

A Perspective on Bond Financing

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Introduction

Introduction

This report deals with the general subject of bond financing, including the policy factors which the Legislature must consider regarding the use of bonds.

Bond financing is extensively used by the state for funding its major capital outlay projects, such as educational facilities, water systems, prisons and parks. In addition, the state issues bonds to help finance various local government capital projects like schools and county jails, and to assist certain segments of the private-sector economy such as the housing market.

Because California's growing population creates an ongoing demand for such capital facilities, the Legislature faces a never-ending stream of bond financing proposals. At the same time, however, it is important that bonds not be issued in limitless amounts or be used indiscriminately, because of the burden their repayment imposes on future taxpayers, and the adverse effect that too many bonds can have on the state's credit rating

and borrowing costs. Thus, every year the Legislature must balance these factors and determine how many, and for what purposes, additional bonds should be authorized.

This report considers three questions having important implications for the Legislature's policy decisions regarding bond financing:

- First, to what extent does the state currently rely on bond financing, and is there any danger that the state's debt burden is becoming excessive?
- Second, what are the factors which the Legislature should consider when making decisions about using bonds?
- Third, can the Legislature's decision-making process regarding the use of bond financing be improved?

This report was prepared by Jon David Vasche and reviewed by Peter Schaafsma. ♦

Executive Summary

Executive Summary

This report deals with the general subject of bond financing, including the policy questions which the Legislature must consider in deciding whether to use bonds. The report focuses on three such questions:

- To what extent does the state currently use bonds, and is there any danger that the state's debt burden is becoming excessive?

The State's Use of Bonds

Bond financing is a type of long-term borrowing through which the state raises money by issuing financial securities ("bonds") to investors. The state uses bonds to finance many different types of public capital facilities, including schools, prisons, parks, water systems and office buildings. In addition, state bonds are used to help finance certain local government capital facilities (like county jails) and to assist certain private-sector parties (such as homebuyers). Our review of the state's use of bonds indicates that:

- Bond financing generally is a more expensive way to pay for capital facilities than direct expenditures, because the state must pay investors interest on the bonds it sells. However, the true added cost of bond financing is *much less than commonly assumed*, because most of the

- What factors should the Legislature take into account when making decisions about using bonds?
- How can the Legislature's decision-making process regarding the use of bonds be improved, so that the state's limited borrowing capacity is used most effectively?

state's payments to investors are made in future years using "cheaper" dollars, due to inflation.

- There were \$23.1 billion in state-issued bonds outstanding as of June 30, 1987, or nearly \$900 for every person living in California. Of this total, however, only \$8 billion (35 percent) is general obligation debt that is secured by the full-faith-and-credit of the state's taxing authority. The remaining \$15.1 billion (65 percent) in debt represents revenue bonds, which are secured primarily by revenues from the projects which their proceeds finance.
- The amount of outstanding state debt has increased substantially during the past six years, by over 150 percent (\$14 billion). However, this increase is pri-

marily attributable to revenue bonds, whose outstanding volume jumped by \$12 billion (400 percent). In contrast, general obligation debt increased by only \$2 billion, or about 30 percent. This compares to a growth in General Fund expenditures of about 50 percent.

- Despite recent increases in bond usage, there is *no evidence* that the state is “overbonded” or that its current “debt burden” is excessive. For example:
 - Less than 2 percent of General Fund expenditures currently are needed to service the state’s general obligation bonds.
 - The state’s bond ratings are high, indicating a high level of investor confidence in the state’s debt policies.

- California’s debt burden is low relative to other states.

- California’s bonds are used to finance capital assets with multi-year life spans, not short-term operating costs. Thus, the same people whose taxes pay off the bonds also tend to benefit from the projects the bonds have financed.
- There currently are about 30 general obligation bond measures pending before the Legislature, representing a net of over \$7 billion in new bond authorizations. This is more than can realistically be placed before the voters in 1988. Thus, the Legislature faces the task of deciding which of these measures to accept, reject or postpone until later.

Factors to Consider When Deciding Whether to Use Bonds

The Legislature has several alternative financing mechanisms to choose from other than bonds for financing capital projects, including direct appropriations, renting, leasing, lease-purchasing (including using financial tools like certificates of participation) and, in the case of programs aimed at assisting private sector parties, direct subsidy payments. *Determining whether bonds should be used for a particular purpose is ultimately a legislative policy decision for which no simple formula exists.* There are, however, several factors which should be thought about when making decisions about bonds. At the very minimum, bonds should only be used if the underlying programs they fund are worth spending taxpayers’ money on, and will benefit taxpayers for at least as long as the time it takes to pay the bonds off. Beyond this, however, the case for using bonds is strongest when the following conditions are present:

- A project is very costly, and either cannot be completed in stages or must be finished relatively quickly.

- Nonbond financing is not a viable option, such as when there are no monies available from existing sources to fund a project up-front, available monies exist but are needed for higher-priority uses, there is no support for tax increases, and leasing is impossible.
- It is desired that a project’s costs be shared by future taxpayers who will benefit from it.
- It is desirable to pay for a project with selective taxes or user charges, and using bonds enables payments to be spread over time without an unreasonably large tax or fee increase.
- It is a “favorable time” to borrow, meaning that interest rates are not abnormally high, the state’s debt level is not excessive, and sufficient bonding capacity has been reserved for any future higher-priority needs.

What About the Appropriations Limit?

The state's position with respect to the appropriations limit also can have implications for bond decisions. Payments on voter-approved bonds are explicitly exempted from the limit. Thus, an argument can be made for using such bonds in lieu of direct

appropriations or other nonexempt bonds, if the limit is posing a constraint on spending and causing the accumulation of "excess revenues." However, the state should not imprudently issue bonds just because of the limit, since this would restrict its ability to make needed budgetary trade-offs (including budget cutbacks) during times of revenue shortfalls.

Can the Decision-Making Process for Bonds be Improved?

In order for the Legislature to make optimal decisions about bonds, the various considerations cited above involving bond usage need to be tied-together into some type of formal decision-making process. Such a process must begin with the preparation of a multi-year capital outlay plan that identifies the state's current and future capital outlay needs (including their estimated costs, relative priority and time frame), which can serve as the basis for developing a schedule of future bond-financing needs. The state cur-

rently lacks any such capital outlay plan.

We therefore recommend that the Legislature take steps to develop a multi-year state capital outlay plan that can be used to formulate a multi-year schedule of bond financing needs. This plan should initially focus on the state's basic infrastructure needs, have a time horizon of at least five to 10 years, and be developed and reviewed through a procedure involving both the Legislature and the Executive Branch. ♦

Chapter I

Chapter I

Bond Financing – What Is the State's Current Situation?

This chapter provides a brief background perspective on the current use of bond financing by the State of California. Specifically, the chapter:

- Discusses what bond financing is.
- Identifies the state's present bond programs, as well as the state's current debt level and annual debt-servicing costs.
- Addresses the question: Is the state's "debt burden" a problem?
- Summarizes the pending bond measures currently before the Legislature, and the alternatives to using bonds.

What is Bond Financing?

Bond financing is a type of long-term borrowing, through which an entity raises funds by selling financial securities called "bonds" to investors. These bonds are simply certificates which promise to repay investors their money at some future maturity date, along with periodic interest payments until that date arrives. The interest rate paid on bonds depends on a variety of factors, including their maturity length, the revenue source from which they are to be repaid, and their tax status. Bond financing is extensively used for funding capital outlay projects and other purposes throughout both the private and public sectors of the economy.

When the State of California sells its bonds, it normally "packages together" thousands of individual bonds having various maturity lengths into large "bond issues" worth millions of dollars. The individual bonds comprising each issue normally have a redemp-

tion value of \$5,000 apiece, with maturities ranging from as short as one year to 20 years or more. The state markets its bonds by selling these large bond issues to bond underwriters, who subsequently break them apart and resell the individual bonds comprising them to investors.

Most state-issued bonds qualify to have their interest exempted from state and federal income taxation. This permits the bonds to be sold at "below normal" interest rates to investors, since the exemption means that investors can still end up with the same after-tax interest return that they would have earned on taxable bonds. The federal exemption, which amounts to a subsidy on borrowing, tends to lower the interest rates on state bonds by up to a couple of percentage points, which in turn can reduce the total debt-servicing costs on bond issues by as much as 10 percent (see example below).

