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Alice M. Rivlin
Director

MEMORANDUM

DATE: June 11, 1982

TO: THE HONORABLE ROBERT DOLE
CHAIRMAN, SENATE FINANCE COMMITTEE

FROM: Alice M. Rivlin
Director

SUBJECT: ADMINISTRATION PROPOSALS ON TAX-EXEMPT BONDS

As you requested in your letter of April 27, 1982, we have reviewed the **Administration's** proposals that would (1) change the capital expenditure limits for small issue industrial revenue bonds and (2) require that assets financed by tax-exempt bonds be depreciated over an extended recovery period. Our conclusions about the **effects** of these proposals follow.

REVISED CAPITAL EXPENDITURE LIMIT

The Administration proposes to deny the use of small issue **IRBs** to large businesses. These are defined as firms with capital expenditures of more than \$20 million in the six years preceding the bond issue. Based on investment tax credit data and the assumption that roughly 40 percent of small issue financing is for equipment, it is unlikely that **firms** with annual receipts of \$65 million or less will be affected by the **Administration's** proposal. The proposal would affect the top Fortune 1000 industrial firms, which had receipts in 1980 of more than \$125 million, and the top Fortune 50 nonindustrial firms. It would also affect many **firms** with annual receipts between \$65 and \$125 million. Although these corporations represent only 0.2 percent of all firms, they probably account for between 30 and 40 percent of all **IRB** financing. It is difficult to be precise because information on **IRB** users nationally, by assets or annual receipts, is unavailable.

Information from local development agencies and from banks, which are the main purchasers of small issues, indicates that the primary users of these bonds are firms with annual receipts of less than \$50 **million**. The firms tend to be closely-held establishments with good credit records, rather than fledgling companies. Their net income puts them in the 46 percent bracket. If the experience in New York City or Massachusetts is indicative, roughly three-fourths of the firms using **IRBs** have annual sales of less than \$20 million.

A CBO sample survey indicated that in 1978 and 1979 Fortune-listed firms accounted for 7 percent of all bond issues and 16 percent of small issue sales; however, the use of small issues among other firms is impossible to ascertain with the available data. If the Treasury proposal were limited to **three**, rather than six years, its effect would fall primarily on Fortune-listed firms, and the reductions in small issue sales would probably be in the neighborhood of 15 percent. The net **effect** of the Treasury proposal as now drafted would be to reduce small issue sales by between 25 and 30 percent. This assumes that making large firms ineligible for small issue financing would to some extent increase the amount of tax-exempt **financing** available to smaller firms. The Treasury proposal would result in revenue gains of at least \$0.2 billion in fiscal year **1984**, rising to \$0.6 billion by fiscal year 1987, assuming an effective date of **January 1, 1983**. If the proposal were limited to three years, the corresponding gains would be \$0.1 billion in **1984**, rising to \$0.3 billion in 1987. Revenue gains in fiscal year 1983 would be negligible.

ACRS VS. TAX-EXEMPT FINANCING

The Administration proposes that the costs of assets financed with tax-exempt bonds be depreciated using the straight-line **method** over extended recovery periods. These are as follows:

<u>ACRS Classification</u>	<u>Straight-Line Recovery Period If IRB-Financed</u>
3-Year Property	5 Years
5-Year Property	12 Years
10-Year Property	25 Years
15-Year Real Property	35 Years
15-Year Public Utility Property	35 Years

The effects of the Administration's proposal are summarized below and are shown in more detail in the tables that follow.

- Under current economic conditions, profitable firms would receive slightly greater tax savings from ACRS than from **IRBs** for projects involving land, structures and equipment. Under these circumstances, the obvious choice would seem to be ACRS, which involves no dealings with local governments and no underwriting or bond counsel fees. The calculation depends heavily, however, on the rate of inflation and on the **profitability** and cash flow position of the firm. Less profitable firms that could not **fully** use the available depreciation deductions would choose IRBs.
- **The** reduction in the use of small issue IRBs resulting from the **Administration's** anti-double-dipping proposal is unlikely to exceed 30 percent, largely because many firms are unable to take full advantage of depreciation deductions. Revenue gains would amount to \$0.2 billion in fiscal year **1984**, rising to \$0.8 billion by fiscal year 1987. Assuming an

effective date of January 1, 1983, revenue gains in fiscal year 1983 would be negligible.

