Number 12/March 1993

CAPITAL BUDGETING IN THE PUBLIC SECTOR:

LESSONS FROM ALBERTA'S HISTORY

Paul Boothe
Department of Economics
University of Alberta

INTRODUCTION

Large and persistent government deficits at both the federal and provincial level in Canada, have sparked renewed interest in the treatment of capital spending in the public sector. For example, in his recent report[1] Alberta's Auditor General called for the establishment of a capital budget in which capital items would "not be charged to operations when they are purchased. Rather, they should be expensed as they are consumed." (p.5) Proponents of capital budgeting argue that it is useful to distinguish between public expenditures whose benefits are mainly felt in the current budgetary period and those which will produce a stream of benefits long into the future. If the benefits of some expenditures will accrue into the future, so the argument goes, so should the costs. Ideally the flow of benefits and costs would be distributed over time so that in every period costs and benefits to taxpayers would match.

Debate over the merits of capital budgeting in the public sector is not new. Auld (1984)[2] traces the debate back at least to Adam Smith in 18th-century England. Classical economists such as David Ricardo, Jean-Baptiste Say and John Stuart Mill all contributed to the literature in this area. Proponents have argued along the lines suggested above, while opponents have pointed to a number of perceived dangers including macroeconomic effects and the loss of accountability.

The purpose of this note is to draw lessons from a period in Alberta's history when capital budgeting played an important, perhaps even decisive role in the province's public finances. The period in question, 1905-1936, begins with the creation of Alberta as a province and ends with the collapse of the province's finances and the default on Alberta government bonds. Specifically, we will look at the effects of capital budgeting in three main areas: political accountability; future operating expenses and accounting for depreciation of public capital. Our main conclusion is that despite its attractiveness on a conceptual level, the dangers inherent in capital budgeting far outweigh the benefits. Indeed, it could well be that capital budgeting actually exacerbates the problem it is intended to solve -- controlling the size of the government deficit.

---

[1]Auditor General of Alberta (1993) *Annual Report of the Auditor General 1991-92*, Alberta Legislature, Edmonton.

[2]D. Auld (1984) *Should there be a Capital Budget for the Public Sector?* C.D. Howe Institute, Toronto.

POLITICAL ACCOUNTABILITY

One of the most serious dangers in capital budgeting in the public sector is the potential loss of accountability. The reason accountability is lost is that the existence of two separate accounts -- one for current expenditures and one for capital -- obscures the critical `bottom line' for the public on which overall affordability is judged. Evidence of the effects of losing accountability from Alberta's history is presented in Figures 1 and 2. In Figure 1 we see the Income Account deficit and the change in funded and unfunded debt[1]. Budget Speeches and newspaper articles from the time attest to the fact that the Income Account deficit or surplus was the summary measure most often used by politicians and journalists when discussing the province's finances. However, it is the change in net funded and unfunded debt which gives the consolidated measure of the province's financial performance for a given year. As is clear from the Figure 1, by itself, the Income Account deficit gives little warning of the province's impending default in 1936.

The cumulative effect of reporting which focused primarily on the Income Account is shown in Figure 2. By the end of the period we see that Income Account-related debt is only a small fraction of the province's total debt. However, the distinction between `bad' Income Account debt and `good' capital debt gave Albertans (both politicians and general public) a false sense of security. This illusion was destroyed only by fall of the United Farmers of Alberta government and the default on provincial bonds.

A second key problem arises in finding an acceptable definition of `capital'. If capital spending receives less scrutiny than current spending, politicians will be tempted to expand the definition of capital to include investments in `human capital' such as current expenditures for education or health care. Evidence on this point is also to be found in Alberta's history. In the fiscal year 1930-31, the province was faced with the burden of providing massive unemployment relief because of the Depression. The definition of capital spending was expanded to include relief, which allowed $1.3 million to be charged to the Capital Account rather than the Income Account. This permitted the government to report an Income Account deficit of $2.3 million (14.6 percent of Income Account revenue) rather then $4 million (25.5 percent of Income Account revenue). It is interesting to note that these same issues are being discussed in the U.S. as the new government searches for ways to come to grips with its deficit.[2]

[1] Funded debt refers to debt which is issued as government securities such as bonds on debentures. Unfunded debt refers to debt without the same formal security such as bank loans. The series in Figures 1 and 2 break in 1926 when the province moved from calendar year to fiscal year accounting.

[2] See Karen Pennar (1993) "Beware of Accounting Magic Tricks, Mr. Clinton." *Business Week*, January 18, p.55.

FUTURE OPERATING EXPENSES

Part of any capital-spending decision in the private sector is a careful analysis of the impact on future operating expenses. If capital and current spending are to be segregated, it is especially important to recognize the interaction between the two kinds of spending. Simply put, capital spending today contains an implicit commitment to operating expenses in the future. Just as individuals include the cost of taxes, utilities and ongoing maintenance in the decision to purchase a home, so should the government take account of the commitment to future operating expenditures when they spend on capital today.

