceiling altogether. To improve the flexibility of the the State's debt management, an administratively established ceiling -- determined by the State Bond Committee -- is preferred to the more rigid, legislatively established ceiling.

True Interest Cost vs. Net Interest Cost:
Alternative Methods to Determine Lowest Bid

In both negotiated and competitive bond sales, accurate determination of the cost of borrowing is essential. In a negotiated sale this is important as the basis for an informed decision and for debt management purposes. In a competitive sale the determination of interest costs on competing bids is crucial because the bid producing the lowest interest cost — as defined in the notice of sale — will be selected. Although this important task appears on the surface to be relatively straightforward, in practice it is one of debt management in which significant and costly errors are often made.

The two methods currently in use to determine the lowest bid on a competitive municipal bond sale and the total interest cost of a negotiated bond sale are Net Interest Cost (NIC) and True Interest Cost (TIC). NIC is the traditional way of computing the average interest cost of an entire issue, largely due to the simplicity of its calculation; NIC can be calculated by hand without the assistance of a computer. The computation of TIC is more difficult, requiring the use of a sophisticated computer program. However, the two methods do not produce identical results. The limitations of the NIC method have caused some states and municipalities to use TIC to award a bond sale instead of NIC.

The two methods differ in the way the coupon interest payments on a serial bond are valued. The NIC calculation gives equal weight to each interest payment regardless of the time period in which it is paid. One dollar paid in year one is valued the same as one dollar paid in the twentieth year. In contrast, TIC takes account of the time value of money by treating interest payments in present value terms. Because a dollar paid out in five years is worth more than a dollar paid out in fifteen years, TIC gives greater weight to earlier payments than to later payments of equal dollar magnitude.

The formula for computing NIC is as follows:

$$\text{NIC} = \frac{\text{Total interest payments} + \text{discount (or - premium)}}{\text{Bond year dollars (amount of bonds X years they are outstanding)}}$$

It is obvious that total interest payments are lumped together with no attention to the time period in which they are paid. TIC, on the other hand, is found by computing the interest rate that will discount all future debt service payments by the issuer (principal and interest) to a present value equal to the bond proceeds received by the issuer. TIC is analogous to the internal rate of return calculation used in private-sector financial decisions to analyze the effective cost or benefit from a certain investment.

Besides being a more accurate indicator of the true costs of a bond issue, awarding bids on a TIC-basis has other advantages. Investors generally prefer to receive a dollar interest payment sooner rather than later and are willing to pay more for the higher early coupon payment. Underwriters have an incentive, therefore, to place high coupons at the front (in the early maturities) of an issue in order to improve their spread and the marketability of the bonds. This

Exhibit 6.6

Alternative Methods to Compute Effective Interest Costs
Net Interest Cost vs. True Interest Cost

<u>Years to Maturity</u>	<u>Par Value</u>	<u>BID A</u>		<u>BID B</u>	
		<u>Coupon Rate</u>	<u>Annual Debt Service</u>	<u>Coupon Rate</u>	<u>Annual Debt Service</u>
1	1,000	12.0%	1,190	2.0%	1,130
2	1,000	3.0%	1,070	5.0%	1,110
3	<u>1,000</u>	4.0%	<u>1,040</u>	6.0%	<u>1,060</u>
TOTAL	3,000		3,300		3,300
		NIC (Bid A): 5.00%		NIC (Bid B): 5.00%	
		TIC (Bid A): 5.04%		TIC (Bid B): 4.98%	

practice is known as "frontloading". At the same time, governments prefer to pay debt service later rather than sooner and would favor the largest coupon rates on later maturities. TIC helps the government issuer because under TIC computation there is no incentive to front-load interest coupons as TIC would be higher than NIC.

The following example illustrates the difference between TIC and NIC computation of two hypothetical bids on a three-year serial issue of \$3,000. As can be seen in Figure 6.6, both Bid A and Bid B resulted in identical NIC to the issuer. If bids were awarded on a NIC basis, it would be impossible to choose between the two. This is because the calculation of NIC tool into consideration only the aggregate amount of debt service which is the same under both bids (\$3,000). Upon closer examination it can be seen that Bid A is front-loaded for it contains an interest coupon of 12 percent in year one. While this may help the underwriter, it forces the government to make unnecessarily high debt service payments in the first year. This bid compensates for the high initial coupon by placing unusually low coupons on bonds maturing in years two and three. This brings NIC down to a competitive level (5 percent in this case), however, the true cost of payments in the later years is less than in year one.

If TIC were used as the basis for awarding the bids, the time value of the respective payments would be recognized and the high coupon of Bid A would result in a TIC higher than NIC. Similarly, the more "efficient" Bid B, with a gradual increase in coupon rates, would result in a TIC lower than NIC. Using TIC as the criterion, the winning bid would be Bid B resulting in lower true interest cost to the government over the life of the issue.

Neither the Alaska State Bonding Act (AS 37.15) nor the State statutes regarding municipal debt (AS 29.58) specify the method by which the effective interest rate must be calculated. However, the State, and most municipalities, have chosen to use the NIC method to compare alternative bids at competitive sale. This method may not be in the best interests of the State because, as shown above, the winning bid on a NIC basis does not necessarily produce the lowest TIC. For this reason, we recommend that the State Bond Committee review the current procedures for awarding the State's general obligation bond issues, and that municipalities be encouraged to do so as well, with a view toward awarding future bond sales on a TIC basis.

The only true constraint which the State places on bidding is that the spread between the highest and lowest interest coupon not exceed two percentage points. This does not prevent the front-loading of interest coupons as is evident from the winning bid presented in Exhibit 2.5 (page 46). Here, the winning bid was front-loaded because the highest coupon rates, 8 3/4 percent, were placed on bonds maturing in the earliest years, with descending coupon rates towards the later years where the time value of money is lower. This can be prevented by the use of a non-descending order constraint on underwriter bidding which requires the submission of bids that increase with maturity. A non-descending order constraint used in conjunction with the TIC method of computing the lowest cost bid assures that coupons will not be front-loaded, and that the winning bid truly results in the lowest cost to the State.

Differences Between Competitive and Negotiated Bond Sales

Alaska's State Bonding Act requires that the State sell its general obligation debt in a competitive manner (see Appendix). As described in Chapter Two, the sale of bonds at competitive bid means that the bond sale is completely structured as to its terms and conditions by the time the notice of sale inviting prospective purchasers to come forward and submit a bid to buy the bonds is published. The award of purchase is made to that underwriting firm, or syndicate of firms, offering the lowest interest cost. Because the winning underwriter is not known until the bids are opened, there is no opportunity for the underwriter to "pre-sell" the bond issue. All sales activity and structuring of the reoffering yields occurs after the sale is awarded.

State-level revenue bond issuers, and Alaska's localities are able to choose between the competitive and the negotiated sale approach in determining the proper method of sale. The sale of bonds through negotiation means that the bond sale itself, the terms, conditions, and interest rate is negotiated by the issuer of the bonds and an underwriting firm, or syndicate of firms, that is preselected to buy the bonds. A competitive procedure involving a formal request for proposals is often used in the selection of the negotiating underwriter as described later in this chapter (page 188). The underwriter or syndicate is generally chosen based upon prior experience in selling the particular entity's bonds and the ability to reach the broadest base of investors. Before the final terms of the sale are decided, the negotiating underwriter will test the market by soliciting investor interest during pre-sale trading. This procedure is described on page 190. Once the final interest rates are determined, the last element of the negotiation process is the gross underwriting spread. The spread represents the underwriter's compensation. Its composition is described on page 190.

Customarily, about 80 percent of the volume of general obligation bonds is sold using competitive bidding, and 70 percent of the volume of revenue bonds is sold using negotiated sales. The reason for this relationship between type of bond and method of sale is that general obligation bonds are usually issued by a general purpose governmental entity for a traditional public purpose, which is a relatively straightforward means of raising money. It is important to the firm or syndicate winning a competitive bid to have an easily understood product that can be quickly and readily reoffered to the ultimate investor.

On the other hand, revenue bonds are usually characterized by a repayment pledge consisting of a complex revenue stream formula, they frequently carry a unique set of terms and conditions as to their maturity and security structure, and they are usually issued by a special entity of a government for an often novel purpose. Due to their complexity they are not easily understood, nor are they easily marketed without their special-story being pre-sold through the firm negotiating to buy the bonds.

Accordingly, there is a place for both techniques of selling bonds in a prudent debt management strategy. Indeed, there may exist special conditions which would necessitate or justify even the sale of general obligation bonds

through a negotiated sale, although there are thirty-seven states, including Alaska, that require the sale of state general obligation bonds at competitive bid. For example, if the credit quality of a general obligation issuer is severely impaired, such as in the case of New York, Detroit, Cleveland, or Camden, then the negotiated sale of full faith and credit bonds would be appropriate in order to assure that the purchase can be executed successfully, that the "special-story" is properly told, and that the money is raised.

As a general rule, the costs of borrowing (underwriting spread and the interest cost) are less when the competitive approach is used for general obligation bond sales. Various studies have determined that savings in the range of 10 to 25 basis points (.10 to .25 percent) are achieved, overall, and on balance, when general obligation bonds are sold competitively. It must be kept in mind, however, that some bonds are not possible to offer for sale competitively because their uniqueness preempts easy market access. The interest rates obtained from a competitive sale could be less favorable than those from a negotiated sale.

There are several general principles that can be looked to in determining whether a particular bond sale might best be sold by either competitive bid or negotiation. These guidelines are discussed below:

1. Condition of the market -- in a strong market where interest rates are stable and there is substantial investor demand for tax-exempt bonds, the tendency should be toward competitive sales. A weak market where interest rates are fluctuating daily and/or investor interest is unknown may result in the most effective sale through negotiation. If market conditions are erratic and the timing ; if market conditions are reasonably stable and the fluctuation in interest rates is expected to be within an acceptable ban between the announcement and the sale, then competitive bidding is appropriate.

2. Novelty of the financing approach -- if the issuer is an established "name" in the marketplace, then a competitive sale is possible; if the issuer is an infrequent name in the market, or has not previously sold debt at all, then a negotiated sale is appropriate. Generally, if there are precedents for the financing approach, use competitive; if not, use negotiated.

3. Transaction characteristics -- if the structure of the terms and conditions and the security backing up the bonds is reasonably straightforward, the bonds can be sold competitively; if the bond characteristics are complex, then a negotiated sale is proper. If the type or purpose of the bond is not especially unique, then it can be sold competitively; if substantial market or investor education is necessary, then a negotiated sale would be best.

4. Perceived creditworthiness -- if either the issue or the issuer offers a widely understood credit structure, there are no problems with the credit quality, and the disclosures are routine, then the bond can be sold competitively; if investor concerns must be dealt with or if the credit quality is subject to considerable economic uncertainty, then it is preferable to negotiate the sale.

5. Depth of technical participation -- if a large amount of pre-sale documentation is necessary, such as complex covenants or financial analyses, and outside expertise is necessary, then a negotiated sale is appropriate. Likewise if internal staff capacity is lacking, a negotiated sale may be preferable since pre-sale particulars would be handled by the firm selected to carry out the negotiation. On the other hand, if pre-sale activity is routine, or if staff capacity is available and experienced, a competitive sale may be entirely feasible. A negotiated sale is most likely in cases where there is direct participation by the ultimate investor, such as in the case of a private placement of the bond.

6. Cost effectiveness -- the sensitivity of the bond to interest rates may necessitate a negotiated sale because the timing of bringing the bond to market can be controlled, and this minimizes the risk of random entry which is characteristic of a competitive sale. A competitive sale, on the other hand, usually results in a lower spread or fee which is paid to the firm buying and marketing the bonds.

The decision between the use of competitive or negotiated sales is one of the most important in debt management; however, there are no right answers. The final decision on bringing a bond sale to market by competitive bid or through negotiation must take into account the general principles described above. Each sale warrants an independent decision based upon the characteristics of the bond sale. In instances where a negotiated sale is used, the assistance of a financial advisor is important to represent the issuer during the negotiation process.

It appears that the tax-exempt bonds of the AHFC issued for its well-established programs during periods of favorable market conditions are likely candidates for sale by competitive bid. This observation is based upon the demonstrable market access the AHFC has achieved, its well-known, important role as the dominant mortgage lender in the State, the strength of its security structure and credit rating, and its frequent, sizeable borrowings. Only the most recent sales of State guaranteed veterans housing bonds have been sold competitively, due to the competitive sale requirement on State general obligation bonds.

Selection, Use, and Compensation of Financial Advisors and Underwriters

When bonded indebtedness is sold, a fixed-cost contract is established that will be valid for many future years. It is important, therefore, that the interest rate payable on the bonds and any bond covenants result in the lowest possible cost to the issuer. Because of the dynamics and volatility of interest rates, the shifting objectives of bond buyers, and the variety of funding sources and methods that are available it is essential that issuers obtain the most current expert advice when structuring and marketing a bond sale. A financial advisor is a specialist who is able to assist issuers with knowledge of current trends and market conditions, and the bond issuance process in general. An underwriter is a representative of an investment or commercial banking firm that acts as the intermediary between the issuer and the ultimate purchaser of the bonds.

The Use of a Financial Advisor

The services of a financial advisor will vary, depending upon such factors as the nature and size of the bond issuer, the frequency with which bonds are issued, and the competence level of the government's own staff in the debt field. Services commonly provided may include: developing a financial plan, assisting in securing voter approval, designing the features of the bond issue, and assisting in marketing the bonds. Other areas in which a financial advisor can be of assistance are:

- o choosing the type of security to pledge and the credit market position to be accorded the debt;
- o presentation to the rating agencies;
- o deciding upon the timing of the sale;
- o preparing the official statement;
- o selecting and evaluating bond counsel services;
- o assessing the probable range of interest costs for alternative means of financing;
- o analysing pay-as-you-go vs. bond financing;
- o commenting on the reasonableness of fees for other specialized services;
- o assessing the suitability of fees for the underwriters;
- o designing call provisions appropriate for the issue;
- o assuring conformance to bidding requirements and other terms of sale are met;
- o conducting negotiated sales;
- o evaluating bids on a competitive sale; and
- o evaluating the performance of members of the syndicate in negotiated financings.

Professional assistance in each of these phases can improve an issuer's chances of securing a favorable credit rating and obtaining lower interest costs.

State governments, which frequently issue debt, can do most of the preparation for the sale of general obligation bonds with their own in-house staff. Thus, Alaska may use the financial advisor only in technical areas, such as timing the issuance of the bonds, constructing the maturity schedule, and presenting the State's credit to the rating agencies. Other governments benefit most from the services of a financial advisor if they are infrequent users of debt or if a limited liability or revenue bond is being issued. A limited liability or revenue bond is more complex than a general obligation issue and, as such, requires special assistance. Financial advisors are also important in a negotiated sale to represent the issuer in the transaction.

There are three types of firms which provide financial advisory services:

1. investment banking firms;
2. commercial banking firms; and
3. independent consultants who do not trade in municipal bonds.

