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Capital Income Tax Revisions and Effective Tax Rates

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Summary

Several temporary provisions affecting the taxation of capital income were adopted in the 2001-2003 period, and further changes may be considered. These provisions include lower individual tax rates, bonus depreciation (which allows part of the cost of equipment to be deducted upon acquisition), and lower individual income tax rates on dividends and capital gains. To assist Congress in evaluating proposals to make some or all of these revisions permanent, this study measures their effect on tax burdens on income from different prospective investments, differentiated by physical type, form of finance, and sector. Further proposals for tax cuts contained in several bills (H.R. 1769, S. 970, H.R. 2896, S. 1475, and S. 1637) to eliminate the extraterritorial income (ETI) provision, ruled an illegal export subsidy by the World Trade Organization (WTO), are also discussed.

Effective tax burdens are determined by the statutory tax rate and value of depreciation deductions. Although the 1986 depreciation revision left income from equipment and structures investments taxed at close to the statutory rate (now 35% for large corporations), the fall in inflation and legislative changes led to a growing differential between these assets, with equipment taxed at 26% and buildings taxed slightly above 35%. Bonus depreciation widens that discrepancy, lowering the equipment tax rate to 20% (15%) for 30% (50%) bonus depreciation. The distortions between debt and equity finance within the corporate sector and between the corporate and non-corporate sector investment are narrowed, but only slightly, by the changes, especially if tax exempt financial holdings (through pensions and IRAs) are considered. This small effect occurs because bonus depreciation covers all types of equipment investment (whether financed by debt or equity and regardless of sector), and while dividend and capital gains relief benefits corporate equity, individual rate cuts benefit non-corporate investment and debt-financed corporate investment. There is a significant reduction in the differential rates on retained earnings and dividends, however. The reduction in the total tax rate on investment income in the economy is about two to four percentage points for all individual tax changes and two to four percentage points for 30% to 50% bonus depreciation.

The temporary provisions have mixed effects. All changes reduce the total tax rate and the current favorable treatment of owner-occupied housing. Within the business sector, the dividend relief provisions lead to a more neutral tax system as well, but the effects of bonus depreciation lead to less efficiency because the benefits are confined to equipment. Tax changes in ETI bills include proposals to extend (but not make permanent) bonus depreciation and provisions directed at the manufacturing sector (accelerated depreciation for manufacturing equipment and rate cuts). The tax cuts directed at manufacturing would lower tax rates in that industry by about 1.5 percentage points but they would have a negligible effect on the total tax rate (lowering it by less than a quarter of a percentage point). Some of these bills also contain other provisions (e.g. benefitting foreign source investment and small business) which would lower tax rates, but also include repeal of the ETI which would raise rates. For the aggregate economy, these effects are small, although the changes favor some assets and sectors over others. This report will be updated for legislative changes.

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Several temporary provisions affecting the taxation of capital income were adopted in the 2001-2003 period, and further changes may be considered. The 2001 tax cuts provides a phased-in reduction of individual tax rates (typically around three percentage points), which are scheduled to sunset in 2010. The 2002 tax provides bonus depreciation for equipment, allowing 30% of investment to be deducted immediately (with the remainder depreciated under standard rules). This bonus depreciation provision was enacted as a temporary stimulus applicable only to acquisitions before 2005. The bonus depreciation share was increased to 50% by the 2003 tax cut. Temporary tax reductions on dividends and capital gains received by individuals were also adopted in 2003. The top capital gains tax rate was reduced from 20% to 15%, and dividends were also made eligible for these lower tax rates. The 2003 tax cut also accelerated some of the planned individual rate reductions in the 2001 tax cut.[1]

While bonus depreciation was explicitly enacted as a temporary provision to stimulate investment in the short run, proposals have been made for a further extension. The dividend and capital gains relief proposal was originally proposed by the President to be permanent, and its temporary status, like the temporary status of individual tax provisions, may be reconsidered. Individual rate reductions enacted in the 2001 tax cut, which were sunsetted, but accelerated in 2003, would affect tax burdens of unincorporated businesses directly and of all businesses indirectly through their effects on interest income.