- If the rate of inflation declines, the value of the tax savings from **IRBs** and straight-line depreciation would increase relative to the savings from ACRS. Conversely, a higher rate of inflation would lower the relative value of savings from tax-exempt bonds and straight-line depreciation. Inflation erodes the value of IRBs and straight-line depreciation more than it does ACRS deductions because for most classes of equipment the savings **from** tax-exempt bonds and straight-line depreciation extend over a longer period than the writeoffs under ACRS.
- Since land is not depreciable, an anti-double-dipping provision would to some extent encourage the use of tax-exempt financing for land acquisition and discourage it for other kinds of investment.
- For investments that involve only equipment and structures, ACRS, coupled with conventional financing, is preferable to straight-line depreciation and IRBs for all asset classes with the exceptions of three-year equipment and, in some cases, 15-year public utility property. For three-year property, the advantage of tax-exempt financing is substantial; for 15-year public utility property, it is relatively insignificant and would depend on the term of the loan. With 20-year **financing**, IRBs are slightly better; with 15-year financing, the reverse is true.
- ACRS is preferable to IRBs and straight-line depreciation for both conventional structures and low-income housing; however, the differences are small and, at lower rates of inflation, would be negligible. Although the **Administration's proposal** could result in a 30 percent reduction in the use of tax-exempt bonds for low-income housing, revenue gains over the next few years would be fairly small because tax-exempt bonds are less widely used for low-income housing than for other purposes.
- The combination of accelerated depreciation, the investment tax credit, and tax-exempt financing often results in benefits that exceed the value of immediately deducting (or "expensing") the entire cost of an asset in the year that the investment is made. This would generally be true for **three-,** five- and ten-year equipment. Assuming the current rate of inflation and fairly typical loan terms, the combination of ACRS, IRBs and the **ITC** would result in **writeoffs** that exceed expensing by 6 percent for three-year equipment, by 17 percent for five-year equipment, and by 7 percent for ten-year equipment. Since most structures do not qualify for the ITC, the tax savings are less there. Tax savings that exceed expensing result in a negative tax rate on investment, or "losses" that can be written off against profits from other investments. Providing tax savings in excess of expensing tends to distort capital allocation and to encourage unprofitable investment.

- In many cases, the Administration's proposals would provide less generous tax savings than were available prior to the enactment of the 1981 tax act. The benefits available from the combination of ADR depreciation, the old investment tax credit and tax-exempt **financing** far exceed those provided by the combination of ACRS and the new, more generous tax credit. Formerly available benefits also far exceeded the savings that would have resulted from expensing. These effects are particularly pronounced for equipment with ADR lower limits of between five and eleven years. The Administration's proposal would serve to correct the distortions in capital allocation that both current and previous law encouraged.
- For pollution control equipment, **benefits** from **IRB** financing would by and large continue for equipment in plants built before 1976. These investments are eligible for rapid depreciation under Section 169 of the Tax Code, which is not **affected** by the Administration's proposal. For plants built after 1976, the **effect** of the **Administration's** proposals would vary with the type of equipment and the term of the loan. For public utility property, the combination of tax-exempt financing and straight-line depreciation is slightly better than ACRS over a 20-year bond term and slightly worse over a 15-year term. Pollution control equipment in other firms would fall into the **5-year** class, which is best depreciated using ACRS if the term of the bonds is ten years; with a 15-year term, **IRBs** and straight-line depreciation would be preferable. In all cases, the differences are small. Last year 70 percent of pollution control bond sales was for public utilities. No information is available on the amount of pollution control financing in older plants. The likelihood, however, is that the Administration's proposal would at most reduce tax-exempt pollution control financing by between 15 and 25 percent. Revenue gains would amount to about **\$40** million in fiscal year **1984**, rising to approximately \$200 million by fiscal year 1987.
- The text and tables below elaborate on these points. All of the examples are for property placed in service before 1985. They assume a \$10 million financing, a 3 percentage point interest differential between tax-exempt and taxable rates, and a **46** percent corporate tax rate. Since tax-exempt financing often covers the period of construction, the examples assume that savings from IRBs begin to flow at the start of the year, and that property is placed in service in the middle of the year. The terms of the loans vary (as indicated) with the type of **property financed**. In each case, the value of expensing would amount to \$4.6 million. The savings from other types of deductions are stated in present value terms. Present value discounting is a procedure used to assign a value to funds that will be received at specific future dates. It is designed to take into account the fact that the promise of funds in the future is less valuable than having the money presently in hand, both because of the risk that the money will not actually be received in the future, and because it is possible to earn interest on money presently in hand. At present, the most commonly used discount rate is **12** percent, which assumes an

expected rate of inflation of 8 percent and a real return of 4 percent. A discount rate of 10 percent assumes an inflation premium of 6 percent, and a discount rate of **14** percent assumes an inflation premium of 10 percent. The examples below indicate the after-tax value of savings from deductions at discount rates of 10, 12, and **14** percent, or expected inflation rates ranging from 6 to 10 percent. The higher the discount rate, the lower the present value of **future tax benefits**.