The first two sources, investment banking firms and the municipal departments of commercial banks trading in bonds, may provide financial advice for a fee or, as is often the case, they will not directly charge for services in exchange for the exclusive right to purchase the bonds without competitive bidding through a negotiated sale. These advisor's services are often paid for out of its profit (a component of the underwriting spread, described below) made in reselling the bonds. Alternatively, the public finance department of one of these firms may be hired to provide financial advice independent of underwriting the bonds. The State of Alaska currently follows this approach because its financial advisor is also an investment banking firm and is not paid from the underwriter's spread. In the later case, compensation should be based upon the services provided.

The third source of assistance is the independent consultant who does not trade in municipal bonds but, for a fee, agrees to help plan, design, and market the issue. The issue can be sold at a public sale to the lowest bidder, to a third party in a privately negotiated sale, or through a negotiated underwriting with investment bankers. Independent advisors typically provide technical assistance only; they do not buy, sell, or trade tax-exempt securities nor do their fees derive from such activity. Since a conflict of interest may arise when the same firm provides advice on the structuring of tax-exempt bond issue, on the one hand, and then markets the same bond issue, some governments as a matter of policy elect to separate the advisory function from the underwriting function. This can be accomplished either by contractually prohibiting the advisor from an active role or participation in the buying or trading of the government's securities in the primary market during such period as the firm acts as advisor, or by utilizing the services of an independent financial advisor. The Alaska State Bond Act (AS 37.15) prohibits firms which provide financial advice under contract to the State from bidding on or otherwise participating in an underwriting syndicate which purchases the bonds. Furthermore, AHFC and the Municipal Bond Bank preclude their advisors, because they currently are

investment banking firms, from an underwriting role on bond issues for which the firms serve as advisor. These are responsible practices and should be continued.

Selection of Financial Advisors

The generally preferred method of selecting firms to provide financial advice is to solicit proposals from as diverse a body of potential firms as possible. A Request for Proposals (RFP) should be written and sent to those advisors who have the general qualifications to do the work. Several sources of assistance are available in identifying financial advisors to whom the RFP can be sent are:

1. state and national associations of governmental units or public officials;
2. governments in the region which have had extensive experience with fiscal advisors; and
3. Directory of Municipal Bond Dealers of the U.S., which lists both dealers and municipal finance consultants. This is prepared annually by the Bond Buyer. Note that this directory does not include all financial advisors and should only be used as a supplement to firms otherwise identified. Advisors are listed by state locations, but generally serve a national clientele.

The RFP for consulting services should cover all the particular job requirements. On the basis of the proposals received, the state government can then decide on the most qualified fiscal advisor and write a contract for the work. Alaska has generally used the RFP approach in selecting advisors and appears to evaluate responses and make¹⁸ contract awards in a manner that is consistent with sound business practices.

Compensation of Financial Advisors

The fee paid an independent advisor can be structured as fixed, hourly compensation, a minimum guarantee (or retainer) plus an hourly amount, or a flat fee based upon an estimate of necessary services. The compensation for financial advice should be based upon the services provided, regardless of whether an underwriting firm or an independent firm is providing these services, and not upon the size of the bond sale (amount of issue) or the successful delivery of the bonds. Tying the advisor's compensation to the amount of bonds sold or to the successful delivery of the bonds builds in an unnecessary risk of conflict of interest. Obviously, the quality, motivation, and impartiality of advice might be questioned if the advisor's compensation is directly related to either the amount of bonds or to the completion of the sale. For example, it may not be in the issuer's best interests to finance a certain project through the sale of bonds, or to enter the market at a period of high interest rates; however, a financial advisor whose compensation depends upon the successful

completion of bond sales may not recommend alternative financing techniques, such as using current revenues, or postponement of the bond sale.

The industry standard, however, has been to calculate compensation as a certain percentage of the amount of bonds sold (for example, \$1 per \$1,000 of bonds sold or .1 percent). This standard is due to the preponderance of commercial and investment banking firms that also act as financial advisors. These firms are accustomed to payment through the underwriting spread and the charge per bond for financial advice is similar to this method. However, independent financial advisory firms, and certain investment banks, often charge hourly rates, just as do many bond counsels and other professionals, regardless of the amount of bonds sold. Although the work required to advise on a \$100 million bond sale is generally greater than on a \$10 million sale, the level of effort required can be estimated in advance, making it unnecessary to compensate advisors on a percentage basis.

In our review of selected financial advisory (and bond counsel) contracts, we noted that compensation of advisors to the State and its agencies has historically been tied to a rate per bond or a fixed percentage of the principal amount sold. Such a method of compensating those providing financial and other advice may not be in the State's best interest. The State should review its existing financial advisory contracts to determine the method of compensation used and seek to provide for compensation arrangements that do not encourage situations where conflicts may arise between advisory services and the payment thereof. Flat fee or hourly compensation is most appropriate for professional and impartial financial advice.

Compensation and Use of Negotiating Underwriter

In a competitive bond sale the underwriting firm which purchases the issuer's bonds is the firm whose bid results in the lowest overall borrowing cost to the State. If for whatever reason (as discussed above) the sale is to be negotiated, the underwriting firms or syndicate of firms must be selected in advance of the sale by criteria different from a competitive sale. One method of selection is to solicit proposals from underwriting firms detailing their expertise in selling and structuring the type of bonds to be sold. Factors to consider when evaluating negotiating underwriters are described above on page xxx.

Underwriters are compensated by the "spread" between what they pay the issuing government for its bonds and the price at which they are able to re-sell the bonds to investors. This is true of both competitive and negotiated underwritings. However, in a negotiated sale, the spread is negotiated along with the terms of sale (maturity structure, coupon rates). In a competitive sale, the spread is included in the price and interest rates bid for the bonds.

The syndicate divides the spread among four purposes. First, a provision will be made for expenses which are incurred by the syndicate in the form of

bills from other parties. Second, the managing underwriters will receive a management fee for putting the bond issue together and bringing it to market. These two components compensate the underwriter for any financial advice provided in conjunction with the issue; however, if a firm independent from the transaction provides this advice, its fee will not be included in the spread. Third, a selling concession (often called a "take-down allowance") will be paid to syndicate members in proportion to the amount of bonds sold by each. The selling concession is the source of funds from which the individual salesmen are compensated for their efforts. Fourth, the underwriting profit will be divided among members of the syndicate in proportion to the underwriting participation taken by each firm at the time of the purchase of the bonds.

The expenses customarily incurred by the underwriting syndicate, which will be passed on to the issuer in the spread are:

- o Legal fees of underwriter's counsel;
- o Certain printing costs for syndicate documents such as the agreement among underwriters, bond purchase agreement, institutional lists, blue sky survey, and legal investment memorandum, letter of instructions, etc.;
- o Expenses of advertising for the bond issue, both presale ads and the final "tombstone" ad;
- o Costs of securing a day loan and/or Federal funds to pay for the bonds at the closing;
- o Reasonable computer costs for computation of debt service schedules, performing cash flow analysis, and calculating net interest cost for the bond issue;
- o Out-of-pocket expenses for travel, lodging and meals incurred by the managing underwriters;
- o Communications expenses such as telegraphic notice to syndicate members of pricing information; and
- o Certain other minor expenses relating to the marketing and delivery of the bonds.

Normally, neither the syndicate nor the managing underwriters undertake to pay the following expenses. These costs must generally be covered by the issuer.

- o Fees of bond counsel;

- o Costs of printing of the bond resolution, final official statements, and other legal documentation for the transaction;
- o Fees of auditors of the issuer; or
- o Fees of independent financial advisors.

The procedure in a negotiated bond sale normally follows along the following lines. When the bond issue is ready for sale, the underwriter will present a preliminary bond purchase proposal to the issuer. The proposal will be made after careful assessment of the acceptability of the bonds through "pre-marketing" feedback from prospective purchasers. The proposal will state the interest rate or rates to be borne by the bonds, the re-offering prices, the purchase price, and the spread. It will also state the division of the spread among the four purposes. Detailed information about interest rates and spreads on other comparable bond issues sold under similar bond market conditions should be made available.

The issuer will then consider the preliminary proposal, ask questions and respond with approval, comments, or suggested changes. Negotiations on the preliminary terms of the bond issue ensue until the underwriting syndicate is comfortable that the bonds can be successfully marketed, and the issuer is convinced that it is receiving an equitable and competitive pricing.

After the preliminary terms have been negotiated, the underwriter will release the terms to all members of the underwriting syndicate. After a day or two of promoting the sale, the managing underwriters will review the investors' reactions. This "test marketing" will be discussed with the issuer, and adjustments to the bond issue's terms which fit actual market conditions will be negotiated. For example, if the entire issue is "oversubscribed" (i.e., pre-sale orders exceed the amount of bonds to be sold), then the underwriting profit should be reduced to reflect the syndicate's low risk of being left with unsold bonds.

Since bond market conditions change rapidly, the spread necessary to place a bond issue is not finally determined until the pricing is complete. Depending upon the size of the issue and prevailing market conditions, a representative revenue bond spread (or "underwriters' discount") and its components are as follows:

<u>Item</u>	<u>Per \$1,000</u>
Expenses	\$ 2.50
Management Fee	4.50
Selling Concession or Takedown	12.50
Underwriting Profit or Risk Factor	<u>1.50</u>
TOTAL	\$21.00

Advance Refunding and Defeasance

If interest rates continue to decline from their historic high levels of 1980-81, it is likely that the State, its public corporations, and localities may find it financially advantageous to "advance refund" debt issued at high rates of interest. Refunding is a financing device intended to reduce annual debt service payments and lower the effective cost of borrowing. The technique involves the issuance of new debt to replace outstanding bonds in advance of the bonds' maturity. The issuance of refunding bonds by the State and its localities is permitted under AS 37.15.210 and AS 29.58.240 respectively. The bonds do not require the approval of voters.

Advance refunding can be a financially attractive arrangement for several reasons:

- . it can reduce interest costs if market interest rates have fallen significantly (by approximately 300 basis points or 3 percent) or if the issuer's credit standing has improved;
- . it can reduce future annual debt service costs by restructuring or "stretching out" outstanding debt; or
- . it can remove restrictive bond covenants under which the earlier bonds may have been issued.

In a "direct refunding", the refunding bonds are issued concurrent with the call date on the bonds to be refunded. The proceeds of the refunding bonds are used to retire or call the older debt. The debt generated through the refunding issue replaces the previously outstanding debt so that the net effect on the total amount of outstanding debt on the books of the issuer or in circulation is minimal.

In contrast, "advance refunding" requires the sale of the refunding bonds before the first call or maturity date of the original obligation. The proceeds of the refunding issue are deposited in escrow and invested until the old obligation can be retired. The escrow securities are special U.S. Treasury obligations with maturities designed to provide the cash flow necessary to pay the debt service and eventually retire the old issue. The refunding bonds defease the previously outstanding bonds. Therefore, under advance refunding there are two bond issues outstanding concurrently, sometimes for a long period of time.

An advance refunding will generate net savings if the present value of the stream of payments for debt service on the refunding bonds is less than the present value of the debt service on the refunded bonds, including the expense of issuing the refunding bonds and the payment of the call premium on the refunded bond, if any. The direct expenses of a refunding are the same as with other bond issues (legal, financial, and administrative expenses) as well as any call premium on the refunded bonds. However, there are certain unquantifiable costs and benefits from advance refunding that policy makers must consider before undertaking a financing of this type.

For example, by refunding a bond issue prior to the first call date, advance refunding provides governments with greater flexibility with respect to the timing of the refunding process. The risk of future interest rate fluctuations can be reduced by locking in a known interest rate prior to the call date. This benefit, albeit unquantifiable, may enhance financial planning and improve management of outstanding debt.

A negative attribute of advance refunding is that the refunding bonds cause an increase in the overall supply of outstanding municipal debt because there are two outstanding bond issues concurrently; one is comprised of the original bonds, issued for a specific capital project and the second is the "financing bonds" which are not related to a particular project, but are issued eventually to replace the original bonds. This doubling -- or in some cases tripling -- of debt outstanding may result in higher borrowing costs for all issuers of tax-exempt bonds if the market becomes saturated with debt.

Empirical studies have shown that advance refunding bond issues increase municipal bond interest rates because of the additional supply generated by their issuance¹⁹. The increase in borrowing costs to all issuers in the State is not easy to isolate or identify, but, as a matter of policy, must be considered against the savings that accrue to the individual unit which issues the refunding bonds. Because the potential volume of refunding bonds is large, and could raise the borrowing costs of all issuers in the State if the market became saturated with bonds from Alaska, we believe that the State should establish criteria for judging when the issuance of refunding bonds by the State and local governments is appropriate. In addition the State Bond Committee should be required to review and approve all proposed refunding issues. This action would give the State control over the volume of refunding debt bearing the Alaska name, aid in the coordination and timing of refunding issues, and would force issuers to analyze thoroughly the financial feasibility of the refunding. Criteria to determine financial feasibility should include a minimum net present value savings in debt service payments of 10 to 15 percent, including issuance costs. Below this level of savings, it is questionable whether the dollars saved by the individual issuing jurisdiction are worth the uncertain affect the increased volume of tax-exempt debt has on the general level of interest rates for all borrowers.

Cash defeasance is similar to advance refunding because it involves paying off outstanding debt. However, instead of issuing bonds, a cash appropriation is made in an amount equal to what the advance refunding bond proceeds would be. Defeasance may be a more attractive option than refunding because it does not increase the amount of Statewide debt outstanding, which is the major disadvantage of refunding bonds. If the State wishes to pay off a portion of its outstanding debt, the choice between the use of cash or bond proceeds should follow, in part, the guidelines outlined on pages xxx to xxx on pay-as-you-go versus debt financing.

CHAPTER VII DEBT AFFORDABILITY AND FUTURE DEBT CAPACITY

Introduction

One of the most important concerns to the State of Alaska in the area of debt management is the question of how much debt the State can afford to issue today and repay in the future. Although the State's taxable-base is substantial relative to the amounts of debt it presently has outstanding, the national bond market and investors are likely to become more cautious with respect to Alaska securities in the future. Recent fluctuations in the price of oil and the decline in the Prudhoe Bay curve within the 10-year range have alerted investors to the "boom and bust" nature of the Alaskan economy. Investor concerns over the coming decade will focus on both general obligation and revenue-supported debt because of the interdependence of all components of the Alaskan economy on oil-related activities.

Simply stated, the affordability of debt is determined by two elements: 1) the ability and 2) the willingness to repay the long-term obligation. Ability and willingness are influenced by the interaction of several factors, including: State financial resources available to repay the debt; impact of debt repayment on budgetary priorities; severity of capital investment needs; political preferences regarding long-term vs. current spending; and the market impact (on credit rating and future interest cost) of future debt issuance. These factors are largely judgmental; future debt issuance must be weighed against the State's willingness and ability to apply future resources to finance current capital spending. There are certain guidelines, however, that State officials can employ in making these important decisions.

