What Happened to the Corporate Profit Tax?

by

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The radical reorientation of the federal budget during the 1980s provided generously for military expansion at the expense of pressing social needs. In the wake of such dramatic upheavals, the federal government will eventually be compelled to seek out new sources of revenue in order to compensate for the decade of neglect. But where will the resources be found to close the deficit, fully fund education, support the sick and impoverished, rebuild the infrastructure, and cleanup the environment? The Economic Policy Institute has placed a price tag of $65 billion on these necessities. As policy makers survey the revenue alternatives - military cuts, a more progressive income tax, a corporate take-over tax - one area they should not overlook is the corporate profit tax.

Most people were aware that the corporate profit tax provided relatively little revenue in support of federal expenditures during the 1980s. But perhaps less well-known is the fact that corporations have enjoyed a steady decrease in their tax share for the past three decades. In 1960 corporate profit taxes financed approximately 22% of all expenditures by the federal government compared to only 7% in 1986. By exploring the reasons for this decline it becomes possible to appreciate the magnitude of the

potential revenue that could be generated from corporate tax reform.

Section I: Declining Corporate Tax Share

The share of federal expenditures financed by corporate profit taxes are shown in Figure 1 for the period 1960 to 1986. The share rose slightly during economic expansions but plummeted during the recessions of 1970, 1975, 1980, and 1982. Although the conservative policies of the government in the 1980s succeeded in keeping corporate taxes relatively low, this was only part of a thirty year decline.

[See Figure 1 in the Appendix]

The reasons for this decline can be traced to changes in three factors: taxable profits, effective tax rates, and corporate tax credits.1 Each of these factors has its own unique history as determined by federal tax policies and overall economic conditions. Most of the data used to analyze these factors were obtained from the annual report, "Corporate Income Tax Returns", published by the Internal Revenue Service. This primary source was supplemented with additional data from the Economic Report of the President, The Survey of Current Business, and The National Income and

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1 This can be summarized by the definition that $T/G=(\Pi/G)\ t-(C/G)$ where T=taxes, G=government spending, Π=profits, t=effective tax rate, and C=credits.

Product Accounts of the United States, 1929-1982. The following discussion summarizes the results of the analysis which are described in more detail in the Appendix.

Effective Tax Rate

The effective tax rate, graphed in Figure 2, is essentially an average that incorporates the maximum statutory rate, the reduced tax rate for low income businesses, the capital gains rate, and other exceptions. It is found by dividing corporate income tax before credits by corporate income subject to tax. Most of the variation in this measure can be attributed to changes in the maximum statutory rate which was cut in 1965 (50% to 48%), 1979 (46%), 1987 (40%), and again in 1988 (34%).2 The only significant increases were temporary surcharges that raised the maximum to 52.8% in 1968 and 1969, and to 49.2% in 1970. But overall, the effective tax rate fell from 46.4% in 1960 to 40.2% in 1986. At least part of the explanation for the declining corporate tax share can be attributed to successive cuts in the effective tax rate.

[See Figure 2 in the Appendix]

Tax Credits

The amount of tax actually paid by corporations is found by multiplying corporate profits by the effective tax

2 The statutory rates were found in Ando et. al. (1985, p.55), IRS, "Corporation Income Tax Returns", and Rosenbaum (1990).

rate and then subtracting the value of corporate tax credits. The two largest credits throughout this period were for foreign taxes and investment.3 Taxes paid to a foreign country can be counted as a credit when those profits are repatriated back to the U.S. This provides an incentive for overseas investment since tax payments to states are counted merely as deductions rather than credits.4 There is an additional benefit from this law since income from foreign subsidiaries that is not repatriated is not subject to tax.

Since Jan. 1, 1962 another major credit has been offered for productive investment, ranging as high as 10% of a business' annual investment expenditures. With this credit, the U.S. government essentially paid for a fraction of the investments but allowed corporations to depreciate the entire amount.5 This benefits corporations because they have to raise less capital to finance investments, thus reducing their annual capital costs. In addition, they can depreciate assets in excess of their actual outlay, which overstates their depreciation, understates their profits, and reduces their overall tax burden. Many of the major tax changes have amended this credit including the Tax Reform

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3 The investment tax credit was temporarily suspended from Oct. 10, 1966 to March 9, 1967 and from April 19, 1969 to August 15, 1971. See Pechman (1977 p. 151).
4 See Anderson (1989).
5 The original 1962 law restricted businesses from depreciating the government financed component of assets but this was rescinded in the 1964 act. See Pechman (1977, 148).

Act of 1986 which abolished it. Other, lesser credits offered at various times include the U.S. possessions tax credit, nonconventional source fuel credit, research activities credit, and work incentive credit.

The relative importance of the tax credit can be evaluated by dividing the total corporate credit by government expenditures which is graphed in Figure 3. The most striking feature about this figure is the plateau recorded during the period from 1974 to 1981. The reason for the elevated levels in the 1970s can be almost entirely attributed to the "oil crisis" which generated record breaking domestic and foreign profits for U.S. oil companies. As a result, oil companies paid more profit taxes abroad matched by generous foreign tax credits at home. For example, in 1979, the time of the second "oil crisis", oil extracting and refining accounted for 68% of the foreign tax credit compared to only 35% in 1986. As oil prices and profits declined during the 1980s, so did the relative importance of tax credits although they never fell as low as the pre-oil crisis level. The Economic Recovery Tax Act of 1981 succeeded in maintaining credits at relatively high levels but could not match the huge credits generated by the oil crisis.

[See Figure 3 in the Appendix]

Relative Profits

The third factor that determines corporate taxes are profits. These are graphed in Figure 4, again relative to total federal government expenditures. The low points correspond to the recessions of 1970, 1975, and 1982. There is also a significant dropoff in the relative size of profits after 1979. The recessions of 1980 and 1982 brought profits down to record levels from which they apparently never fully recovered. Lower profits as measured by taxable corporate income, is one of the major reasons for the declining corporate tax share, especially after 1979. One could draw a hasty conclusion from this evidence that corporations are paying less because they are making less but this fails to recognize the important distinction between reported and actual profits. In order to explain this difference it is necessary to investigate the methods used to calculate corporate profits.

