Recent Issues in Corporate Income Taxation: Depreciation, Stock Options and Effective Tax Rates

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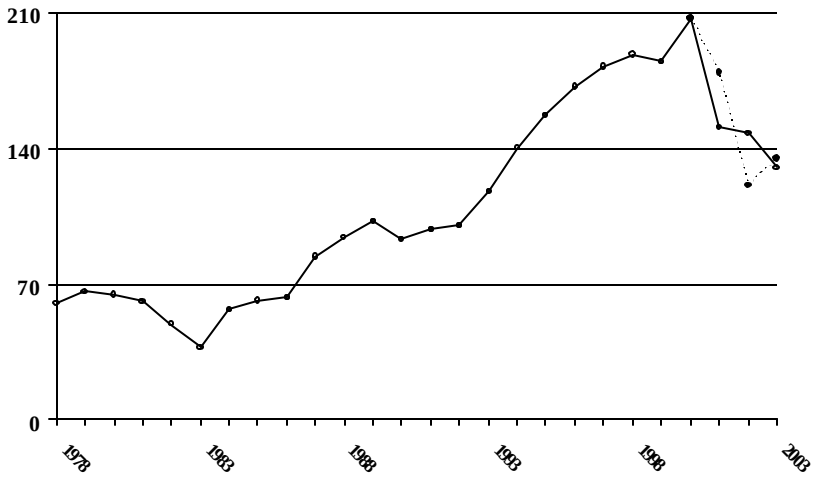
Overview

- Historical
- Recent Depreciation Stimulus
- Stock Options
- Effective Tax Rates
  - Relevant issues when calculating corporate ETRs
  - Receipt erosion: pass-through entities, depreciation stimulus, carryback loss refunds



Federal Corporate Income Tax Receipts

fiscal years, billions of dollars

FY	Rate	Published	Adjusted	Growth		Percent of GDP	Percent of PBT
1978	48%	60.0	60.0			2.61%	24.50%
1979	46%	65.7	65.7	9.5%		2.56%	24.32%
1980	46%	64.6	64.6	-1.7%		2.31%	25.70%
1981	46%	61.1	61.1	-5.4%	ERTA	1.95%	25.36%
1982	46%	49.2	49.2	-19.5%		1.51%	25.17%
1983	46%	37.0	37.0	-24.8%		1.05%	16.00%
1984	46%	56.9	56.9	53.7%		1.45%	21.39%
1985	46%	61.3	61.3	7.8%		1.46%	24.03%
1986	46%	63.1	63.1	3.0%	TRA	1.42%	25.94%
1987	40%	83.9	83.9	32.9%		1.77%	26.68%
1988	34%	94.2	94.2	12.2%		1.84%	24.66%
1989	34%	102.6	102.6	8.9%		1.87%	27.24%
1990	34%	93.5	93.5	-8.9%		1.61%	23.29%
1991	34%	98.1	98.1	4.9%		1.64%	23.57%
1992	34%	100.3	100.3	2.2%		1.59%	22.20%
1993	35%	117.5	117.5	17.2%		1.77%	23.02%
1994	35%	140.4	140.4	19.5%		1.99%	24.48%
1995	35%	157.1	157.1	11.9%		2.12%	23.50%
1996	35%	171.8	171.8	9.4%		2.20%	23.66%
1997	35%	182.3	182.3	6.1%		2.19%	23.01%
1998	35%	188.7	188.7	3.5%		2.15%	26.17%
1999	35%	184.7	184.7	-2.1%		1.99%	24.23%
2000	35%	207.3	207.3	12.2%		2.11%	27.39%
2001	35%	151.1	179.1	-13.6%		1.78%	26.72%
2002	35%	148.0	121.3	-32.3%	JCWAA	1.16%	18.40%
2003	35%	129.8	134.6	11.0%	JGTRRA	1.24%	17.46%

Recent Depreciation Stimulus

- The Job Creation and Worker Assistance Act of 2002 (JCWAA 2002) allows 30 percent bonus depreciation for certain investment acquired and placed in service between 9-11-01 and 9-11-04. Eligible investment includes property with recovery period of 20 years or less as well as certain computer software, water utility and qualified leasehold improvement property.
- The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA 2003) increases bonus depreciation to 50 percent in the first year. The 50 percent provision applies to new property acquired and placed in service after 5-5-03 and before 1-1-05.
- The adjusted basis of an asset is reduced by the amount of the first-year bonus deduction before computing the amount otherwise allowable as a depreciation deduction for the given year. For example, deduct 50 percent of cost, then apply normal MACRS table provided by IRS.
- Normal MACRS, double declining balance switching to straight line, half-year convention, 5 year property: 20.0 32.0 19.2 11.5 11.5 5.8
- With 50 percent bonus depreciation: 60.0 16.0 9.6 5.8 5.8 2.9
- Differential 40.0 -16.0 -9.6 -5.7 -5.7 -2.9