Isn't Bond Financing Expensive?

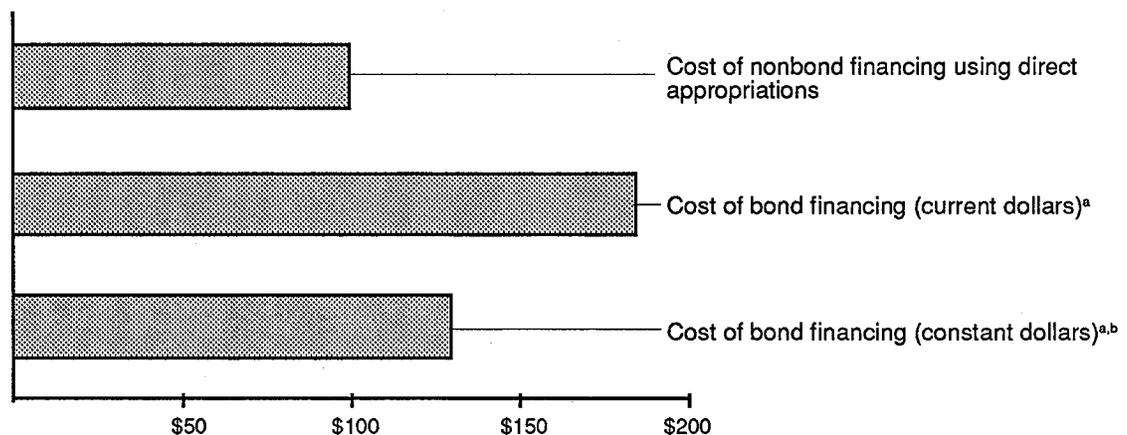
Because bonds pay interest, bond financing *does* cost the state more money than if it directly pays the full costs "up-front." For example, Chart 1 shows that a \$100 million project would typically cost the state about \$185 million if it were financed by 20-year bonds at current interest rates, because there would be \$85 million in interest costs in addition to repaying the \$100 million amount borrowed. (The total debt-servicing costs could be as much as \$20 million higher, or \$205 million, without the tax exemption discussed above.) However, the "true" costs of bond financing are actually *much less* than this, because the debt-servicing payments stretch out over many future years, and therefore are made using dollars that are "cheaper" (that is, have less purchasing power) than today, due to inflation. When this is taken into account, Chart 1 shows that using bonds for the above project would cost about \$130 million in constant purchasing

power. Thus, while there certainly is an added cost for using bond financing, it is much less than often assumed.

Are The Added Costs Worth Paying?

Whether the additional costs of bond financing are worth incurring depends entirely on whether they are offset by the benefits of using bonds. In other words, the Legislature has to assess the trade-offs that are involved between bond and nonbond financing. As discussed in Chapter II, the benefits of using bonds can include being able to put large projects in place "sooner" rather than "later," freeing-up current resources for other immediate high-priority needs, or avoiding large tax increases necessary to pay up-front for capital projects. If these factors are significant, the state can actually be "better off" using bonds.

Chart 1
The Relative Costs of Bond Financing for a \$100 Million Project
(dollars in millions)



^a Assumes a \$100 million 20-year bond issue with level maturity structure and an average interest rate of 8 percent.

^b Current-dollar costs converted to constant-dollar costs assuming a 20-year average annual inflation rate of 5 percent.

What Does the State Use Bonds For?

The state uses bonds for many different purposes, ranging from financing public infrastructure like schools, prisons and parks, to assisting private-sector small businesses and homebuyers. The state's bonds generally are classified as either general obligation bonds or revenue bonds, based on the type of financial resources that are pledged to repay them.

General Obligation Bonds

These are bonds whose principal and interest payments (that is, debt service payments) are guaranteed by the full-faith-and-credit of the state's taxing authority. These bonds require voter approval and offer investors a high degree of security. The General Fund either directly pays their debt service, or is pledged to do so if other resources backing them prove to be insufficient.

Chart 2 shows that there currently are about 30 different state general obligation bond programs which provide funding for purposes including water treatment, environmental cleanup, parks, senior citizen centers, school construction, state prisons, county jails and home purchases.

Revenue Bonds

These are bonds whose debt service payments generally are legally secured only by revenues from the projects which their proceeds finance or from some other restricted source, rather than the state's full taxing power. Although the debt service on some recent revenue bond programs is paid for by the state's General Fund (as with lease-revenue bonds for higher education), these payments generally are subject to annual appropriations and therefore cannot be guaranteed

Chart 2
Current State Bond-Funded Programs^a

**General Obligation Bond Programs,
by Purpose**

Beach, park, recreational and historical facilities ^b	New state prison construction
Clean water	Park and recreational facilities
Community college construction	Parklands acquisition and development
Community parklands	Recreation, fish and wildlife
County correctional facilities	Safe drinking water
County jail construction	School building aid
First-time homebuyers	School building lease-purchase
Harbors	Senior centers
Hazardous substance cleanup	State construction
Health sciences facilities	State, urban and coastal parks
Higher education construction and facilities ^b	Veterans farm and home loans
Junior college construction	Water conservation and quality
Lake Tahoe land acquisition	Water resources development

**State Revenue Bond Programs,
by Issuing Agency**

California Alternative Energy Source Financing Authority	California Urban Waterfront Area Restoration Financing Authority
California Collider Commission (superconducting super collider project)	Department of Water Resources
California Educational Facilities Authority	Hastings College of Law
California Health Facilities Financing Authority	University of California (UC) Regents
California Housing Finance Authority	State Public Works Board (general capital outlay projects)
California Industrial Development Financing Advisory Commission	State Public Works Board (energy conservation and cogeneration projects)
California National Guard	California State University (CSU) Trustees
California Passenger Rail Financing Commission	Veterans Revenue Debenture (housing loans)
California Pollution Control Financing Authority	California School Finance Authority
California Student Loan Authority	Hazardous Substance Cleanup Financing Authority
California Transportation Commission	

^a Source: California State Treasurer.

^b Includes more than one bond program.

from one year to the next. Revenue bonds do not require voter approval, and to the extent they expose investors to greater risks than do general obligation bonds, the state must pay higher interest rates on them.

Chart 2 shows there are about 20 state entities currently authorized to issue revenue bonds for such varied purposes as home purchases, pollution control, health and educational facilities, student dormitories, small businesses, and passenger rail transportation.

The Volume and Mix of Outstanding Bonds

Chart 3 shows that as of June 30, 1987 there were \$23.1 billion of outstanding state-issued bonds, all of which require periodic interest payments and must eventually be repaid. Of these total bonds, \$8.0 billion (35 percent) were general obligation bonds and \$15.1 billion (65 percent) were revenue bonds. Chart 3 shows that the General Fund directly pays the debt service on about half of the general obli-

gation bonds. This debt service cost the General Fund \$535 million in 1986-87, including \$257 million for interest payments and \$278 million for principal repayments. Debt service on the remaining general obligation bonds, while guaranteed by the General Fund, is paid for using revenues generated from projects financed by the bonds. These bonds are called self-liquidating general obligation bonds, and normally impose no direct cost on the General Fund.

Table 1 summarizes how the state's outstanding bonds are distributed, by purpose and bond type. It indicates that over 70 percent of total outstanding bonds are for housing, water management and treatment, health facilities, and pollution control. In the case of general obligation bonds whose debt service is paid by the General Fund, over 80 percent is about equally divided amongst parks and recreational facilities, state prisons, school construction, and water treatment.