[See Figure 4 in the Appendix]

Section II: Measuring Profits

Profits are essentially calculated by adding up costs and subtracting them from total revenue. One of these costs is a deduction for capital consumed during the period of operation. While there is admittedly no easy way to accurately estimate the appropriate amount of depreciation, the IRS had essentially abandoned the effort by 1962.

Beginning in 1954, more liberal depreciation methods were adopted followed by arbitrary reductions in the estimated useful service lives of most capital goods in 1962. Depreciation methods were again "liberalized" in 1965 and 1971, followed by sweeping revisions contained in the Economic Recovery Tax Act of 1981. The combination of these changes allowed corporations to write off capital costs considerably faster than they were actually used up. Excessive deductions tend to reduce both reported profits and the corporate tax burden.

Most analysts would agree that depreciation rates are now currently completely divorced from actual capital consumption. By 1981 for example, automobiles could be entirely depreciated in only three years, with much of that occuring in the first year. Railroad tank cars are depreciated in ten years and nothing is expected to last more than fifteen.6 To trace the history of this process, the average depreciation rate is graphed in Figure 5 which shows the annual depreciation deduction per dollar of depreciable assets. This rate rose steadily from 5.2% in 1960 to over 9% by 1986. In other words, during this period the average lifetime of capital for tax purposes decreased from 19 to almost 11 years.

[See Figure 5 in the Appendix]

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6 See "Corporation Income Tax Return", IRS (1981, p. 5).

Net Interest

Another source of understatement in reported profits is the fact that net interest payments are not treated as a component of corporate profits in the same way as dividends. Corporations can choose to raise capital through equity or debt but in either case it is incumbent upon them to generate sufficient profits to cover the cost in the form of interest payments or dividends and capital gains. Dividends have the advantage of flexibility since they are paid at the discretion of the company but interest payments have a substantial tax advantage because the tax code defines them as a cost rather than a component of profits.7

The tax advantage of debt has apparently been more attractive to corporations than the flexibility of equity as revealed by the steady increase in the debt to equity ratio since 1950.8 Indicative of this fact is the growth of net interest payments relative to dividends since 1960 as presented in Figure 6. In fact, by 1970, net interest payments were relatively larger than dividends. By treating net interest as a cost, profits are significantly understated which of course reduces the corporate tax. Even more significant for the macroeconomy is that this tax break encourages firms to increase their debt relative to equity, thus reducing their ability to weather periods of slack demand.

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7 This reduces the overall tax burden by an amount equal to net interest multiplied by the effective tax rate.
8 See Pechman, (1977, p.361).

[See Figure 6 in the Appendix]

Adjusted Profits

It is possible to adjust corporate profits in a way that corrects for excessive depreciation and the omission of net interest. The depreciation adjustment is made under the assumption that the actual average depreciation rate remained at it's 1960 level, except for a small annual increase due to the relative growth of the service sector. Even the 1960 depreciation rate may overstate actual "economic" depreciation but at least each year will be comparable as long as capital wasn't wearing out any faster or slower during these three decades. The correction for net interest is made by simply adding it to reported profits. Both of these adjustments are described in more detail in the Appendix.

The effects of making these adjustments can be seen in Figure 7 which shows the ratio of profits, both reported and adjusted, to government revenue. Reported profits (represented by □'s) are consistently lower than those corrected for excessive depreciation and the omission of net interest (Δ's). But reported profits are also less representative of actual business performance than adjusted profits. And since there is no indication that adjusted profits have significantly declined (ignoring the peaks in

1966 and 1979), the corporate sector continues to be a viable source of potential tax revenue.

[See Figure 7 in the Appendix]

The conventions used by the IRS for calculating taxable profits are simply not very representative of actual profitability and in fact were not intended to be, at least since 1962. Depreciation deductions were made more generous in order to cut the corporate tax burden, not to provide better estimates of profits. And for largely the same reason, net interest was excluded from taxable income. The declining corporate profit rate, as generally reported, can largely be explained as a consequence of these deficiencies in the federal tax code.

Section III: Policy Alternatives

With this simple model, it is possible to explore what would have happened to corporate tax shares if different policies had been followed since 1960. The results of this recalculation are contrasted to the actual tax share (represented by □'s) in Figure 8. The first case (represented by +'s) examines the effect of holding the effective tax rate constant at its 1960 level (46%) and abolishing all corporate tax credits. These policies would

have raised the corporate tax share, especially during the 1970s, but would not have prevented an overall decline.

The next line (Δ's) shows the effect of these two policies in combination with the elimination of excessive depreciation rates. And finally, the effect of all of these policies in conjunction with taxing net interest is illustrated by the last line (x's). This final figure shows that if all of these policies had been followed, corporate taxes would have fallen to only 20% of government expenditures by 1986 as compared to the actual figure of 7%.

[See Figure 8 in the Appendix]

The benefits of these policies are not limited to the additional revenue that would be generated. The foreign tax credit currently creates a strong incentive for U.S. firms to invest abroad at the expense of U.S. jobs. By eliminating this credit, some firms may be more inclined to invest in the U.S., generating more domestic jobs and income. Also, the current tax code creates a bias in favor of debt over equity by allowing a deduction for net interest. As a consequence, many corporations have increased the relative size of their debt which reduces their financial stability especially during recessions. Including net interest in the tax base would eliminate this bias.

Obviously, many important details have to be addressed before these policies can be implemented through corporate tax reform. Some policies would have to be phased in gradually while others could be implemented rapidly. The U.S. would also find it advantageous to coordinate its tax policy with other countries in order to avoid an international bidding war to determine corporate national identities. Another consideration is that the current period may be an inappropriate time to raise taxes if we are in fact near the peak of the business cycle. In order to avoid any sudden decrease in aggregate demand, corporate tax reform may have to be postponed until the end of the next recession. Unfortunately this also means that it's too late to eliminate the debt bias which has already impaired the resiliency of the corporate sector. In summary, each of these concerns should be given serious consideration but none of them present insurmountable obstacles if the corporate profit tax is to be restored.

