

Leveraged Buyouts: Implications for U.S. Treasury Tax Receipts

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The net tax receipts to the U.S. Treasury due to leveraged buyout activity are a complex outcome of many factors. This paper examines the net effect to the U.S. Treasury of leveraged buyout activity by means of simulating all changes in taxes caused by a leveraged buyout for four different tax treatments. The general conclusion is there are many situations where the U.S. Treasury is likely to gain from leveraged buyout activity and many where the Treasury may lose. In general, the results of the simulations employed in this study show substantial increases in Treasury tax receipts are likely as a result of the 1986 Tax Reform Act.

INTRODUCTION

Popular sentiment in the U.S. is that the taxpayer heavily subsidizes leveraged buyouts (LBOs) (Newport, 1989; Saunders, 1988) because massive debt creates new interest tax shields that reduce tax receipts to the U.S. Treasury. Debt and U.S. Treasury receipts do bear a simple negative linear relationship to each other, but the actual relationship is more complex. For example, the interest payments on new leveraged buyout debt partially replace dividend payments, and the two income streams typically are paid to different recipients with radically different tax characteristics. When other changes due to the leveraged buyout (such as taxes paid by creditors upon interest earned from buyout debt or capital gains taxes paid by the target firm's outgoing shareholders) are considered—and not examined independently of each other—the net tax receipts to the U.S. Treasury are an interactive outcome of many factors. This paper examines the net effect to the U.S. Treasury of leveraged buyout activity by simulating the changes in taxed flows caused by a leveraged buyout. Four different tax treatments¹ by which a leveraged buyout can be created are simulated to study the net effect of the Tax Reform Act of 1986 (TRA '86).

LITERATURE REVIEW

The past decade has seen enormous activity in corporate acquisitions. LBOs have increased from a total value of \$3.09 billion in 1981 (*Mergers and Acquisitions*, 1987) to \$61.58 billion in 1989 (*Mergers and Acquisitions*, 1990). Tax benefits to both tax-free and taxable acquisitions have been linked to target shareholder gains and acquiring firm

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¹ An acquiring firm's elective choice on how it will be taxed based upon effective tax rates and other considerations is called a *tax treatment*. An LBO can be structured several different ways, each one leading to a different tax treatment.

gains in Hayn (1989) and Kaplan (1989). Although many motivations for acquisitions have been offered in the literature (Ambrose and Winters, 1992; Baker and Wruck, 1989; Jarrell, Brickley, and Netter, 1988; Jensen, 1988; Kaplan, 1989; Liebeskind, Wiersema, and Hansen, 1992; Opler, 1992; and Scholes and Wolfson, 1990), tax benefits have been targeted by the public press in Saunders (1988) and elsewhere (Blair, 1989/90; Hayn, 1989; Jarrell, Brickley, and Netter, 1988; Jensen, 1988; Kaplan, 1989; Leland, 1989; Newbould, Chatfield, and Anderson, 1992; Newport, 1989; and Osterberg, 1989) as a significant motivation for corporate acquisitions, especially LBOs. Many references to this topic suggest the U.S. Treasury was subsidizing LBO activity and that congressional belief in this led to reductions in tax benefits to LBOs through TRA '86 and the 1987 Revenue Act. A common argument is that LBOs allow the use of tax shields not available in the absence of a buyout; thus, the U.S. Treasury must be losing revenue. This need not be the case, especially if the acquisition produces taxable wealth.

A Jensen, Kaplan, and Stiglin (1989) study based upon pre-1986 tax law is the only recently published study that estimates the effects of LBOs on U.S. Treasury tax receipts. They conclude that the U.S. Treasury is increasing its present value of tax receipts due to LBO activity. This study advances their work in several ways:

- It incorporates the complex changes in LBO tax treatment brought by TRA '86.²
- Debt repayment is based upon each LBO's projected ability to pay and not an arbitrary rule applied identically to all LBOs.
- The ability to use tax shields each year is forecast, and excess shields are rolled forward until they can be used.
- The tax benefits from stepping-up the basis of assets is taken into account.
- The tax implications of advisor fees are considered.
- The tax implications of employee dismissals are considered.

Four possible LBO tax treatments are used.

TAX BACKGROUND

Before TRA '86, the general utilities (1935) doctrine allowed no gain to be recognized by an acquiring corporation when it distributed assets in a liquidation under Section 336 of the Internal Revenue Code. By suitable restructuring of the acquisition under Section 338 (and despite nonrecognition of a gain), the acquiring corporation could step up the basis of the acquired assets, thus securing increased depreciation and reducing future taxes.