Theoretically, the State can afford to issue debt up to an amount where the debt service payments required to support the debt place an intolerable strain on available revenues. The affordable level of debt thus becomes that point where trade-off decisions must be made in the allocation of resources between appropriations for debt service and spending on other public programs. Once bonds are issued, the payment of debt service becomes a mandatory budgetary item, not subject to cost-cutting in the budget process. The strain of debt service on the State's budget is one measure of affordability that can be measured by the ratio of annual debt service to current appropriations and general fund revenues as discussed below.

Another consideration in determining debt capacity is the degree to which capital projects are financed from current revenues instead of from the proceeds of the sale of long-term bonds. It is frequently argued that financing through current revenues places a burden on current taxpayers, whereas debt financing spreads the burden over a period of years that more closely approximates the useful life of the capital project. Debt financing is, therefore, said to promote "intergenerational equity" for taxpayers because facilities are

paid for as they are used. Alaska is somewhat different in this regard, because its greatest tax burden falls on a natural resource, and not on its citizens. However, Alaskans pay an opportunity cost if the decision to finance capital projects through current revenues precludes spending on other public priorities. The pay-as-you-go vs. current spending trade-offs are outlined further in the debt management portion of this report (see pages 166 to 175).

The above framework for assessing affordability is concerned primarily with current resources and priorities, however, and does not directly take into account the long-term impact of debt issuance. One such impact is upon the ability of future taxpayers to repay debt; if debt issuance occurs at too high a level, future state resources may be strained to meet both debt service and current budget needs. For this reason, current debt issuance and affordability must be judged based on an assessment of future ability and willingness to repay in addition to the State's present situation.

Other long-term affordability factors include the impact of large amounts of debt issuance on the State's credit rating, and the reception accorded the State's debt in the marketplace. If too much debt bearing the Alaska name enters the market, investor's portfolios could become overloaded, forcing the State and other issuers in the State to pay higher interest rates in order to attract investors. In addition, excessive debt issuance relative to economic and financial resources is likely to result in a downgrading of the State's AA credit rating which would also raise future borrowing costs for all issuers in the State.

The question of affordable debt levels must be considered separately for general obligation and revenue-supported debt, since different standards of ability to repay apply to the two types of debt. For instance, where the full faith and credit of the State is pledged, such as in the case of general obligation debt, affordability considerations involve tax rate levels; available revenues; personal income levels; tax sources used and unused; and overall budgetary priorities.

In the case of revenue-supported debt, however, affordability considerations revolve more around the revenue-raising potential of the project being financed; the bondholder trust guarantees for debt service sinking fund protection; the revenue coverage relative to present and future debt issues; the authority of the issuer to levy fees and charges; and the protection accorded the investors in the event of default. Because of the more business-like determinants of affordability with revenue-supported debt, investors as much determine the affordable level of debt issues through the standards required for the purchase of bonds as does the issuing authority through the determination of financing requirements. In the case of general obligation debt, however, investors play a much more passive role in the assessment of affordability. This means that the State must take the lead in assessing its own debt affordability.

The distinction between the affordability criteria for general obligation and revenue debt is significant. For general obligation debt, selected measures of debt capacity can be evaluated in a "macro" sense, with the result being a general assessment of affordable debt levels based upon a reasonable estimate

of overall future State resources. For revenue-supported debt, each bond issue and each project being financed must be evaluated separately and meet the test of self-sufficiency on its own merits. This requires that State officials formulate programs or projects with substantial economic soundness, a dependable underlying security structure, adequate reserve funds, and strong cash flows which generate monies in excess of operating costs that more than cover the debt service requirements.

Considering this distinction between measuring debt affordability for general government (general obligation) purposes in contrast to special agency (revenue supported) purposes it is practical in this report to address only affordability levels on overall State general obligation debt. An analysis of special purpose revenue debt is beyond the scope of this project because it is not practical to identify and evaluate future and yet to be defined revenue-supported projects. However, because revenue-supported debt affects the State's own debt affordability indirectly, a framework for assessing revenue debt is presented below. Following the discussion of revenue debt, the affordability of the State's own general obligation is addressed.

Revenue-Supported Debt

Revenue bonds influence the affordability of State general obligation debt in two principal ways. First, when bonds of this type carry a moral obligation pledge of the State there is an indirect encroachment upon the creditworthiness of the State itself since they represent a contingent liability to the State. As the volume of moral obligation bonds outstanding increases, the amount of the State's contingent liability also increases. If moral obligation debt increases at a time when overall State revenues are stable, are experiencing a rate of growth lower than the rate of growth in contingent liabilities, or are declining, the moral obligation burden may encumber the State's credit capacity. Such an occurrence would make general obligation debt more costly, and therefore, less affordable due to weaker credit quality.

Second, the volume of revenue bonds may affect the cost of borrowing paid by all tax-exempt debt issuers in the State. Prices (interest rates) in the tax-exempt bond market are affected by many forces; one of which is the supply of tax-exempt bonds of the same type (revenue or general obligation), with a certain maturity, or from a particular region of the country. Institutional investors and bond portfolio managers generally try to diversify geographically their bond holdings. Therefore, excess supply of Alaska debt may saturate the market and cause interest rates for all borrowers in the State to rise, making any debt less affordable than before.

Although it is difficult to measure empirically the impact of revenue and moral obligation debt on the affordability of general obligation debt, it is worthwhile to develop a framework for analysis of the affordable levels of revenue-supported debt that covers both the financial feasibility of the project being financed and any indirect impact on the State's creditworthiness. Assessment and monitoring of the affordable level of revenue debt should be a

concern to Alaska particularly because extensive use has been made of both moral obligation debt and revenue-supported debt.

The first phase in monitoring revenue bonds is to ensure that only fiscally sound programs or projects are financed. This entails (a) ensuring that no program or project is brought to financing unless its need and usefulness is well established, (b) ensuring that every program or project to be financed meets the test of self-sufficiency, and (c) ensuring that no project is brought to market with the State's moral obligation backing if the project's financial feasibility itself is marginal. The first phase review will protect against a program or project being financed "before its time". This is especially important because if the State is ever called upon to "bail out" a revenue bond project where the moral obligation has been pledged, and the State fails to act on its "moral" commitment, the State itself could effectively be barred from the marketplace until the problem was resolved. Hence, the State must satisfy itself that each individual revenue bond is creditworthy itself. This is the first step in ensuring not only revenue bond affordability but protecting this type of bond from negatively affecting the affordability of general State debt.

The second phase should monitor the aggregate impact of revenue-type bonds on the perception of the Alaska name as a credit in the national municipal bond market. In order to protect and preserve the quality of the Alaska bond as a trading instrument it is important that Alaska-based bonds do not proliferate to a point of saturation. Market saturation occurs when the total volume of bonds entering the marketplace (supply) out paces the demand for the bond. Determining the point at which saturation occurs is more a matter of judgment than of measurement. The dynamics of market interaction and the multiple number of participants in the market necessitates that this kind of assessment be made by consulting periodically with a diversified array of municipal bond experts. Although this exercise can not produce concrete results, its usefulness as a tool in the assessment of the affordability of revenue-supported debt is important.

Measures Of General Obligation Debt Capacity

Credit analysts and investors have developed certain summary statistics which measure debt burden and debt capacity. These statistics generally take the form of debt ratios that measure the amount of debt outstanding relative to a certain economic or demographic indicator (such as outstanding debt per dollar of state personal income or debt per capita). The ratios are used not because of their comprehensive nature, but because the data are readily available and provide a uniform base against which the relative indebtedness of states can be compared. While a state should be aware of how it stands against these ratios, and its relative position to other states, individual assessment of debt capacity should be based not only upon these ratios but also upon comprehensive data covering the economic resources available to the state to repay the debt; the state's managerial and organizational characteristics; and the uniqueness of the state's debt structure in relation to its fiscal position and taxing capacity.

Before calculation of debt-related ratios can take place, however, the types of State debt that should be included in the numerator must be determined. As discussed in the Debt Profile, there are three classifications that can be considered. General obligation debt, tax-supported debt (comprised of general obligation debt and revenue debt dependent on State appropriations), and total State-level debt (general obligation and all revenue-supported debt). Finding comparable data in these three categories for all states is difficult because of the different methods used in each state to structure debt issues.

Perhaps the most reliable and consistent data are those compiled by the U.S. Department of Commerce, Bureau of the Census. However, the annual data published in the Census publication, Governmental Finances, recognizes only the distinction between general obligation debt and nonguaranteed debt (revenue-supported debt that does not have a pledge of the jurisdiction's taxing power). This distinction does not take account of all "tax-supported" debt which in Alaska's case includes ASHA lease-revenue debt, and University of Alaska debt in addition to the State's general obligation debt. The most recent Census data available are for fiscal year 1980-81. The alternative to the Census figures are the Net Tax-Supported Debt calculations of Moody's Investors Service which take account of all debt that is directly supported by state spending. However, this data is only available from Moody's beginning with 1978. Both Census and Moody's data, where appropriate, will be used in the following discussion of debt ratios.

Traditional Measures of Debt Capacity

State Debt Per Capita: A frequently used measure of debt burden is the ratio of outstanding debt to population. This statistic measures the dollar amount of debt outstanding for each state resident. This ratio, however, has many shortcomings, most noticeably that it provides no information about the resources of the individuals who in the aggregate are to pay the debt. For low-population states such as Alaska, the absolute value of this statistic is far higher than that for more populous states. In 1981, the national average for state general obligation debt per capita was \$229.31 (see Table 7.1), whereas this ratio for Alaska was \$1,700.97, the highest in the country. Next highest was the State of Hawaii with \$1,357.08 general obligation debt per capita, which, like Alaska, is sparsely populated. Oregon's large amount of general obligation debt is comprised largely of State-guaranteed veterans mortgage bonds and is ignored for these purposes because it is primarily revenue-supported.

Alaska also has the highest per capita amount of total state-level debt (general obligation and revenue) of all states. Table 7.2 indicates that total debt amounted to \$5,824 in fiscal year 1981 compared with a national average of \$588. Although Alaska's per capita figures are distorted, the rate of change in per capita debt does provide comparable information on the relationship of the growth in debt issuance to population growth. A comparison of the absolute level of per capita debt, and the annual rate of change from fiscal year 1973 to

Table 7.1

Per Capita Total Outstanding State General Obligation Debt
(1974-75 to 1980-81)^a

State	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Alabama	\$24.74	\$26.63	\$30.32	\$35.74	\$32.90	\$33.27	\$30.66
Alaska	1,035.64	1,143.02	1,299.04	1,443.78	1,651.49	1,579.31	1,700.97
Arizona	--	--	--	--	--	--	--
Arkansas	--	--	--	--	--	--	--
California	264.63	260.86	260.46	260.90	265.92	266.93	255.65
Colorado	--	--	--	--	--	--	--
Connecticut	702.04	778.95	774.89	759.33	735.62	703.76	738.39
Delaware	739.48	974.36	702.28	707.79	715.02	676.27	681.10
Florida	20.99	25.64	51.13	71.64	71.59	63.51	116.68
Georgia	26.52	65.93	73.36	100.89	97.33	100.15	94.94
Hawaii	933.20	1,178.85	1,305.11	1,482.16	1,468.61	1,470.22	1,357.08
Idaho	1.53	1.41	1.27	1.13	.99	.84	.73
Illinois	86.71	122.18	145.30	191.11	216.62	228.72	250.28
Indiana	--	--	--	--	--	--	--
Iowa	.90	.45	--	--	--	--	--
Kansas	--	--	--	--	--	11.76	11.67
Kentucky	106.47	100.79	95.52	90.36	84.73	76.95	72.09
Louisiana	189.85	248.87	329.90	373.48	415.66	453.95	560.38
Maine	262.35	260.47	253.55	250.62	240.79	226.52	229.83
Maryland	340.96	415.02	499.45	524.05	519.50	502.94	519.68
Massachusetts	344.78	518.87	555.38	558.47	574.64	567.00	573.58
Michigan	53.23	63.02	80.93	77.31	69.43	73.06	72.89
Minnesota	156.14	152.73	186.76	205.03	210.10	219.97	224.23
Mississippi	219.07	283.60	303.58	505.52	317.92	298.43	291.74
Missouri	12.13	11.00	16.39	15.00	13.58	12.96	16.45
Montana	--	9.79	9.64	8.94	8.58	8.26	7.82
Nebraska	--	--	--	--	--	--	--
Nevada	54.38	56.06	57.25	103.49	157.38	133.72	123.55
New Hampshire	171.17	211.30	263.41	278.66	298.64	274.15	352.88
New Jersey	209.62	208.33	230.07	235.23	249.31	251.69	257.60
New Mexico	18.81	14.93	20.91	15.56	14.88	17.75	17.39
New York	207.58	198.59	207.94	221.65	232.78	215.37	228.96
North Carolina	74.49	103.23	114.65	105.47	116.14	124.36	128.24
North Dakota	26.96	25.03	23.17	21.25	19.20	17.38	15.20
Ohio	161.27	181.87	185.82	196.00	210.73	212.24	219.27
Oklahoma	68.53	65.33	62.11	85.16	79.83	65.37	54.45
Oregon	732.12	859.05	1,009.28	1,220.00	1,428.88	1,717.32	2,074.76
Pennsylvania	256.80	292.66	326.37	327.27	332.44	326.31	328.33
Rhode Island	295.23	297.90	293.55	298.25	297.85	264.32	237.46
South Carolina	170.58	172.53	175.29	202.26	189.09	160.73	159.71
South Dakota	--	--	--	--	--	--	--
Tennessee	114.92	135.36	161.31	171.15	159.90	141.88	145.32
Texas	58.86	65.74	69.21	67.29	65.64	63.86	59.49
Utah	20.73	72.64	66.61	60.74	73.24	60.57	58.30
Vermont	544.99	532.93	523.68	478.84	502.32	466.30	527.52
Virginia	10.54	9.26	8.01	6.79	5.65	4.41	42.45
Washington	115.10	112.23	303.07	307.21	317.22	320.25	334.36
West Virginia	375.25	406.16	463.25	465.63	612.40	474.45	474.18
Wisconsin	133.57	194.38	259.92	304.68	343.26	362.25	362.93
Wyoming	--	--	--	--	--	--	--
Total U.S.	\$158.88	\$179.55	\$198.93	\$212.89	\$220.04	\$218.55	\$229.31

a. Debt data from the U.S. Department of Commerce, Bureau of the Census, State Government Finances (series GF), various years. State general obligation debt is defined as all state-guaranteed debt for which states pledge their full faith and credit. Debt data measured as of June 30 of each fiscal year shown. Figures exclude debt issued by local governments, and debt issued by the District of Columbia.

Reprinted from : The Use of Tax-Exempt Bonds in California : Policy Issues and Recommendations, Legislative Analyst, Jon David Vasche, State of California, December 1982.