Appendix: Data and Analysis

One of the objectives of this paper is to show that the percentage of federal government expenditures financed by the corporate profit tax declined from 1960 to 1986. Therefore the appropriate variable is the ratio of federal corporate profit taxes to federal government expenditures. Most of the data, including corporate income subject to tax (defined as profits, (Π), total income tax after credits (T), total tax credits (C), foreign tax credit (C_f), depreciable assets (A), and depreciation deductions (D), were obtained from the annual publication of the Internal Revenue Service entitled, "Corporation Income Tax Returns". Net interest payments (I_n) for recent years were obtained from the Survey of Current Business and for later years, from The National Income and Product Accounts of the United States, 1929-1982: Statistical Tables. Federal government expenditures (G), nominal GNP, and dividends (V) are taken from the Economic Report to the President.

All of the values in Figures 1 through 6 were derived from these sources and defined as follows;

Figure 1: Corporate Tax Share = T/G
Figure 2: Effective Tax Rate = (T+C)/Π
Figure 3: Ratio of Credits to Gov. Expenditures = C/G
Figure 4: Ratio of Profits to Gov. Expenditures = Π/G
Figure 5: Average Depreciation Rate = D/A
Figure 6: Ratio of Net Interest to Dividends = I_n/V

An adjusted profit rate is discussed in section II which eliminates excessive depreciation caused by arbitrary changes in the tax code. One way to do this is to replace the annual reported depreciation deduction by an adjusted value equal to 5.18% of depreciable assets (its 1960 level). This correction would maintain a constant average depreciation rate, thus eliminating any increase due to tax reform. But it would also eliminate any legitimate increase caused by the structural shift in the economy from goods producing industries to services.

In 1960, for example, average depreciation rates in wholesale and retail trade (8.5%) and services (10.2%) were distinctly higher than in transportation (3.4%) and manufacturing (5.8%). An increase in the relative size of the first two sectors would cause the average rate for the economy to rise. Separate estimates of structural change show that it accounts for .25 of the total 4.04 percentage point increase during this period.9 Therefore it is assumed that the actual depreciation rate increased linearly from 5.18% in 1960 to 5.43% in 1986 which allows for a small increase (.25) due to structural change. These new

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9 Specifically, the change due to structural factors is equal to $\Sigma\, d_i \Delta S_i$ which is summed over seven major sectors (i.e. mining, construction...). In this expression d_i equals the average depreciation rate between 1960 and 1986 and ΔS_i is the change in asset shares for each i industry. The reason structural change is not particularly important is because services and wholesale and retail trade continue to account for a relatively small fraction of the economy's total assets.

depreciation rates were then used to correct profits for excessive depreciation.

The final adjustment is made by adding net interest to profits that have already been corrected for excessive depreciation. A decision was made to use net interest rather than gross interest, and to restrict the interest data to nonfinancial corporate businesses. The purpose of including interest is to treat capital raised by debt in an analogous manner as capital raised by equity and since corporations are both lenders and borrowers, net interest is more likely to represent their actual dependence on debt. While nonfinancial corporations utilize debt to produce goods or provide services, financial corporations use debt to finance lending. Therefore, debt in financial corporations is not a true alternative for equity and is excluded from the profit adjustment.

Inflation

Inflation can affect profits in several different ways. Since capital goods are depreciated according to their historical costs, capital consumption allowances understate actual costs during periods of inflation, causing profits to be overstated. Furthermore, inflation has a similar effect on inventories under the FIFO method (first-in-last-out) which simply undervalues materials consumed out of inventories during inflation. In this situation, most firms find it advantageous to utilize LIFO (last-in-first-out)

which values inventory items at their higher replacement cost. By using LIFO, firms avoid overstating their profits during inflationary periods which reduces their tax burden. But for firms which continue to use FIFO during inflation, profits can be overstated.10

But even LIFO is not without its faults. LIFO does not allow for windfall gains or losses that can result from real changes in the prices of inventory items. For example, when crude oil prices increased at a rate over and above the general inflation rate, oil companies with large inventories of crude oil experienced a windfall gain. But under the LIFO method, none of these gains showed up in reported profits. It is not surprising that many oil companies switched to LIFO during the 1970s in order to hide these windfall gains and avoid additional profit taxes.11 In summary, LIFO can cause profits to be understated when real input prices increase and overstated when they decrease.

Inflation can also create gains that are not included in reported profits. This pertains to corporations that are net borrowers because inflation automatically reduces the size of their liabilities, creating windfall gains. This benefit from inflation, as well as the penalties for depreciation and FIFO inventories, affect the true

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10 Ken Petrick from the Bureau of Economic Analysis at the Department of Commerce suggested that some companies did not switch to LIFO because they were concerned about reporting lower profits. It may be that low profit firms actually prefer to overstate their profits during inflation, despite higher tax liabilities.

11 See Ricks (1982)

profitability of a business but are not accounted for in profits reported to the IRS. Efforts by other researchers to make these adjustments suggest that the errors which tend to overstate profits are on average, offset by those which understate them.12 Therefore, lacking any better estimates of these effects, no attempt was made to correct profits for inflation.

Policy Alternatives

The estimated tax shares reported in Figure 8 for various policy alternatives were generated from the basic model,

$$T/G = (\Pi/G)\ t - (C/G)$$

In the first alternative, the historical tax rate (t) is replaced with its value in 1960 (46%) and all tax credits are converted to deductions. This new tax share is equal to $.46(\Pi-C)/G$. In the next alternative, the first two changes are retained, but historical profits are replaced with profits adjusted for excessive depreciation. And in the final case, profits are adjusted for both excessive depreciation and net interest (Π'). This final tax share represents the cumulative effect of all the policies, and is given by, $.46(\Pi' + I_n - C)/G$.

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12 See Pechman (1977, p 167).