TRA '86 repealed the general utilities doctrine. Section 336 now requires that a gain be recognized by a liquidating corporation. In order to obtain a step-up in basis through Section 338 election, capital gains taxes are levied at a target level. Because TRA '86 also repealed the corporate capital gains tax, the applicable tax rate rose from 28 percent on an

² The Jensen, Kaplan, and Stiglin (1989) paper uses tax rates effective under TRA '86, but does not discuss other TRA '86 changes in LBO tax treatment.

actual sale to 34 percent on a deemed (a step-up of the value of assets is deemed a sale) or actual sale. After TRA '86,³ in the simplest example with a stock sale and a 338 election, the tax payable would be 62 percent on the increment in value (34 percent on corporate gain plus 28 percent on stockholders as they are cashed out by the LBO). With other straightforward structures, such as a stock sale with no 338 election, tax would be 28 percent (payable by the stockholders—but the corporation could get no step-up in basis). With an asset acquisition followed by complete liquidation (under Section 337), the tax would be 52.48 percent (34 percent at the corporate level plus 28 percent on the net proceeds at the stockholder level).

Another adverse change to LBO planners in TRA '86 was the new procedure for allocating the purchase price to the basis of acquired assets. A so-called second tier allocation process previously was allowed that could result in individual depreciable assets being stepped up to more than their fair market value, thereby reducing the amount of the total purchase price allocated to undepreciable goodwill. New regulations written pursuant to TRA '86 require allocation into four classes of assets by prescribed priority, where goodwill is the fourth priority—thus, goodwill receives the whole of the modified aggregate deemed sale price less only the fair market value of assets in Classes I through III. This study allocates the gain using a U.S. Treasury-acceptable procedure following that of Bitker and Eustice (1987) and Bush and Mullaney (1986) with the added simplification (because we do not know the fair market value of the individual asset classes) that the book values of Classes I and II (primarily cash and marketable securities) are equal to their fair market values, leaving the unallocated part of the adjusted sales price to be distributed proportionately to book values for assets in Classes III and IV. Scholes and Wolfson (1990) more completely explain the tax law changes for mergers and acquisitions resulting from TRA '86.

THE LEVERAGED BUYOUTS AND TAX EFFECTS

The LBOs in this study are selected from a list of the largest 100 acquisitions of 1989. Thirty of the 100 are LBOs; 12 are excluded because the targets are divisions rather than listed corporations. Five of the remaining 18 corporate buyouts are eliminated due to lack of data. This leaves 13 LBOs in this study which is sufficient to encompass the variety of differences that characterize LBOs.

There are many tax impacts created by an LBO—some positive and some negative from the perspective of the U.S. Treasury. The impacts include:

- The LBO's increased debt will carry increased interest payments deductible against pretax corporate income, other things equal, thereby reducing U.S. Treasury receipts;
- The LBO's decreased ability to pay dividends (due to the increased interest payments) will reduce personal income taxes paid on dividends, other things equal, thereby reducing U.S. Treasury receipts;

³ TRA '86 reduced the maximum corporate income tax rate from 46 percent to 34 percent, thus reducing the benefits to tax shields.

- The LBO's increased debt will increase personal income tax paid on interest income received by creditors, other things equal, thereby increasing U.S. Treasury receipts;
- If banks replace private investors as holders of (increased) LBO debt, there will be an increase in pass-through income or a reduction in the effective tax rate, other things equal, thereby reducing U.S. Treasury receipts;
- If the LBO steps up the basis of its assets, this will increase depreciation charged against pretax corporate income, other things equal, thereby reducing U.S. Treasury receipts;
- If the LBO steps up the basis of its assets, this will incur taxable capital gains, other things equal, thereby increasing U.S. Treasury receipts;
- If the LBO is tax-structured such that there is a recapture of (prior) accelerated depreciation, other things equal, U.S. Treasury receipts will increase;
- If the LBO sells assets or divisions or if the LBO firm itself subsequently is sold, this will incur taxable capital gains, other things equal, and thereby increase U.S. Treasury receipts;
- If there is *boot* (a taxable capital gain on the price paid to exiting shareholders of the acquired firm), other things equal, U.S. Treasury receipts will increase;
- If the LBO reduces payroll, incomes subject to personal tax will fall, other things equal, and thereby will reduce U.S. Treasury receipts;
- LBOs can generate substantial fees to advisors and creditors that will be taxable personal or corporate income, other things equal, that will increase U.S. Treasury receipts;⁴
- If any of the nontax theories explaining the motivation for acquisitions is correct, then it is possible that operating income will rise, increasing income subject to corporation tax, other things equal, and increasing U.S. Treasury receipts.

