NBER WORKING PAPER SERIES

TAX POLICY AND STOCK PRICES

Thomas Downs

Patric H. Hendershott

Working Paper No. 2094

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
December 1986

We are grateful for comments by Alan Auerbach, David Bradford, Lawrence Summers, and the participants at a Taxation Workshop during the National Bureau of Economic Research Summer Institute, July 31, 1986. The research reported here is part of the NBER's research programs in Financial Markets and Monetary Economics and Taxation. Any opinions expressed are those of the authors and not those of the National Bureau of Economic Research.

NBER Working Paper #2094
December 1986

Tax Policy and Stock Prices

ABSTRACT

Windfall profits and losses accrue to investors only when expected after-tax returns or discount rates change, and major tax policy shifts are likely to alter these variables. This study introduces a cashflow valuation model for estimating the windfalls to owners of U.S. nonfinancial corporations caused by the enactment of tax changes. The model is illustrated by analysis of two reform packages, the Treasury Proposal of November 1984 and the Tax Reform Act of 1986.

We find that the original Treasury plan would have boosted stock prices by 20 to 30 percent; an increase of 10 to 12 percent is computed for the Tax Reform Act of 1986. This anomalous result -- a $125 to $140 billion dollar corporate tax increase (over five years) raising stock prices -- occurs because the tax increase is on new capital, not old capital. The stock market largely values expected returns on the existing capital stock, and these returns benefit from the adverse treatment of new investment.

Thomas Downs
School of Management
Boston College
Chestnut Hill, Massachusetts 02167
617-552-4113

Patric H. Hendershott
321 Hagerty Hall
The Ohio State University
1775 College Road
Columbus, Ohio 43210
614-292-0552

TAX POLICY AND STOCK PRICES

Windfall profits and losses accrue to investors only when expected after-tax returns or discount rates change, and major tax policy shifts are likely to alter these variables. This study introduces a cashflow valuation model for estimating the windfalls to owners of U.S. nonfinancial corporations caused by the enactment of tax changes. The model is illustrated by analysis of two reform packages, the Treasury Proposal of November 1984 and the Tax Reform Act of 1986.

The valuation model, introduced in Section 1, calculates fundamental value of equity as the discounted sum of the expected residual cashflow stream. This stream depends on tax parameters and the rental price of capital, and the resultant fundamental value will, in an efficient capital market, determine (equal) the level of stock prices. In Section 2 we compute fundamental equity value for the nonfinancial corporate sector at the end of 1984. We then recompute, in Section 3, value using the tax parameters and rental prices contained in or derived from the tax reforms. The shareholder's windfall profit or loss -- the anticipated change in the stock prices -- equals the change in fundamental equity value.

We find that the original Treasury plan would have boosted stock prices by 20 to 30 percent; an increase of 10 to 12 percent is computed for the Tax Reform Act of 1986. This anomalous result -- a $125 to $140 billion dollar corporate tax increase (over five years) raising stock prices -- occurs because the tax increase is on new capital, not old capital. The stock market largely values expected returns on the existing capital stock, and these returns benefit from the adverse treatment of new investment.[1]

1. Determining Fundamental Equity Value

Gross cashflows received by a firm represent reimbursement for its operating and financial production costs. In principle, gross cashflows are distributed among the different factors of production in proportion to the share of the factor's contribution to the final product. Some of the cashflows go to labor, some to raw material suppliers, and other cashflows go to pay interest and taxes. The residual goes to equity, and the present value of the expected residual cashflows is the fundamental value of equity. In efficient markets, the firm's stock value is an unbiased estimate of the fundamental value.

Let $R^j_{s,t}$ be the residual cashflow that factor j is expected to produce at time s+t, where that expectation is formed at time s based upon all available information. The value of shareholders' claims against productive factor j, denoted V^j, is

$$V^j_s = \sum_{t=1}^{\infty} (1+e)^{-t} R^j_{s,t}, \qquad (1)$$

where e is the nominal required return on equity. Computing the total equity value of the firm as the sum of V^j across all j requires specification both of the residual cashflow stream expected from all factors of production and the equity rate.