Congress may also consider some general corporate tax cuts in bills that terminate the extraterritorial income (ETI) provision of the tax law that has been found to be an illegal export subsidy by the World Trade Organization (WTO). The European Union, which brought the claim, can now levy countervailing tariffs on U.S. goods imported into its member states if the tax provision remains, but is delaying such action.[2] Legislative proposals include a bill cosponsored by Representatives Crane and Rangel (H.R. 1769) that includes a proposal to provide a general corporate tax cut for domestic production, a cut that is larger the greater the fraction that domestic production is of worldwide production. S. 970 (Hollings) is a similar bill in the Senate. Chairman Thomas of the Ways and Means Committee has proposed a bill (H.R. 2896) which would extend bonus depreciation for a year

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[1] For a summary of the 2001 and 2002 tax cuts see CRS Report RS20264, *Tax Activity in the 107th Congress*, by Jane G. Gravelle. For a summary of the 2003 tax cut see CRS Report RL31907, *Tax Cut Bills in 2003: A Comparison*, by David Brumbaugh and Don Richards

[2] See CRS Report RL31660. A History of the Extraterritorial Income (ETI) and Foreign Sales Corporation (FSC) Export Tax-Benefit Controversy, by David Brumbaugh.

and provide for shorter useful lives for equipment used in manufacturing, as well as make a variety of changes benefitting firms that invest abroad and small businesses. Senator Hatch has introduced a bill (S. 1475) that contains many of the provisions of H.R. 2896; this bill would not only extend bonus depreciation for a year but would increase it to 100%. More recently Finance Committee Chairman Grassley and Ranking Member Baucus have introduced S. 1637, which would, among other provisions, reduce the tax rate for manufacturing by 9%.

Effective Federal Tax Rates and Capital Allocation

A number of issues are associated with these tax provisions. Many of them were directed at short term fiscal stimulus. Indeed, bonus depreciation was expected to work more effectively because it was temporary, encouraging firms to invest earlier than they might otherwise have done to take advantage of a temporary tax benefit. However, a standard way of evaluating the effects of permanent tax changes that affect the returns to investment is to examine their effects on the allocation of capital. The method for examining this issue usually begins with measuring the effective tax rate on the returns to capital invested in different types of assets. In the absence of external effects or other "market failures," capital is allocated most efficiently when all returns are taxed in at the same rate and when financial choices are not influenced by the tax code.[3]

This report focuses on estimating the effects of these basic proposals on effective tax rate (or tax burden) on earnings, and comparing the resulting tax rates across asset types, organizational form (e.g. corporations versus unincorporated businesses), and source of finance. Effective tax rates presented in this report are estimated effective rates on income from prospective investments; they take into account the timing of deductions and the fact that a tax benefit received today is more valuable than a tax benefit received in the future because of the time value of money (i.e. money received today can be invested and yield more money in the future). (See appendix for a more detailed explanation.) These effective tax rates can differ substantially from average tax rates in the economy because the timing of deductions has a different (and in the long run, more powerful) effect on tax burdens on new investment than is reflected in average tax rate measures. Indeed, it is possible for effective tax rates on new investments to be negative, while average tax rates are positive. However, it is the effective tax rates on new investment that affect the allocation and size of the capital stock. Aside from the statutory tax rate, the main provision affecting the tax burden on new investment is how quickly the cost of the asset is recovered via depreciation deductions.