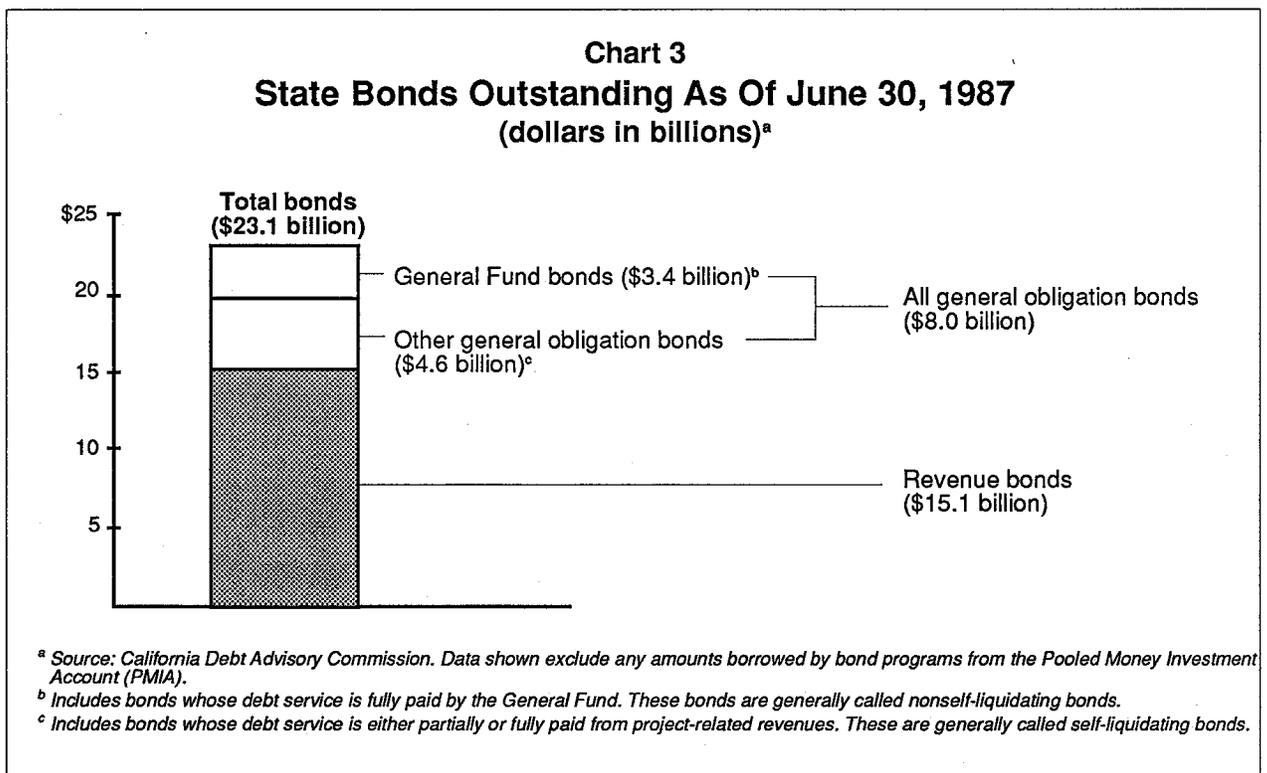


Table 1
Percent Distribution of Outstanding State-Issued Bonds
by Purpose and Type^a

General Purpose	Different Types of Bonds as a Percent of All Bonds				
	General Obligation Bonds			Revenue Bonds	All Bonds
	General Fund Bonds	Other General Obligation Bonds	Total General Obligation Bonds		
Parks and recreational facilities	3%	—	3%	—	3%
Water-related purposes	3	6%	9	7%	16
County jails	1	—	1	—	1
State prisons	3	—	3	4	7
School lease-purchase programs	3	2	5	3	8
Higher education facilities	*	—	*	6	6
Health and health sciences facilities	*	—	*	16	16
Hazardous waste cleanup	*	—	*	—	*
Pollution control	—	—	—	12	12
Alternative energy facilities	—	—	—	1	1
General state construction	1	—	1	—	1
Senior citizens centers	*	—	*	—	*
Housing loans	*	12	12	16	28
All other	—	*	*	1	1
Totals	15%	20%	35%	65%	100%

^a Based upon data through June 30, 1987 compiled by the State Treasurer and the California Debt Advisory Commission. Figures are rounded to the nearest full percentage point. Detail may not total due to rounding.

* Actual share rounds to less than 1 percent.

Recent Trends in the State's Use of Bonds

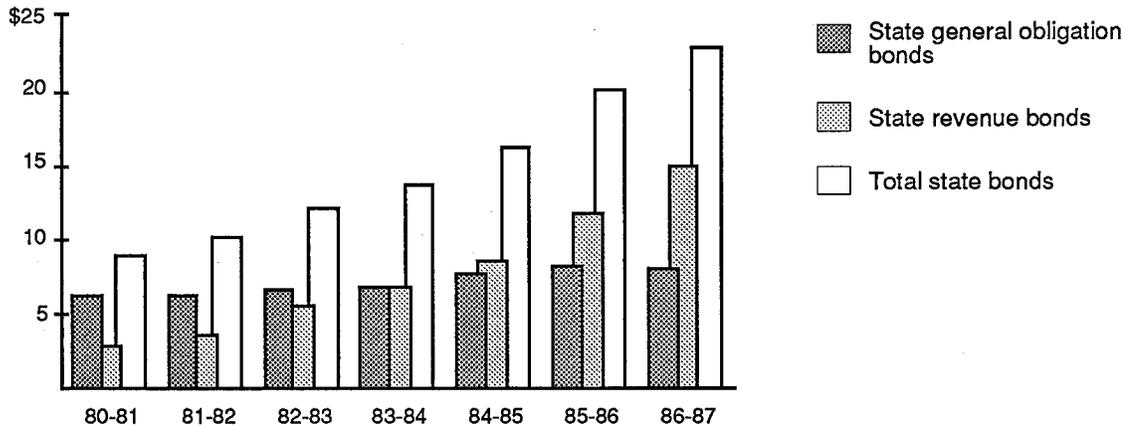
Chart 4 shows that the state's use of bonds has expanded dramatically since 1980. For example, between 1980-81 and 1986-87 the total volume of outstanding state bonds increased by \$14 billion, or over 150 percent. Most of this rise has been due to revenue bonds, whose outstanding volume experienced a five-fold increase. This revenue-bond growth primarily reflected the increased use of state bonds to benefit the private sector, including bonds for housing, pollution control and industrial development. In contrast, the outstanding volume of general obligation bonds has expanded more modestly during this same period, by about one-third, or \$2 billion. This growth in general obligation

bonds is considerably less than that of the General Fund budget, which increased by about 50 percent.

The state's ongoing needs for additional capital facilities clearly means that the state will continue to rely on bond financing in future years. However, future trends in bond usage can be expected to differ from past trends, for several reasons. For example:

- The state's mix of capital outlay needs changes over time. For instance, years ago there was a focus on building-up the state's major water-delivery systems, flood-control facilities and higher-education campuses, whereas recently the focus has been on state prisons, county jails and environmental cleanup. As an

Chart 4
Trends in Outstanding State-Issued California Bonds
1980-81 through 1986-87
 (dollars in billions)^a



^a Source: California State Treasurer and California Debt Advisory Commission. Data shown are as of end of the fiscal year cited. Data exclude nonbond financing supported by discretionary annual appropriations, such as certificates of participation and lease obligations.

- example, \$1.2 billion in revenue bonds have already been authorized for state prisons.
- Fewer tax-exempt revenue bonds will be issued for private purposes (primarily housing) in the future than previously, because of 1986 federal law changes which placed tighter restrictions on their use.
- There will be a new argument in favor of using voter-approved bonds in place of nonvoter-approved revenue bonds. This is because the debt service on voter-approved bonds is exempt from the state's appropriations limit.

Is the State's "Debt Burden" Excessive?