Almost by definition, only capital is a store of value and so only capital generates residual cashflows. Suppliers of variable factor inputs such as labor and energy, are reimbursed an amount just equal to the value of their productive services and therefore these factors do not pass any cashflows through to shareholders. Residual cashflows are produced by all the firm's capital: current assets, fixed assets, land and intangibles. Given the short

lives of existing current assets (e.g., inventories and trade credit), their residual cashflows are largely invarient to tax policy changes and thus will not deliver significant windfalls.

Say fixed asset type j is expected to produce earnings before depreciation, interest, and taxes equal to NOI^j, tax depreciation deductions equal to $TAXD^j$, and interest and principal costs associated with debt financing equal to INT^j and $\Delta DEBT^j$. The residual cashflow is

$$R^j_{s,t} = (1-\tau)NOI^j_t + \tau TAXD^j_t - (1-\tau)INT^j_t + \Delta DEBT^j_t, \qquad (2)$$

where τ is the corporate profits tax rate.

The sum of fundamental equity (V^j) and debt (D^j) values equals the discounted sum of the NOI and TAXD streams, where the discount rate is the weighted average cost of debt and equity financing, r (Modigliani and Miller, 1963). This sum, denoted by W^j, is fixed asset type j's total fundamental value and is computed as

$$\begin{aligned} W^j_s &= V^j_s + D^j_s \\ &= \sum_{t=s}^{\infty} (1+r)^{-(t-s)} [(1-\tau)NOI^j_t + \tau TAXD^j_t]. \end{aligned} \qquad (3)$$

Given that debt is a constant fraction, b, of firm wealth, the fundamental value of shareholder claims against fixed asset type j can be estimated directly from the NOI and TAXD streams as

$$\begin{aligned} V^j_s &= (1-b)W^j_s \\ &= (1-b)\sum_{t=s}^{\infty} (1+r)^{-(t-s)} [(1-\tau)NOI^j_t + \tau TAXD^j_t]. \end{aligned} \qquad (4)$$

Notice that NOI_t and $TAXD_t$ are expectations about time s+t cashflows and are formed at time s using all available information. These cashflows are attributable both to assets in place at time s surviving until time s+t and to

investments made between time s and s+t, net of the incremental acquisition costs of these future investments. Brainard, Shoven, and Weiss (1980) compute alternative estimates of fundamental value over the 1968-1977 sample period, one of which includes the net present value of growth opportunities (the value of intangible capital) and another that does not. The estimate including growth opportunities is a stable 1.5 percent larger than the estimate which assumes future investments have zero net present value. Thus, even if an anti-investment tax reform were to eliminate growth opportunities completely, the market value of equities would decline by only 1.5 percent. In light of this small difference, we model future investments as zero net present value ventures.

Every dollar of type j capital provides NOI^j equal to the rental price of capital, c^j. Thus, the NOI^j expected at time s to be produced at time s+t is

$$NOI_t^j = c^j K_{t-1}^j, \tag{5}$$

where K^j is the capital stock replacement cost of asset type j.[2] Following Hall and Jorgenson (1967), the rental price is computed as

$$c^j = (r+\delta^j-\pi)(1-v^j-\tau Z^j)/(1-\tau), \tag{6}$$

where π is the expected inflation rate, δ^j is the economic depreciation rate, v^j is the effective rate of the investment tax credit, and Z^j is the present value of tax depreciation deductions on a one dollar investment in asset type j.

The replacement cost that time s capital is expected to have at s+t is

$$K_t^j = (1-\delta^j+\pi)^t K_o^j,$$

where K_o is the replacement cost of the capital stock at time s. K_o is computed as

$$K_o^j = q_s^j [\sum_{u=1}^{L} (1-\delta^j)^u IR_{s-u}^j].$$

The term in brackets is the real capital stock at time s, and q^j is the supply price of new capital goods. IR^j is real investment in capital type j, and L is the capital's productive service life.