When tax depreciation matches economic depreciation, the effect is to tax the return to capital (investment income) in each period and the effective tax rate is the

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[3] Market failure is a technical term which indicates not that markets do not function, but that they do not function perfectly so that prices represent true resource costs. In practice, market failures are numerous, but in most cases are small, or cannot be easily determined and quantified, and thus make effective government intervention difficult or capable of worsening rather than improving the market failures.

statutory rate. The same effect occurs as long as the present discounted value of depreciation deductions are equal to the present discounted value of economic depreciation deductions.[4] Two opposing forces can affect depreciation (and therefore effective tax rates). Because depreciation is based on historical acquisition cost, the real value of depreciation deductions is undermined by inflation. Thus, higher inflation means higher effective tax rates.[5] This inflation effect, other things equal, raises the effective tax rate more for shorter lived investments than for longer lived ones. However, depreciation deductions are generally allowed more quickly than the rate that would be justified by economic decline and that tendency is particularly pronounced in the case of equipment, which increases the deductions value and leads to a lower effective tax rate. Most equipment assets, for example, have their costs deducted in 5 to 7 years, although they last a much longer period of time. The Internal Revenue Code specifies that buildings are deducted over 39 years (although residential structures are deducted over 27.5 years).

Tax rates can be measured in different ways. The tax rate at the corporate level on equity financed investment, which is calculated in the next section, shows the effects of depreciation rules across assets types (e.g., computing equipment, buildings). Effective corporate tax rates can also be measured as the total tax at both the corporate and personal level, which also reflects the deductibility of interest by corporations and the imposition of individual income taxes on interest, dividends, and capital gains. This measure indicates the change in the total burden on corporate investment. It can also be compared with tax rates on noncorporate investment to measure the differential between the total tax on investment in the corporate and noncorporate sectors, as well as federal income taxes on owner-occupied housing (which tend to be around zero). Tax rates can also be separated into total rates on debt financed and equity financed investment, to examine the degree of distortion that favors debt finance. Tax rates also affect the dividend payout choice, arising from differential treatment of retained earnings (which give rise to capital gains) and dividends. Finally, the overall tax rate in the economy, which requires weighting by asset type, can affect savings decisions.

Differential Federal Taxes Across Asset Types

One of the objectives of the Tax Reform Act of 1986 was to tax the earnings from different types of capital investment more evenly than had been the case in the past. Before 1986, with the statutory corporate income tax rate at 46%, effective tax rates on earnings (taking into account depreciation and statutory tax rates but not debt finance) were less than 10% for most equipment assets, while they were about 35% to 40% for buildings. After the 1986 act, the statutory rate was reduced to 34%, but depreciation was altered and the investment tax credit repealed. As a result,

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[4] The present discounted value is the value of a future dollar discounted by dividing it by $(1+r)^t$, where r is the interest rate and t is the time period. For depreciation, all of the values are summed up.

[5] Higher inflation can, however, benefit debt financed investment if the tax rate of the firm is higher than the tax rate of the creditor, because nominal rather than real interest is deducted.

equipment tax rates were only slightly below the statutory rate (about 32%) and buildings slightly above it (still about 35% to 40%). (Oil and gas structural investments, which include investment in the acquisition of reserves, though purchase or lease, and exploration and intangible drilling costs continued their favorable historical treatment.)[6]

The rationale for equal taxation is straightforward. Private markets will allocate investment to different types of capital to produce the highest after-tax returns. Absent external effects, these private market choices will lead to the most productive capital stock only if returns to assets are taxed at the same rates; in that case, the pretax or social rates of return will be equal across investments and no increase can be achieved by shifting investment from one type to another.

In the ensuing 17 years since the passage of the 1986 act, tax legislation and economic effects have re-introduced a significant difference between tax burdens on earnings from investments in equipment and structures. This differential is increased by bonus depreciation which would further favor the allocation of capital to equipment. (A temporary subsidy should not have lasting effects on the allocation of capital, so this argument applies only to making bonus depreciation permanent.)