Typical Small Issue **IRB** Investments

Small issue **IRBs** may finance land, structures or equipment. Typically, projects will involve investment in many different types of assets. For such projects, the greater the cost of the land as a percentage of total cost, the greater will be the relative value of tax exemption, since land is not depreciable. Assuming a \$10 million project, which includes \$1 million for land, \$5 million for structures and \$4 million for equipment, a 20-year loan term, and a 3 percentage point interest differential between tax-exempt and taxable rates, investors will be relatively indifferent between IRBs and ACRS at discount rates of 10 or 12 percent (see Table 1). At a higher discount rate, ACRS would be preferable.

TABLE 1
PRESENT VALUE OF TAX SAVINGS FROM
ACRS COMPARED WITH IRBs AND
STRAIGHT-LINE DEPRECIATION
(In Thousands of Dollars)

Tax Provision	<u>Present Value</u>		
	R^a = .10	R^a = .12	R^a = .14
ACRS and ITC	3,158	2,983	2,824
IRBs, Straight-Line Depreciation, and ITC	3,202	2,894	2,643

a. Discount rate.

At present, profitable firms would most likely choose ACRS over IRBs. Firms with cash flow problems and firms with net operating losses would prefer tax-exempt financing. According to the Treasury Department, approximately 35 percent of all corporations in 1978 could not take all available depreciation deductions. (More recent data are not available, but the percentage is probably higher now because of the liberalization of depreciation in 1981.) If roughly half of the remaining firms that could fully use available depreciation writeoffs were to choose **IRBs--and** the assumption is that they would do so primarily to alleviate cash flow **problems--then** IRB sales could decline by about 30 percent. If leasing continues, the number of firms that are unable to make full use of depreciation deductions could grow, and the decline in IRB sales may be less.

ACRS, Straight-Line Depreciation and ADR

Under both previous and current law, the combination of accelerated depreciation (ADR or ACRS), the investment tax credit, and tax-exempt financing results in tax savings in excess of expensing for most **classes** of equipment, but not for structures. Structures are depreciated over a longer period and are not eligible for the investment tax credit.

Most equipment falls into the five-year class. A typical \$10 million investment, if expensed, would result in tax savings of \$4.6 million. The **Administration's** proposal would produce tax savings of \$4.4 million. Under current law, which permits the combination of ACRS and **IRBs**, the tax savings would amount to nearly **\$5.4** million, exceeding expensing by almost \$800,000. Under previous law, the savings would have ranged from **\$4.8** million for equipment with an ADR **lower** limit of **14** years to \$5.3 million for equipment with a lower limit of 7 years, resulting in writeoffs against other investment income ranging from \$200,000 to nearly \$700,000. None of these calculations include deductions for ordinary interest payments; if they did, total tax writeoffs would exceed expensing in more instances and by even greater amounts. These calculations assume a discount rate of 12 percent; at a 10 percent rate, which would reflect a lower inflation premium, the present value of the tax savings would exceed expensing by greater amounts. (For a more detailed comparison of the **Administration's** proposal with current law, see Table 2. Table 3 compares the present value of tax savings for three- and five-year equipment under the Administration's proposal with the savings under both previous law and current law.)

TABLE 2
EQUIPMENT FINANCING:
ADMINISTRATION PROPOSAL COMPARED
WITH CURRENT LAW
(In Thousands of Dollars)

Asset Class	PRESENT VALUE OF TAX SAVINGS		
	R= .10	R= .12	R= .14
3-Year Equipment			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional			
Financing	4,216	4,104	3,999
Straight-Line Depreciation, ITC			
and IRBs ^a	4,918	4,704	4,506
ACRS , ITC and IRBs ^a	5,043	4,886	4,740
5-Year Equipment			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional			
Financing	4,570	4,409	4,257
Straight-Line Depreciation, ITC			
and IRBs ^b	4,610	4,290	4,012
ACRS , ITC and IRBs ^b	5,613	5,377	5,158

(Continued)

Table 2 (Continued)