Table 7.2

Per Capita Total Outstanding State General Obligation and Revenue Bond Debt
(1974-75 to 1980-81)^a

State	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Alabama	\$247.88	\$267.71	\$270.23	\$268.22	\$279.49	\$265.38	\$336.97
Alaska	1,872.88	2,044.06	2,246.53	2,744.65	3,355.98	3,861.39	5,824.03
Arizona	39.71	40.92	44.79	41.29	39.25	34.59	50.04
Arkansas	58.20	61.36	65.56	81.06	112.04	158.61	205.49
California	304.98	300.03	307.88	316.90	338.24	353.28	371.24
Colorado	48.20	48.77	74.61	114.73	153.75	159.40	240.44
Connecticut	943.57	989.66	1,021.38	1,064.98	1,152.79	1,248.13	1,407.59
Delaware	1,024.04	1,267.19	1,276.13	1,313.93	1,469.00	1,755.46	1,778.93
Florida	193.57	208.41	236.22	270.64	301.47	269.70	276.51
Georgia	233.21	259.62	252.33	265.17	267.87	257.70	247.26
Hawaii	1,342.02	1,479.02	1,664.36	1,878.24	1,854.48	1,931.83	1,889.50
Idaho	48.57	47.18	25.91	147.16	244.04	346.75	395.10
Illinois	250.33	299.48	360.92	457.72	509.21	549.76	603.71
Indiana	115.82	112.59	109.75	110.39	107.49	110.67	187.25
Iowa	44.28	43.49	42.70	78.19	128.45	130.79	151.36
Kansas	133.93	176.74	172.81	179.75	193.81	185.42	176.29
Kentucky	579.41	580.56	588.41	749.99	796.85	829.08	826.93
Louisiana	319.85	375.48	449.62	513.29	656.28	708.14	809.84
Maine	434.82	499.39	520.36	639.18	634.05	649.13	735.66
Maryland	509.12	610.56	737.33	914.57	889.64	830.70	933.99
Massachusetts	682.06	859.87	895.92	876.72	938.55	1,008.35	1,088.31
Michigan	183.20	206.87	213.50	234.26	272.13	314.98	377.12
Minnesota	222.40	256.90	309.48	439.94	461.51	507.70	585.34
Mississippi	261.00	326.66	339.79	538.35	347.11	323.30	313.71
Missouri	58.06	70.09	91.32	114.39	146.21	207.01	270.25
Montana	108.97	112.51	132.02	174.63	187.02	393.31	382.35
Nebraska	44.42	41.19	37.99	35.70	33.46	126.97	156.18
Nevada	87.80	87.15	86.12	369.91	494.39	660.79	656.33
New Hampshire	305.26	366.46	247.27	483.41	832.67	976.17	1,109.83
New Jersey	531.42	548.88	554.58	646.99	734.11	886.31	1,029.17
New Mexico	133.27	159.36	177.46	283.77	414.10	544.45	573.95
New York	811.21	1,137.00	1,119.93	1,261.99	1,302.29	1,346.48	1,400.80
North Carolina	113.56	129.73	146.26	139.66	197.53	215.48	226.99
North Dakota	98.92	108.32	103.42	124.70	199.07	335.80	322.19
Ohio	248.12	283.07	299.14	320.53	349.01	371.86	437.32
Oklahoma	346.70	342.11	334.14	388.47	522.46	504.38	559.06
Oregon	732.12	859.05	1,017.26	1,267.82	1,507.23	1,855.79	2,225.54
Pennsylvania	453.09	498.70	541.43	554.40	549.66	534.92	533.20
Rhode Island	494.13	546.39	686.31	924.35	1,267.92	1,544.98	1,810.18
South Carolina	331.26	368.28	457.25	607.48	542.33	621.11	779.00
South Dakota	99.15	133.58	335.56	560.15	841.50	1,035.18	1,010.64
Tennessee	185.44	224.66	280.52	319.21	317.04	306.24	319.41
Texas	158.07	165.61	166.00	162.70	173.16	173.50	179.61
Utah	73.73	122.92	114.06	220.63	287.53	367.61	380.96
Vermont	975.91	882.96	941.09	947.54	1,035.74	1,280.15	1,305.04
Virginia	138.58	140.73	170.68	242.56	319.95	360.32	394.40
Washington	357.01	338.76	382.28	380.98	385.84	387.51	425.25
West Virginia	589.38	640.81	720.36	746.06	871.61	931.53	944.06
Wisconsin	219.43	294.64	361.68	425.10	473.30	519.87	546.35
Wyoming	205.00	192.18	180.05	236.53	480.16	770.48	915.65
Total U.S.	\$339.68	\$394.32	\$418.14	\$471.46	\$509.20	\$539.96	\$588.06

a. Debt data from the U.S. Department of Commerce, Bureau of the Census, State Government Finances (series GF), various years. Debt data measured as of June 30 of each fiscal year shown. Figures exclude debt issued by local governments, and debt issued by the District of Columbia.

Reprinted from : The Use of Tax-Exempt Bonds in California : Policy Issues and Recommendations, Legislative Analyst, Jon David Vasche, State of California, December 1982.

Table 7.3
General Obligation and Total State-Level
Debt Per Capita
1973 - 1981

<u>Fiscal Year</u>	<u>Alaska State G.O. Debt Per Capita</u>	<u>U.S. Average State G.O. Debt Per Capita</u>	<u>Total Alaska State-Level Debt Per Capita</u>	<u>U.S. Average Total State-Level Debt Per Capita</u>
1973	\$ 832.05	\$ 134.57	\$1,260.75	\$ 264.92
1975	1,035.64	158.88	1,872.88	339.68
1976	1,143.02	179.55	2,044.06	394.32
1977	1,299.04	198.93	2,246.53	418.14
1978	1,448.78	212.89	2,744.65	471.46
1979	1,651.49	220.04	3,355.98	509.20
1980	1,579.31	218.55	3,861.39	539.96
1981	1,700.97	229.31	5,824.03	588.06

Annual Rates of Change

<u>Fiscal Years</u>	<u>Alaska State G.O. Debt Per Capita</u>	<u>U.S. Average State G.O. Debt Per Capita</u>	<u>Total Alaska State-Level Debt Per Capita</u>	<u>U.S. Average Total State-Level Debt Per Capita</u>
1973-1975	12.19%	9.33%	24.28%	13.96%
1975-1976	10.43	12.58	9.18	16.22
1976-1977	13.65	11.17	9.88	6.09
1977-1978	11.55	7.04	22.17	12.67
1978-1979	13.94	3.29	22.30	8.07
1979-1980	-4.36	-0.45	15.05	5.89
1980-1981	7.73	4.57	50.84	9.09

Source : U.S. Department of Commerce, Bureau of the Census, State Government Finances, various years.

1981 is provided in Table 7.3. The rate of growth of both Alaska general obligation debt and total State debt has exceeded the national average in seven of the eight fiscal years indicated. Moreover, the average rate of growth nationwide in total state debt was 10 percent over the 1973-81 period whereas in Alaska the average rate of growth was over 21 percent. Two factors must be noted, however, one is that Alaska did not begin to issue debt until 1958, so the base amount of debt outstanding was much less at the start of this period than for most other states. Second, Alaska's needs for basic capital infrastructure were greater during this period than for other states, so debt issuance would be expected to occur at a faster pace. Therefore, comparison of the rates of growth in Alaska and the nation does not provide a fair basis for assessment of the State's relative debt position.

State Debt per \$1,000 of Personal Income: Personal income is a better measure than population of ability to repay debt, because, as a rough approximation for the level of economic activity and growth in the economy of most states, it provides information on the amount of resources available to repay the debt. In addition, many states rely on the personal income tax or sales tax for a large share of state revenue, and personal income has traditionally been the most readily available measure of the base for each of these taxes.

Personal income may be the most readily available and comparable proxy for economic growth; however, it is not necessarily the best measure of tax-generating capacity for all states, and especially those states (such as Alaska) which do not rely on a personal income tax. There are two fundamental problems with the personal income statistic; one pertaining to the definition of income, and the other to its use as a realistic measurement of a state's tax base. Such problems may cause personal income to overstate or understate tax capacity.

The definitional problem occurs in the double counting of certain types of income. Personal income figures include transfer payment income to individuals. However, taxes paid by the residents of a state to finance those transfers are not deducted (except for the employee share of social insurance contributions). This treatment results in a doublecounting and a systematic overstatement of the real income of those states in which government transfer programs, as well as taxes, are relatively large. Furthermore, personal income is generally much higher than adjusted gross income as defined by the Internal Revenue Service and which would likely form the tax base for a personal income tax if Alaska were to re-institute this tax. For example, comparison of Alaska personal income for 1979-1980 of \$5.136 billion with the 1979 I.R.S. adjusted gross income of State residents of \$4.097 billion demonstrates that personal income overstated the personal income tax base in that year by 25%.

As mentioned above, a critical problem with personal income is that it does not directly correspond to the broad menu of taxes which generate revenue for the State. In fiscal year 1981-82, State revenues were derived from the following sources:

Sales Taxes and User Fees	4%
Oil and Gas Based Taxes	95%
Corporate Income Tax	1%

Because Alaska no longer relies on the personal income tax, an income-based estimate of debt capacity does not address the State's true revenue-raising ability. This is true of other states which derive a large portion of state revenue from taxes on a natural resource. Under these circumstances, personal income may understate the tax capacity of a given state.

Another reason State personal income is not an accurate indicator of debt affordability in Alaska is the significant contribution that State spending makes to the Alaska economy and, therefore, to State personal income. Eight percent of the State labor force and nearly 5 percent of the State's population are State employees. However, the importance of State spending to State personal income extends beyond the large proportion of State employees. Though difficult to measure, the multiplier effects of State expenditures on aid to local governments, capital projects, and procurement are obviously considerable. Therefore, Alaska's total personal income would likely be severely affected by a change in State spending due to declining oil revenues, for instance. In other states, personal income is generally not as subject to spending from one or two sectors of the economy — the State and oil production, in Alaska's case — and is a better indicator of the economic base of the State than in Alaska.

Regardless of the deficiencies in using personal income to assess relative debt capacity, it is still a measurement that is widely used. In comparison with the general obligation debt of other states as a share of total personal income, Alaska's general obligation debt ranked highest in fiscal year 1981 (excluding Oregon), at \$124 per \$1,000 of State personal income, closely ahead of Hawaii (Table 7.4). Similarly, total state-level debt in Alaska comprises a far larger share of state personal income than it does in other states. This figure for Alaska is \$423 per \$1,000 whereas the national average is \$56 (Table 7.5).

The rate of increase in outstanding debt compared with the rate of increase in personal income also serves as an interesting comparison. Table 7.6 indicates that the national averages of both general obligation debt and total state debt outstanding per \$1,000 of personal income have trended gradually downward over the last 6 years, whereas similar figures for the State of Alaska have been erratic. The rate of change in State general obligation debt as a share of personal income has fluctuated from an increase of nearly 12 percent in 1978 to a drop of over 16 percent in 1980.

Ratio of Debt to Assessed Full Value: The ratio of debt to the true value of taxable property is a frequent measure of local governmental debt burden. The logic behind this is two-fold: 1) property is an indication of wealth, and 2) the property tax is an important revenue base for many types of local government. However, taxable property is not a very pertinent measure for state revenue systems. Although many states levy a nominal property tax, it does not comprise

Table 7.4

Total Outstanding State General Obligation Debt
Per \$1,000 of Personal Income
(1974-75 to 1980-81)^a

State	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Alabama	\$5.30	\$5.13	\$5.32	\$5.61	\$4.70	\$4.43	\$3.73
Alaska	110.75	109.78	122.12	136.54	146.81	123.00	123.66
Arizona	--	--	--	--	--	--	--
Arkansas	--	--	--	--	--	--	--
California	39.72	35.71	32.48	29.29	26.41	24.34	21.44
Colorado	--	--	--	--	--	--	--
Connecticut	102.72	105.12	95.26	83.94	71.29	59.91	57.62
Delaware	112.76	136.78	91.68	84.00	75.87	65.19	61.34
Florida	3.65	4.13	7.46	9.39	8.32	6.98	11.48
Georgia	5.19	11.71	11.93	14.62	12.64	12.38	10.63
Hawaii	139.61	165.99	165.95	173.02	154.94	145.14	123.01
Idaho	.29	.24	.20	.16	.13	.10	.08
Illinois	12.67	16.51	17.93	21.44	21.99	21.68	21.62
Indiana	--	--	--	--	--	--	--
Iowa	.15	.07	--	--	--	--	--
Kansas	--	--	--	--	--	1.18	1.08
Kentucky	21.88	18.65	16.06	13.77	11.63	10.08	8.56
Louisiana	38.92	45.54	54.52	54.81	53.86	53.54	58.88
Maine	54.46	47.89	43.20	38.79	33.30	28.51	26.93
Maryland	52.57	58.68	65.35	61.23	54.26	47.96	45.28
Massachusetts	55.65	77.74	76.57	70.16	64.12	55.86	51.54
Michigan	8.87	9.35	10.68	9.15	7.40	7.33	6.76
Minnesota	26.62	24.24	26.16	25.97	23.66	22.56	20.82
Mississippi	53.68	62.11	59.48	89.59	50.73	45.25	39.38
Missouri	2.22	1.84	2.48	2.05	1.64	1.44	1.71
Montana	--	1.69	1.57	1.24	1.08	.97	.83
Nebraska	--	--	--	--	--	--	--
Nevada	8.08	7.52	6.87	10.88	14.84	12.43	10.67
New Hampshire	31.31	34.80	39.40	37.29	35.59	29.95	35.33
New Jersey	30.78	28.19	28.62	26.62	25.41	22.96	21.24
New Mexico	3.87	2.77	3.55	2.34	2.02	2.26	2.04
New York	31.72	28.40	27.61	26.86	25.42	20.93	19.97
North Carolina	15.02	18.85	19.31	15.90	15.79	15.87	14.83
North Dakota	4.39	4.23	3.80	2.77	2.32	1.98	1.49
Ohio	27.66	28.26	26.08	24.92	24.06	22.38	21.26
Oklahoma	12.98	11.28	9.59	11.63	9.54	7.15	5.31
Oregon	125.79	132.13	141.49	152.29	161.87	183.91	207.35
Pennsylvania	43.71	45.53	46.49	42.47	38.39	34.51	31.66
Rhode Island	51.47	47.40	42.74	39.06	34.49	27.89	23.39
South Carolina	36.50	33.30	30.74	32.18	27.31	22.06	19.87
South Dakota	--	--	--	--	--	--	--
Tennessee	23.66	25.27	27.56	26.02	21.81	18.33	17.20
Texas	10.52	10.54	10.01	8.68	7.45	6.67	5.54
Utah	4.20	13.33	11.11	9.16	10.04	7.90	7.01
Vermont	109.60	97.66	89.63	73.31	68.92	59.38	60.53
Virginia	1.81	1.46	1.14	.88	.65	.47	4.10
Washington	18.19	16.10	39.88	35.50	32.75	30.99	29.65
West Virginia	75.88	74.08	77.03	70.70	82.48	60.69	56.60
Wisconsin	23.80	31.70	37.99	40.36	40.16	38.65	36.17
Wyoming	--	--	--	--	--	--	--
Total U.S.	\$26.79	\$27.71	\$27.98	\$26.96	\$24.90	\$22.82	\$21.86

a. Debt data from the U.S. Department of Commerce, Bureau of the Census, State Government Finances (series GF), various years. State general obligation debt is defined as all state-guaranteed debt for which states pledge their full faith and credit. Debt data measured as of June 30 of each fiscal year shown. Figures exclude debt issued by local governments, and debt issued by the District of Columbia.