Legislative changes increased effective tax rates, especially for buildings. In 1993, the top corporate tax rate was increased by one percentage point, a relatively neutral change that raised most tax rates by approximately one percentage point. The 1993 legislation also, however, increased the useful life for non-residential buildings (commercial structures and some industrial structures) from 31.5 years to 39 years. Although this change was large in terms of the write-off period, its effect on effective tax rates on earnings from the affected assets was relatively small, raising the tax rates of these assets by another percentage point. Tax rates on earnings for all assets fell, however, because of the decline in inflation, which now averages around 2% but was projected to be around 5% in 1986. The fall in inflation rate reduces the effective tax rate on the return to short lived assets much more than on long lived assets, and thus favors equipment. Thus, while the corporate rate increase was relatively neutral, the depreciation change penalized buildings, and the drop in inflation, while benefitting all assets, benefitted equipment and shorter lived assets the most.[7]

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[6] The beneficial treatment of mineral investment, largely in oil and gas, arises from provisions that allow much of the cost, including unproductive tracts and wells, as well as all intangible drilling costs (supplies, labor, etc) to be deducted immediately. The deduction of losses, while consistent with accounting rules, is a subsidy because the cost of unproductive tracts and wells is part of the cost of finding productive ones and should be, in theory, deducted over the useful life of productive properties.

[7] That the large shift in depreciation lives has a relatively modest effect on structures and the inflation drop is more beneficial for short lived assets may seem counterintuitive. However, an absolute change in the present value of depreciation has a larger effect on short lived assets' tax burdens than on long lived ones. (One way of thinking about this is to consider that a short lived asset has to be replaced more frequently and any burden or benefit repeated more often.) Thus even though the effect of increasing useful life has a significant effect on present value, its effect on a long lived asset is still limited. Similarly, even though

(continued...)

The resulting effective tax rates reflecting permanent depreciation rules are shown in the first column of effective tax rates in Tables 1 and 2. While buildings are taxed at rates slightly above the statutory rate, equipment is taxed at rates well below it. On average equipment effective tax rates are only 26%, or about three quarters of the statutory rate. Structures overall are taxed at 32% but that average reflects favorable treatment for mining, farm and public utility structures (the latter are generally treated as equipment in the tax law). Buildings are taxed at rates in excess of the statutory rate.

Tables 1 and **2** also illustrate the effects of the various levels of bonus depreciation. The 30% bonus depreciation reduces effective tax rates for equipment, on average, from 26% to 20%; the 50% bonus depreciation reduces the rate to 15%. Unlike incentives such as investment credits, bonus depreciation cannot reduce tax rates on equity investment below zero; 100% bonus depreciation leads to a zero rate.

The Debt Equity Distortion

Another issue particularly related to dividend and capital gains relief is the differential tax treatment, within the corporate sector, of debt versus equity financed capital. Debt is favored at the corporate level because corporations deduct interest payments. However, equity is favored at the individual level because capital gains tax rates are lower, taxes are deferred (not due until the stock is sold), and are never paid if shares are passed on at death. Individual taxes on the return to capital are also reduced because they are imposed on profits after the corporate tax and thus the corporate tax is effectively deductible from the individual tax base. For an individual in the 30% tax bracket, for example, the tax on interest income is 30% for a dollar of earnings, but the additional individual tax on equity is only 20% (0.3 X (1-0.35)). The recent temporary revisions lowered the tax rate on capital gains (for most recipients) from 20% to 15 % and extended these lower tax rates to dividends – a change favoring equity investment. There was also a temporary benefit to debt finance, from the individual tax rate reductions, so that one cannot be sure of the direction of the effect.

The effective tax rate on debt vs. equity is complicated by the existence of tax favored forms of individual investment, through pensions and IRAs, where individual tax rates are effectively zero. If these effects are taken into the account, current tax rates are lower and the effect of changes in individual tax rates less important. Since these pension funds and IRA account managers (whether or not self directed) can also choose between debt and equity, the case with these effects incorporated is probably more realistic.

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[7] (...continued)
inflation reduces the present value of depreciation absolutely more for longer lived assets, its effect on tax burden is still greater than for shorter lived assets.