U.S. Treasury revenue is the net outcome of these twelve factors.

It initially is assumed the future capital gain from the sale of divisions or the whole LBO (the eighth item on the list above) is zero and there is no buyout-induced increase in operating income (the last item on the above list). Thus, the initial calculation of the LBO's impact on U.S. Treasury receipts is performed by estimating the remaining items on the list. Given the borrowing powers of the U.S. Treasury, it is reasonable to summarize the multiyear tax effects as a net present value (NPV) to the U.S. Treasury. The NPV from an LBO is the sum of the present values of each tax increase minus the sum of the present values of each tax decrease. The NPV is calculated at the time of the bid. If the NPV is positive, an LBO is expected to increase tax receipts even if no taxes are collected from a future capital gain or on an LBO-induced increase in operating income. A negative NPV implies an LBO decreases tax receipts unless additional taxes are collected on future capital gains or on increases in operating income induced by the LBO.

⁴ Campeau Corporation paid as much as \$429 million in fees in their acquisition of Federated Department Stores. This is 6.6 percent of the roughly \$6,500 million paid for Federated's equity.

If the NPV to the U.S. Treasury from an LBO is negative, a future capital gain may generate sufficient taxes to increase the NPV to zero or better. We estimate the future capital gain required within a specified time period to bring NPV to zero in these cases. A measure of this required gain to bring NPV to zero, called the *Treasury ratio*, is calculated. We use two possible time horizons, five years and eight years. First, the capital gain required for a zero NPV is added to the final bid value of the LBO. This value then is divided by the prebid market value of the acquired firm. The prebid market value is measured two months before the initial takeover announcement. The Treasury ratio is this multiple of increased market value to initial value. Thus, the Treasury ratio measures the increase in firm market value required for U.S. Treasury tax receipts to break even for a given LBO over a specified time horizon. As an example, a Treasury ratio of two with an eight year horizon implies a given LBO would need to be sold in eight years for twice its prebid value in order for the U.S. Treasury to not lose tax receipts on a present value basis. Recall that the Treasury ratio assumes no increase in operating income induced by the LBO and that the Treasury ratio need not be calculated for LBOs with a positive NPV, as the present value of U.S. Treasury tax receipts is expected to increase without additional capital gains taxes.

The NPV and Treasury ratio are calculated for each of the following four possible tax treatments:

- **Pre-TRA '86 with a Section 338 election (no capital gains tax).** Under this tax treatment there is an increase in the depreciation and interest tax shields. There is no capital gains tax levied on the target firm. Due to the higher tax rate, the ordinary gain also will be taxed at the 46 percent rather than 34 percent rate;
- **TRA '86 with no step-up in the basis of assets (no Section 338 election).** There is no increased depreciation tax shield, but also no capital gains tax is levied on the target firm. There may be a small ordinary gain due to depreciation recapture. The tax incentive is the additional interest tax shield;
- **TRA '86 with a step-up in the basis of assets (Section 338 election).** Under this tax structure there is an increase in the depreciation tax shield as well as the interest tax shield, but there will be a large ordinary gain and a capital gain assessed on the target firm;
- **TRA '86 with a Section 338 election and the preservation of general utilities treatment.** Under this tax treatment there is an increase in the depreciation and interest tax shields, but it assumes the acquisition can be structured in such a way as to avoid the capital gains tax levied on the target firm. As with the second structure above, there may be a small ordinary gain.

It is reported in Kaplan (1989) and Lynch, Baldasaro, and Siegel (1988) that firms will not choose the third structure because of the substantial capital gains taxes paid under this option. The fourth structure is considered because there are persistent hints in the literature (Brode, 1987; Kliegman, 1987; Limberg, 1986; and Lynch, and Baldasaro, 1988) that by careful restructuring, the resurrection of general utilities is possible. The first structure is considered as a base case and to allow comparison with previous studies.