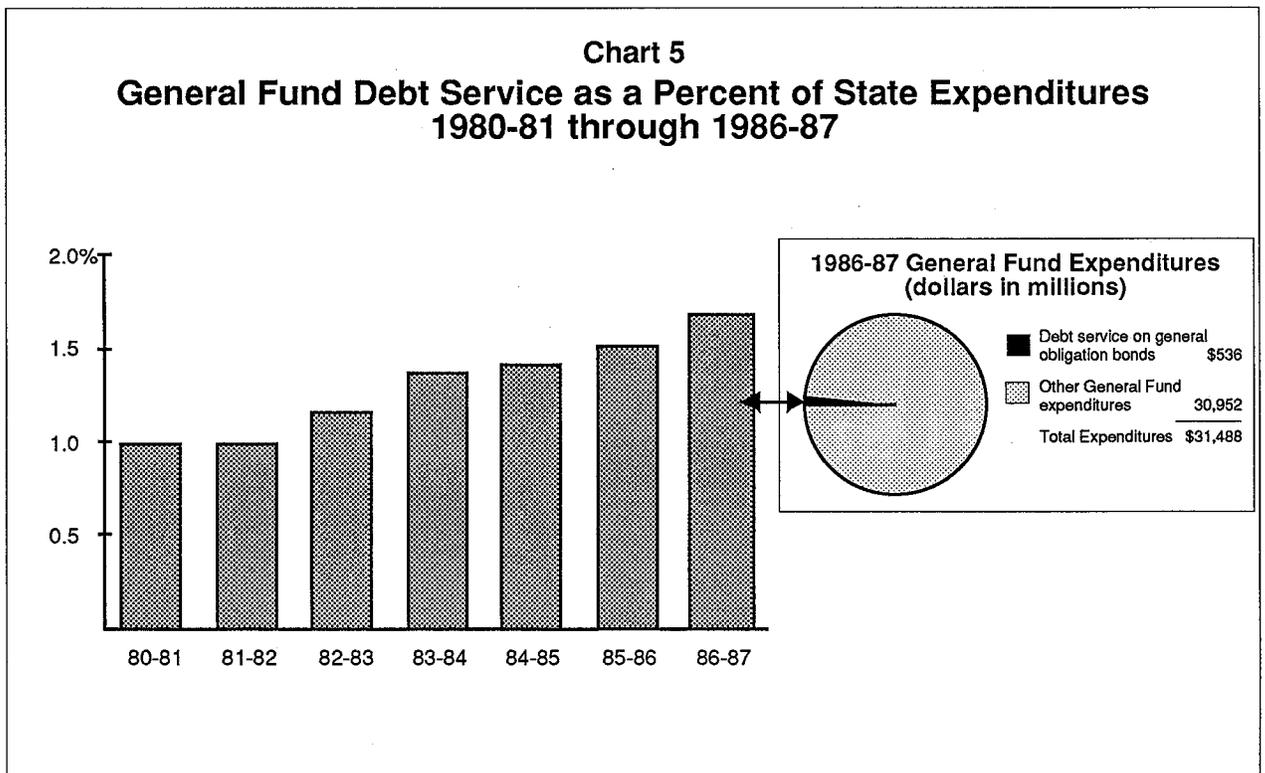
As noted above, outstanding state debt has dramatically increased during the 1980s, to the point where it now exceeds \$23 billion. This has raised concerns about whether the state's debt level is too high, and whether the annual cost of paying off this debt is imposing an excessive financial burden on the state budget and California's taxpayers. Clearly, *if* such conditions exist, additional bond usage could be regarded as undesirable.

No Real Problem Exists

There is no single correct answer to the question of how much state debt is "too much," since this depends upon one's opinion about what share of the state's financial resources should be devoted to providing public infrastructure, how capital projects should be financed, and how their costs should be spread over time. However, there are at least four reasons for concluding that

California's current debt burden is *not* a significant problem:

- *The debt-service cost is a relatively small share of state expenditures.* Chart 5 shows that, while debt-servicing costs on nonself-liquidating general obligation bonds have increased significantly in recent years, they still amounted to only 1.7 percent of total General Fund expenditures in 1986-87. (The debt service on most other bonds is paid by project-related revenues, and thus does not impose a direct burden on the budget.)
- *The state's bond ratings are high.* California's general obligation bonds currently have the highest rating possible by two of the nation's three major bond-rating agencies, and the next-to-the-highest rating by the third agency. Generally speaking, bond ratings are not this high when a state is perceived as having an excessive debt burden.
- *California's debt burden is low relative to other states.* Chart 6 shows that California ranks well below average compared to other states in terms of total bond debt both per capita and as a percent of state personal income. Chart 7 shows that California also ranks low in terms of debt that the General Fund is directly responsible for supporting. For example, the chart indicates that California is on the low end for debt-servicing costs as a percent of state government expenditures, tax-supported debt per capita, and tax-supported debt relative to personal income.
- *California's debt is used primarily to finance public and private long-term capital assets, not short-lived assets or operating costs.* Thus, most of the state's debt-servicing payments essentially represent the public's ongoing costs for using capital assets *currently generating*

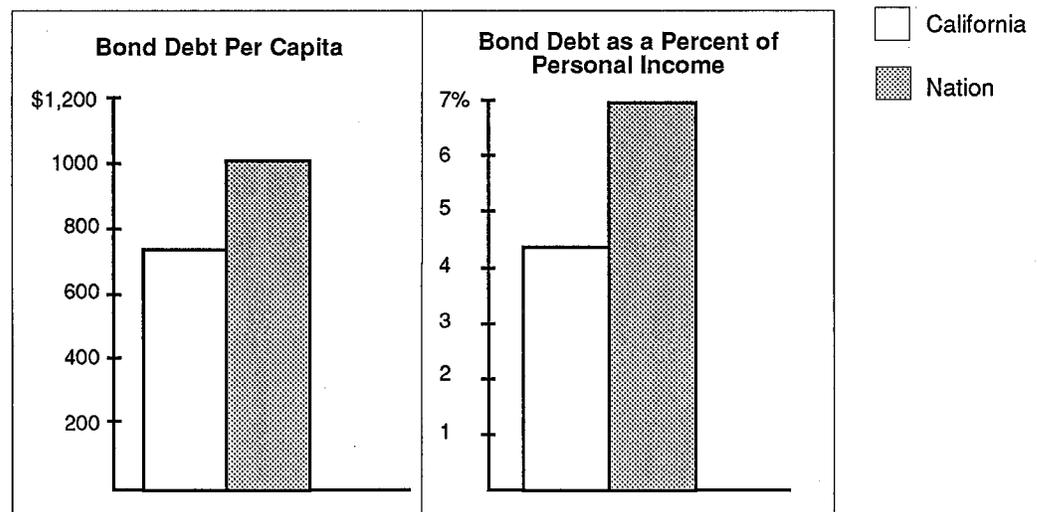


benefits to them. Economists agree that this type of debt can be economically justified, and is fundamentally different from the federal government's debt, most of which has been incurred simply to finance ongoing operational expenses.

Given the above, there is no evidence that California's current debt burden is excessive