Table 1: Effective Tax Rates by Asset Type, Non-Residential Fixed Investment With and Without Bonus Depreciation

Asset Type	Permanent	30% Bonus	50% Bonus
Autos	34	27	21
Office/Computing Equipment	31	24	18
Trucks/Buses/Trailers	29	22	17
Aircraft	29	22	17
Construction Machinery	23	18	13
Mining/Oilfield Equipment	28	22	16
Service Industry Equipment	28	22	16
Tractors	27	20	15
Instruments	28	21	16
Other Equipment	27	20	15
General Industrial Equipment	25	19	15
Metalworking Machinery	23	18	13
Electric Transmission	33	26	20
Communications Equipment	19	14	10
Other Electrical Equipment	24	18	13
Furniture and Fixtures	23	17	13
Special Industrial Equipment	21	16	12
Agricultural Equipment	21	16	12
Fabricated Metal	29	22	17
Engines and Turbines	36	28	22
Ships and Boats	17	13	9
Railroad Equipment	18	13	10
Mining Structures	7	7	7
Other Structures	40	40	40
Industrial Structures	37	37	37
Public Utility Structures	27	20	16
Commercial Structures	36	36	36
Farm Structures	26	20	15

Source: Congressional Research Service. See appendix for method of computation and assumptions.

Table 2: Weighted Average Effective Firm Level Tax Rates (Assuming No Debt)

Asset Type	Permanent Law	30% Bonus	50% Bonus
Equipment	26	20	15
Structures	32	30	29
Total	30	27	24

Note: Structures reflect a weighted average of the last six rows of Table 1. The remaining assets are equipment.
Source: Congressional Research Service. See appendix for method of computation and assumptions.

Table 3 presents estimated effective tax rates on debt and equity under a variety of scenarios. The first four rows consider the case without tax favored forms of individual investment, comparing debt and equity under permanent tax rates and those enacted in the 2001 and 2003 tax cuts. The last four average in the tax favored forms. The columns consider the effects of bonus depreciation in each case. In each case, the debt-equity distortion has been reduced, but the reduction is small because both debt and equity benefit from lower individual tax rates and from bonus depreciation.

In comparing tax rates with large discrepancies and particularly negative rates, a more meaningful comparison is the tax wedge, or the excess by which the pretax return must exceed a fixed after tax return, which is measured by t/(1-t), where t is the tax rate. Thus under current law without considering pension effects, a debt financed return must exceed the after tax return by 19% (0.16/(1-0.16)) while an equity financed return must exceed the after tax return by 82% (0.45/(1-0.45)). The difference between those is 63% of after tax return. The new rates (first column of rates) reduce the difference to 52%, which is a change of 11% (closing about one sixth of the gap). The effect of bonus depreciation is a change of about 7%. The combined change is 15%.[8]

If pensions and IRAs are taken into account, the differentials are smaller (in fact negligible for the individual rate changes). The initial gap change is about the same, but the change is 2%, which closes about one thirtieth of the gap. The effect of bonus depreciation is about 5% and the combined effects about 11%. If the pension and IRA case is taken to be the most reasonable one, then there is a very minimal effect on the distortion between debt and equity due to individual rate changes not only because they benefit both debt and equity but also because the changes are quite small.

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[8] Not too much attention should be given to the precise measures, as contrasted with general magnitudes, because these amounts can be affected by the rounding of the tax rates prior to calculation.

Table 3: Weighted Average Effective Tax Rates on Debt vs. Equity, Corporate and Individual Taxes

Asset Type	No Bonus Depreciation	30% Bonus	50% Bonus
Debt, Permanent Individual Rates	16	12	10
Equity, Permanent Individual Rates	45	42	40
Debt, Lower Individual Rates	11	7	4
Equity, Lower Individual Rates, Dividend Relief	39	36	34
Debt, Permanent Individual Rates, With Pensions and IRAs	-7	-12	-15
Equity, Permanent Individual Rates, With Pensions and IRAs	37	34	32
Debt, Lower Individual Rates, With Pensions and IRAs	-13	-15	-18
Equity, Lower Individual Rates, Dividend Relief, With Pensions and IRAs	34	30	28

Source: Congressional Research Service. See appendix for method of computation and assumptions.

Corporate Versus Non-corporate Distortions

Aside from the distortion between debt and equity, the corporate tax also discourages investment in the corporate sector. Table 4 examines the total effective tax rate in the corporate sector as compared with the non-corporate sector under the different tax regimes.