National Income Product Accounts

The Department of Commerce calculates an alternative profit measure for the national income product accounts (NIPA) which is reported in the Survey of Current Business and the Economic Report to the President. It is interesting to compare adjusted IRS profits in this study to the NIPA measure which is widely used as an indicator of corporate profitability. First, excessive depreciation charges are eliminated in NIPA which employs more consistent service lives and straight-line depreciation. This correction increased corporate profits by $127 billion in 1986 and $134 billion in 1985. Although the NIPA correction is done at a very disaggregated level, the result is similar to the aggregate correction made in this paper which increased profits by $128 billion in 1986 and $131 billion in 1985.

In other respects there are significant differences between NIPA and adjusted IRS profits. Net interest payments are not included in NIPA which is a major source of understatement. Furthermore, NIPA profits are adjusted for inflationary effects on inventories and depreciation but not liabilities. This one-sided correction reduces profits during inflationary times because it eliminates the biases that tend to overstate profits without addressing the biases acting in the opposite direction. This ensures that NIPA profits will fall below actual profits. In contrast, the adjusted IRS profits in this paper are not corrected for inflation under the assumption that the negative effects are

approximately offset by the positive ones. In addition, NIPA uses the LIFO method to correct inventories for inflation, which as stated earlier, misrepresents the effect of real price changes for inputs.

Two additional sources of understatement can be found in both series. Neither profit measure corrects for the excessive deductions taken for assets financed through the investment tax credit. This source of profit understatement should have grown since 1964 as the percentage of assets financed by the government increased. In addition, higher interest rates, caused by inflation or government policies, tend to depress bond prices which can reduce the value of debt for those corporations that are net borrowers. This windfall gain is not reflected in reported profits but could have been significant following the sharp increase in interest rates after 1979.

In Figure 9, NIPA profits without net interest (□'s) and adjusted to include net interest (Δ's) are compared to the adjusted IRS statistics calculated in this paper (+'s). Each of these series corresponds to after-tax profits (federal, state, local, and foreign taxes) as a percentage of GNP. As can be seen in this graph, the downward trend in NIPA profits is essentially eliminated when net interest is included. It is also evident that adjusted NIPA profit rates (including net interest) are lower than the IRS adjusted rates after 1970, largely because of the one-sided adjustments for inflation. If, as assumed in this paper,

the overall effect of inflation on corporations is neutral, then the adjusted IRS rates should be more representative of corporate profitability.

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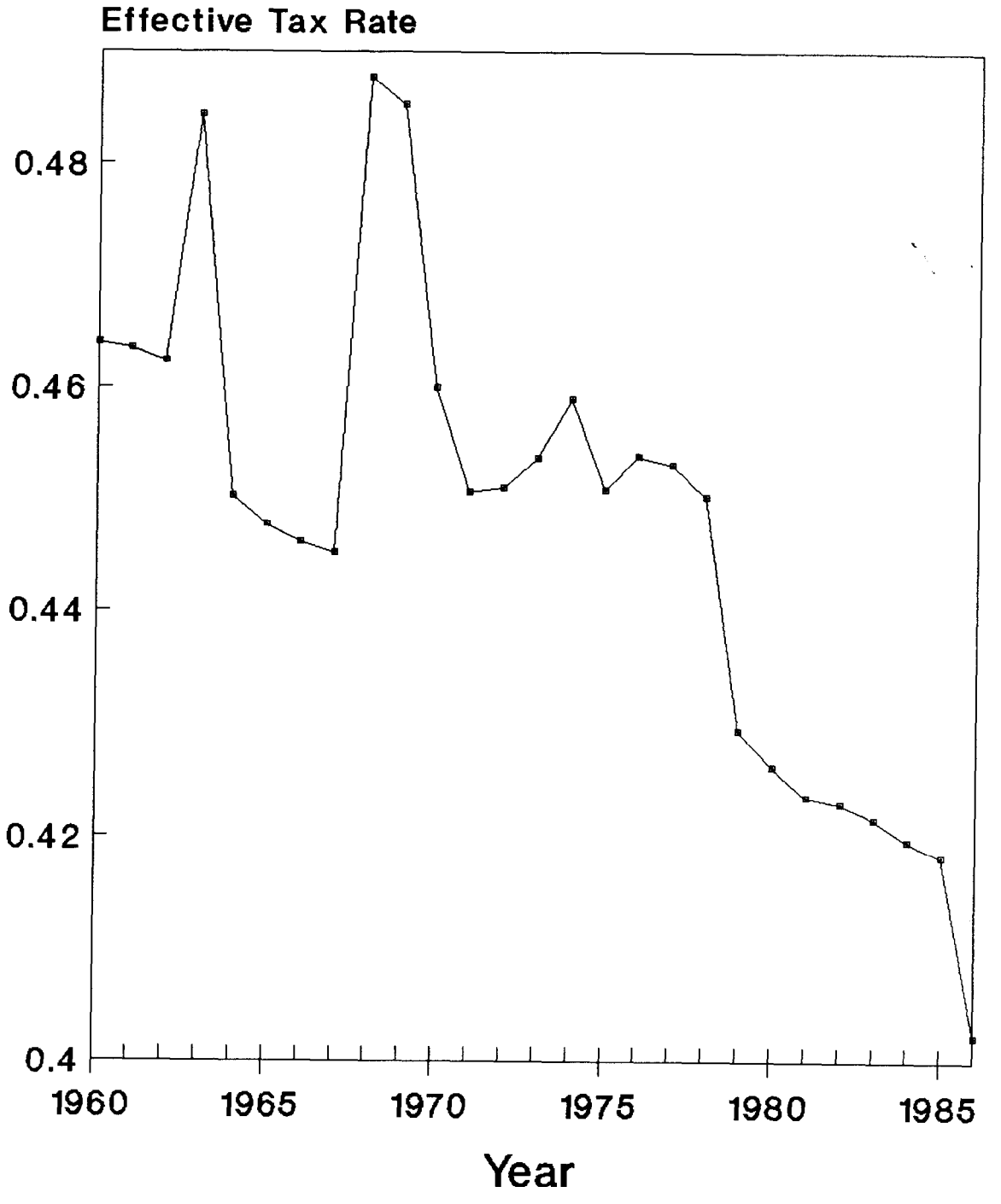
Figure 1