Impact of Bonus Depreciation

- Treasury's depreciation estimate uses the Office of Tax Analysis' (OTA) depreciation model. Model has 14 asset types across all industry classes. Includes effect of resales and retirements.
- Estimate includes adjustments for behavioral effects such as the speed-up of investment and the extension of bonus stimulus through 2005 for certain property placed in service (certain property with a recovery period greater than 10 years and certain transportation property).
- Investment data are updated in September with the release of BEA's investment detail across all types of structures, equipment and NAICs categories. 2002 data have not been released.
- OTA estimates are used by BEA in the Capital Consumption Adjustment included in NIPA Profits. The adjustment represents the conversion of depreciation used for tax purposes to depreciation based on economic life (straight line).

Impact of 30 and 50 Percent Bonus Depreciation Provisions

C and S Corporations, tax years, billions of dollars

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Dollar Change in Depreciation Deductions	51.8	135.2	164.4	253.0	-122.2	-150.8	-98.7	-64.8	-41.8
Percent Change in Depreciation Deductions	7.8%	20.3%	24.5%	36.5%	-16.7%	-19.2%	-11.7%	-7.2%	-4.4%

Other Relevant Information: For tax years 1997-2000, 70 to 80 percent of depreciation deductions accrue to firms with positive income (i.e., deductions were effective).
S Corp share of depreciation deductions approximately 11 percent.
Tax year 2005 includes the impact of stimulus extension to 2006 for certain property placed in service.

Note: Estimates based on 2001 Investment detail and investment assumptions used for Mid-Session Review FY 2004.

Stock Options: Background and Definitions

- Types of Stock Options:
  - Non-statutory or Non-qualified Stock Options (NSOs)
  - Incentive or Qualified Stock Options (ISOs)
- NSO income is taxable upon exercise of stock option and deductible by firm; majority of stock options (90 to 95 percent).
- NSO income reported with other Wages and Salaries by firms on corporation form 1120.
- NSO income reported on W2 statement with Wages. For 2001 and 2002, voluntary itemization of stock option income on W2. For tax year 2003, employers must declare amounts paid to employees in Box 12 (Code V) on the W2.
- Previously, nearly all firms did not deduct stock option income from pre-tax book income. Many large firms have indicated that they will voluntarily deduct them. No official decision from FASB.

- **Strike Price**: Price employee pays for right to purchase shares upon vesting. Typically equal to market price at time of grant. Vesting period typically 3 to 5 years.
- **Spread Income**: Difference between market and strike price times number of shares at time of exercise. Income is taxable to employee and deductible by firm

- Treatment of Stock Option income in the NIPAs:
  - NSO income included in all NIPA tabulations to the extent reported by firms and individuals.
  - NIPA treatment of stock options is same as tax treatment. Ideally, BEA would like to value options at grant rather than recognize income in lump sum amounts. (see Moylan 2000.)

Treasury Stock Option Study

- Results are from Office of Tax Analysis Working Paper 89: "Recent Trends in Stock Options" located at OTA website.
- Motivation for study:
  - How much activity? What are recent trends?
  - What is the impact on NIPA Wage-Salaries? Should this income be forecast separate?
  - What are tax implications?
  - How much do stock options explain gap between Book and Tax Income?
- Sample: S&P 500, Nasdaq 100, approx 600 entities from tax year 1997 (begins July 1997) to 2002 (ends June 2003).
- Stock option data from 10k footnotes; only source of data. See OTA working paper for details.
- Pro-ration of sample to entire population of firms: sample represents approximately 85 percent of total market cap, other minor adjustments.

Stock Options: Appropriate Measures of Historical Activity

- How to measure activity?
  - Avoid valuation models such as Black-Scholes.
  - Current: To what extent were firms utilizing this form of compensation in each year?
  - Retrospective: How much income was actually paid to employees?
- Current measure uses total grant dollars: number of shares granted times grant price (typically equal to the market price).
  - Firms have some expectation regarding stock appreciation and grant number of shares in order to transfer a certain amount of compensation. Assumed inv erse relationship between number of grants and expected price appreciation.
  - For example, Firm A grants 100 options at $10, grant dollars equal to $1000. Firm B grants 100 options at $20, grant dollars equal to $2000. If firms have same expectations regarding stock appreciation, intended transfer by Firm B much greater.
  - Over time, do firms intend to transfer more or less income via stock options?
- Retrospective measure uses spread income actually paid to employee and deducted by firm.
- Not addressed: sheltered or undeclared stock option income.