As in the case of the debt vs. equity case, calculations are also done taking into account the lower individual tax rates for pensions and IRAs. Since these entities would not invest directly in unincorporated businesses (such as sole proprietorships and partnerships), the non-corporate numbers consider only the case when the providers of loans are not fully subject to tax. However, since non-corporate investment is not a viable alternative for passive investment entities such as pension plans, the more relevant measure may be the tax rates without incorporating these effects, since it is among taxable accounts that choices might be made about investing directly in businesses rather than financial instruments.

This analysis suggests a reduction in the tax differential between corporate and non-corporate investments, but that reduction is relatively small regardless of the rules on bonus depreciation. That effect is again because the tax bill provided reductions for all four forms of investments: corporate debt, corporate equity, non-corporate debt, and non-corporate equity. All forms of business investment benefit from bonus depreciation. The dividend relief provisions (and slightly lower capital gains tax rates) benefit corporate equity, but the lower individual tax rates benefit corporate and non-corporate debt and non-corporate equity.

Table 4. Weighted Effective Total Tax Rates on Corporate and Non-corporate Sectors, Equipment and Structures

Asset Type	Permanent Depreciation Rules	30% Bonus	50% Bonus
Corporate: Permanent Individual Rates	39	36	33
Corporate: Dividend Relief	34	31	28
Corporate: Permanent Rates, With Pensions and IRAs	29	26	23
Corporate: Dividend Relief, With Pensions and IRAs	26	23	20
Non-corporate: Permanent Individual Rates	22	20	19
Non-corporate: Lower Individual Rates	19	18	17
Non-corporate: Permanent Individual Rates, With Pensions and IRAs for Debt Finance	17	15	14
Non-corporate: Lower Individual Rates, With Pensions and IRAs for Debt Finance	14	13	12

Source: Congressional Research Service. See appendix for method of computation and assumptions.

Distortions of Payout Decisions

The dividend relief provision will significantly reduce the favorable treatment of retained earnings by lowering the tax rate on dividends to the tax rate on capital gains. Under permanent law, the tax on a dollar of dividends was the marginal tax rate of the individual which could be as high as 39.6%. The top tax on capital gains

is fixed at 20% (for those in the permanent 28% or higher brackets).[9] However, the effective rate on gains is lowered because tax is deferred until the stock is sold; deferring the tax by an estimated average of 5 years leads to a tax rate of 18%.[10] Moreover, since CRS has found that approximately half of these gains are held until death and not taxed, the rate is about 9%.

This spread is greatly narrowed by the dividend relief provision, which lowers both rates to 15%. The tax rate on capital gains falls to about 7%, but the gap between the 15% dividend rate and the new 7% rate is much smaller than the gap between the 28% to 39.6% rates and the 9% rate in prior law. However, these pre-existing distortions and the magnitude of the reduction due to the dividend rate would be reduced by half if the assets held in non-taxable accounts such as pensions and IRAs were included.

Total Effective Federal Tax Rates

The overall effective tax rate for new investment needs to account for tax rates on the assets already considered (corporate and non-corporate investment in plant and equipment) and also owner-occupied housing as well as business inventories. Business inventories tend to be taxed at slightly higher rates, while owner occupied housing is generally subject to a zero tax.[11] The effective tax rates depend on whether the lower individual tax rates on funds invested in pensions and IRAs are marginal (affecting new investment) or infra-marginal as well as how much individuals are willing to substitute between savings within and outside the plans. Table 5 reports tax rates calculated two ways, one with individual tax rates, assuming no marginal investment takes place in these plans, and the other weighting the tax burdens between tax favored and regular savings accounts 50/50, reflecting the approximate shares of current earnings in these forms.

As this table indicates the effect of the individual tax rates is, as expected, about twice as large in the case where no infra-marginal investment is in pensions – reducing (under permanent depreciation rules) the overall effective tax rate from 30% to 26% or four percentage points. With IRAs and pensions, tax rates are much lower (about 22%) and the reduction is two percentage points, to 20%. Thus, the individual rate reductions reduce effective tax rates on all capital, on average, by about 10% to 15%. Bonus depreciation has about the same percentage point effect regardless of

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[9] Gains held over 5 years and acquired after a certain date are eligible for an 18% tax rate, although this rate had not yet become effective.