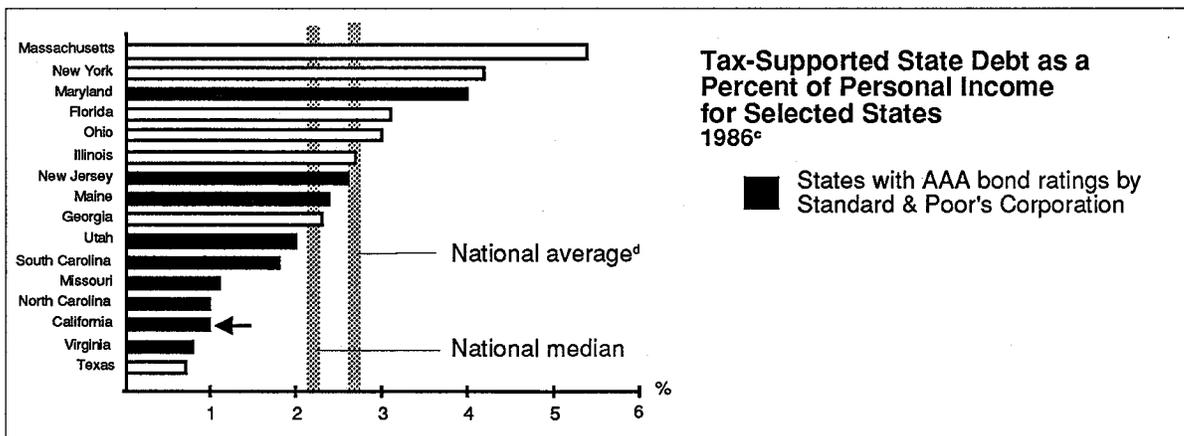
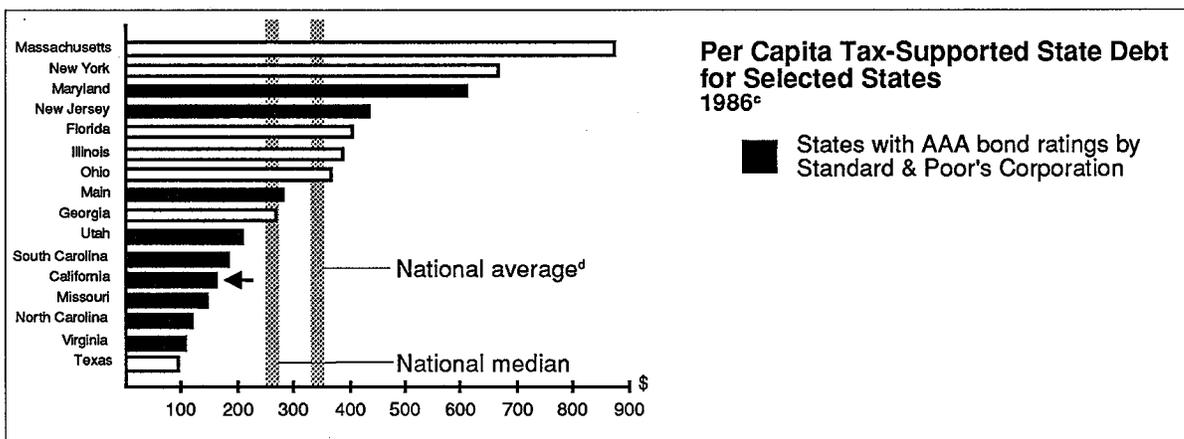
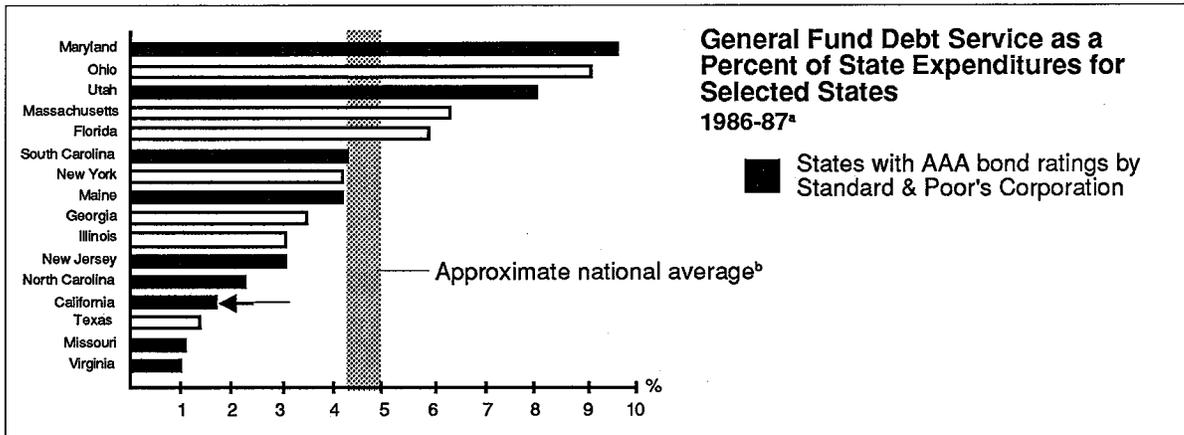
or poses any significant fiscal threat. Clearly, this does not mean that the state can afford to issue bonds in limitless amounts or use them indiscriminately in the future. However, it does mean that there is sufficient "room" for the state to continue issuing bonds in the future for financing its basic long-term capital needs.

Chart 6
Total State-Issued Bond Debt Outstanding in California and the Nation 1986^a



^a Based on preliminary data developed by the U.S. Department of Commerce for long-term state-issued debt outstanding as of June 30, 1986.

Chart 7
Interstate Debt Burden Comparisons



^a Source: Standard & Poor's Corporation, as published by the California Debt Advisory Commission in The Use of General Obligation Bonds by the State of California, September 1987. Data pertain to debt service payments on nonself-liquidating general obligation debt.

^b Based on discussions with Standard & Poor's Corporation.

^c Source: Moody's Investors Service, Inc., Selected Indicators of Municipal Performance, 1987. Data pertain to net tax-supported state debt, defined as all debt serviced by state tax revenues, minus any debt self-supported from enterprise revenues (not special-tax revenues), debt serviced by another unit of government, and any appropriate sinking funds and short-term operating debt.

^d Unweighted average of debt levels for the 50 individual states.

Additional Bond Proposals Currently Facing the Legislature

The most immediate decision facing the Legislature regarding future bond usage involves what action to take on pending bond proposals. These proposals involve both new bond programs and expanded bond authorizations for existing programs.

According to the California Debt Advisory Commission (CDAC), there are about 30 state general obligation bond bills and half-a-dozen revenue bond bills currently pending before the Legislature. These proposals are listed in the Appendix, and would finance capital projects for such varied purposes as transportation, schools, earthquake safety, libraries, child care centers, prisons, water treatment, law enforcement training, juvenile corrections, housing and parks. If the pend-

ing general obligation bond proposals were all approved, they would authorize over \$7 billion in new bonds, or nearly as much as the entire volume of general obligation bonds currently outstanding. By comparison, there has never been an election at which California's voters have been asked to approve more than \$1.8 billion in new general obligation bonds. It appears that the new general obligation bond authorizations currently pending substantially exceed the amount which can realistically be adopted at this time.

The Legislature thus faces the task of deciding which of these proposals to accept, and which to either reconsider later or consider financing in some alternative way.

What are the State's Alternatives to Using Bond Financing?

The state has several financing alternatives which it can consider in lieu of using bond financing, depending upon the type of program involved. For example:

- *Direct capital outlay appropriations* from available state resources (including tax or fee increases) may be used to fully pay up-front for the construction or purchase of capital facilities, without resorting to any borrowing at all. Similarly, assistance to private parties such as home purchasers, students and small businesses, can be provided using *targeted direct subsidy appropriations*.
- Certain capital facilities, like office buildings, may simply be *rented or leased* from private owners for specified periods of time.
- The state may acquire capital facilities

over time through nonbond-financed *lease-purchase arrangements*. For example, nonstate entities can finance construction of facilities intended for state use by issuing securities to investors called "certificates of participation," whose debt service is to be paid from annual state lease payments. These certificates do not constitute state debt, although legal title to the facilities usually passes to the issuing entity once the certificates have been paid off.

Whether bonds actually should be used in a particular situation, as opposed to one of the above or even some other alternative financing method, is ultimately a legislative policy decision. There are, however, certain criteria for making this decision. These are discussed in Chapter II. ♦

Chapter II

Chapter II

Decisions About Using Bonds – What Are the Considerations?

As discussed in Chapter I, bonds are but one of several ways that the state's public and private capital infrastructure may be financed. Determining whether a particular project should be financed through using bonds, as opposed to some alternative means like direct appropriations, is ultimately a *legislative policy decision*. Unfortunately, no

simple formula exists for arriving at this decision. This chapter, however, identifies and discusses a number of factors which, when considered together, can at least help the Legislature determine whether bond financing is warranted. In discussing these factors, our primary focus will be on bonds used for financing public infrastructure.

What are the Key Questions to Ask?

Chart 8 lists six questions which we believe are the key to helping the Legislature make decisions about using bonds. Each of these

questions is separately discussed below, followed by a discussion of what the state appropriations limit implies about using bonds.

Chart 8

Key Factors To Consider When Making Bond Financing Decisions

- | | | | |
|----------|--|----------|---|
| 1 | Is a particular project or program worth spending taxpayers' money on? | 4 | What are the actual trade-offs between using and not using bonds? |
| 2 | What is a project's size and desired time frame? | 5 | Who should pay for capital projects? |
| 3 | Is nonbond financing really an option? | 6 | Is it a favorable time for borrowing? |

1. Is a Particular Project or Program Worth Spending Taxpayers' Money On?

This question must be answered before even considering whether bond financing should be used.