Stock Options: General Findings

- 2000 is peak of stock option activity, however defined. Significant recent declines.
- Nearly all firms in sample granted stock options in every year.
- Activity is very concentrated. Between 1997-2002, top ten firms in a given year account for approximately 25 percent of total grant dollars and 35 percent of total spread income paid to employees.
- Stock options disproportionately utilized by New Economy firms: in tax year 2000 these firms pay 53 percent ($59 billion) of total spread income but account for only 17 percent of pre-tax book income, 18 percent of net tax income.
- For tax years 1997 to 2000, stock option deductions accounted for approximately one-third of the difference between reported book and tax income.
- The impact on federal income tax receipts likely nets close to zero.
  - Nearly all income accrues to taxpayers at highest individual marginal tax rate.
  - Many firms cannot immediately utilize the stock option deduction in current tax year.
  - Was all income deducted by firms reported by individuals?
  - Not addressed: How much stock option income was incremental? How much would have been paid in higher wage-salaries? What is true counterfactual? Some studies suggest nearly all stock option income was incremental.

Stock Options: Number of Shares

sample firms, tax years, billions of shares (split-adjusted)

Levels	1997	1998	1999	2000	2001	2002
Grants	5.92	6.24	6.69	8.11	7.93	6.33
Exercises	3.38	3.50	3.64	3.67	2.66	2.09
Outstanding	18.54	20.04	21.94	25.40	27.56	28.11
Vested	8.08	8.81	9.62	11.39	13.43	15.14
Change - Amount						
Grants		0.32	0.45	1.42	-0.18	-1.60
Exercises		0.12	0.14	0.03	-1.01	-0.57
Outstanding		1.50	1.90	3.46	2.16	0.55
Vested		0.73	0.81	1.77	2.04	1.71
Change - Percent						
Grants		5.4%	7.2%	21.2%	-2.2%	-20.2%
Exercises		3.6%	4.0%	0.8%	-27.5%	-21.4%
Outstanding		8.1%	9.5%	15.8%	8.5%	2.0%
Vested		9.0%	9.2%	18.4%	17.9%	12.7%

Stock Options: Historical Activity Measures

tax years, billions of dollars

	1997	1998	1999	2000	2001	2002	2003
Grant Dollars							
Sample Firms	116.6	150.2	239.6	318.1	244.7	190.4	
Dollar Change		33.6	89.4	78.5	-73.4	-54.3	
Percent Change		28.8%	59.5%	32.8%	-23.1%	-22.2%	
Spread Income							
Sample Firms	43.3	60.5	91.2	110.6	68.4	37.1	37.4
All Corporations	49.4	69.1	104.1	126.2	78.1	42.4	42.7
Dollar Change		19.7	35.0	22.1	-48.1	-35.7	0.3
Percent Change		39.9%	50.7%	21.2%	-38.1%	-45.8%	0.8%

Note: 2003 is a projection. Assumes a 10 percent increase in FY closing price for all firms. Assumes that ratio of exercises in year t to outstanding options vested from year t-1 in 2002 holds for 2003 for all firms.

Stock Option Income Relative to NIPA Wages-Salaries

billions of dollars

	1997	1998	1999	2000	2001	2002	2003
Spread Income, All Firms	49	69	104	126	78	42	43
Growth		39.9%	50.7%	21.2%	-38.1%	-45.7%	0.7%
NIPA Wages-Salaries	3886	4192	4476	4836	4951	4996	5163
Growth		7.9%	6.8%	8.0%	2.4%	0.9%	3.3%
Percent Spread Income	1.3%	1.6%	2.3%	2.6%	1.6%	0.8%	0.8%
Growth NIPA Wages-Salaries exluding Spread Income		7.5%	6.0%	7.7%	3.5%	1.7%	3.4%