Future tax deductions promised by the existing stock, $TAXD^j$, are predetermined by historic investment flows and the tax depreciation laws in effect at the time the capital was put in place. Let $z_{s,u}$ be the percent of the gross nominal investment I_s which, given the tax laws in effect at time s, is deducted u years after acquisition. The tax depreciation deduction that the time s capital stock promises at time s+t is

$$TAXD^j_t = \sum_{u=t}^{L} I^j_{s+t-u} z^j_{s+t-u,u}. \qquad (7)$$

Fundamental equity value may be estimated by substituting the expressions for TAXD and NOI into equation 4.[3]

The discount rate r is the weighted average after-tax cost of debt and equity financing:

$$r = b(1-\tau)i + (1-b)e, \qquad (8)$$

where a portfolio equilibrium can be used to infer the equity rate from interest and tax rates. With equity returns taxed at the rate τ_e, the after-tax return to shareholders is

$$(1-\tau_e)e = R_m + \rho_e, \qquad (9)$$

where R_m is the yield on risk-free tax-exempt securities and ρ_e is the risk premium required on investment in corporate equity. The tax exempt rate, in turn, can be related to the taxable interest rate and corporate and personal tax rates via a Miller equilibrium (1977).

2. Fundamental Value Estimates

Generating our estimate of V(P&E) requires that we model the NOI and TAXD streams for plant and equipment as specified in equations 5 and 7. The length of the cashflow streams for plant and equipment equals the productive life of the capital assets, which we assume to be 50 and 20 years, respectively. The empirical results are not sensitive to the asset life selected because the bulk of all discounted returns are received during the early years; over 95 percent are received within 9 years for equipment and 19 years for plant. Although we estimate separate streams for plant and equipment, the discussion below usually refers to the sum of the two series or, where appropriate, their weighted average.

The NOI stream depends upon the productive size of the asset base generating the revenues. Column 1 of Table 1 lists the proportion of the 1984 real capital stock surviving into the future. By the ninth year, 1993, the surviving stock is capable of producing only half of its original product. After the twentieth year, the stock of equipment is totally expired, and after the twenty-fifth year, 2009, all but 17 percent of the 1984 real stock of plant and equipment has expired.[4] Discounted cashflows beyond 2009 (not shown) account for less than one percent of the existing capital's fundamental value.

The NOI equals the product of the replacement cost, listed in column 2, and the rental price. Over time, inflation exerts an upward force on NOIs, tending to offset the decline induced by losses in productive capacity. A dollar of equipment generates $0.2261 of NOI, the rental price of equipment, whereas a dollar of plant generates $0.1510 of NOI, the rental price of plant.[5] Column 3 lists the NOI stream.

More than half of the NOIs during the first five years of the return stream are free from taxation because of the shield provided by depreciation deductions. We depreciate historic investments with the tax depreciation

practices in effect at their time of acquisition (as specified in equation 7). Tax lives from the U.S. Federal Reserve Board Quarterly Econometric Model (FRBQM, 1983) are used to obtain estimates of the tax shield that assets existing at year-end 1984 were expected to provide over their remaining lives.

Half of all equipment investments prior to 1981 are depreciated by sum-of-year's digits and half by double declining balance with an optimal switch to straight line. In and after 1981, ninety-five percent of equipment investments are depreciated in the 5-year ACRS class and five percent in the 3-year class. For plant investments prior to 1981, we employ the FRBQM weight "proportion of structure's investment depreciated by accelerated methods" and depreciate half of those by sum-of-year's digits and half by one-hundred fifty percent declining balance with the optimal switch to straight line. The plant investments not depreciated by accelerated methods are depreciated by straight line.

The stream of tax depreciation deductions promised by the 1984 existing stock is listed in column 4 of Table 1. The most remote deductions promised by the existing stock are scheduled to be taken in 2021 and accrue from plant investment made in 1980. Investments after 1980 are depreciated more quickly owing to the introduction of ACRS. The sum of all deductions is $1423 billion, which is about two-thirds the capital stock's current replacement cost of $2145 billion. Total deductions are less than replacement cost because tax lives are less than service lives and because tax deductions are based on historic prices instead of current prices. The present value of the expected depreciation deductions stream is $752 billion or thirty-five cents per dollar of vintage capital, substantially less than the sixty-three cents of discounted depreciation deductions offered by a dollar of new capital (the Z term used in our rental price).