Governmental projects, whether financed with or without bonds, should be undertaken only if their benefits exceed their costs. Otherwise, a better use of taxpayers' money can be found. This means, for example, that:

- The public benefits expected from state-acquired capital facilities like office buildings, dams, highways, parks and prisons, must exceed their purchase or construction costs. As discussed later in Chapter III, a multi-year capital outlay plan for state infrastructure should be developed that incorporates this information.
- State subsidies to private-sector entities like businesses and homeowners, which bonds are sometimes used to provide, must be found justifiable in terms of the benefits they provide to the economy and their recipients.

Bond Proposals Deserve Close Scrutiny

Requiring that benefits exceed costs for programs for which bond financing is being considered may seem like a rather obvious, common-sense conclusion. However, it is an important one to stress, because sometimes the relative costs and benefits of bond-financing proposals are not looked at very closely. This is partly because bond costs are not paid until future years. This can create the illusion that bond costs are somehow "less real" than the costs incurred to fully fund projects upfront, by direct appropriations out of current resources.

A second problem is that little effort has been made to compare the relative net benefits from different capital outlay projects that must compete for funding. As discussed in

Chapter III, a capital budget plan is needed to correct this deficiency.

Should State Bonds Be Used To Help Localities?

The Legislature also must decide whether state bonds should be used for local projects, such as county jails, for which localities themselves can obtain voter approval to issue their own bonds. The issue here is whether the state should itself be financing local capital outlay projects for which alternative local financing is available.

2. What is a Project's Size and Desired Completion Schedule?

One of the principal advantages of bond financing is that it permits large amounts of funds to be raised rapidly. Thus:

- *Bond financing is especially well-suited, and often is the only realistic funding option, for expensive projects which the Legislature wants to complete quickly.* Constructing prisons is a good example, because there is a growing shortage of prison space due to rising prison populations.
- *In contrast, nonbond financing, such as pay-as-you-go funding, becomes a more viable option if a project's completion can be spread out over a longer time frame.* This is because the total costs of such projects can be directly paid for through a series of smaller annual increments. An example is a highway improvement program that can be divided into individual sub-projects, each of which can be flexibly scheduled and sequentially completed.

3. Is Nonbond Financing Really An Option?

Chapter I identified several potential alternatives to using bond financing, including using direct appropriations to buy, build or lease capital facilities. One of the first things the Legislature needs to determine when it considers a bond proposal is whether such

nonbond financing options are really viable. The case for using bonds is strongest when:

- The state's budget is so "tight" that there simply are no monies available to fund a capital project up-front.
- Discretionary money is available for up-front funding, but there is a higher-priority use for it. For example, using limited revenues to finance long-lived capital facilities for which bond financing is available makes little sense if it is done at the price of not funding high priority public services. Likewise, using economic contingency reserve funds to finance capital outlays would increase the state's risk of financial disruptions during economic slowdowns, which would not be prudent.
- The Legislature does not wish to impose a tax or fee increase large enough to support up-front funding for a project.
- Leasing privately owned capital facilities of the type needed is not possible.

4. What Are the Actual Financial Trade-Offs Between Using and Not Using Bonds?

As discussed earlier, bond financing is particularly well-suited for extremely large capital projects requiring quick completion (like a state prison), while nonbond financing is a viable option for smaller projects (like structural additions) or multi-part projects that can be completed in distinct stages (like certain highway improvements). Many projects, however, do not fall neatly into either one of these two categories. Therefore, to make decisions about how to finance such projects, the Legislature needs information on the financial trade-offs involved in using bonds versus nonbond financing. For example, the bond-financing benefits of putting projects into place "sooner" rather than "later" and freeing-up current resources for other purposes, need to be compared to the interest

costs of using bonds and the burden that this imposes on taxpayers.

An Illustrative Example of Analyzing Financial Trade-Offs

The usefulness of looking at the financial trade-offs of using bonds versus nonbond financing can be illustrated by the hypothetical example of a major state highway expansion program. Suppose that the project's estimated cost in today's dollars is \$3 billion and that the Legislature is considering two questions:

- Whether to complete the program rapidly in three years or spread its construction out evenly over 10 years. (This assumes that the project could be completed in three years; if not, a different time frame could be used.)
- Whether to fund the program with bonds or pay-as-you-go financing, assuming that in both cases all costs would be paid from an increase in the gasoline excise tax rate.

Chart 9 summarizes the four sets of financial trade-offs that the Legislature would face in this example. These trade-offs involve:

- How large a gas tax increase to impose.
- How long the tax increase would need to be in place.
- How long it would take to complete the program, and
- The total cost of completing the program, before and after adjustment for inflation.

For example, the chart shows that completing the project rapidly would require a per-gallon gas tax increase of over 8 cents for three years using pay-as-you-go financing, compared to 2 cents for 22 years using bond financing. It also shows that the total cost of using bonds for the project would be about one-third more in constant dollar terms than using pay-as-you-go financing (that is, \$4 billion as opposed to \$3 billion).

Chart 9
Illustrative Financial Trade-Offs Between Bond and Nonbond Financing
for a Hypothetical Highway Construction Program^a

Type of Scenario	Required Gasoline Tax Increase ^b		Total Project Cost	
	Cents Per Gallon	Duration	Current Dollars	Constant 1988 Dollars
A. Pay-as-you-go financing				
1. 3-year project completion	8.3 cents	3 years	\$3.2 billion	\$3 billion
2. 10-year project completion	2.7 cents	10 years	\$3.8 billion	\$3 billion
B. Bond financing^c				
1. 3-year project completion	2.0 cents	22 years ^d	\$6.4 billion	\$4 billion
2. 10-year project completion	1.6 cents	29 years ^d	\$7.7 billion	\$4 billion

^a Assumes a fully-state-financed project having a \$3 billion capital cost (constant 1988 dollars) and an annual inflation rate of 5 percent.

^b Assumes that taxable gasoline gallonage is 12.4 billion in 1988 and increases by 2 percent annually thereafter. Also assumes that any temporarily idle gasoline tax receipts are invested at 8 percent annually until they are needed to pay project-related costs.

^c Assumes that bond issues are sold at an average interest rate of 8 percent per annum, have a maximum maturity length of 20 years, and are structured and amortized so that their annual debt-service costs are approximately level over time. Computations do not take into account such complicating factors as capitalized interest costs and reserve funds, which also would affect the costs of using bonds.

^d Assumes that the final bond issue is sold at the start of the year that the project is completed. Thus, duration of tax increase is one year less than the sum of the years needed for project completion and the 20-year maturity length of the final bond issue.

Although the examples shown in Chart 9 illustrate that bond financing can enable capital needs to be funded with a lower tax rate increase than pay-as-you-go financing (because costs are spread over a longer time period), the chart also shows that this tax rate differential becomes smaller as the construction schedule is lengthened. This means that bond financing will not always result in a lower tax rate than nonbond financing. For example, consider an ongoing program requiring a continuous yearly stream of capital outlay spending that is expected to extend indefinitely into the future. In this case, bond financing would actually result in a *higher* tax rate than pay-as-you-go financing. Thus, there are circumstances where the financial trade-offs do not favor using bonds, *provided that* it is possible to meet the same capital outlay completion schedule by using pay-as-you-go financing as by using bonds.

There is no simple formula for choosing amongst scenarios like those in Chart 9.

Rather, doing so is a legislative policy decision that would depend on such factors as how large a gas tax increase the Legislature thinks is acceptable, and the value it places on completing the program as soon as possible. However, it is clear that quantifying the major trade-offs involved can at least assist the Legislature with its decision.

5. Who Should Pay For Capital Projects?

The services that capital facilities provide are typically spread over many years, and also sometimes directly benefit certain groups more than others. This raises two legislative policy issues having implications for bonds, including whether and what type of bonds should be issued.

First, should a project's costs be spread over the entire time frame that it provides services, so that all of its beneficiaries share in funding it? If the answer here is "yes," a case can be made for bond financing because

its debt servicing costs also are spread over time. In fact, the maturity structure of a bond issue sometimes can be set so that the time pattern of debt servicing payments roughly corresponds to when a project's benefits are being realized. In these cases, bond financing thus can mitigate the inequities between generations inherent in fully funding long-lived projects up-front through direct appropriations, which forces current citizens to subsidize future ones who will benefit from projects but bear none of their capital costs. This can be especially important if a project's benefits continue for a long time, or are disproportionately skewed towards future years. Of course, the maturity length of a bond issue should never be allowed to exceed the life span of the project it funds.