Reprinted from : The Use of Tax-Exempt Bonds in California : Policy Issues and Recommendations, Legislative Analyst, Jon David Vasche, State of California, December 1982.

Table 7.5

Total Outstanding State General Obligation and Revenue Bond Debt
Per \$1,000 of Personal Income
(1974-75 to 1980-81)^a

State	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Alabama	\$53.08	\$51.57	\$47.45	\$42.12	\$39.92	\$35.36	\$40.99
Alaska	200.29	196.31	211.19	258.67	298.34	300.73	423.42
Arizona	7.31	6.83	6.81	5.59	4.59	3.92	5.13
Arkansas	12.74	12.23	11.83	13.02	15.93	21.78	25.55
California	45.78	41.07	38.39	35.57	33.60	32.22	31.14
Colorado	7.94	7.38	10.33	14.11	16.73	15.86	21.44
Connecticut	138.06	133.55	125.56	117.73	111.73	106.25	109.83
Delaware	156.15	177.88	166.60	155.93	155.87	169.23	160.21
Florida	33.66	33.55	34.47	35.46	35.02	29.62	27.20
Georgia	45.65	46.10	41.03	38.41	34.78	31.77	27.68
Hawaii	200.77	208.25	211.63	219.25	195.65	190.71	171.26
Idaho	9.07	8.11	4.09	20.83	31.74	42.92	44.19
Illinois	36.59	40.48	44.53	51.34	51.70	52.12	52.16
Indiana	20.44	17.86	15.85	14.45	12.67	12.35	19.27
Iowa	7.34	6.87	6.11	9.68	14.75	13.94	14.45
Kansas	22.14	27.03	24.36	22.49	21.21	18.53	16.31
Kentucky	119.10	107.44	98.92	114.31	109.37	108.64	98.20
Louisiana	65.56	68.70	74.31	75.33	85.04	83.52	85.09
Maine	90.26	91.83	88.66	98.93	87.69	81.69	86.20
Maryland	78.50	86.33	96.48	106.86	92.91	79.22	81.38
Massachusetts	110.09	128.84	123.52	110.14	104.72	99.34	97.79
Michigan	30.50	30.69	28.18	27.73	28.99	31.58	34.95
Minnesota	37.92	40.77	43.35	55.73	51.98	52.08	54.36
Mississippi	63.96	71.53	66.58	95.41	55.39	49.02	42.35
Missouri	10.63	11.75	13.83	15.65	17.68	22.99	28.00
Montana	20.03	19.44	21.52	24.15	23.60	45.98	40.65
Nebraska	7.39	6.65	5.61	4.69	3.89	13.53	15.07
Nevada	13.04	11.69	10.33	38.91	46.62	61.41	56.70
New Hampshire	55.83	60.36	63.92	64.69	99.23	106.66	111.10
New Jersey	78.02	74.26	68.98	73.21	74.82	80.85	84.87
New Mexico	27.42	29.59	30.11	42.65	56.13	69.26	67.31
New York	123.95	162.61	148.73	152.90	142.19	130.86	122.17
North Carolina	22.90	23.68	24.64	21.06	26.85	27.49	26.24
North Dakota	16.11	18.32	16.94	16.24	24.00	38.31	31.52
Ohio	42.56	43.98	41.99	40.75	39.85	39.20	42.41
Oklahoma	65.69	59.06	51.62	53.04	62.42	55.19	54.55
Oregon	125.79	132.13	142.61	158.26	170.74	198.73	222.42
Pennsylvania	77.12	77.59	77.12	71.95	63.48	56.57	51.42
Rhode Island	86.15	86.94	99.93	121.05	146.82	163.02	178.29
South Carolina	70.88	71.09	80.20	96.66	78.33	85.24	96.91
South Dakota	19.39	26.28	57.27	83.73	112.04	132.08	114.48
Tennessee	38.17	41.94	47.93	48.53	43.24	39.58	37.81
Texas	28.26	26.56	24.01	20.98	19.64	18.13	16.74
Utah	14.93	22.56	19.03	33.25	39.42	47.94	45.83
Vermont	196.26	161.80	161.07	145.06	142.12	163.01	149.74
Virginia	23.85	22.15	24.36	31.25	36.97	38.27	38.11
Washington	56.43	48.61	50.31	44.03	39.93	37.50	37.71
West Virginia	119.17	116.88	119.79	113.28	117.39	119.17	112.70
Wisconsin	39.10	48.06	52.87	56.32	55.38	55.47	54.45
Wyoming	33.21	28.08	23.68	27.25	48.60	70.44	78.51
Total U.S.	\$57.27	\$60.85	\$58.81	\$59.71	\$57.61	\$56.39	\$56.06

a. Debt data from the U.S. Department of Commerce, Bureau of the Census, State Government Finances (series GF), various years. Debt data measured as of June 30 of each fiscal year shown. Figures exclude debt issued by local governments, and debt issued by the District of Columbia.

Reprinted from : The Use of Tax-Exempt Bonds in California : Policy Issues and Recommendations, Legislative Analyst, Jon David Vasche, State of California, December 1982.

Table 7.6

General Obligation and Total State-Level
Debt Per \$1,000 of Personal Income
1973 - 1981

<u>Fiscal Year</u>	<u>Alaska State G.O. Debt Per \$1,000 P.I.</u>	<u>U.S. Average State G.O. Debt Per \$1,000 P.I.</u>	<u>Total Alaska State-Level Debt Per \$1,000 P.I.</u>	<u>U.S. Average State-Level Debt Per \$1,000 P.I.</u>
1973	\$ 140.23	\$ 23.18	\$ 212.48	\$ 52.36
1975	110.75	26.79	200.29	57.27
1976	109.78	27.71	196.31	60.85
1977	122.12	27.98	211.19	58.81
1978	136.54	26.96	258.67	59.71
1979	146.81	24.90	298.34	57.61
1980	123.00	22.82	300.73	56.39
1981	123.66	21.86	423.42	56.06

Annual Rates of Change

<u>Fiscal Years</u>	<u>Alaska State G.O. Debt Per \$1,000 P.I.</u>	<u>U.S. Average State G.O. Debt Per \$1,000 P.I.</u>	<u>Total Alaska State-Level Debt Per \$1,000 P.I.</u>	<u>U.S. Average State-Level Debt Per \$1,000 P.I.</u>
1973-1975	-10.51%	7.79%	-2.87%	4.81%
1975-1976	-0.88	3.43	-1.99	7.02
1976-1977	11.24	0.97	7.48	-4.92
1977-1978	11.81	-3.65	22.27	1.72
1978-1979	7.52	-7.64	15.50	-3.39
1979-1980	-16.22	-8.35	0.67	-1.75
1980-1981	0.53	-4.20	41.00	-0.59

Source : U.S. Department of Commerce, Bureau of the Census, State Government Finances, various years.

as large a share of total revenues as it does at the local level. In fiscal year 1983, for example, property tax revenue accounted for just over four percent of Alaska's general fund unrestricted revenue. Data on assessed value is not collected annually by the Census Bureau, however the state debt medians as calculated by Moody's Investors Service for calendar year 1982 indicate that Alaska's taxsupported debt as a percent of assessed full value was 3.7 percent or 3.3 times the national median of 1.1 percent.

- Comparison of other Moody's figures for net tax-supported debt at the end of 1982 indicate that Alaska had the highest per capita debt and debt as a percentage of total personal income according to this measure as well. Table 7.7 indicates that Alaska's tax-supported debt per capita is 11 times the national median, whereas taxsupported debt per dollar of personal income is 8 times the national median.

The preceeding discussion of national debt ratios demonstrated that Alaska is an "outlier" regardless of the standard used to compare amounts of general obligation debt outstanding. Debt ratios such as these are useful when comparing states with an established and familiar record of debt issuance and a degree of certainty about their future economic prospects; however, Alaska does not fit into either of these categories. The State has been able to issue debt in amounts that exceed otherwise prudent guidelines because of its vast wealth in oil reserves and the proven ability to tax these resources. None of the above statistics measures the oil or other natural resource wealth of a state. Therefore, assessment of the affordable levels of debt in Alaska, and comparison of the State's position with other states, must be based on criteria that tailor the analysis to Alaska. As long as Alaska exhibits strong revenue generating potential from its oil reserves, traditional measures of debt capacity will be relatively meaningless; however, as the State's oil wealth contracts, the State will have to broaden its base of taxes and pay attention to traditional debt ratios.

Alaska-Specific Measures of Debt Capacity

Representative Tax Capacity: As mentioned above, neither population, personal income, nor assessed value correspond to the tax base available to the State to repay its indebtedness. A more comprehensive measure of tax capacity for all states, the representative tax system, has been developed by the U.S. Advisory Commission on Intergovernmental Relations (ACIR)³. The representative tax system calculates tax capacity by estimating the amount of revenue that each state would raise were an identical set of tax rates used across all states. The rates that are used are the national averages for each of the 24 tax bases that make up the index.

By combining a a wide variety of taxable resources -- such as income, property, retail sales, motor fuel, and the value of natural resources -- the ACIR method generates a broad measure of a state's tax capacity. As a measure of debt capacity, the system has the major advantage that, for each

Table 7.7
STATE DEBT MEDIANS

	Net Tax-Supported Debt (000)	Debt Per Capita	Rank	% E.F.V.	Rank	% Per. Income (1981)	Rank
Alabama	\$1,630,380	\$ 419.06	12	5.1%	6	5.1%	9
Alaska	1,114,718	2,783.45	1	3.7	5	19.6	1
Arizona	219,245	80.67	37	0.5	32	0.8	37
Arkansas	12,698	5.55	47	0.05	45	0.07	45
California	2,718,110	114.84	32	0.5	35	0.9	35
Colorado	22,755	7.88	45	0.05	46	0.06	47
Connecticut	2,222,886	715.31	4	3.2	8	5.5	7
Delaware	609,260	1,023.58	3	9.0	1	9.2	3
Florida	2,498,779	256.55	23	1.1	25	2.4	26
Georgia	1,421,025	260.08	21	1.1	24	2.8	20
Hawaii	1,488,061	1,542.03	2	5.0	2	13.7	2
Idaho	20,465	21.68	44	0.1	44	0.2	44
Illinois	3,272,210	286.57	17	1.6	13	2.5	24
Indiana	2,330	0.42	50	0.00	50	0.0	50
Iowa	3,700	1.27	49	0.01	48	0.01	49
Kansas	240,130	101.61	35	0.5	34	0.9	36
Kentucky	1,232,847	336.71	16	1.1	27	4.0	13
Louisiana	2,471,377	587.87	7	3.1	9	6.0	5
Maine	279,220	248.28	25	1.2	21	2.9	19
Maryland	2,853,725	672.54	6	2.8	10	5.8	6
Massachusetts	3,967,092	691.49	5	4.5	3	6.2	4
Michigan	1,059,091	114.39	33	0.5	33	1.1	32
Minnesota	1,001,624	245.67	26	1.3	20	2.3	27
Mississippi	696,827	276.45	19	2.0	12	3.7	15
Missouri	197,396	40.14	43	0.3	39	0.4	43
Montana	72,215	91.80	36	0.5	36	1.0	33
Nebraska	10,900	6.90	46	0.03	47	0.06	46
Nevada	96,866	121.21	31	0.4	38	1.0	34
New Hampshire	344,298	373.99	15	1.3	19	3.7	16
New Jersey	2,695,866	366.08	14	1.4	16	3.0	17
New Mexico	337,317	259.48	22	1.5	15	3.0	18
New York	9,042,000	514.99	8	3.3	7	4.5	11
North Carolina	933,700	158.94	29	0.9	29	1.8	29
North Dakota	35,000	53.62	41	0.1	43	0.5	42
Ohio	2,768,705	256.42	24	1.1	26	2.5	23
Oklahoma	186,669	61.70	39	0.3	41	0.6	39
Oregon	467,415	177.54	28	0.6	31	1.7	30
Pennsylvania	4,650,235	391.87	13	4.0	4	3.8	14
Rhode Island	269,629	284.67	18	1.2	22	2.8	21
South Carolina	619,805	198.74	27	1.4	17	2.4	25
South Dakota	32,055	46.44	42	0.3	40	0.5	41
Tennessee	707,003	154.01	30	1.2	23	1.8	28
Texas	867,421	60.96	40	0.3	42	0.6	40
Utah	158,325	108.36	34	0.8	30	1.7	31
Vermont	221,606	433.28	11	1.6	14	4.9	10
Virginia	420,146	78.59	38	0.4	37	0.7	38
Washington	2,033,073	492.25	9	1.4	18	4.2	12
West Virginia	899,006	461.11	10	2.2	11	5.5	8
Wisconsin	1,249,198	265.48	20	1.0	28	2.7	22
Wyoming	2,300	4.88	48	0.01	49	0.04	48
Median		\$250		1.1%		2.4%	

Source: Moody's Investor Service, State Debt Medians, January 27, 1983.

source of tax revenue that in total will actually be used to pay-off debt, it measures the economic activity subject to the tax. In so doing, it provides a measure of the multiple resources claimable by state governments through a variety of taxes.

Computation of the ACIR's representative tax capacity figures is complicated, and certainly more difficult than using personal income alone; however, it can be done using readily available statistics. The most current figures available from the ACIR are for fiscal year 1980-81. Using the ACIR data for 1979 through 1981, and the ratio of tax capacity to unrestricted general fund revenues in each year, projections of Alaska's tax capacity under the representative tax system for 1982 and 1983 were made by the GFRC and are presented below.

<u>Fiscal Year</u>	<u>Representative Tax Capacity</u>	<u>Rate of Change</u>
1979	773	
1980	990	28.1%
1981	1373	38.7%
1982	1474	7.4%
1983	1324	- 10.2%

This chart indicates that tax capacity expanded rapidly between 1979 and 1981 as State severance tax revenues rose; however, the rate of change in tax capacity slowed and even declined in 1983 in line with the drop in oil-based revenues to the State.

The ratio of general obligation debt outstanding to the representative tax capacity index provides another measure of debt capacity against which Alaska can compare its relative position to that of other states. Table 7.8 presents such comparative ratios for general obligation debt in selected years between 1975 and 1981. Whereas the ratio for the majority of states has been fairly level, Alaska's debt as a share of tax capacity dropped from 1977 to 1981. Data on general obligation debt outstanding for all states is not yet available for 1982; however the ratio can be computed for Alaska itself. As indicated in the table below, the debt capacity index reached a low of 51 percent in 1981, however, the positive trend towards a lower index reversed in 1982 and climbed sharply in 1983.