In constructing r, we give the after-tax debt rate a weight of one-third and the equity rate a weight of two-thirds. For our prereform values, we set the pre-tax debt rate equal to 0.10 and the equity rate to 0.1542 (see Hendershott, 1986). Our corporate tax rate is 0.4924 (a marginal federal tax of 0.46 plus a federally-deductible state and local tax rate of 0.06). The resulting weighted average cost of capital is 0.120, and the estimate of W(P&E), the market value of debt and equity claims against nonfinancial corporate plant and equipment, is $1596 billion. The value of equity, V(P&E), is two-thirds times that or $1064 billion.

3. The Effects of Tax Reform

To illustrate our model, impacts on stock values are computed for the original Treasury proposal and the Tax Reform Act of 1986.[6] The key parameters relevant for both current law and the alternative reforms are listed in Table 2. Both proposals lower the corporate tax rate, remove the investment tax credit, generally lengthen tax depreciation schedules and remove the capital gains exclusion which increases the personal tax rate on equity. The Treasury plan also includes substantial inflation indexation (capital gains, depreciation base, and interest income and expense) and provides a deduction for half of dividends paid out. We have modeled only the general tax changes contained in the reforms. The reforms also include a number of industry specific changes that are almost uniformly negative. To the extent that these affect new investments, rental prices, and thus equity values, will rise; to the extent the changes impact existing capital stock, equity values will fall.

Our results are reported in three parts. The first reflects the impact of the statutory changes holding rental prices and the level of taxable interest rates constant. These results would hold if (1) investment adjustment costs were prohibitively large (and thus no changes in business investment and

NOIs on vintage capital occurred) and (2) international capital flows and world saving were infinitely elastic (and thus taxable debt rates were fixed). The second part allows rental prices to change; in the extreme, investment costs are assumed to be zero and the NOIs on vintage capital are instantaneously shifted in line with the new equilibrium rental prices.[7] The third part explores the effect of macroeconomic influences on taxable interest rates and stock prices.[8] All reforms substantially reduce aggregate investment demand and raise the after-tax returns to savers (both at prereform interest rate levels). Interest rates would thus be expected to decline.

Constant Corporate Fixed Investment and Taxable Debt Rates

The first set of calculations in Table 3 (rows 1-3) reports the change in fundamental equity value, and thus stock prices, assuming no change in corporate fixed investment (and thus the NOIs) or in taxable debt rates. Row 1 simulates the impact of a cut in the corporate tax rate and an increase in the taxation of equity at the personal level. While the cut in the corporate tax rate leads directly to an increase in after-tax NOIs, the tax rate changes also raise the tax exempt rate (given a fixed taxable rate) and thus the equity rate. More specifically, the equity rate increases by 170 basis points with the Treasury plan and 141 basis points with the 1986 Act. The net result is a minor 3% windfall gain to equity with either plan.

The Treasury proposal changes the rules regarding the deductibility of financing costs: corporations are allowed to deduct 50% of dividends from their pre-tax profit, and the proportion of interest that may be deducted is indexed to the inflation rate. The weighted average after-tax cost of financing becomes

$$r = b(1-\tau\beta)i + (1-b)(1-\tau\gamma)e,$$

where β and γ are the proportions of interest and dividends deductible from the tax base.

As listed in Table 3 under the Treasury proposal, fundamental equity value rises from $1069 billion to $1162 (row 1) billion because of the tax rate reductions, and it rises to $1391 billion (row 2) because of the 50% dividend exclusion. With the interest indexation provision, both the debt and equity components of the cost of financing rise, the equity component because of the reduced tax wedge in the tax-exempt rate vis-a-vis the still-constant taxable debt rate i. The net result of the higher discount rate is a halving of the increase in fundamental equity value stemming from the other provisions (row 3).

Variable Corporate Fixed Investment, Constant Taxable Debt Rate

The marginal rental prices rise so modestly in response to the tax rate changes in each proposal that the impact on stock values when these prices are endogenous (row 4) is virtually identical to when they are exogenous (row 1). On the other hand, the deceleration of depreciation schedules on new investments, the removal of the investment tax credit, and the only partial deduction of interest sharply raise rental prices for both plant and equipment, although the partial deductibility of dividends mitigates the impact of the Treasury proposal. With the Treasury proposal, rental prices rise to 0.2941 for equipment (from 0.2261) and 0.1859 for plant (from 0.1510). With the 1986 Tax Act, the increases are to 0.2649 and 0.1651, respectively. With the NOIs adjusting with these values, stock prices rise by 13% with the 1986 Act and 30% with the Treasury proposal.