Historically, the province reported the book value of all assets including physical assets such as roads and hospitals. For example, by 1930-31, the province had constructed roads, bridges and ferries valued at $29.4 million. Operating expenses in that year were $1.6 million or about 5.5 percent of their book value[1]. Although most hospitals were privately operated, provincially-owned hospitals in that year were valued at $5.3 million and incurred operating expenses of $0.871 million or about 16.4 percent of their book value. Overall, provincially-owned capital assets increased 16.1 percent in 1930-31 to reach a total of $46.9 million. If we assumed an average ratio of 10 percent operating expenses to capital value, this capital spending implied an additional future commitment of $0.650 million (4.1 percent of Income Account revenue).

Today, because of measurement difficulties, we have no official estimate of the value of provincially-owned capital. In addition, given that provincial capital expenditures are mostly in the area of social programs, ie. health care, post-secondary education and recreation which are more labour-intensive than roads and bridges, it is likely that the ratio of operating expenses to capital costs is significantly higher -- probably at least in the 20-30 percent range. If we assume for the sake of argument that the current value of provincially-owned capital is of the order of $20 billion, this implies that at least $4 billion of current expenditure stems from past capital spending. New capital spending of about $1.2 billion reported in 1990-91 committed the province to at least an additional $240 million in future operating expenses. In other words, almost 15 percent of the 1991-92 deficit could be attributed to the capital spending of just the previous year.

---

[1] Unfortunately, we have no way of knowing the market value (after accounting for depreciation) of the assets. However, the book value does permit us to calculate a lower-bound estimate of the ratio of operating expenses to current value.

DEPRECIATION OF PUBLIC CAPITAL

In addition to accounting for operating expenses, individuals and firms in the private sector must also consider future depreciation as part of any decision to purchase capital assets. Despite its long history of capital budgeting, Alberta never consistently reported depreciation and the public was given a distorted view of the province's finances by the annual reports of the book value of capital assets. Indeed, a proper accounting for depreciation might well have given an early warning to citizens before the province defaulted on its debt in 1936. For example, assuming a 25-year life for capital assets and applying `straight-line' depreciation, an Income Account expense of $1.6 million for depreciation should have been reported in 1930-31. This would have increased the Income Account deficit from $2.3 million to $3.9 million or from 14.6 percent to 25 percent of Income Account revenue.

Applying the same methodology to the current situation is instructive. Again assuming a value of $20 billion for provincially-owned physical capital in 1990-91, an expense of $0.8 billion should have been charged for depreciation. Thus, segregating *new* capital expenditures of $1.2 billion would have had a much smaller impact on the reported deficit in 1990-91 if proper account were taken of depreciation of capital assets.

Properly accounting for the declining value of capital assets is even more important in a jurisdiction where provincially-owned capital is a major source of revenue. Of course, in Alberta the principal assets in question are oil and gas reserves. The implication is that revenue from the depletion of oil and gas reserves should not be treated as income without an offsetting charge representing the decline in the value of those assets. While measurement of the true value of the decline in the asset is problematic, a first approximation would simply be to charge the value of net oil and gas royalties as an expense as well as a revenue. The Province has made similar representations to the federal government when it comes to defining revenue for the purposes of calculating Equalization payments. Revenue produced by transforming a physical asset into a financial one -- in this case, the interest income from the AHSTF -- should continue to be counted as income. The net effect of this accounting reform would be to increase the provincial deficit by the amount of energy revenues -- about $2.7 billion in 1990-91.

SUMMARY

A number of practical issues arise when considering whether capital budgeting should be introduced by governments. The key issue is political accountability, and it is clear from Alberta's history that capital budgeting can have the practical effect of impairing the public's ability to judge the affordability of government spending plans. In addition, it is difficult for politicians to resist the temptation to define capital very broadly when capital spending receives less scrutiny than its current counterpart. It is clear that capital spending had an important, perhaps determining role to play in the collapse of the province's finances in the 1930s and Alberta's debt default.

A second issue related to capital budgeting has to do with the interaction between capital and current spending -- the ongoing operating expenses implied by capital spending. It was shown that past capital spending was an important contributor to default in the 1930s, and to mounting deficits and debt today. Political accountability would be enhanced if the public were fully aware of the future commitments implied by enlarging the stock of provincial capital.

Proper accounting for depreciation was shown to be a third important issue in capital budgeting. Indeed, it was shown, based on reasonable assumptions, that current depreciation charges probably largely offset any reductions in the deficit that come from segregating current capital spending. A related issue is the treatment of Alberta's most important capital assets -- oil and gas reserves. Properly accounting for the depletion of those resources would have a large, negative impact on the deficit.

Thus, while there are conceptual reasons for distinguishing between current and capital expenditure, in practice, capital budgeting has a number of potential pitfalls which may hamper sound policy making. If the goal of government is to make the public better understand the difficult choices which must be faced, capital budgeting may hinder rather than help in difficult education process to come.