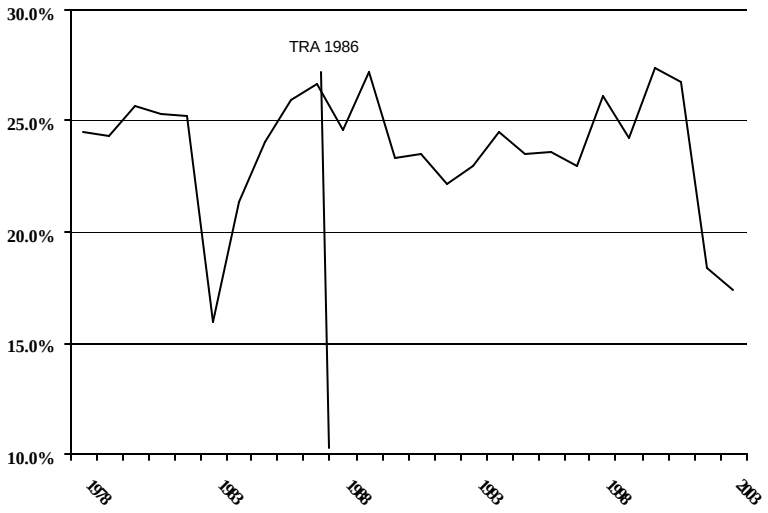
Note: 2003 is a projection.

Corporate Average or Effective Tax Rates

- Simple measure of corporate tax burden. Nominal incidence only, not economic.
- Typically defined as FY Receipts or CY Liability divided by NIPA Profits Before Tax (PBT).
- Effective tax rate trends are sensitive to choice of profits denominator; most studies use PBT or some variant of PBT. PBT is a more comprehensive measure of income and a better proxy for "economic" income compared to tax profits.
- Recent decline in effective tax rate due to (1) stock options (no), (2) tax shelters (possible, but much not captured), and/or (3) pass-through entities and legislative changes (yes).

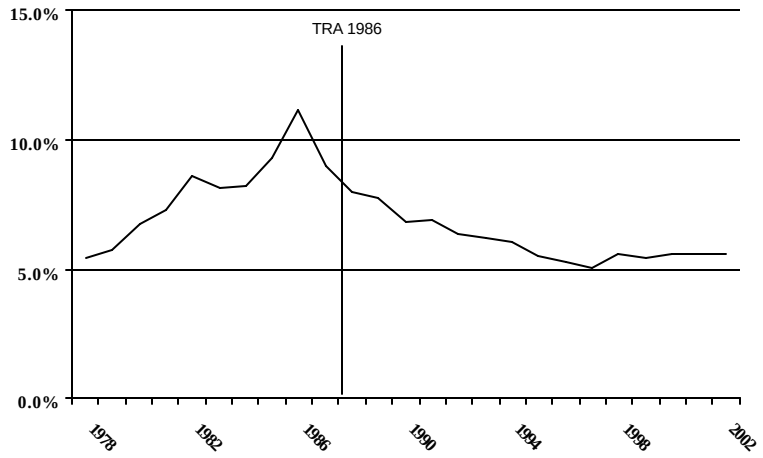
- Recent studies:
  - Sullivan (2000, 2001): PBT
  - Kies (1999,2000): PBT less Federal Reserve less S Corp Income less State-Local Tax plus Capital Gains
  - Fox and Luna (2002): PBT
  - Congressional Research Service (2000): PBT less Federal Reserve
  - MTC (2003): PBT less Federal Reserve

Federal ETR: Corporate FY Receipts / Profits Before Tax



Note: FY Receipts adjusted for shifts in 2001-03. 2001-03 PBT data are preliminary.

State-Local ETR: State and Local Tax Accruals / Domestic Profits Before Tax



Note: 2001-02 PBT and State and Local Tax Accrual data are preliminary.

Corporate Effective Tax Rates: What is in Profits Before Tax?

- Profits Before Tax defined as "receipts that arise from current production less associated expenses; such receipts do not include investment income in the form of dividends and capital gains."
- Profits Before Tax starts with tax profits and makes numerous adjustments.
- Very generally, Profits Before Tax is equal to:
  - Taxable Net Income of C and S Corporations (REITs too, minor)
  - Less Capital Gain and Dividends Income
  - Plus Unreported Income, Federal Reserve Profits, Bad Debt deduction, State-Local Tax deduction
- Modifications to foreign income too. Not relevant for this analysis.

Corporate Effective Tax Rates: Relevant Issues

Exclusion of Cyclical Tax Adjustments

- NIPA adjustments to tax profits distort effective tax rate trends because actual tax receipts no longer aligned with profit base, e.g., Capital Gains, deduction for Bad Debt. These adjustments are made purely for definitional reasons; they are not income from "current production."
- Relevant tax items that are excluded from Profits Before Tax tend to be cyclical. For example, large decline in Capital Gains for 2001 results in significant decline in receipts; no offsetting reduction to PBT denominator.
- Result: Disproportionate plunge in effective tax rates during recessions. Disproportionate increase during booms.