[10] Note that this is a tax rate on nominal gains, which is appropriate to compare with a marginal dollar of dividends. In calculating other tax rates in this analysis, the tax rate on real (inflation adjusted) gains is used, which is higher.

[11] The inability to deduct mortgage interest for non-itemizers (which is required to achieve a zero tax rate) results in a slight positive tax, which is offset by the ability of itemizers to deduct property taxes (which should not be deducted to obtain a zero tax). Of course, the estimates considered concern only federal individual income taxes and not state and local taxes including property taxes, which apply more heavily to structures than to equipment and inventories.

the tax regime – about two percentage points for 30% bonus depreciation and about four for 50% bonus depreciation. It reduces effective tax rates by 7% to 9% for 30% bonus depreciation and 13% to 19% for 50% bonus depreciation. If both the rate reductions and 50% bonus depreciation are considered, the percentage point reduction is six to eight percentage points, reducing overall effective tax rates by a quarter to a third.

Table 5: Total Effective Tax Rates

Tax Regime	Permanent Law	30% Bonus	50% Bonus
Permanent Individual Rates	30	28	26
Lower Individual Rates	26	24	22
Permanent Individual Rates with IRAs and Pensions	22	20	18
Lower Individual Rates with IRAs and Pensions	20	18	16

Source: Congressional Research Service. See appendix for method of computation and assumptions.

Tax Provisions in Bills Addressing ETI

Several bills introduced to repeal the Extraterritorial Income Tax (ETI) provision, found to be an illegal export subsidy according to the World Trade Organization (WTO), contain broadly applicable provisions affecting corporations. This sections examines the effect of these proposed provisions on some of the tax rates discussed above.

Chairman Thomas's bill, H.R. 2896, includes two provisions that have general effects: a provision allowing manufacturing equipment a shorter recovery period (by 2 years) and a provision extending the 50% bonus depreciation for a year. Effects of bonus depreciation have already been discussed. Table 6 calculates the effects of the shorter depreciation lives on some typical types of manufacturing equipment.

Typically the shorter lives reduce effective tax rates about five percentage points under permanent law, about four percentage points for 30% bonus depreciation, and about three percentage points for 50% bonus depreciation. The provision would increase the differences between equipment and structures within manufacturing as well as favor manufacturing in general. The overall effects on tax burdens are small, however, because these provisions cover only manufacturing equipment, estimated to be about 20% to 25% of equipment assets, and about 10% of combined equipment and structures. For manufacturing overall, equipment is about a third of reproducible

capital so the overall rate reduction in the industry is about 1.5 percentage points with no bonus depreciation. (See appendix for data sources on asset allocation). Since manufacturing represents about 25% of the overall corporate capital stock, the overall corporate tax rate would fall by less than a half a percentage point with no bonus depreciation, and even less with bonus depreciation. Corporate assets are in turn about 50% of the total capital stock, so the overall effect would be quite small (i.e., less than a quarter of a percent).

Table 6: Effective Tax Rates on Manufacturing Equipment with Shorter Lives in H.R. 2896

Asset Type	Permanent Law	30% Bonus	50% Bonus
Instruments	22	17	13
Other Equipment	21	16	12
General Industrial Equipment	21	14	12
Metal Working Machinery	18	14	10
Special Industrial Equipment	16	12	9
Fabricated Metal Products	27	21	16

Source: Congressional Research Service. See appendix for method of computation and assumptions.

H.R. 2896 also contains some other provisions relating to multinational corporations that would lower effective tax rates, but they do not apply to investment in general. These provisions would reduce effective tax rates, and there would also be an offset due to the repeal of the ETI.

Senator Hatch's bill, S. 1495, is similar to H.R. 2896 but proposes 100% expensing, which would reduce equipment investment tax rates to zero. As in H.R. 2896, however, this provision would be a temporary extension.