Asset Class	PRESENT VALUE OF TAX SAVINGS		
	R= .10	R= .12	R= .14
10-Year Equipment			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional Financing	3,976	3,757	3,565
Straight-Line Depreciation, ITC and IRBs ^c	3,917	3,557	3,265
Straight-Line Depreciation and IRBs ^d	4,071	3,670	3,348
ACRS, ITC and IRBs ^c	5,267	4,924	4,626
ACRS, ITC and IRBs ^d	5,421	5,037	4,709
15-Year Public Utility Property			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional Financing	3,503	3,264	3,062
Straight-Line Depreciation, ITC and IRBs ^d	3,669	3,300	3,013
ACRS, ITC, and IRBs ^d	4,948	4,544	4,206
15-Year Real Property - Structures			
Expensing	4,600	4,600	4,600
ACRS and Conventional Financing	2,667	2,437	2,242
Straight-Line Depreciation and IRBs ^d	2,716	2,355	2,076
ACRS and IRBs ^d	4,112	3,717	3,386
Low-Income Housing			
Expensing	4,600	4,600	4,600
ACRS and Conventional Financing	2,716	2,499	2,312
Straight-Line Depreciation and Tax-Exempt Financing ^e	2,872	2,455	2,142
ACRS and Tax-Exempt Financing ^e	4,317	3,879	3,522

- a. Assumes 7-year loan term.
- b. Assumes 10-year loan term.
- c. Assumes 15-year loan term.
- d. Assumes 20-year loan term.
- e. Assumes 30-year loan term.

TABLE 3
ACRS AND CONVENTIONAL FINANCING
COMPARED WITH ADR/ACRS AND IRB FINANCING
(In Thousands of Dollars)

Asset Class	<u>Present Value of Tax Savings</u>		
	R = .10	R = .12	R = .14
<u>Three-Year Equipment</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional			
Finance	4,216	4,104	3,999
ADR, ITC and IRBs ^a	5,082	4,925	4,776
ACRS, ITC and IRBs	5,043	4,886	4,740
<u>Five-Year Equipment</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC and Conventional			
Financing	4,570	4,409	4,257
ADR, ITC, and IRBs			
5-Year ADR ^b	5,388	5,169	4,966
7-Year ADR ^b	5,541	5,288	5,051
8-Year ADR ^b	5,502	5,238	4,999
11-Year ADRC	5,410	5,078	4,773
14-Year ADRC	5,187	4,843	4,538
ACRS, ITC and IRBs ^b	5,613	5,377	5,158

- a. Assumes 7-year loan term.
- b. Assumes 10-year loan term.
- c. Assumes 15-year loan term.

Pollution Control Facilities

The effect of the **Administration's** proposals on tax-exempt pollution control financing will be relatively small and will vary with the type and age of the plant. Under ACRS, pollution control equipment in public utilities has a 15-year recovery period; pollution control equipment in other plants can be depreciated in five years. The **Administration's** proposals would affect the two classes of equipment differently. In addition, the effect of the proposals will vary depending on whether the equipment is for plants built before or after 1976. These effects are summarized in Table 4.

TABLE 4
PRESENT VALUE^a OF AFTER-TAX SAVINGS
FROM ALTERNATIVE METHODS OF FINANCING
AND DEPRECIATING POLLUTION CONTROL EQUIPMENT
(In Thousands of Dollars)

Tax Provision	<u>Pre-1976 Plants</u>		<u>Post-1976 Plants</u>	
	15-Year Public Utility Equipment ^b	5-Year Equipment ^c	15-year Public Utility Equipment ^b	5-Year Equipment ^c
Expensing	4,600	4,600	4,600	4,600
ACRS, ITC and IRB Financing	4,544	5,377	4,544	5,377
ACRS, ITC and Con- ventional Financing	3,264	4,409	3,264	4,409
Straight-Line Depreciation, ITC and IRB Financing	3,300	4,290	3,300	4,290
Section 169 Depreciation, ITC and IRB Financing	5,075	4,763	NA ^d	NA ^d

- a. Assumes a 12 percent discount **rate**.
- b. Assumes a 20-year loan **term**.
- c. Assumes a 10-year loan **term**.
- d. Not applicable.

Pre-1976 Plants. Pollution control equipment in plants built before 1976 is eligible for rapid amortization under Section 169 of the Tax Code. This provision, which has been in effect for some time and was unchanged by the 1981 tax legislation, permits straight-line depreciation of pollution control equipment over 60 months. It also contains an anti-double-dipping measure: Firms that elect Section 169 depreciation may use **tax-exempt** financing, but, if they do, they are eligible for only 50 percent of the normally allowed investment tax credit. Although the Administration would require firms to choose between ACRS and tax-exempt financing, it would not prohibit firms from **combining** Section 169 depreciation with

tax-exempt financing. Since Section 169 depreciation, coupled with tax-exempt **financing**, provides extremely generous benefits despite a reduced investment tax credit, the **effects** of the **Administration's** proposals on pollution control **financing** in plants built before 1976 will be minimal.