Corporate Tax Share:
Ratio of Corporate Taxes to Government Expenditures

Source: Internal Revenue Service (IRS) and Economic Report to the President (ERP)

Figure 2

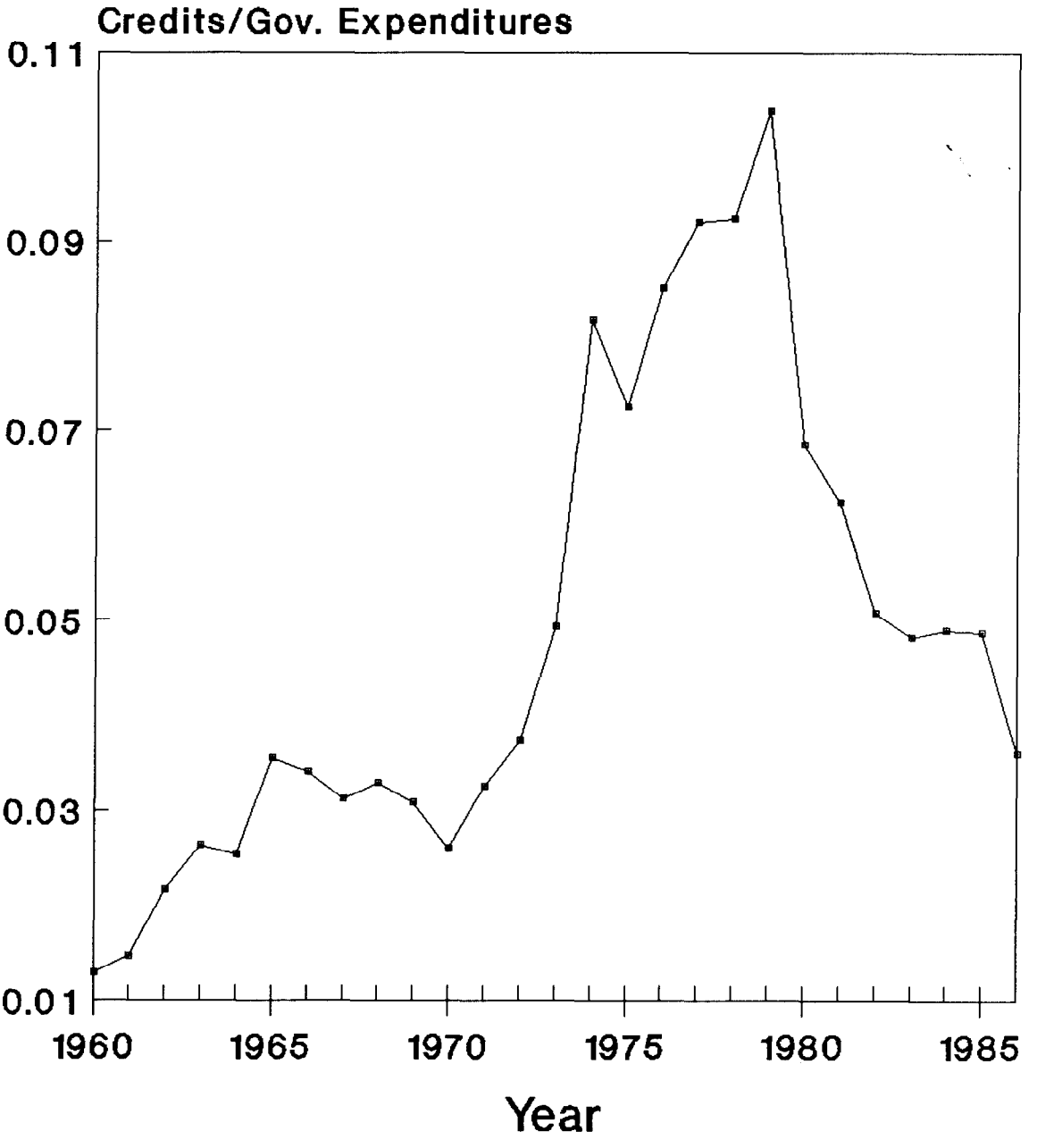
Effective Corporate Tax Rate



Source: IRS

Figure 3

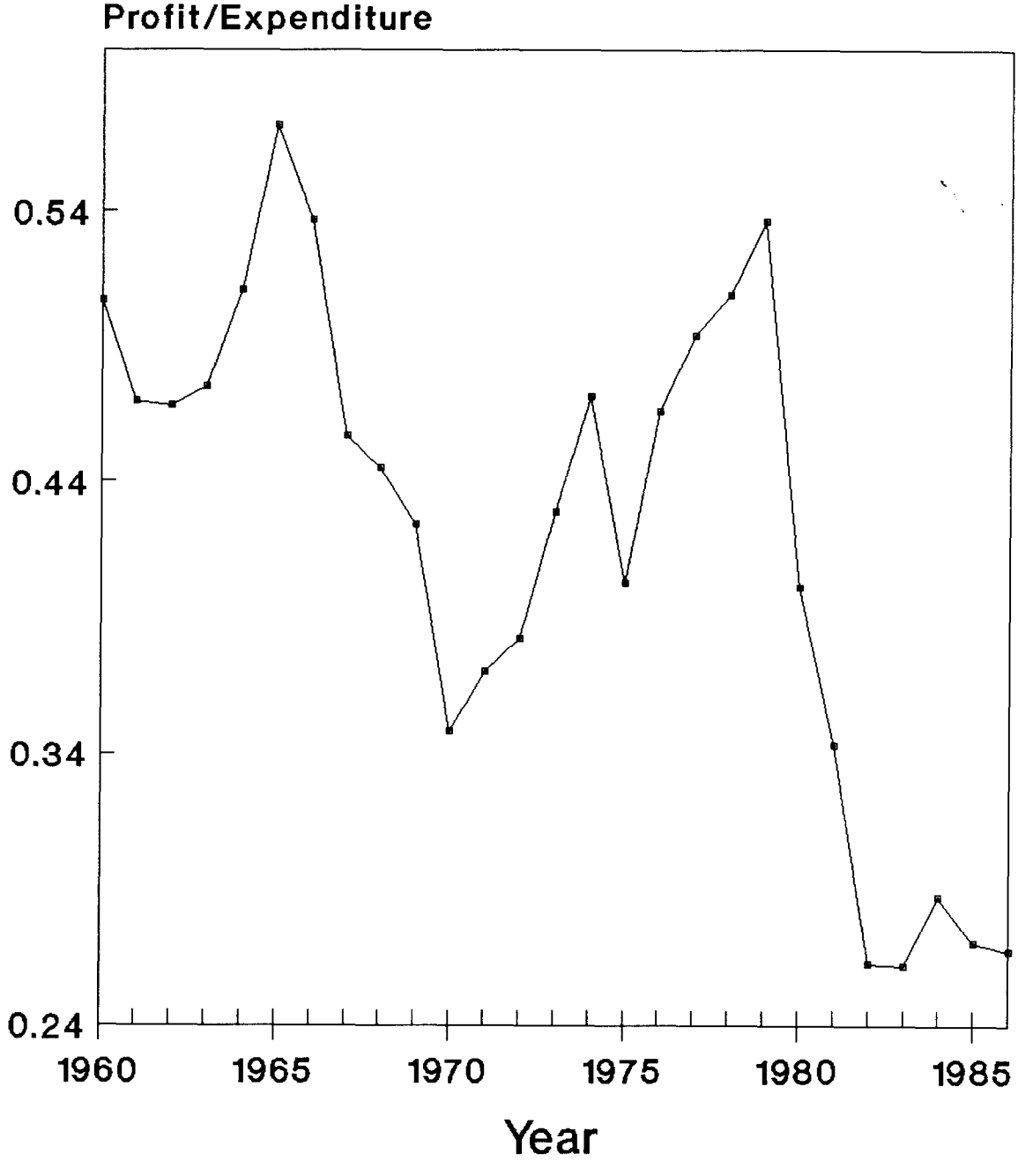
Corporate Tax Credits:
Ratio of Total Corporate Credits to Government Expenditures