Second, should a project or program be paid for by taxpayers generally, or by those groups who directly benefit from it? Only in the first case should general obligation bonds or other bonds supported by General Fund appropriations be considered. Otherwise, revenue bonds supported by selective taxes or fees should be considered. (Of course, when revenue bonds are used the Legislature must ensure that a stable, predictable revenue source is chosen to service the debt. Otherwise, the bonds will command excessive interest rates or not even be marketable. The General Fund also might even find itself faced with a "moral obligation" to help pay off the debt some day.)

This question of whether a project is to be paid for by taxpayers generally affects not only what type of bonds to use, but also whether to use them at all. When projects are to be paid for by taxpayers generally, it increases the possibility that they can be funded up-front through direct appropriations, given the state's large revenue base from which appropriations may be made. In contrast, bond financing is harder to avoid for large projects that are to be financed by individuals paying selective taxes and fees. This is because the size of these revenue bases is

limited, and it can take considerable time and large tax or fee increases to accumulate enough money to provide up-front funding.

6. Is It a "Favorable Time" For Borrowing?

Even if financing a program with bonds seems justified using the preceding criteria, the Legislature still must decide that it is a "good time" to borrow. If it is not, then non-bond financing may have to be used. Three conditions should be met:

Interest rates must not be too high. Issuing bonds when interest rates are abnormally high can expose the state to unreasonably large debt servicing costs in future years. Thus, bonds should be issued during periods of high interest rates only when alternative financing is not viable, and when the Legislature finds that delaying projects is unacceptable because their services are needed, or they will become excessively expensive to undertake in the future due to factors like inflation.

Incurring additional debt and its repayment costs must be acceptable. As discussed in Chapter I, there is no evidence that the state's current debt burden, either in terms of the outstanding volume of debt or the burden its repayment imposes on the state's budget, is excessive in terms of posing any fiscal danger or significant budget-management problems. However, this could change in future years depending upon the amount of bond financing used. Thus, the Legislature must decide exactly how large a debt burden is tolerable, and also the maximum amount of general obligation bonds the voters should be asked to approve each election.

Bonds must be available for future needs. The Legislature must ensure that sufficient bonding capacity is being "saved" so that high-priority projects in the future can be financed. That is, the state's limited long-term bonding capacity should not be "wasted" in the near term on low-priority projects.

What About the State Appropriations Limit?

The state appropriations limit contained in Article XIII B of the California Constitution restricts the amount of appropriations that the state may make each year from tax proceeds. *However, this amendment also explicitly excludes from the limit any appropriations of tax proceeds that are used to pay off voter-approved debt.*

The limit becomes a constraint on state spending in years when it lies below the amount of tax revenues that the state collects, in which case the resulting "excess revenues" generally cannot be spent. The limit kept the state from spending all of its tax revenues in 1986-87 and, given the state's current tax and expenditure structure, there probably will be future years when this happens again.

What Does The Limit Imply About Using Bonds?

Because the limit exempts spending on both voter-approved bonds and nonvoter-approved bonds supported by nontax revenues (like user fees), the way that bonds are used can affect both the portion of state appropriations that are subject to the limit and the amount of any unusable "excess revenues."

There Are Circumstances When Voter-Approved Bonds Are An Advantage

During periods when the appropriations limit is a constraint on spending, the state can minimize both the amount by which appropriations must be limited and the amount of unusable "excess revenues" if it:

- Obtains voter approval whenever possible for all bonds whose debt service is to be paid from tax proceeds. This includes revenue bonds paid for from tax proceeds in addition to general obligation bonds.
- Avoids using nontax revenues to pay off voter-approved bonds.

- Uses voter-approved bonds to finance projects in lieu of using direct appropriations of nontax revenues.

These steps will:

- **Increase spendable resources.** The fact that debt-service payments on voter-approved bonds is exempt from the appropriations limit means that otherwise unusable "excess revenues" can be spent on public programs during periods when tax revenues exceed the limit. It also means that increased tax levies, if desired, can be used to support bond-financed capital projects.
- **Increase allowable appropriations.** The combination of using tax revenues to support voter-approved bonds and nontax revenues to support programs not funded by such bonds reduces the portion of total state expenditures subject to the limit. This is because both the spending of nontax revenues and paying off voter-approved bonds are exempt. An example is to use voter-approved bonds for educational capital outlay projects instead of tidelands oil revenues, and use the oil revenues for non-capital-outlay purposes otherwise funded from tax proceeds. This makes the spending for both purposes exempt from the limit.

But What If Revenues Fall Short Later On?

Although an argument can be made for voter-approved bond financing during periods when the appropriations limit is constraining spending, this same argument might not apply if revenues were to drop below the appropriations limit, and therefore themselves become a constraint on spending. This could occur during an economic downturn. In this event, the state would not have enough money to fund all of its programs; however, it would have no choice but to pay

the debt service on its general obligation bonds. Given this, the state should not imprudently issue voter-approved bonds just because the spending limit is a constraint, since this will "lock in" a higher level of required future debt payments that could impair the state's ability to make necessary program trade-offs, including budget cutbacks, dur-

ing periods of limited resources. Rather, it should issue only the amount of bonds that the budget can afford, and only use voter-approved general obligation bonds for purposes worthy of having first claim on the state's revenue base.

Summary

Deciding whether to use bond financing is ultimately a legislative policy issue. However, the Legislature can best make its decisions regarding bonds by considering the issues discussed above. They suggest that bond financing is most favorable under conditions like those summarized in Chart 10.

The more these conditions hold the stronger is the argument for using bonds.

Apart from considering these factors, however, it also is possible for the Legislature to significantly improve the basic decision-making process for bonds. The way this can be done is discussed in Chapter III. ❖

Chart 10

Conditions Favorable to the Use of Bond Financing

- The projects or purposes for which bonds are to be used are themselves worthy of spending taxpayers' money on, based on a favorable benefit-cost comparison.
- Acquiring a capital facility through nonbond financing is not feasible, such as when:
 - Funding a project up-front using direct appropriations is not feasible, either because enough money is not available or there are higher priority uses for such monies.
 - Leasing is not possible.
- A project is very expensive, and either must be put in place relatively quickly or cannot be completed in stages.
- A project's costs are to be shared over time by its beneficiaries, and its benefits last over many years or are skewed toward the future.
- The financial trade-offs between bond and nonbond financing favor the former, such as when the increases in tax rates or fees needed to provide up-front project funding are simply too large to consider.
- It is an acceptable borrowing environment, meaning that:
 - Interest rates are not abnormally high.
 - The state's debt level is not excessive.
 - Enough bonding capacity is being saved for high-priority future bond financing needs.

Chapter III

Chapter III

Can the Decision-Making Process for Bonds Be Improved?

In order for the Legislature to make optimal decisions about bonds, an overall decision-making process is required to provide a framework for tying-together the various bond-related decision-making factors identified in Chapter II. It is extremely important that the Legislature's decision-making process for using bonds be an effective one, given the state's significant capital infrastructure needs (both current and projected) and the key role that bonds can play in financing them. Thus, it is critical that this decision-

making process be improved, so that the state's limited borrowing capacity can be used as effectively as possible.

This chapter discusses how the decision-making process for using bonds to finance state capital outlay needs can best be improved. It does this by first identifying the basic elements needed for an effective decision-making process, and then discusses where California's process is in greatest need of betterment.

Remember — Bonds are a Tool, Not a Program

The first step toward developing an effective decision-making process for using bonds is understanding that *bonds themselves are not programs or projects, but merely a tool for financing them*. Thus, the focus should not be on bonds per se, but rather on the

purposes for which they will be used. The cornerstone of an effective process lies in properly identifying and analyzing the long-term needs and priorities of the various purposes for which bonds can be used as a finance tool. As discussed below, the state currently is deficient in this area.