These effects will nevertheless be different for 5- and 15-year equipment. At present, firms purchasing 15-year pollution control equipment for **pre-1976** plants would get the best benefits from a combination of Section 169 depreciation, tax-exempt financing and a reduced investment tax credit. Consequently, the Administration's proposals would not affect them. Companies investing in five-year pollution control equipment **currently** fare best using ACRS, tax-exempt financing and the **full ITC**. If the Administration's proposals were enacted, **these firms** would opt for Section 169 depreciation, which, combined with tax-exempt financing, would still result in writeoffs that exceed expensing. The main loss to these firms would be half of the ITC.

Post-1976 plants. The **Administration's** proposals will primarily affect pollution control financing in plants built after 1976. Here, the likelihood is that utilities, which generally can get longer-term financing, will opt for tax-exempt bonds. Other firms would generally find ACRS preferable. The differences, however, are slight. If a utility floated 20-year tax-exempt bonds, the combination of straight-line depreciation and **IRB** financing would be preferable to ACRS and conventional financing. With 15-year bonds, the reverse would be true. Other firms would choose ACRS if **tax-exempt** financing were available for only a 10-year term, which is now fairly typical; however, with **15-year** financing, the advantage would lie with straight-line depreciation and **IRBs**. (For details, see Tables 5 and 6.)

Information on the amount of tax-exempt pollution control financing that now takes place in post-1976, as opposed to pre-1976, plants is unavailable. If half of all firms were to choose tax-exempt financing over ACRS and half of all pollution control investment were in post-1976 **plants**, the anti-double dipping proposals would lead to a 25 percent reduction in pollution control bond sales. If one-third of all investment were in post-1976 plants, the reduction would be about 15 percent.

TABLE 5
PRESENT VALUE OF AFTER-TAX SAVINGS FROM ALTERNATIVE
METHODS OF FINANCING AND DEPRECIATING 15-YEAR
POLLUTION CONTROL EQUIPMENT^a IN PUBLIC UTILITIES
(In Thousands of Dollars)

Tax Provision by Loan Term	<u>Present Value of Tax Savings</u>		
	R = .10	R = .12	R = .14
<u>15-Year Loan</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC and IRB Financing	4,794	4,431	4,123
ACRS, ITC, and Conventional Financing	3,503	3,264	3,062
Straight-Line Depreciation, ITC and IRB Financing	3,515	3,187	2,930
Section 169 Straight-Line Depreciation, ITC and IRB Financing^b	5,259	4,962	4,695
<u>20-Year Loan</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC, and IRB Financing^b	4,948	4,544	4,206
ACRS, ITC and Conventional Financing	3,503	3,264	3,062
Straight-Line Depreciation, ITC and IRB Financing	3,669	3,300	3,013
Section 169 Straight-Line Depreciation, ITC and IRB Financing^b	5,413	5,075	4,778

- a. Assumes a useful life of between 5 and 15 years.
- b. Assumes a 5 percent investment tax credit. If Section 169 depreciation is combined with tax-exempt financing, only 50 percent of the normally allowed investment tax credit may be taken. Section 169 depreciation is available only for equipment in plants built before 1976.

TABLE 6
PRESENT VALUE OF AFTER-TAX SAVINGS FROM ALTERNATIVE
METHODS OF FINANCING AND DEPRECIATING
FIVE-YEAR POLLUTION CONTROL **EQUIPMENT**^a
(In Thousands of Dollars)

Tax Provision by Loan Term	<u>Present Value of Tax Savings</u>		
	R = .10	R = .12	R = .14
<u>10-Year Loan</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC and IRB Financing	5,613	5,377	5,158
ACRS, ITC, and Conventional Financing	4,570	4,409	4,257
Straight-Line Depreciation, ITC and IRB Financing	4,610	4,290	4,012
Section 169 Straight-Line Depreciation, ITC and IRB Financing^b	5,011	4,763	4,535
<u>15-Year Loan</u>			
Expensing	4,600	4,600	4,600
ACRS, ITC, and IRB Financing^b	5,861	5,576	5,318
ACRS, ITC and Conventional Financing	4,570	4,409	4,257
Straight-Line Depreciation, ITC and IRB Financing	4,858	4,489	4,172
Section 169 Straight-Line Depreciation, ITC and IRB Financing^b	5,259	4,962	4,695

- a. Assumes a **useful life** of between 5 and **15** years.
- b. Assumes a 5 percent investment tax credit. If Section 169 depreciation is combined with tax-exempt financing, only 50 percent of the normally allowed investment tax credit may be taken. Section **169** depreciation is available only for equipment in plants built before 1976.