Sources: IRS and ERP

Figure 4

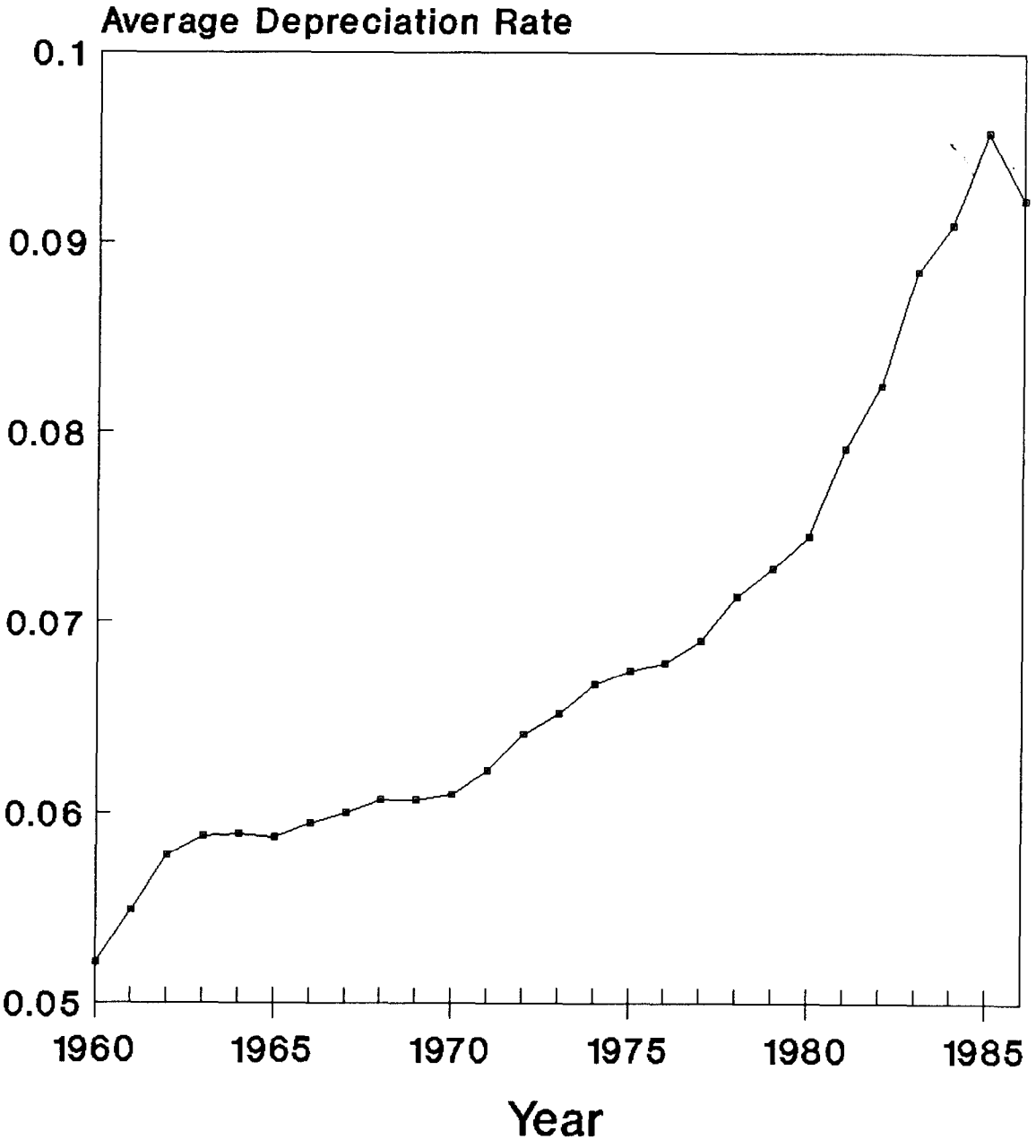
Ratio of Reported Profits to Government Expenditures