The calculations of the NPV and the Treasury ratio are the outcome of many factors. One is the estimate of annual changes in corporate income taxes due to an LBO. This requires a forecast of each firm's earnings before taxes (EBT). Earnings before taxes are estimated over a specified horizon (either five or eight years) using each firm's earnings before taxes just prior to the acquisition and *Value Line Investment Survey's* estimate of future earnings growth for that particular firm. Interest expense assuming no buyout is estimated by assuming no change in current financial leverage. This allows the calculation of corporate income taxes without the LBO. Next, the calculations are repeated with the LBO in place. This requires a new estimate of interest expense and depreciation. The interest expense estimate assumes debt from the LBO (which is known for each LBO) is paid as quickly as possible given the estimates of earnings after taxes.⁵ Annual changes in corporate income taxes then are calculated by the difference between the two estimates for corporate income taxes paid for each year over the specified time horizon. These forecasts are generated annually to a five year horizon and generated a second time to an eight year horizon. The present value of the tax reductions is calculated using the Federal Reserve's composite ten year U.S. Treasury security rate for 1989. These dual forecasts (one five year and one eight year) are repeated four times, once for each tax treatment.

Another key tax flow is the income tax paid by the recipients of the interest payments on the LBO debt. These are predominantly major banks (*Mergers and Acquisitions*, 1990). The tax effects of these interest receipts are complicated by the ratio of operating revenue to operating expense of these banks; with a ratio of around 1.10 to 1.15—a typical figure—the effective tax rate on the interest would be around 20 percent. Because of the high impact of the interest receipts on the tax flow and the complex tax treatment of it, we show later the impact of varying the effective rate.

The capital gains tax paid by the target firm's outgoing shareholders is another major impact on the U.S. Treasury's net position. It is affected by the bid price, the form of payment, and the basis price at which the stockholders originally purchased the shares. The first two items are known, but the last has to be estimated. The average of the high and low price over each of the three twelve month periods ending two months prior to the first announcement of the takeover attempt has been used as the basis price. In effect it assumes equal numbers of shares were bought in each of the three years and in each year the average price paid is the average of the high and low price for that period. The other factors (and where necessary the assumptions made) are listed in Appendix B.

CHANGES IN U.S. TREASURY TAX RECEIPTS

Table 1 summarizes the initial state of the simulations. The first two columns show the net present value to the U.S. Treasury for the average of the 13 LBOs. For example, with a five year horizon with the 13 LBOs using a TRA '86 tax treatment without a 338 election (no step-up), the U.S. Treasury has a positive NPV of \$28.9 million on average for each LBO, indicating a gain in the present value of its tax receipts from buyout-induced changes. These NPVs exclude any capital gains taxes on the future sale of the

⁵ This is consistent with observed behavior. The rationalization for reducing debt to normal levels is to prepare the company for an initial public offering or other sale where normal criteria for value will be used by investment bankers and the investing public.

LBOs or its divisions and any increase in income due to the new LBO management. If an eight year horizon is used (all other factors unchanged), the U.S. Treasury has a negative change of \$54.5 million in the present value of its tax receipts with this same tax treatment.

Table 1—NPVs and Treasury Ratios of LBO-Induced Tax Receipts (Average of 13 LBOs)

Tax Treatment	NPV Per LBO (\$ million)		Treasury Ratio	
	5 Year	8 Year	5 Year	8 Year
Pre-TRA '86	-\$240.6	-\$470.6	2.35	2.97
TRA '86 (no step-up)	\$28.9	-\$54.5	*	1.86
TRA '86 (with step-up)	\$293.5	\$168.9	*	*
TRA '86 (general utilities)	-\$85.3	-\$210.0	1.94	2.27

*Treasury ratio is not applicable because the NPV is positive without capital gains taxes levied on the eventual sale of the LBO or its divisions

The main conclusion from Table 1 is that TRA '86 had a dramatic effect on U.S. Treasury tax receipts from LBOs. The first row of the exhibit shows that under pre-TRA '86 tax treatment the U.S. Treasury had huge negative NPVs with either time horizon. At a minimum, TRA '86 increased the NPV of U.S. Treasury receipts \$155.3 million for the average LBO (\$240.6 minus \$85.3 with the five year horizon); potentially receipts could have been \$639.5 million higher for each LBO (\$470.6 plus \$168.9 with the eight year horizon). The second conclusion from Table 1 is that in three of the six TRA '86 tax treatment simulations the U.S. Treasury had a positive NPV due to LBO activity.