Corporate Effective Tax Rates: Relevant Issues

Inclusion of Unreported Income

- NIPA Profits Before Tax includes a very large adjustment for unreported income called "Adjustment for Misreporting." In theory, it is proper to include this type of adjustment in an "appropriate" tax base used to measure effective tax rates.
- The adjustment adds an estimate of the additional profits that would be revealed if all returns were audited. Published tax data and tax profits used in the NIPAs are unaudited.
- Adjustment is based on IRS audit data.
- Adjustment likely has limited value in assessing very recent shelter activity:
  - It is based on historical audit data which generally lag by 2-3 years due to lag between filing of return and actual audit.
  - It is based on illegal transactions actually identified by IRS.
  - It is based on the auditor's recommended additions to liability. Uncertain whether taxpayer will challenge and succeed. IRS may also adjust amounts retroactively.
  - It is pro-rated to all corporations; both positive income and negative income firms.
  - It is dependent on IRS audit resources and level of sophistication.
- The adjustment may or may not accurately reflect the current level of unreported income or illegal tax sheltering.
- Since amounts are apportioned to both positive and negative income firms, this adjustment continues to grow during recessions, but receipts do not. Result: declining effective tax rate during recessions.

Profits Before Tax and Adjustment for Misreporting of Income

billions of dollars

	1994	1995	1996	1997	1998	1999	2000
Profits Before Tax	573	669	726	792	721	762	782
Growth		16.6%	8.6%	9.1%	-9.0%	5.7%	2.7%
Misreporting of Income	78	86	94	108	119	136	159
Growth		9.8%	9.7%	14.5%	10.9%	13.9%	17.0%
Percent of PBT	13.6%	12.8%	13.0%	13.6%	16.6%	17.9%	20.4%

Factors Contributing to Corporate Income Tax Erosion

tax years. billions of dollars

	FY	Pass Throughs ; Positive Inc			Other Factors		
Year	Receipts	C Corps	S Corps	REITs	CB Refund	Depreciation	Net AMT
1986	63.1	330.2	23.9	0.7	-8.2	0.0	0.0
1987	83.9	373.2	45.0	0.9	-11.3	0.0	2.2
1988	94.2	448.4	58.1	1.1	-7.4	0.0	2.9
1989	102.6	428.2	63.3	1.3	-5.9	0.0	2.7
1990	93.5	417.2	67.9	1.3	-8.2	0.0	7.4
1991	98.1	400.9	66.0	1.1	-8.2	0.0	3.8
1992	100.3	429.4	79.6	1.3	-11.1	0.0	2.5
1993	117.5	496.4	86.7	1.7	-7.5	0.0	1.8
1994	140.4	554.8	107.0	2.8	-6.9	0.0	1.1
1995	157.1	642.2	115.1	3.9	-7.3	0.0	-0.5
1996	171.8	714.1	132.5	8.1	-7.2	0.0	-0.8
1997	182.3	765.7	154.7	20.5	-8.6	0.0	-0.2
1998	188.7	736.5	171.1	23.8	-9.0	0.0	-0.1
1999	184.7	783.8	187.4	30.9	-13.0	0.0	-0.4
2000	207.3	859.3	199.8	36.9	-12.2	0.0	-1.3
2001	179.1	712.9	205.3	34.7	-15.1	-10.2	-1.2
2002	121.3				-38.0	-27.3	
2003	134.6				-46.0	-32.7	
Average Annual Growth Rates							
1986-01		5.3%	15.4%	30.0%			
1991-01		5.9%	12.0%	40.9%			
1996-01		0.0%	9.1%	33.7%			

Note

C Corp data includes foreign income. Most foreign income offset by foreign tax credit.

2001 tax data are preliminary. Depreciation figures for C Corps only.

Carryback refund data are actuals and tabulated on a fiscal year basis.

Carryback refunds defined as all refunds not attributable to recent overpayments.

Summary

- Speed-up of depreciation deductions having significant impact on corporate receipts. Large reversal expected for FY 2005.
- Stock options had non-trivial impact on NIPA Wage-Salary growth. Unprecedented bull market unlikely to be repeated.
- Overall net impact on federal income tax receipts likely small.
- Effective tax rates, measured using Profits Before Tax, have declined recently due in large part to (1) cyclical tax items not included in Profits Before Tax, (2) continual increase of adjustment for Misreporting Income and (3) carryback refunds (impact of depreciation stimulus is captured in PBT) Effective tax rates should increase to normal levels as US economy emerges from recession and carryback refunds return to historical levels.
- Much tax sheltering may not show up in National Accounts.