Sources: IRS and ERP

Figure 5

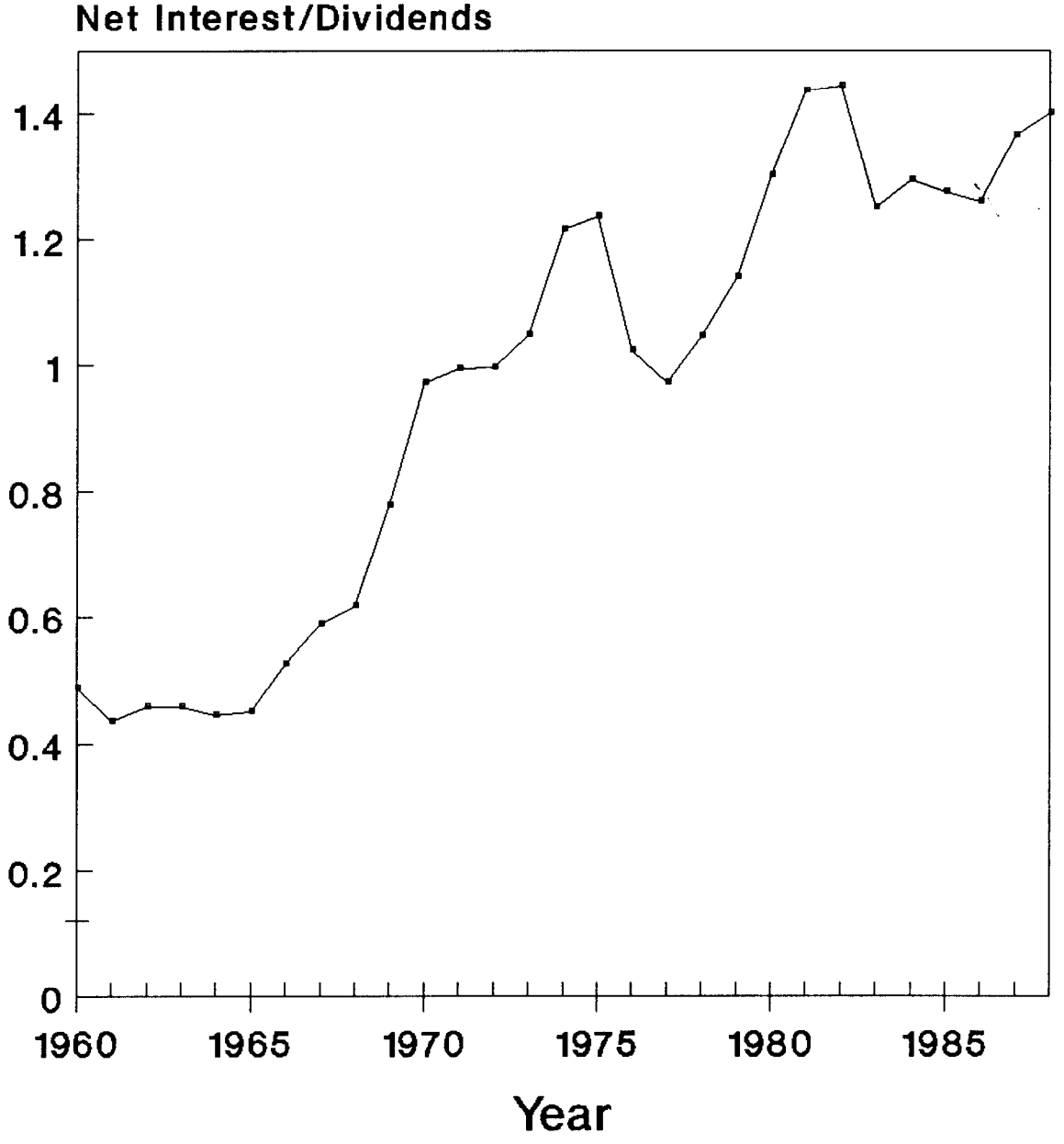
Average Depreciation Rate:
Depreciation Deductions divided by Depreciable Assets



Source: IRS

Figure 6

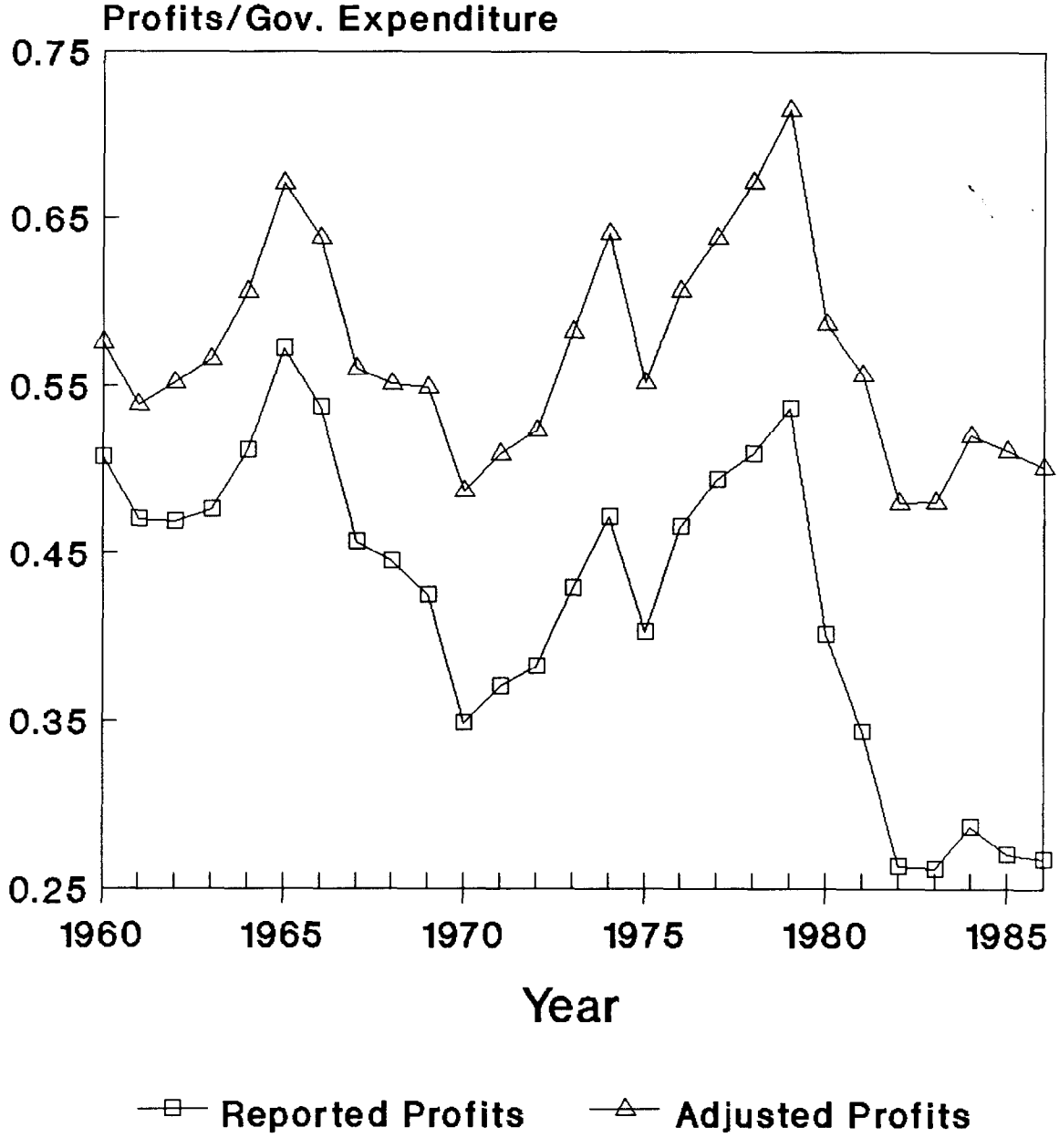
Ratio of Net Interest to Dividends for U.S. Corporations