Variable Corporate Fixed Investment, Constant Aggregate Investment

As noted, both reforms tend to lower interest rates. The interest indexation feature of the Treasury plan is the most obvious source of lower rates. With only partial taxation of interest income and deductibility of interest expense, both the supply-of and demand-for funds schedules shift

downward. The 1986 Tax Act, too, will lower both schedules: removal of the investment tax credit and lengthening of depreciation tax lives lower the demand-for-funds schedule, and the cut in personal tax rates lowers the supply schedule. To illustrate the impact of a decrease in the level of interest rates, we employ an estimate of how much the level would have to decline to maintain the level of aggregate investment (noncorporate, including owner-occupied housing, as well as corporate) constant at prereform values (Hendershott, 1986). The lower interest rate levels and the equity rate associated with them are listed in Table 2. The taxable debt rate is found to decline by 1.4 percentage points with the Tax Reform Act of 1986 and 2.6 points with the Treasury plan.

The reduction in required financing rates reduces the discounting effect and thus increases fundamental equity value. Row 6 of Table 3 allows all parameters, including the taxable interest rate, to reflect their post-reform values, except for the rental prices which are held constant. Rental prices would be constant if investment adjustment costs were large enough to prevent any change in investment outlays. The net result is a 23 percent windfall gain to equity from the Treasury proposal and a 10 percent gain with the enacted legislation. A comparison of rows 3 and 6 shows that the interest rate reduction has a substantial positive impact on equity value.

In row 7 the rental prices are allowed to adjust to reflect all features of the tax reforms, as would happen in the absence of adjustment costs. These adjustments have a marginally positive impact on fundamental equity value, with the Treasury plan providing shareholders with a 26 percent windfall and the Tax Reform Act a 12 percent gain.

4. Conclusion

In the past decade, shifts in tax policy have produced significant windfall gains and losses. This study has introduced a cashflow model for computing windfalls accruing to equity shareholders. Predictions about windfalls enable policymakers to better analyze the distributional impacts of their actions and allow investors to better appreciate their exposure to unexpected policy changes.

Our model was applied to both the original Treasury tax reform proposal and the enacted Tax Reform Act of 1986. Both of these would cut the corporate tax rate, the latter a little less than the former, and both would raise the tax rate on equity income. These changes should raise equity values by about 3 percent. The 50 percent dividend exclusion of The Treasury plan would raise share values by another 14 percent, but most of this gain would be offset by the only partial deductibility of interest expense (the real component). With allowance for possible changes in interest rates and rental prices (NOIs), our best estimates are that the Treasury plan would raise share values by 25 percent and the Tax Reform Act of 1986 would raise them by about 10 percent. While the latter percentage move is not large in a historic perspective, and thus could be swamped by other events, a 10 percent windfall is hardly trivial. In both cases, the rise in stock prices follows from the heavier taxation of new capital and the resulting rise in returns on existing capital.

FOOTNOTES

[1] Auerbach and Kotlikoff (1983) deduce that stock prices should have declined in response to the shortening tax depreciation lives in ERTA because new capital was favored over old. Downs and Tehranian (1986) report evidence in support of this conclusion.

[2] A capital stock's replacement cost is the amount it would cost to replace all existing capital with new capital, leaving the current productive capacity unchanged. The stock's fundamental value is the present value of its expected cashflows. The two are the same when the duration of the cashflow stream from new capital equals the duration of the cashflow stream from vintage assets (Downs, 1986).

[3] If firms keep old capital on the old depreciation schedules, the change in value due to the tax depreciation change is (assuming a constant r)

$$\Delta q = \Sigma_j \Sigma_t (1+r)^{-(t-s)} (1-\tau) K_s^j \Delta c_s^j.$$

Using equations 5-7 with L approaching infinity, this reduces to

$$\Delta q = - \sum_j K^j \tau \Delta Z^j.$$

With a single capital type, the change in value per dollar of capital is simply $\tau \Delta Z$, Auerbach and Kotlikoff's (1983) equation 4.12.