<u>Fiscal Year</u>	<u>General Obl. Debt</u>	<u>Tax Capacity</u>	<u>Debt Capacity Index</u>
1975	392	411	95.5
1977	530	490	108.0
1979	671	773	86.7
1980	632	990	67.7
1981	746	1,373	51.0
1982	846	1,474	57.4
1983	946	1,324	71.7

Table 7.8
Debt Capacity Index
State General Obligation Debt

STATE	1975	1977	1979	1980	1981
Alabama	4.4	5.0	4.9	4.4	4.0
Alaska	95.5	108.0	86.7	67.7	51.0
California	24.8	14.3	12.1	10.7	9.1
Connecticut	70.2	75.3	65.5	57.7	54.9
Delaware	81.2	73.6	72.9	65.9	59.6
Florida	2.8	6.3	7.8	6.8	11.2
Georgia	4.2	11.0	13.2	11.7	11.3
Hawaii	115.9	155.6	159.6	137.4	126.0
Idaho	0.2	0.2	0.1	0.1	0.1
Illinois	10.3	16.6	22.0	20.8	23.4
Iowa	0.1	-	-	-	-
Kentucky	17.0	14.6	11.1	10.3	8.5
Louisiana	26.2	39.2	41.5	36.6	38.0
Maine	42.0	39.5	34.1	30.9	28.1
Maryland	46.1	63.9	60.0	54.2	51.5
Massachusetts	39.3	64.1	59.0	52.0	45.7
Michigan	7.2	10.1	7.7	7.5	7.4
Minnesota	22.0	24.5	23.4	21.5	21.8
Mississippi	32.6	46.0	43.5	39.9	34.1
Missouri	1.7	2.2	1.6	1.5	1.7
Montana	-	1.2	0.9	0.8	0.7
Nevada	5.1	4.7	10.9	9.1	8.1
New Hampshire	22.8	22.9	24.0	19.8	23.6
New Jersey	23.1	25.7	26.1	23.8	22.9
New Mexico	2.8	2.7	1.6	1.7	1.5
New York	19.2	19.9	21.8	19.5	18.1
North Carolina	12.0	17.7	16.0	16.4	15.7
North Dakota	3.7	3.0	2.0	1.7	1.2
Ohio	15.3	14.7	12.5	11.3	10.5
Oklahoma	9.6	7.6	8.0	5.9	4.2
Oregon	99.4	124.7	154.1	175.0	203.5
Pennsylvania	35.7	42.6	40.7	37.1	35.3
Rhode Island	39.2	36.7	34.6	28.0	23.9
South Carolina	27.7	27.9	25.2	20.4	19.3
Tennessee	18.6	31.8	22.2	18.9	17.9
Texas	7.3	7.6	6.1	5.4	4.4
Utah	3.3	9.5	9.4	7.4	6.5
Vermont	79.3	72.9	66.4	57.9	61.0
Virginia	1.6	1.1	0.7	0.5	2.5
Washington	16.1	38.8	34.9	32.7	32.8
West Virginia	57.4	65.6	72.9	53.3	51.2
Wisconsin	18.5	34.3	40.5	40.2	38.8

Source : U.S. Advisory Commission on Intergovernmental Relations, and U.S. Department of Commerce, Bureau of the Census, State Government Finances, various years.

The debt capacity index shown in Table 7.8 provides the best measure against which to compare the amounts of debt issued by Alaska to that of other states. It is the only nationally available statistic that attempts to measure all revenue sources available to a state to repay its debt obligations. Alaska does not top the list by this measure of debt capacity, but ranks sixth (excluding Oregon) out of the 41 states with general obligation debt outstanding.

Although the tax-capacity measure shows Alaska to be in a more favorable position relative to other states than the earlier measures of debt burden, the volatility of this ratio demonstrates the sensitivity of the State's debt capacity to fluctuations in oil revenues. Therefore, any criteria used to assess the State's debt capacity must rely heavily on forecasts of future oil prices and their impact on tax revenues because of the preponderant role this revenue source plays in the State's ability to repay debt.

State Expenditures and Revenues: Another good measure of debt capacity which accurately measures ability to repay debt is the share of general fund unrestricted revenues that is committed to pay debt service each year. Since the state treasury must ultimately pay the debt service on general obligation and other tax-supported debt, it is the level of state tax revenues and other demands for those revenues that determine ability to repay debt. This can be measured in two ways; first by comparing the amount of debt service payments to the level of other general expenditures; and second, by comparing annual debt service requirements to unrestricted general fund revenues. These ratios provide an indication of the importance of debt service to the state budget. Because debt service is not a discretionary item once the debt has been issued, the ratios indicate whether such payments are placing a strain on the budget relative to other state spending priorities and permit a comparison with other states.

The ratio of debt service to general revenue illustrates the ability of the state to make required debt service payments in any particular year. As long as revenues are sufficient to cover debt service and other demands for state spending, high per capita or other standard debt ratios need not be of grave concern.

The ratios of debt service to general state expenditures and revenues are computed in Table 7.9 for fiscal years 1970, 1975, and 1980. The states are grouped by their Moody's Investors Service May 1982 bond rating. The ratios were computed for total state debt (revenue and general obligation) because statistics covering interest on general obligation debt alone are not available from the Census Bureau. This comparison indicates that Alaska's ratios were close to those of other states in each of these years, with the exception of 1975.

Similar figures on Alaska general obligation debt are available from the Department of Revenue. The ratios of debt service to general fund appropriations and to general unrestricted revenues for the past five years are

Table 7.9

DEBT SERVICE AS PERCENT OF STATE EXPENDITURES AND REVENUES
States Grouped by Moody's May 1982 Rating

AAA STATES	Expenditures			Revenues		
	1970	1975	1980	1970	1975	1980
Georgia	6.53	3.87	1.83	4.59	3.95	1.83
Illinois	5.34	3.16	2.84	3.14	3.31	2.84
Maryland	15.70	6.03	4.46	8.90	6.80	4.35
Missouri	6.28	3.77	1.78	4.05	3.76	1.76
New Jerse	7.40	9.53	2.42	4.59	10.69	2.47
N. Caroli	6.42	1.77	1.18	3.63	1.76	1.17
Oklahoma	4.64	5.86	1.98	3.58	5.43	1.81
S. Caroli	5.26	4.15	2.58	3.56	4.52	2.48
Tennessee	4.30	2.83	2.65	3.05	3.04	2.63
Texas	3.01	2.43	0.80	2.03	2.24	0.72
Utah	2.52	1.11	1.20	1.86	1.15	1.23
Virginia	3.27	2.40	1.27	2.16	2.50	1.24
Mean	5.89	3.91	2.08	3.76	4.10	2.04
AA STATES						
Alabama	7.61	4.83	2.96	5.40	4.74	2.92
Alaska	4.47	7.90	4.35	1.10	10.13	2.79
Californi	7.74	3.78	1.40	4.19	3.71	1.39
Connectic	16.50	14.97	7.84	13.67	16.54	7.46
Florida	7.78	2.92	1.41	4.57	3.10	1.35
Hawaii	7.39	8.23	6.19	8.58	9.06	5.82
Kentucky	8.30	6.20	2.31	6.56	5.77	2.60
Louisiana	26.45	4.02	2.51	17.44	3.99	2.34
Maine	7.72	5.71	4.79	6.32	5.99	4.64
Minnesota	4.14	3.01	3.26	2.13	2.74	3.14
Mississip	6.28	3.77	1.78	4.05	3.76	1.76
Montana	4.13	1.68	1.00	3.48	1.58	0.92
Nevada	1.20	1.22	0.88	0.84	1.15	0.87
New Mexic	4.86	2.68	2.15	3.01	2.29	1.80
Ohio	8.35	4.92	4.46	5.65	5.24	4.77
Oregon	8.13	7.40	3.93	6.44	7.24	3.81
Rhode Isl	7.40	6.55	5.87	6.07	6.68	5.86
Vermont	5.74	11.19	7.43	5.06	11.59	7.17
Wisconsin	2.51	2.64	1.63	1.29	2.72	1.62
Mean	7.72	5.45	3.48	5.57	5.69	3.32
A STATES						
Delaware	17.99	12.45	8.35	15.09	12.26	7.67
Massachus	13.58	7.11	5.53	11.26	8.32	5.50
Michigan	5.31	2.35	1.99	3.23	2.56	2.04
New Hamps	6.25	4.62	4.85	6.22	5.43	5.30
New York	11.31	7.15	7.05	4.88	7.56	6.83
Pennsylva	9.82	5.43	2.59	7.64	5.96	2.37
Washingto	6.20	3.90	1.30	4.49	3.95	1.30
W. Virgin	5.26	6.99	3.14	4.37	6.62	3.26
Mean	9.47	6.25	4.35	7.15	6.58	4.28

Source: U.S. Bureau of the Census, Governmental Finances, various years.
Data are for all state level debt

presented in Tables 7.10 and 7.11 respectively. The share of general fund appropriations accounted for by debt service over this time has averaged 5 percent. This is a manageable level and does not indicate that trade-offs between spending on current programs and debt service are being forced on the State during the annual appropriation process.

Furthermore, over this same period debt service as a percent of general fund unrestricted revenues declined from 9.03 percent in fiscal year 1975 to 2.37 percent in 1982, indicating sufficient revenue coverage of debt service. However, the ratio rose to 4.05 percent in fiscal year 1983 due to of the combined effects of a sharp increase in debt service payable and a drop in general fund revenues.

Rapidity of Principal Repayment: Ratios based on debt service and debt outstanding do not account for the length of time over which payments must be made or that the debt will be outstanding. Debt which matures in five years will have the same effect on a debt per \$1,000 of personal income ratio, for example, as debt which matures in 15 years. However, the maturity structure of outstanding debt affects a state's ability to repay the debt and the ability to incur additional debt and, therefore, should be considered in assessing future affordable levels of debt issuance. The average life of a bond issue is a measure of the length of time that the bonds will be outstanding. A 20-year serial bond, with equal principal maturities in each year, will have an average life of approximately 10 years. Bonds with short average lives place a heavier current strain on the issuer because debt service payments are higher than on bonds with longer average lives due to the rapid repayment of principal. However, short average lives and rapid principal repayment mean that future debt capacity will be greater, because the early retirement of debt usually creates additional later year capacity for debt issuance, other things being equal.

The credit rating agencies have developed a guideline for high-quality general obligation issuers to follow in structuring the maturities of their obligations. The maturity structure they encourage would result in 25 percent of the debt retired within 5 years, 50 percent within 10 years, and 75 percent within 15 years. This guideline is not appropriate for revenue-supported debt issuance where debt maturities should be tailored to cash flows. For example, AHFC debt should be structured to mature coincidently with the repayment schedules of its mortgages.

The general obligation guideline is also not appropriate for Alaska's general obligation debt because of the uncertainty over the level of State revenues 20 years hence. For this reason, as mentioned in the Debt Profile of the State's general obligation bonds (Chapter Two), Alaska has developed a strategy to market the State's debt that involves shortening the average maturities of bond issues to conform with the Prudhoe Bay oil curve. Table 3.10 indicates that the decrease in average life of the State's debt corresponds to an improvement in its credit rating, because maturities now correspond to more predictable State revenue streams.

Table 7.10

Debt Service Percentage of Total
General Funds Appropriations
(All figures in \$ thousands)

<u>Fiscal Year</u>	<u>Total General Funds Appropriations^{1/}</u>	<u>Debt Service^{2/}</u>	<u>Debt Service Percentage of Total General Appropriations</u>
1975	\$ 528,260.1	\$ 30,144.0	5.7%
1976	627,274.5	35,115.1	5.6
1977	734,626.0	41,883.9	5.7
1978	833,794.7	50,028.0	6.0
1979	1,079,827.8	60,024.2	5.6
1980	1,135,400.0	75,072.3	6.6
1981	4,960,500.0	97,623.0	2.0
1982	5,663,400.0	102,400.0	1.8
1983	3,053,896.9	143,624.0	4.7
1984	3,158,700.0	163,415.0	5.2

SOURCE: Alaska Executive Budget, Book II-Capital Budget FY84.

^{1/} Total General Funds Appropriations -- Figures developed by Management and Budget to represent total appropriations of General Funds from all types of legislation, including supplementals, associated with the given fiscal year.

^{2/} Includes September 1982 General Obligation Bond Sale.

Table 7.11

Debt Service as a Percentage of
General Fund Unrestricted Revenues

<u>Fiscal Year</u>	<u>General Fund Unrestricted Revenues</u>	<u>Current General Obligation Debt Service</u>	<u>Percent Required for Debt Service</u>	<u>Moody's State Rating</u>
1973	\$214.6	\$23.5	10.95%	Baa
1974	258.1	26.3	10.22	A
1975	333.6	30.1	9.03	A
1976	705.4	35.1	4.98	A
1977	877.4	41.8	4.77	A
1978	768.0	50.0	6.51	A
1979	1,117.4	60.0	5.36	A
1980	2,467.3	75.1	3.04	AA
1981	3,718.2	97.6	2.63	AA
1982	4,108.4	97.5	2.37	AA
1983	3,542.0	143.6	4.05	AA

Source: John Nuveen & Co., Alaska, A New Look, April, 1981. p. 19.
updated with Alaska Department of Revenue, Revenue Sources
FY 1982-85, January, 1983 and Department of Administration
and Finance, Bonded Debt and Debt Service, FY 1982.

Looking at the rapidity of principal repayment of the State's general obligation debt and that of all State issuers demonstrates that the extremely short average life is particular to the State's tax-supported debt, and not other State agency issuers. Table 7.12 lists the cumulative percentage of debt that will be retired by the end of each fiscal year indicated for all State-level issuers. For example, by 1987, the State will have retired 47 percent of its general obligation bonds. However, by the same year, the AHFC will have retired only 10 percent of its debt. Table 7.13 condenses the rapidity of principal repayment information for all issuers in the State. Within ten years, 85 percent of tax-supported debt, and 42 percent of indirect debt will have been retired.

Future Debt Capacity

As discussed above, the affordable level of general obligation debt is determined by a state's ability and willingness to pay debt service on the amounts borrowed. It was shown that traditional measures of debt capacity do not adequately measure Alaska's immediate ability to repay debt, and are, therefore, not appropriate for assessing the State's debt capacity for the near future. Over the next six years State tax revenues in current dollars are projected to increase due largely to Prudhoe Bay production. Although the rate of increase in State revenues will depend upon fluctuating petroleum prices worldwide, the size of the Prudhoe oil field virtually assures a reasonably strong revenue stream for the short-term. However, after the Prudhoe Curve reaches its peak around the year 1989, oil revenues as forecasted by the Department of Revenue, begin to decline. Furthermore, if expressed in real, 1983 dollars (a measure of purchasing power), total petroleum revenues are projected to decline beginning in 1983. It will become necessary for the State to diversify its economy and its tax-revenue base, and, assuming it is able to broaden its tax base, the more traditional measures of ability to pay will be more appropriate for assessing debt capacity and will be of greater concern to investors.