The last two columns of Table 1 show the Treasury ratio. The ratio is not applicable in the three cases of a positive NPV (i.e., no capital gains tax on subsequent sale of the LBO is necessary to put the U.S. Treasury in a tax neutral position). For the other cases the ratio varies from 1.86 to 2.27. The higher values for pre-TRA '86 (2.35 and 2.97) are for comparison only, because a 1989 LBO could not use this tax treatment. To be explicit, the Treasury ratio is a measure of the increase in value that the LBO manager must generate to put the U.S. Treasury in a tax neutral position through the collection of capital gains taxes levied as the LBO is sold either in pieces or as a whole. A 1.86 ratio means that the aggregate selling price of the LBO and its divisions must be 1.86 times the prebid price of the acquired firm. A ratio of this size has several possible explanations:

- The market undervalued the firm prior to the initial bidding and a gain of this size is likely;
- The U.S. Treasury will suffer losses in tax receipts due to the LBO and these losses will constitute a gain for the LBO;
- New management is capable of generating increased value.

To explore these possibilities further the paper at this point splits into two subsections. The first will examine the impact of management's actions upon U.S. Treasury tax

receipts. The second subsection will look at the impact of U.S. Treasury or congressional actions upon the U.S. Treasury tax receipts.

MANAGEMENT VARIABLES

LBO managers have a major influence on U.S. Treasury tax receipts in three ways: the amount of debt used, the earnings growth produced and the time horizon (the *round-trip* in the jargon—the time between creating the LBO and selling it). This section examines the impact of these three management-controlled variables on U.S. Treasury tax receipts. The TRA '86 tax treatment with a 338 election is omitted from this point in the paper because Table 1 shows huge tax outflows when viewed from a management perspective. For brevity, all the exhibits (except Figure 3) from this point in the paper use the eight year horizon.

Figure 1 shows the change in Treasury ratio as financial leverage varies from zero to 100 percent for pre-TRA '86 (the base case comparison), TRA '86 with no 338 election, and TRA '86 structured in order to preserve general utilities treatment. Consistent with earlier comments, Figure 1 shows the pre-TRA '86 case to be the most unfavorable to the U.S. Treasury (that is, the Treasury ratio is highest) at any leverage level. At the highest leverage level, the final selling price of the LBO has to be 3.17 times its prebid value for the U.S. Treasury to break even. The U.S. Treasury is in a positive position with TRA '86 and no 338 election at any leverage level up to 82 percent. The ratio rises only to 2.03 at 100 percent debt financing. If the LBO can be structured to resurrect general utilities, the U.S. Treasury is in a positive position until a 42 percent debt level. The ratio rises from 1.72 to 2.41 as leverage further increases (as shown by the center line in

Figure 1—Treasury Ratio Debt/(Debt + Equity)

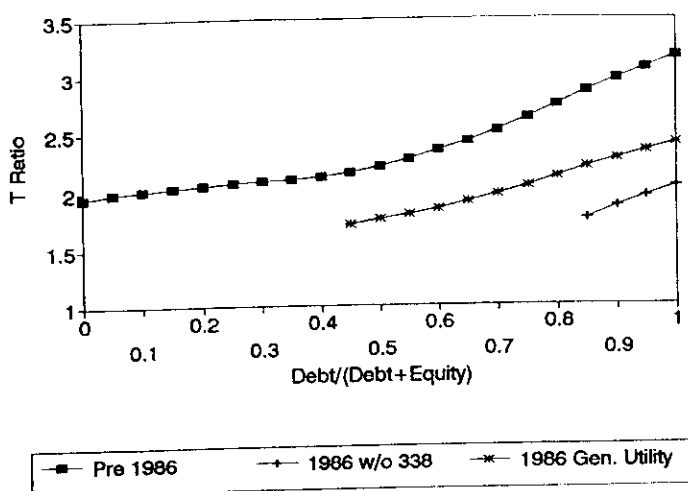
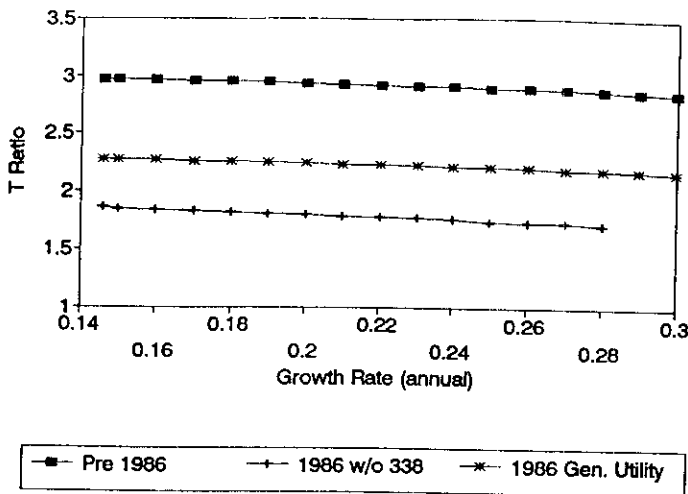


Figure 1). To put a Treasury ratio into dollar terms, the average LBO in this study had a prebid total common stock value of \$1,333 million; a ratio of 2.27 (TRA '86 with general utilities and 90 percent debt) would imply a total common stock selling price of \$3,028 million for the U.S. Treasury to break even.