[4] We are grateful to Kenneth Rogers and John Musgrave at the Bureau of Economic Analysis for discussions on the construction of capital stock estimates and for supplying unpublished investment data. In our estimates, the depreciation rates for plant and equipment (δ) are 0.04 and 0.15, respectively. Our estimate of K_o, the replacement cost of nonfinancial corporate plant and equipment at year-end 1984, is $2145 billion and is virtually identical to the BEA estimate of $2142 billion.

[5] Our rental prices are from Hendershott (1986). The plant rental price is a weighted average of those computed for 10-year utility structures, 15-year utility structures, and industrial structures, the weights being 0.15, 0.30, and 0.55, respectively. These weights are also used to construct the ACRS tax depreciation schedules for plant investments after 1980.

[6] Our simulation computes the impact on share prices as if the pre-reform tax regime had been expected to persist indefinitely into the future and the post-reform tax parameters are now expected forever. Our results would be dampened to the extent that investors either anticipated the trend that tax reform has taken or expect the eventual reversal of some of the reform features (Auerbach and Hines, 1986).

[7] The impacts on capital of changes in tax policy when adjustment costs exist has been modeled by Summers (1981) and Auerbach and Hines (1986). The primary effect of adjustment costs is that policy changes move rental prices gradually, rather than instantaneously, to the new steady state. Thus the stock market change with these costs would lie between those with no change in rental prices and with an immediate change.

[8] The level of interest rates has been found to respond to both business tax changes that alter investment demand [Feldstein and Summers (1978)] and personal tax changes that shift personal saving [Peek and Wilcox (1984)]. For a general analysis of the impact of tax reform proposals on financial markets, see Hendershott (1985).

REFERENCES

Auerbach, A.J., and Hines, J.R., "Anticipated Tax Changes and the Timing of Investment," NBER Working Paper 1886 (April 1986).

Auerbach, A.J., and Kotlikoff, L.J., "Investment versus Savings Incentives: The Size of the Bang for the Buck and the Potential for Self-Financing Business Tax Cuts," The Economic Consequences of Government Deficits, L.H. Meyer, ed., (USA: Kluwer-Nijhoff, 1983), 121-149.

Brainard, W., Shoven, J., and Weiss, L., "The Financial Valuation of the Return to Capital," Brookings Papers on Economic Activity (1980:2), 453-502.

Downs, Thomas, "Duration, Firm Value, and Discount Rate Changes," Boston College SOM Working Paper 86-10 (January 1986).

Downs, T. and Tehranian, H., "The Differential Impacts of Tax Policy Changes on Industry Stock Prices," Boston College SOM Working Paper 86-90 (October 1986).

Feldstein, M., and Summers, L., "Inflation, Tax Rules, and the Long-Term Interest Rate," Brookings Papers on Economic Activity (1978), 61-99.

Hall, R., and Jorgenson, D., "Tax Policy and Investment Behavior," American Economic Review, 57 (1967), 391-414.

Hendershott, P.H., "Tax Reform and Financial Markets," in Economics of Tax Simplification, Federal Reserve Bank of Boston Conference Series No. 29, (October 1985).

-----, "Tax Changes and Capital Allocation in the 1980s," NBER Working Paper 1911, (April 1986).

Miller, M., "Debt and Taxes," Journal of Finance, 32 (May 1977), 261-276.

Modigliani, F., and Miller, M., "Corporate Income Taxes and the Cost of Capital: A Correction," American Economic Review, 53 (June 1963), 433-443.

Peek, J., and Wilcox, J., "The Degree of Fiscal Illusion in Interest Rates: Some Direct Estimates," American Economic Review, 74 (December 1984), 1061-1066.

Summers, L.H., "Taxation and Corporate Investment: A Q-Theory Approach," Brookings Papers on Economic Activity (1981:1), 67-127.