What are the Key Elements in an Effective Decision-Making Process?

In order for optimal decisions to be made about using bonds, a three-stage process like the following is needed:

Stage One: A multi-year capital outlay plan must be developed.

As indicated above, identifying the state's capital outlay needs and priorities are the key to making decisions about bonds. A capital outlay plan is needed to provide this information. Specifically, such a plan should be based on the capital outlay needs of state programs,

and provide as complete an inventory as possible of current and future capital outlay requirements. Thus, it should identify all potential future capital outlay projects, along with their cost requirements, relative priority compared to one another, and desired time frame for completion. The minimum time horizon for such a plan should be five to 10 years. Ideally, however, it should extend to as many years as are necessary to properly prepare the state for its future infrastructure needs.

Stage Two: Decisions must be made about how the potential projects in the capital outlay plan should be financed, including which should be financed through bonds.

This step involves considering the various factors identified in Chapter II in order to see how strong the argument is for using bonds for each particular project, as opposed to some alternative type of financing. When completed, this step results in a *multi-year bond financing plan*, which contains a time schedule of the desired amount and types of bond financing which will be needed at different points in the future, including the amount of bonds that will require voter approval at forthcoming elections.

Stage Three: The desired multi-year plan for bond financing must be adjusted for any constraints that limit the actual amount of bond financing that may be undertaken.

For example, the desired amount of bond financing may have to be adjusted downward or rearranged timewise, depending upon how large a debt burden the Legislature thinks is tolerable, the maximum amount of bonds the Legislature is willing to put before the voters at any one election, and the state's ability to pay off nonvoter-approved bonds under the appropriations limit. These adjustments to the bond financing plan should be based on the budgetary trade-offs inherent in the priority ranking and scheduling flexibility of different proposed projects, as identified in the basic multi-year capital outlay plan.

Completing a three-stage decision-making process like this offers the state the best hope to have a comprehensive multi-year bond financing plan that will both reflect the state's capital outlay priorities, recognize the state's constraints on how much bond financing can be undertaken, and ensure that the state's limited borrowing capacity will be used as effectively as possible.

What is Most Wrong With the State's Current Process?

As noted earlier, the cornerstone of an effective decision-making process for using bonds involves the first factor above — a comprehensive multi-year capital outlay plan that flows from basic program needs. Without being tied to such a plan, individual bond financing decisions tend to be made in haphazard fashion without coordination, making a comprehensive approach to bond financing impossible. It is for this reason that the concept of multi-year capital outlay plans for governments is widely supported by public finance economists and experts on governmental budgeting. It is also the reason

why similar plans are extensively employed by many local governments and in the private sector by large corporate organizations.

The State of California, however, currently does *not* have a comprehensive multi-year capital outlay plan. There are *individual* 5-year plans in most program areas. Beyond this, however, *no comprehensive multi-year capital outlay plan exists*. Currently, there is no way of telling, for example, what the priority ranking of pending bond measures is, or what additional measures will need to be considered during the next couple of years.

Nor is there any way of saying, for example, why there are no current measures proposed to fund state office buildings from bonds.

Thus, *the state lacks the single most important ingredient needed to have an effective decision-making process for using bonds.*

A Multi-Year Capital Outlay Plan Should be Developed

Given the above, *we recommend that the Legislature take steps to develop a multi-year state capital outlay plan.* This plan should:

- Identify all known state capital outlay needs, including their estimated costs, relative priority and timing requirements.
- Cover a time horizon of at least five to 10 years and preferably longer for capital needs with lengthy time lags, and be updated annually.
- Serve as the basis (in conjunction with the factors discussed in Chapter II and whatever constraints on bond use the Legislature chooses to adopt) for developing a multi-year schedule of bond financing needs and debt-servicing costs.

The Plan Should Focus on Basic State Infrastructure Needs

The primary focus in developing a state capital outlay plan, at least initially, should be on traditional-type state public infrastructure needs, such as highways, water systems, parks and other recreational facilities, prisons, office buildings and educational facilities. These are the areas in which it is most important and feasible for the state to develop a multi-year capital outlay plan that will facilitate making decisions about using bonds. Later on, the state can decide whether it is desirable and feasible to extend the plan to cover other purposes for which state bonds currently are issued, such as local infrastructure needs (like county jails) and assistance to private-sector parties (like homebuyers). However, even if the plan's coverage remains

restricted to only traditional-type state-level capital needs, it still will go a long way towards improving the decision-making process for using state bonds.

Both the Executive Branch and the Legislature Should be Involved

Formulating a multi-year state capital outlay plan and using it to develop a schedule of needed bond financing must involve both the Executive Branch and the Legislature in order to be successful. In principle, a process should be used that is somewhat analogous to how the annual state budget process works. The process should have two steps:

- *First, the Executive Branch should develop a proposed multi-year state capital outlay plan, accompanied by a plan to finance it.* This financing plan should include a schedule of future bond sales, as well whatever lease payments, tax increases, user fee charges and direct appropriations will be needed to pay for future capital outlays not financed through bonds. This plan could be submitted to the Legislature either as part of or separate from the annual budget process.
- *Second, the Legislature should review the Executive Branch's capital outlay plan and financing proposal* to ensure that they reflect its own priorities and policy views, including the purposes for which bonds should be used and the maximum amount of debt that should be issued.

There are several ways that the Legislature could establish a formal procedure for review and oversight of the state's multi-year capital

outlay plan and the proposed schedule of bond financing that should accompany it. For example, the Legislature could establish either a new committee or a separate new budget subcommittee in each house for this

purpose. Regardless of the exact approach used, however, the Legislature will be left with a much more effective process than it has at present for making decisions about bond financing. ❖

Appendix

Appendix
Summary of Pending Bond Measures
(dollars in millions)

Bill Number	Purpose	Proposed Authorization Amount
GENERAL OBLIGATION BOND MEASURES^a		
AB 48	School Facilities	\$800
AB 69	Veterans' Housing	510
AB 185 ^b	Superconducting Super Collider	560 ^b
AB 200	Veterans Home of California	200
AB 639	Coastal Resources Conservation	200
AB 671	Transportation	1,500
AB 755	Automated Highways	50
AB 930	Wastewater — Border	150
AB 1215	Public Health Facilities	750
AB 1439	Safe Drinking Water	200
AB 1467	Public Broadcasting	75
AB 1715	Water Conservation	750
AB 1720	Water Quality	600
AB 1794	Park, Recreational and Historical Facilities	475
AB 1970	Park and Recreational Facilities	350
AB 2315	Water Conservation	400
AB 2619	School Facilities	800
AB 2654	Child Care Facilities	100
SB 4	Wildlife and Natural Areas	85
SB 22	School Facilities	800
SB 81 ^b	Superconducting Super Collider	560 ^b
SB 88	Earthquake Safety	350
SB 176	Transportation	1,000
SB 181	Library Construction	250
SB 278	Child Care Facilities	100
SB 468	State Prison Construction	850
SB 703	Higher Education Facilities	600
SB 997	Clean Water	480
SB 1265	Law Enforcement Training Facilities	250
SB 1487	Water Pollution Control	400
SB 1664	Juvenile Facilities	250
SB 1693	Housing	850
SELECTED REVENUE BOND MEASURES^c		
AB 383	Additional Benicia-Martinez Bridge	Unspecified
AB 1812	Toll Roads, Toll Bridges and Airports	\$1,500
SB 1295	Local Government Infrastructure Financing Authority	Unspecified
SB 1635	Additional Benicia-Martinez Bridge	Unspecified

^a Measures pending as of August 31, 1987, as compiled by the State Treasurer's Office and published by the California Debt Advisory Commission in The Use of General Obligation Bonds by the State of California, September 1987, pages 20-21. Excludes a citizen-sponsored \$776 million bond issue for parks and wildlife which has qualified for the June 1988 ballot.

^b The general obligation financing proposed in this bill has already been approved for submission to the voters by Chapter 432 (see footnote "c").

^c Based on data provided by California Debt Advisory Commission. Excludes revenue bond measures already approved during 1987, including Chapter 432 (SB 566) which authorizes the California Collider Commission to issue up to \$560 million in state revenue bonds.