Management also can impact U.S. Treasury receipts by the rate of earnings growth its efforts produce. Figure 2 shows the change in Treasury ratios for each tax treatment, where it is assumed the LBO leads to improved earnings performance. EBT growth is allowed to increase from its mean *Value Line* forecast of 14.6 percent annually to 30 percent annually. The curves are almost linear with a slight downward slope, suggesting that the U.S. Treasury net position is relatively insensitive to LBO earnings growth. The different levels of each curve reflect the relative favorability of the three tax treatments to U.S. Treasury tax receipts.

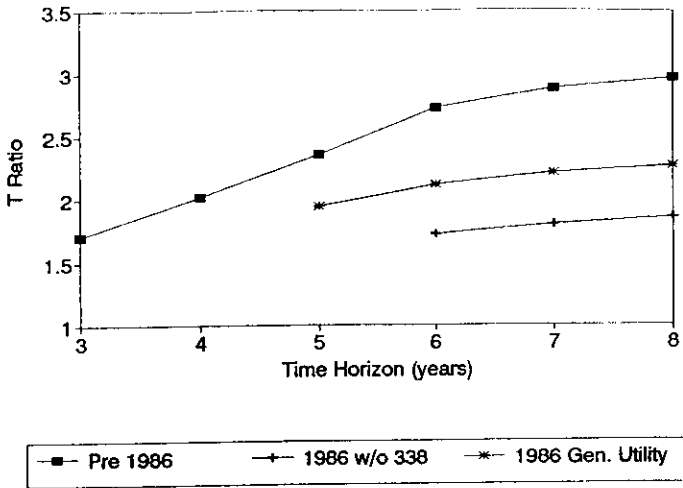
Figure 2—Treasury Ratio Earnings Growth Rate



The final management impact upon U.S. Treasury receipts we examine is the decision on when to sell or take the company public again. With round-trip times of three to eight years, the ratios for each tax treatment are graphed in Figure 3. The pre-TRA '86 treatment shows the U.S. Treasury breaks even at a selling price of 1.71 times the prebid market value of the firm for a three year horizon, advancing to 2.97 times for an eight year horizon. For TRA '86 treatments the U.S. Treasury is positive at short horizons regardless of any gains tax receipts. At longer horizons the U.S. Treasury would require some positive gains tax receipts in order to break even (up to a 1.86 Treasury ratio with the TRA '86 and no 338 election tax treatment and up to a 2.27 Treasury ratio with the

TRA '86 general utilities tax treatment). The upward slope to the curves reflects the joint effect—at short horizons, the capital gains taxes on the exiting shareholders have a higher present value, and the LBO is unable to fully utilize the increased tax shields.

Figure 3—Treasury Ratio Time Horizon

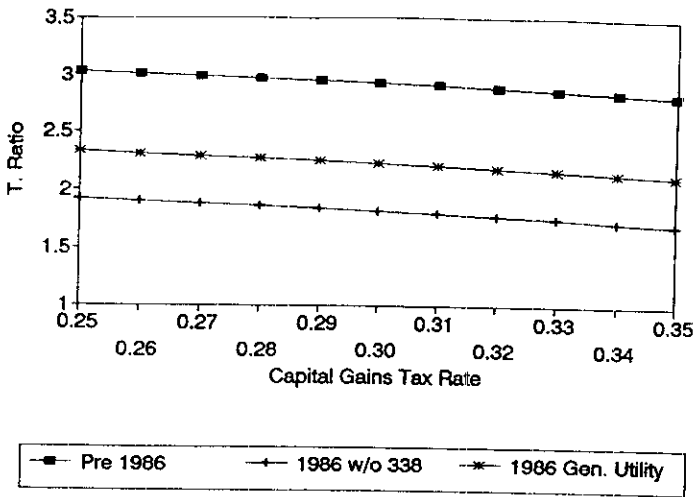
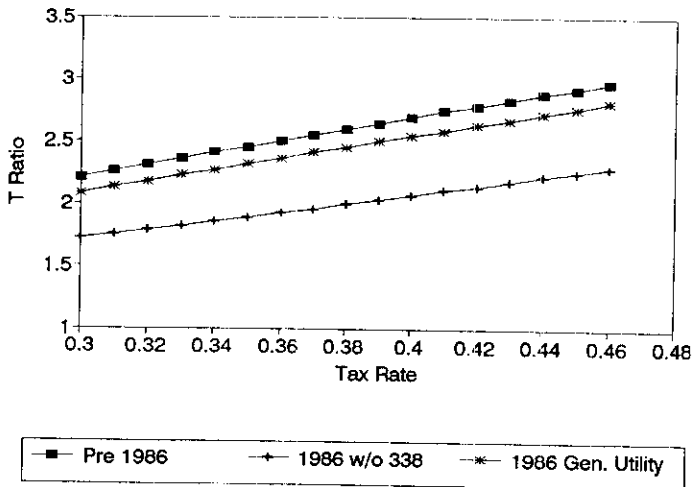