Sources: ERP, Survey of Current Business, and NIPA. See text for definitions of terms.

Figure 7

Ratio of Reported and Adjusted Profi to Government Expenditures

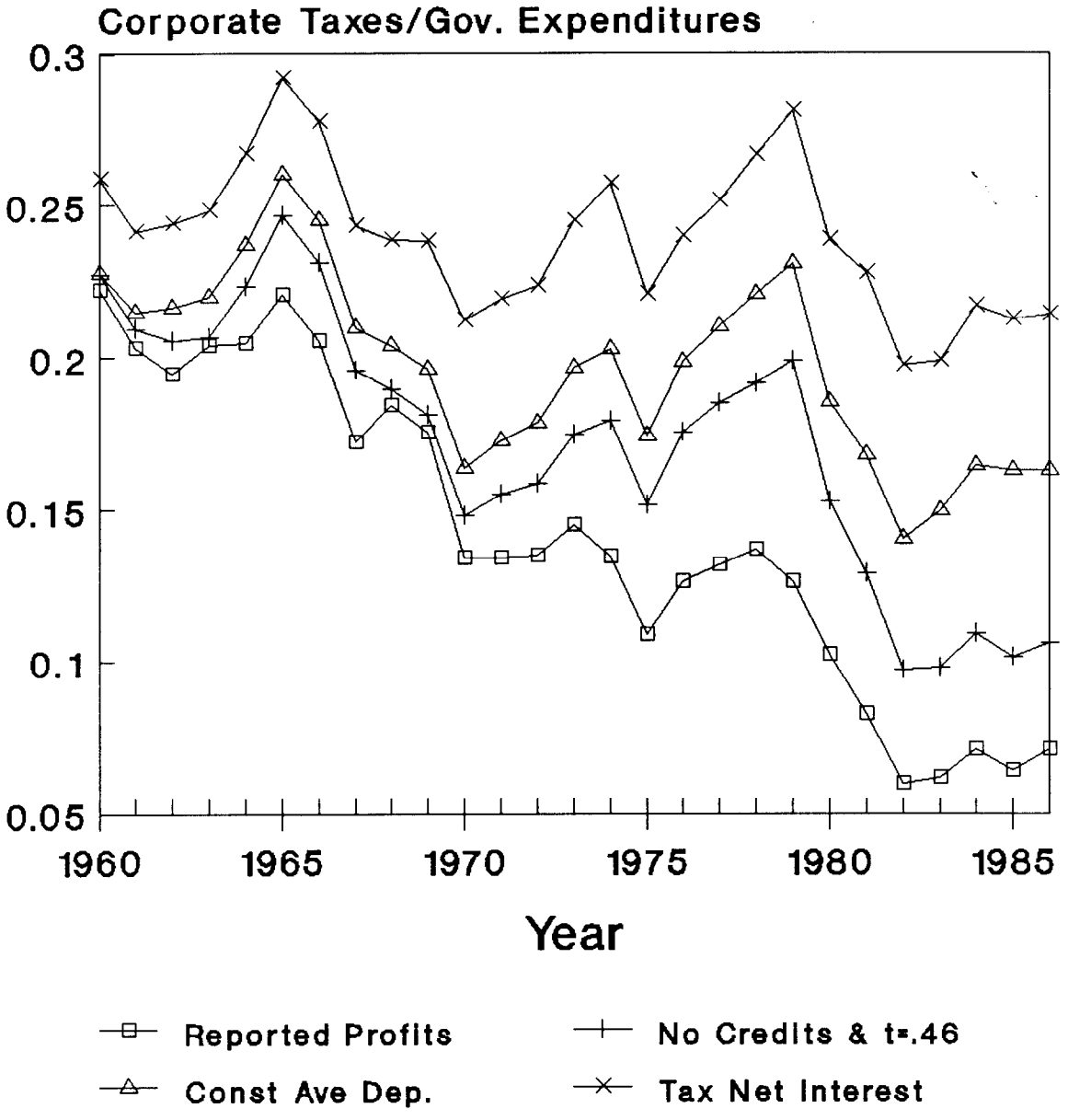


Sources: IRS and ERP. Calculations described in Appendix.

Figure 8

Ratio of Taxes to Gov. Expenditures:

Actual and Estimated Taxes based on Various Policy Alternatives



Sources: IRS and ERP. Calculations described in Appendix.

Figure 9

After Tax Profit Rates

After Tax Corporate Profits/GNP