Assessment of Alaska's capacity for future debt issuance must be based upon 1) known and predictable resources that the State is legally able to tap through currently available taxes, and 2) other unrestricted revenue streams. The State must not issue debt today with the intention of repaying the debt through the proceeds of an individual income tax, for example, if those tax revenues are not presently available. Furthermore, although the State's Permanent Fund is a valuable resource, and is expected to grow to nearly \$10 billion by 1990, it must not be treated as an asset in determining debt capacity (except to the extent that interest earnings flow to the general fund) because by law the principal of the fund is untouchable.

Projections of future unrestricted general fund revenues are made quarterly by the Department of Revenue. Because these revenues are the ultimate source of repayment of the State's debt, they are the best available measure of the State's "ability to pay" in assessing debt capacity. The ratio of debt service payable in a given year to unrestricted general fund revenues is

Table 7.12

STATE OF ALASKA ISSUERS
Rapidity of Principal Repayment
Debt Outstanding as of June 30, 1982

Fiscal	State G.O. Bonds ^{1/}	University of Alaska	State Housing Agency	Municipal Bond Bank	Housing Finance Corp.	Alaska Power Authority	Alaska Industrial Authority	Medical Facilities	State Development Corp.	International Airport
1983	7.91	5.49	9.15	3.04	0.88	0.00	4.25	2.85	100.00	4.35
1984	17.66	9.80	18.90	6.57	2.55	17.50	8.49	5.92		8.97
1985	27.40	14.33	29.28	10.39	4.68	100.00	12.29	9.20		13.86
1986	37.27	17.95	40.33	14.58	7.04		15.82	12.75		19.03
5 1987	47.06	21.75	46.79	19.15	9.59		19.09	16.56		24.53
1988	56.88	25.75	53.60	23.94	12.29		21.97	20.64		30.35
1989	66.22	30.05	60.83	29.28	15.20		24.78	25.02		36.59
1990	74.76	34.57	68.50	36.19	18.39		27.69	29.71		43.20
1991	81.54	39.34	76.62	44.69	21.85		30.97	34.75		50.18
10 1992	86.25	44.37	85.24	54.62	36.90		34.20	40.14		57.51
1993	90.49	49.72	93.37	61.40	39.80		37.25	45.92		65.22
1994	92.49	54.38	97.80	66.29	42.88		40.57	52.10		73.34
1995	94.35	59.41	100.00	71.20	46.16		44.19	58.76		81.87
1996	96.16	64.67		76.98	49.63		48.28	65.91		90.84
15 1997	97.61	70.28		81.57	53.30		52.31	73.58		95.21
1998	98.91	76.22		85.04	56.87		55.79	81.77		100.00
1999	99.75	82.53		88.98	60.70		59.69	90.58		
2000	100.00	89.19		93.36	64.11		64.07	100.00		
2001		93.57		97.37	67.41		69.07			
20 2002		95.54		100.00	70.11		74.04			
2003		96.85			72.74		78.24			
2004		97.91			75.45		82.86			
2005		98.50			78.23		88.13			
2006		99.09			81.19		94.07			
25 2007		99.70			84.52		99.29			
2008		100.00			87.76		100.00			
2009					91.53					
2010					94.74					
2011					97.93					
30 2012					100.00					

^{1/} Includes October 1982 general obligation bond issue.

Table 7.13

State of Alaska
Combined Rapidity of Principal Repayment
Debt Outstanding as of June 30, 1982

	Fiscal Year 1983	Tax-Supported Debt ^{1/}	Indirect Debt ^{2/}	All State Issuers
	1983	7.94%	1.04%	3.22%
	1984	17.59	4.21	8.44
	1985	27.27	13.16	17.63
	1986	37.10	15.47	22.31
5	1987	46.58	17.93	27.00
	1988	56.12	20.53	31.79
	1989	65.23	23.33	36.59
	1990	73.65	26.42	41.37
	1991	80.48	29.83	45.85
10	1992	85.42	42.93	56.38
	1993	89.92	45.80	59.76
	1994	92.12	48.76	62.48
	1995	94.06	51.90	65.24
	1996	95.82	55.25	68.09
15	1997	97.26	58.68	70.89
	1998	98.56	61.99	73.56
	1999	99.45	65.50	76.24
	2000	99.80	68.70	78.54
	2001	99.88	71.77	80.66
20	2002	99.92	74.27	82.39
	2003	99.94	76.60	83.99
	2004	99.96	79.01	85.64
	2005	99.97	81.50	87.34
	2006	99.98	84.15	89.16
25	2007	99.99	87.09	91.17
	2008	100.00	89.81	93.04
	2009		92.95	95.18
	2010		95.62	97.01
	2011		98.27	98.82
30	2012		100.00	100.00

^{1/} State General Obligation, University of Alaska, and Alaska State Housing Authority bonds.

^{2/} Alaska Housing Finance Corporation, Alaska Power Authority, Alaska Industrial Development Authority, Alaska Medical Facilities Authority, Municipal Bond Bank, State Development Corporation, and International Airport revenue bonds.

relatively straightforward and can be computed for many years into the future (currently, the Department of Revenue projects revenues until the year 2000). The reliability of these projections weakens as one gets further into the future; however, for the immediate term, they meet the aforementioned criteria of "known and predictable".

A good starting point for assessing future debt capacity is to compare future debt service payments to which the State is currently committed to the projected levels of unrestricted general fund revenues. This comparison (shown in Table 7.14) indicates the trend in this ratio if the State does not issue further general obligation debt. Table 7.14 shows that according to the March 1983 Department of Revenue projections of unrestricted general fund revenues, debt service on general obligation debt will account for nearly 6 percent of these revenues in 1984. This figure exceeds 5 percent until 1988. Thereafter, as presently committed debt service gradually declines, the ratio falls to below 1 percent after 1994.

In assessing the State's future debt capacity, it is important to define the type of debt that should be considered in such an exercise. Because of the different considerations that surround the affordability analysis of revenue-supported debt (see page xxx), the choice is essentially between general obligation debt and tax-supported debt. In Alaska, tax-supported debt includes the lease-revenue debt of ASHA and the University of Alaska debt in addition to general obligation debt. Generally, states that have a low ratio of general obligation debt to total tax-supported debt should use the broader concept of tax-supported debt in analysing debt capacity. In Alaska this ratio is relatively high at 92 percent (\$946 million general obligation debt out of \$1.028 billion tax-supported debt, see Table 3.16). Because very little non-general obligation tax-supported debt has been issued from Alaska, the following analysis concentrates on general obligation debt only. However, if the ratio of general obligation debt to total tax-supported debt should drop below approximately 85 percent, the analysis of debt capacity should be broadened to include all tax-supported debt.

Short-term Guidelines

In order to plan future debt issuance, the State should establish a maximum target ratio of debt service to unrestricted general fund revenues. Such action will not only assist the State in deciding how to finance capital projects over the coming decade, it will also be favorably viewed by investors and the credit rating agencies. Deciding upon the proper level of this target ratio is not a simple task. There is no one target ratio that is recommended by credit analysts as fiscally responsible, the proper level depends on each individual state's circumstances.

As mentioned above, debt will continue to be affordable if, in the judgement of State officials, the payment of debt service does not prevent the State from attaining other objectives. The level of five to six percent of State revenues at which the most recent projections indicate the State will be until

Table 7.14
Alaska State General Obligation Debt
Projected Ratio of Debt
Service to General Fund Revenues

<u>Fiscal Year</u>	<u>Unrestricted General Fund Revenue (1) (millions)</u>	<u>Debt Service Committed as of Dec. 1982 (millions)</u>	<u>Debt Service Commitment as % of Unrestricted General Fund Revenue</u>
1983	\$3542	\$143.6	4.05%
1984	2737	163.4	5.97
1985	2772	156.2	5.63
1986	2838	150.6	5.31
1987	2960	142.8	4.82
1988	2871	136.3	4.75
1989	3065	124.5	4.06
1990	2946	109.8	3.73
1991	2704	85.6	3.17
1992	2631	58.9	2.24
1993	2519	50.9	2.02
1994	2423	25.8	1.06
1995	2359	23.1	0.98
1996	2206	21.5	0.97
1997	2230	16.7	0.75
1998	2261	14.4	0.64
1999	2259	9.1	0.40
2000	2268	2.6	0.11

(1) March, 1983, 30th percentile projections of The Department of Revenue.

1987, is a "safe" level. If the State maintains this ratio of debt service to unrestricted general fund revenues and continues to issue debt with maximum maturities within the "known and predictable" revenue range, it is likely that the State's creditworthiness will be preserved. Therefore, five percent is a conservative estimate of the affordable ratio of debt service to revenues.

Table 7.15 demonstrates the use of a 5 percent target ratio of debt service to projections of unrestricted general fund revenues in determining future general obligation debt capacity. Column 1 contains the March 1983, 30th percentile projections of unrestricted general fund revenues made by the Department of Revenue. Column 2 lists the 5 percent target ratio. Column 3 contains annual (by fiscal year) debt service to which the State has previously committed itself. Column 4 is the debt service payable on debt that is assumed to have been issued in the future (Column 6). Column 5 lists the additional capacity for debt service created in each fiscal year. This figure is derived by subtracting previously committed debt service (columns 3 and 4) from the 5 percent target. Column 6 lists the amount of debt that can be supported by the amount of revenues available for debt service at the 5 percent level, assuming 10-year bonds, level amortization, and an 8.0 percent average interest rate (AA-rated bonds were trading at approximately 8.4 percent at the end of May 1983, and Alaska trades slightly below the AA rates). The example in Table 7.15 assumes that an amount of bonds equal to the total debt capacity as identified in Column 5 is issued when the capacity becomes available. Alternatively, capacity could accumulate but remain unused in order to spread debt issuance over several years.

According to this framework for assessing future debt capacity, the State may issue approximately \$252 million in general obligation debt through 1990 commencing in 1987; an additional \$349 million between 1990 and 1995; and, if known and predictable revenues are available after 2005 at the same level as in the year 2000, an additional \$401 could be issued. Total future debt capacity using this criteria is slightly over \$1 billion; however, it is dependent upon the reliability of the revenue projections in Table 7.15, and the assumption that revenues beyond 2000 will continue at the same level as in 2000. If revenues beyond 2000 are lower, debt issuance as early as 1990 may have to be cut back. Uncertainty over future revenues requires that continual monitoring and revising of this kind of capacity analysis must occur as new projections become available from the Department of Revenue. Similarly, the analysis should be performed periodically when tax-exempt interest rates are fluctuating.

If the State made a conscious decision, as part of a long-term capital investment strategy, to spend a larger share of unrestricted general fund revenues on debt service, additional debt capacity would be created. Such a decision would likely require trade-offs between paying debt service and spending on other priorities. As long as the payment of debt service does not prevent the State from providing "essential" services, an increase in debt service to as much as 10 percent of revenues would not significantly erode the State's creditworthiness or access to the bond market. However, committing ten percent of revenues to the payment of debt service may cause the national

Table 7.15

Alaska State General Obligation Debt

Future Debt Capacity
Debt Service at 5 Percent of
General Fund Revenues
(millions)

Fiscal Year	(1) Unrestricted General Fund Revenue ¹	(2) Available for Debt Service ²	(3) Debt Service Committed as of Dec. 1982	(4) Debt Service on future Borrowing ³	(5) Additional Debt Service Capacity	(6) Future G.C. Debt Capacity ⁴
1983	3542	-	143.6	-	0	0
1984	2737	137	163.4	-	0	0
1985	2772	139	156.2	-	0	0
1986	2838	142	150.6	-	0	0
1987	2960	148	142.8	-	5.2	35
1988	2871	144	136.3	5.2	2.5	17 252
1989	3065	153	124.5	7.7	20.8	141
1990	2946	147	109.8	28.5	8.7	59
1991	2704	135	85.6	37.2	12.2	83
1992	2631	132	58.9	49.4	23.7	161
1993	2519	126	50.9	73.1	2.0	14 349
1994	2423	121	25.8	75.1	13.4	91
1995	2359	118	23.1	88.5	0	0
1996	2206	110	21.5	88.5	0	0
1997	2230	111	16.7	83.3	11.0	75
1998	2261	113	14.4	91.8	6.8	46 401
1999	2259	113	9.1	77.8	26.1	177
2000	2268	113	2.6	95.2	15.2	103
					1476	1002

1 March 1983, 30th percentile projections of the Department of Revenue.

2 5 percent of column 1.

3 Assumes that debt equal to full capacity (column 6) is issued.

4 10-year bonds at 8.0 percent (AA-rated) level amortization debt service constant is .1472 (e.g., column 5 ÷ .1472 = column 6).

credit rating agencies to reevaluate the State and result in a rating change from an AA to an A.

Using the framework described for Table 7.15, Table 7.16 presents a calculation of future debt capacity using a debt service target ratio of 10 percent. If the State allocated 10 percent of revenues to debt service, we have conservatively assumed that the credit rating would drop to an A, increasing average interest costs from 8 percent to 8.7 percent (A-rated bonds were trading at this level at the end of May 1983). Table 7.16 indicates that debt capacity rises over the 16 years until 2000 by \$1.672 billion (from \$1.002 billion to \$2.674 billion) as a result of the increase from 5 percent to 10 percent. The timing of debt capacity also differs between the two scenarios, using the 10 percent guideline, \$1.215 billion could be issued by the year 1990 rather than \$252 million, and debt issuance could commence in fiscal year 1984 instead of 1987.

The decision to increase debt issuance beyond the 5 percent target level would require the State to commit a substantial portion of its budget to the payment of debt service. Maintaining the 5 percent ratio over the 27-year period from 1983 to 2010 (for debt issued between 1983 and 2000) will require the appropriation of nearly \$1.4 billion more than currently committed debt service (of \$1.47 billion). Raising the share of debt service to 10 percent would result in additional appropriations of \$2.6 billion above the 5 percent level (a total of over \$4 billion) over the 27 years.

Because debt capacity depends upon a government's willingness to repay, in addition to its ability to repay, no precise level of future debt capacity can be recommended by this study. Rather, it is recommended that the State determine an acceptable range of annual debt issuance, the low point of which (e.g., 5 percent ratio of debt service to revenues) adequately meets public service demands and the high point of which (e.g., 10 percent) results in debt service not placing a strain on resources to the extent that other public priorities must suffer. The debt affordability question, therefore, is calculated in reverse. First the affordable level of debt service must be established and from this a calculation of the level of debt that this amount of debt service can support. Once the affordable range for debt issuance has been determined, the actual amount of debt issued within this range will depend upon the costs and priorities of capital projects.