U.S. TREASURY VARIABLES

The U.S. Treasury is able through congressional pressure to shape, change, and influence tax laws. In addition, it cooperates with other affected agencies in writing tax regulations. The impact of TRA '86 on LBO tax receipts, for example, is clear on any exhibit in this paper. This section examines the effect of the tax rate levels upon tax receipt changes induced by LBO activity. The pre-TRA '86 tax treatment is retained as a reference point, but the main emphasis is upon the tax receipts under current tax treatments.

First we examine the capital gains tax because discussion of the correct rate of capital gains tax was responsible for much of the delay in the 1991 federal budget. Figure 4 shows rates of capital gains tax on shareholders from 25 percent to 35 percent. The downward slope in the Treasury ratio indicates a smaller capital gain is required for the U.S. Treasury to break even. With a high capital gains tax rate, however, the curves are relatively flat, showing insensitivity of U.S. Treasury receipts to changes in capital gains tax rates.

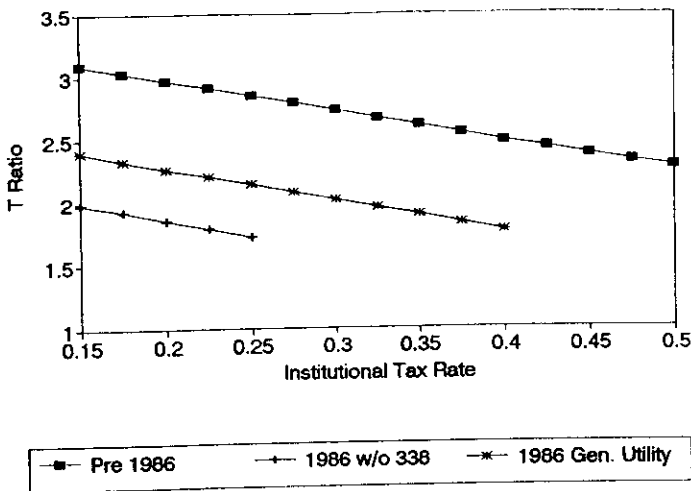
In strong contrast, U.S. Treasury receipts are responsive to changes in corporate tax rates (as evidenced in Figure 5). The marked slope on TRA '86 with no election shows the Treasury ratio moving from 1.72 at a 30 percent corporate tax rate to 2.29 at a 46 per-

Figure 4—Treasury Ratio Capital Gains Tax Rate**Figure 5—Treasury Ratio Corporate Tax Rate**

cent tax rate. The upward slope represents the greater value of the tax shields to the LBO (i.e., reduced U.S. Treasury receipts) as tax rates climb and the resulting greater gain on the eventual sale of the LBO required for the U.S. Treasury to break even.

The opposite effect is found when institutional tax rates are changed—this is the tax rate paid by banks on the interest income from the LBO debt. The slope is now downward (see Figure 6) because there are increasing tax receipts as the tax rate climbs because of the absence of offsetting tax shields. The initial simulation value of the tax rate was 20 percent, reflecting an average bank revenue/expense ratio of around 1.1. As the tax rate moves from 15 percent through 45 percent, the Treasury ratio falls and the U.S. Treasury moves into a positive tax position which eliminates the need for any capital gains tax from future LBO sales to balance the U.S. Treasury's position. Because of the absence of interaction of this variable with others in the simulation (basically it has no other tax effects; the effect is upon the recipients of the LBO interest payments), the institutional tax rate or the regulations affecting it may represent a simple target for the U.S. Treasury to extract more revenue from LBO activity.