U.S. Federal Reserve Board, SSRC-Penn-MIT Quarterly Econometric Model, Washington D.C., (September 1983).

expected in year t=	percent of 1984 real stock still producing	K_{t-1}	NOI_t	$TAXD_t$
	-1-	$ billions -2-	$ billions -3-	$ billions -4-
1985	100.0%	$2145	$379.9	$255.1
1986	90.6	2060	359.9	233.3
1987	82.3	1984	342.0	185.7
1988	74.9	1915	326.0	143.3
1989	68.5	1356	311.8	102.8
1990	62.8	1802	299.1	55.2
1991	57.8	1755	287.8	48.3
1992	53.3	1712	277.7	32.5
1993	49.3	1676	268.9	30.7
1994	45.7	1644	260.9	29.4
1995	42.5	1616	253.8	28.0
1996	39.5	1590	247.5	27.6
1997	36.8	1562	241.0	25.9
1998	34.2	1535	234.9	24.3
1999	31.9	1510	229.0	22.7
2000	29.7	1486	223.6	18.9
2001	27.7	1465	218.7	16.7
2002	25.9	1444	213.9	14.4
2003	24.2	1425	209.7	11.5
2004	22.6	1405	205.3	11.0
2005	21.1	1381	200.3	10.6
2006	20.0	1376	199.5	10.1
2007	18.9	1368	198.3	9.6
2008	17.9	1359	197.0	9.1
2009	17.0	1351	195.9	8.5
total sum	. . .	. . .	$6382	$1423
discounted sum @ 15.42%	. . .	. . .	$1891	$ 752

TABLE 1: Intertemporal streams expected from nonfinancial corporate capital given the year-end 1984 information set and fixed stock.

	Current Law	Treasury Proposal	Tax Reform Act of 1986
Profits tax rate (τ)	0.4924	0.37	0.38
Tax rate on equity (τ_e)	0.0742	0.1128	0.1018
Fraction of dividends deductible (γ)	0.0	0.5	0.0
Fraction of interest deductible (β)	1.0	0.545[a]	1.0
Investment tax credit	yes	no	no
Interest rate (i)	0.10	0.0742	0.0860
Equity rate (e):			
new τ, τ_e	0.1542	0.1712	0.1683
new τ, τ_e, β	0.1542	0.1881	0.1683
new τ, τ_e, β, i	0.1542	0.1614	0.1565
Equipment rental price, c(.), reflecting:			
new τ, τ_e	0.2261	0.2309	0.2293
new τ, τ_e, γ, β, v, Z	0.2261	0.2941	0.2649
new τ, τ_e, γ, β, v, Z, i	0.2261	0.2584	0.2509
Plant rental price, c(.), reflecting:			
new τ, τ_e	0.1510	0.1530	0.1514
new τ, τ_e, γ, β, v, Z	0.1510	0.1859	0.1651
new τ, τ_e, γ, β, v, Z, i	0.1510	0.1492	0.1489

Source: All data for current law and the Treasury Proposal are based on Hendershott (1986); the same methodology was employed to compute data for the Tax Reform Act of 1986.

[a]Assumes a 5 percent inflation rate.

TABLE 2: Parameters under alternative tax regimes.

row	Treasury proposal	Tax Reform Act of 1986
pre-reform value	$1119	$1119
constant rental prices and taxable interest rates but:		
1 new τ, τ_e	1162 (3%)	1169 (3%)
2 new τ, τ_e, γ	1391 (17%)	"
3 new τ, τ_e, γ, β	1241 (7%)	"
variable rental prices, constant taxable interest rates, and:		
4 new τ, τ_e, $c(\tau,\tau_e)$	$1185 (4%)	$1178 (4%)
5 new τ, τ_e, γ, β, and $c(\tau,\tau_e,\gamma,\beta,v,Z)$	1617 (30%)	1337 (13%)
variable corporate investment, constant aggregate investment:		
6 rental prices constant but new τ, τ_e, γ, β, i	$1490 (23%)	$1279 (10%)
7 rental prices fully adjust to new τ, τ_e, γ, β, i, v, Z	1552 (26%)	1319 (12%)

TABLE 3: Fundamental value under alternative tax regimes. The percentage in parentheses is the change in fundamental value relative to the pre-reform equity market value of $1637 billion.