Long-term Guidelines

As long as the State continues to demonstrate an ability to tax its vast oil resources at a level that can support the payment of debt service and the provision of essential services, attention to traditional measures of ability to pay are not suitable for assessing Alaska's debt capacity. However, if there comes a time when the State's tax revenues are more broadly based, with income, sales and use, and property taxes comprising a significant share of State revenues, traditional debt capacity analysis will become applicable. As Alaska becomes more similar to other states in terms of its resources available

Table 7.16

Alaska State General Obligation Bonds

Future Debt Capacity
Debt Service at 10 Percent of
General Fund Revenues
(millions)

Fiscal Year	(1) Unrestricted General Fund Revenue ¹	(2) Available for Debt Service ²	(3) Debt Service Committed as Dec. 1982	(4) Debt Service on future Borrowing ³	(5) Additional Debt Service Capacity	(6) Future G.O. Debt Capacity ⁴
1983	3542	354	143.6	0	0	0
1984	2737	274	163.4	0	110.6	729
1985	2772	277	156.2	110.6	10.2	67
1896	2838	284	150.6	120.8	12.6	83
1987	2960	296	142.8	133.4	17.3	114
1988	2871	287	136.3	150.7	0	0
1989	3065	306	124.5	150.7	30.8	203
1990	2946	295	109.8	181.5	2.9	19
1991	2704	270	85.6	184.4	0	0
1992	2631	263	58.9	184.4	16.7	110
1993	2519	252	50.9	201.1	0	0
1994	2423	242	25.8	201.1	15.1	99
1995	2359	236	23.1	212.9	104.1	686
1996	2206	221	21.5	199.5	0	0
1997	2230	223	16.7	186.9	19.4	128
1998	2261	226	14.4	189.0	22.6	149
1999	2259	226	9.1	211.6	5.3	35
2000	2268	227	2.6	186.1	38.3	252
					4,059	2,674

1 March 1983, 30th percentile projections of the Department of Revenue.

2 10 percent of column 1.

3 Assumes that debt equal to full capacity (column 6) is issued.

4 10-year bonds at 8.7 percent (A-rated), level amortization debt service constant .1518 (e.g., column 5 ÷ .1518 = column 6).

TABLE 7.17

CALCULATION OF FUTURE DEBT RATIOS

FY 1983 Tax-Supported
Debt Outstanding:

1114843000

Fiscal Year		Debt Retired	Increase In Debt Outstanding	Debt Per- Capita	Debt Per- Assessed Value	Debt Per \$1,000 of Personal Income
-----		-----	-----	-----	-----	-----
			Growth:	.005	Growth: .05	Growth: .062
1	1983	88484	0	2198.80	2.77	170.54
2	1984	107595	0	1958.50	2.37	143.75
3	1985	107950	0	1719.79	1.99	125.35
4	1986	109616	0	1479.89	1.64	109.76
5	1987	105686	0	1250.58	1.32	97.38
6	1988	106272	0	1022.30	1.04	84.78
7	1989	101650	0	805.86	0.78	73.84
8	1990	93829	0	607.74	0.56	64.75
9	1991	76118	0	448.02	0.40	58.29
10	1992	55154	0	332.82	0.28	49.55
11	1993	50109	0	229.04	0.19	42.10
12	1994	24520	0	178.18	0.14	37.54
13	1995	21593	0	133.72	0.10	33.60
14	1996	19678	0	93.54	0.07	30.15
15	1997	16004	0	61.10	0.04	27.24
16	1998	14585	0	31.81	0.02	24.67
17	1999	9921	0	12.02	0.01	22.60
18	2000	3884	0	4.32	0.00	21.05
19	2001	889	0	2.56	0.00	19.77
			0			

Base Year Assumptions: (1982)

Population: 464460

Personal Income: 5667000

Assessed Value: 3.523E10

to repay debt, its relative debt position among all states will play a greater role in determining its cost of borrowing and market access. It is recommended, therefore, that the State continually assess the impact of future debt issuance on its "external" debt statistics, and its position relative to other states.

The external debt analysis includes the types of statistics mentioned in the first half of this section. Among these are:

- . tax-supported debt measured against personal income;
- . net State and local debt measured against personal income;
- . general obligation debt and tax-supported debt measured against the ACIR tax-capacity index;
- . net State and local debt measured against market value of taxable property;
- . incremental revenues measured against incremental debt service;
- . Overall economic and demographic trends, such as employment, population, industrial base, bank deposits, consumer installment credit, and retail sales.

Table 7.17 demonstrates projection of the ratio of current tax-supported debt to population, assessed value, and personal income for the period 1983 to 2001 (when all currently outstanding State general obligation bonds will have been retired). The growth rates assumed for each of the variables are based on their 1978-1982 average, and are listed at the head of each column. Because of the rapid retirement of State debt, these ratios approach the current Moody's medians by 1988 (debt to assessed value), 1991 (debt to personal income), and 1994 (debt per capita). As the State issues further tax-supported debt, this type of analysis should be conducted to assess the impact of the debt on the future levels of these external debt statistics.

NOTES

CHAPTER II

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- 2 The amount of revenue lost to the federal treasury depends on the tax bracket of the bondholder and is, therefore, difficult to measure.
- 3 John E. Petersen, "An Analysis of the Impact of the Proposed Corporate Minimum Income Tax on Tax-Exempt Interest Rates and Borrowing Costs", Washington, DC: The Government Finance Research Center, 1982.
- 4 Lennox L. Moak, Municipal Bonds: Planning, Sale, and Administration. Chicago: The Municipal Finance Officers Association, 1982. page 147.

CHAPTER III

- 1 This chapter was compiled using primarily the following sources:

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John Nuveen & Co., Alaska: A New Look, Chicago: John Nuveen & Co. 1981.

CHAPTER IV

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CHAPTER V

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2 see William E. Mitchell, "The Effectiveness of Debt Limits on State and Local Borrowing", The Bulletin, New York University Graduate School of Business Administration, Institute of Finance, October 1967 and Government Finance Research Center, The Fiscal Effects of State Regulations on Local Taxation and Debt Issuance, Washington, DC: The Municipal Finance Officers Association, 1983.

3 see John E. Petersen, Lisa A. Cole and Maria L. Petrillo, Watching and Counting: A Survey of State Assistance to and Supervision of Local Government Debt and Financial Administration, Chicago: Municipal Finance Officers Association and National Conference of State Legislatures, 1977.

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2 Robert Lamb and Stephen Rappaport, Municipal Bonds, (New York, McGraw-Hill, 1980), 131ff.

3 Assemblyman Arthur J. Kremer, "Controls Over New York Agencies Need to Be Tightened", The Weekly Bond Buyer, (April 25, 1983), p. 13.

4 Bonded Indebtedness in Kentucky, p. 42; The Use of Tax-Exempt Bonds in California, pp. 208-9.

5 The Use of Tax-Exempt Bonds in California, pp. 208-9.

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7 Ed Montaneor, "The State Role in Local Government Debt Management in Florida", Debt Policy Proceedings, pp. 43-47.

8 State of Oregon's Bonded Debt: A Review of Borrowing Practices, General Obligation and Direct Revenue Bonds, pp. 23-31.

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- 12 For details see Watching and Counting, Municipal Finance Officers Association and National Conference of State Legislatures, 1977; "How States Can Assist Local Governments with Debt Financing for Infrastructure", Legislative Finance Paper #19, National Conference of State Legislatures, 1982.
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- 19 Michael D. Joehnk and David S. Kidwell, "Advance Refunding: A Controversial Tool", The Daily Bond Buyer, April 18, 1977.

CHAPTER VII

- 1 Alaska Pacific Bancorporation, The Alaska Economy: An Introductory Overview, 1982.
- 2 from U.S. Department of Commerce, Bureau of the Census, State Government Finances, Fiscal Year 1982.
- 3 see U.S. Advisory Commission on Intergovernmental Relations, The Tax Capacity of the Fifty States: Methodology and Estimates, 1982.
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APPENDIX ONE

The Basis for Incurring and Repaying Debt at the State and Local Levels

The Constitution of the State of Alaska and State law as established by the Alaska Legislature and embodied in the Alaska Statutes determine the legal framework within which the State and its political subdivisions must conduct their fiscal affairs. State laws govern the types of debt that may be incurred, the structuring and procedures for debt issuance, and the level and types of taxes or other revenues available to repay that debt.

State Debt

Article IX, "Finance and Taxation", of the Alaska Constitution addresses the taxing authority and ability to incur debt at both State and local levels. Section 8 of Article IX, "State Debt", requires that general obligation debt be incurred only for capital improvements or to provide housing assistance to qualified veterans. This section also requires that State general obligation debt be approved by a majority of voters, except for the purposes of repelling invasion, suppressing insurrection, defending the State in war, or meeting natural disasters. Section 10, "Interim Borrowing", permits the State to issue short-term notes in anticipation of the collection of revenues for that year (called tax or revenue anticipation notes) provided that such notes are repaid before the end of the following fiscal year.

Section 11, "Exceptions", exempts the revenue-supported debt of the State, its public corporations, and local governments from the voter referendum requirement, and other constitutional restrictions on contracting debt. The restrictions do not apply to any debt that secured solely by the revenues of the public enterprise or corporation. Refunding bonds and special assessment bonds are also exempted.

Section 37, Chapter 15, the "State Bonding Act", of the Alaska Statutes sets forth the specific issuance procedure and bond structure requirements for State general obligation bonds, bond anticipation notes, and International Airport revenue bonds. This act requires selling general obligation bonds to the highest responsible bidder (i.e., the bid resulting in the lowest interest cost) at an interest rate not to exceed 11 percent a year or 110 percent of the Bond Buyer 20-Bond Index for the preceeding week. The maturity structure may be set by the State Bond Committee, with a maximum maturity of 30 years unless a longer period is authorized by Statute. Bonds may be issued in either coupon or registered form, with the place of payment determined by the State Bond Committee. Facsimile signatures of the Governor and Lieutenant Governor may be used.

The State Bonding Act also creates, and establishes the composition and duties of the State Bond Committee. The required members of the Committee are the Commissioner of Commerce and Economic Development (chairman), the Commissioner of Administration, and the Commissioner of Revenue (secretary). The statutorily defined responsibilities of the Committee are to adopt the resolution and prepare the documents necessary for the issuance, sale, and delivery of State general obligation and international airport revenue bonds. The Committee must certify annually to the Department of Administration the amount of debt service which must be paid during the following year. The State

Bond Committee may secure professional legal and financial advisory services; however, firms providing financial advice may not bid on State bond issues for which they provide such assistance.

The general authority to levy taxes and charges in order to repay debt and provide for general governmental operation is contained in Article IX, Section 1 of the State Constitution. The specific taxes, their tax base and rate, that the legislature has decided to levy are identified in several State statutes. The major sources of revenue are the oil and gas production tax (AS 43.55) and the oil and gas property tax (AS 43.56). Other sales, use, and licenses taxes and charges are also levied, however their contribution to State revenues is minimal. The State does not presently levy a personal income tax.

The oil and gas property tax is a 20 mill ad valorem tax on oil and gas transportation facilities and on facilities used in oil and gas exploration or production. Most notable of the properties subject to this tax are the Trans-Alaska Pipeline System (including the terminal at Valdez) and the field production system at Prudhoe Bay. State revenues from this tax are limited, however, because the State also permits local governments to tax this property and allows the oil companies to credit local taxes paid on this property against their State property tax liability.

Debt of State Public Corporations

The ability of State public corporations such as the Alaska Housing Finance Corporation to incur debt is established in the enabling legislation for each corporation. The basic requirement is that bonds must be secured by the revenues generated by the project being financed or by revenues from other projects of the corporation, but not by State taxing authority. The Alaska Housing Finance Corporation, Alaska Industrial Development Authority, and the Municipal Bond Bank must receive annual authorization for a maximum (unspecified) level of debt issuance. The Alaska Power Authority must notify the Governor and the Legislative Budget and Audit Committee 60 days before the issuance of debt. If the Alaska State Housing Agency issues bonds through a negotiated sale, it must hire a financial advisor that is independent of the negotiating underwriter to assist in the sale.

Local Governmental Units

Article IX, Section 9, "Local Debts", of the Alaska Constitution grants local governments the authority to issue general obligation debt for capital improvements upon approval of qualified voters without limit as to amount. This section also permits local governments to issue short-term notes to be repaid from anticipated tax collections within the following fiscal year. Section 29, Chapter 58, "Municipal Debt", of the Alaska Statutes regulates local debt issuance in greater detail. General obligation bonds may be sold through negotiation or a competitive sale, with interest rates not to exceed the contract usury rate of interest provided by law. Bonds may not be sold at a price less than their par value.

Bonds issued for the construction of school facilities are eligible for State assistance in the payment of debt service (AS 43.18.100). The dollar amount of this program varies each year depending on legislative authorization. There are

no limits placed on the amount of debt that that can be issued under this program.

Other sources of repayment for municipal indebtedness are general tax revenues and specific utility or other project revenues. Article X, Section 2, "Local Government Powers", of the Constitution states that the power to tax may be delegated only to organized boroughs and cities. Alaska Statutes Chapter 29 Section 53 permits these units to levy a general property tax, subject to certain limits, and a sales tax not to exceed 6 percent on sales, rents, or services. Property taxes levied in order to pay debt service on general obligation bonds are not subject to limitation.

APPENDIX TWO

Interviews and Contacts

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APPENDIX THREE

GLOSSARY OF

BASIC PUBLIC FINANCE TERMINOLOGY

ACCRUED INTEREST: In an original governmental bond sale, accrued interest is the amount which has accumulated on the bonds from the dated date of issue up to, but not including, the date of delivery. Where a bond is purchased by a governmental unit, accrued interest is the amount which has accumulated on the bond from the last interest date up to, but not including, the date of purchase.

AD VALOREM TAX: A tax based on value, such as the assessed value of real (land and improvements) and personal property.

ADVANCE REFUNDING BONDS: Bonds issued to refund an outstanding bond issue prior to the date on which the outstanding bonds become due or callable. Proceeds of the advance refunding bonds are deposited in escrow with a fiduciary, invested in U.S. Treasury Bonds or other authorized securities, and used to redeem the underlying bonds at maturity or call date and to pay interest on the bonds being refunded or the advance refunding bonds.

Since the investments in which the proceeds of the advance refunding issue are invested will frequently earn a higher rate of interest than that paid on the outstanding bond issue and the advance refunding issue, the issuing agency may realize a net interest gain from the refunding operation, depending upon arbitrage restrictions.

AMORTIZATION: A straight-line reduction of debt by means of periodic payment sufficient to meet current interest and liquidate the debt at maturity.

AMORTIZATION OF PREMIUM: The periodic charges made against the interest received on bonds in order to offset any premium paid for the bonds above their par value or call price.

ARBITRAGE: The practice of investing bond proceeds at a yield greater than the coupon rate being paid on the bonds. This "profit" is strictly limited by the Internal Revenue Service.

ASSESSED VALUATION: The valuation placed on real estate or other property by a government for the purpose of levying taxes.

ASSESSMENT RATIO: The ratio of the assessed value of property to the full or true market value. Full value may be defined as fair market value at the bid side of the market less a reasonable allowance for sales and other expenses.

ASSETS: Property owned by a government which has monetary value.