Figure 6—Treasury Ratio Institutional Tax Rate



The greatest sensitivity in this section would come from a more difficult target for U.S. Treasury efforts. Some portion of the LBO's owners may be nontaxable—California and Oregon public employee pension funds are cited most commonly in the business press as examples—and Jensen, Kaplan, and Stiglin (1989) use 70 percent as nontaxable. The more owners that are nontaxable, the less capital gains taxes paid by the firm's outgoing shareholders. Figure 7 charts the impact of the proportion of LBO owners who are

nontaxable over the range 0 percent to 80 percent. Looking at the TRA '86 general utilities structure—which may be where the mix of taxable and nontaxable owners controlling the LBO in the form of limited and general partners allows the most likely resurrection of general utilities—the Treasury ratio starts at 2.27 and increases rapidly as the proportion of nontaxable owners rises. At Jensen, Kaplan, and Stiglin's 70 percent figure, the ratio is 3.58 and approaches infinity shortly thereafter, so that the U.S. Treasury is in a permanently negative position.

Figure 7—Treasury Ratio Percent of LBO Shareholders Not Taxable

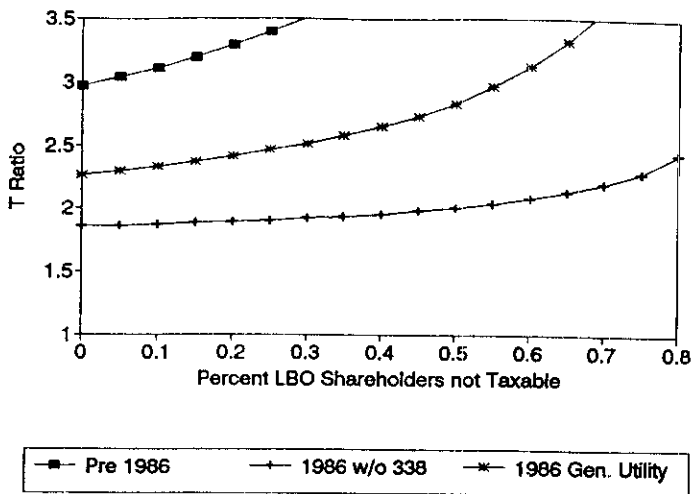


Table 2 combines the variables discussed in this section. It presents best and worst case scenarios from the U.S. Treasury's perspective. Case 1 represents the best case, with perhaps a mix of possible values for the factors examined in this section. With Case 1, the U.S. Treasury is in a positive tax position with TRA '86 (no 338 election). In order to break even under a resurrected general utilities, the Treasury needs only a 1.78 ratio, a relatively moderate value enhancement by LBO managers. With Case 2, in contrast, the Treasury ratio is 4.31 and 5.98 under the two tax treatments, perhaps representing situations where the U.S. Treasury will be in a permanently negative position. These high ratios also demonstrate the value of the simulation approach because several variables with their complex interactions can be tested at once.

SUMMARY AND CONCLUSIONS

Increased LBO activity in the early 1980s led to congressional reaction based on the belief that the U.S. Treasury was subsidizing LBOs heavily. This led to the Tax Reform

Table 2—Polar Cases for Treasury Variables

	Treasury Ratio TRA '86 w/o 338	Treasury Ratio TRA '86 Gen. Util.
Case 1		
35% Capital Gains Tax Rate		
34% Corporate Tax Rate		1.78
34% Institutional Tax Rate		
100% LBO Owners Taxable		
Case 2		
25% Capital Gains Tax Rate		
46% Corporate Tax Rate	4.31	5.98
15% Institutional Tax Rate		
70% LBO Owners Nontaxable		

Act of 1986. The results of the simulations employed in this study show that substantial increases in U.S. Treasury tax receipts are likely as a result of the TRA '86 impact on LBO-related taxes. Tax receipts using data from 13 of the largest LBOs from 1989 are analyzed under three TRA '86 tax treatments. The impacts of three management-controlled variables and four Treasury-controlled variables upon U.S. Treasury tax receipts also are analyzed. The general conclusion is there are many situations where the U.S. Treasury is likely to gain from LBO activity and many where the U.S. Treasury may lose, depending upon a number of variables. But the impact of TRA '86 should be to increase U.S. Treasury tax receipts from each LBO relative to receipts that would have been collected under the pre-TRA '86 tax treatment.

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