A bill co-sponsored by Representatives Crane and Rangel, H.R. 1769 (and a similar Senate bill, S. 970 (Hollings)), would provide a deduction of up to 10% percent of income from domestic production. The deduction would be multiplied by the share of the total business that is domestic. Thus, the deduction for total income would be multiplied by the share domestic squared. If 50% of a firms output was domestic, its effective rate for domestic earnings would be 5% and the effective deduction overall would be 2.5% ($10\% \times (0.5)^2$). (Tax paid on foreign source income is often received by the foreign government rather than the U.S. government, but the effects on marginal tax rates still occur.) Based on data from the Internal

Revenue Service (see appendix), controlled foreign corporations in manufacturing accounted for 82% of receipts and 87% of assets of American manufacturing corporations in 1998. Thus, the effective rate is from 67% to 76% as large – the midpoint results in an effective tax rate of 32.5% (0.35X(1-0.1X0.71).

S. 1637 (Grassley and Baucus) proposes a general rate cut that will lower the tax rate on manufacturing by 9%, or to approximately 32%, and since it applies to domestic income will be similar to the rate in the Crane and Rangel bill.

A reduction in corporate tax rate to 32% would reduce effective tax rates on manufacturing structures by close to three percentage points. It would reduce the rate on manufacturing equipment by about 2.5 percentage points with no bonus depreciation and by 1.6 percentage points under 50% bonus depreciation. For this industry, therefore it would narrow the difference between equipment and structures, while, of course, favoring investment in domestic manufacturing in general. Since about a third of manufacturing assets are in equipment and a third in structures, the overall effect on manufacturing plant and equipment investment would be similar to the depreciation provisions in the Thomas bill at the firm level. Investment in inventories would, however, also benefit; at the same time the depreciation provision applies to debt financed investment but the rate reduction does not benefit debt. Overall manufacturing investment would have a reduction in effective tax rate of about 1.5 percentage points – about the same as the depreciation speedup; thus, as in the case of the depreciation provision, the reduction in the total tax rate in the economy would be less than a quarter of a percent.

The effects of these two approaches – faster depreciation of equipment as compared to a rate cut – are similar in some ways. They are about the same aggregate size and both relatively small for the economy as a whole. Both provisions reduce taxes in the manufacturing sector (and favor that industry over others) but since manufacturing is largely corporate, both measures reduce corporate taxes overall whether the corporate rate itself is specified or more general tax reduction allowed. While the magnitudes of the bills' reduction on manufacturing and on the economy in general are similar, the approaches differ in some ways. The accelerated depreciation for equipment increases the favoritism for equipment relative to structures in this sector and does nothing to reduce the debt-equity distortion, while the corporate rate cut reduces the differences between tax rates across assets as well as reducing the distortion for debt. The Crane-Rangel bill would also encourage more investment in the United States relative to the other proposals, which may or may not be desirable.[12] The depreciation provision would, however, be much easier to administer and would have more "bang for the buck" (i.e. decrease tax burdens at a smaller revenue cost) because it would apply only to returns to new investment.

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[12] This issue is beyond the scope of this paper, but basically if the objective is to maximize U.S. economic welfare, a provision to encourage domestic investment would help to achieve that objective. If the objective is to maximize worldwide efficiency, the incentive to invest abroad may or may not reduce efficiency, depending on how heavily capital income is taxed abroad relative to its tax burden in the United States.

Note, however, that this comparison relates only to these two aspects of the proposals. H.R. 2896 contains provisions in several other areas, including repeal of ETI. The extension of bonus depreciation has already been noted, but the bill would also reduce the depreciation period for leasehold improvements and restaurants, which would lower tax rates on this group of structures' investments (which are currently subject to relatively high rates); these effects are difficult to measure but would be small. There are provisions aimed at small business including a lower inframarginal corporate tax rate and a temporary increase in the amount of equipment investment that can be deducted on acquisition. These provisions are inframarginal for some firms and would not have effects on investment: the rate reduction would encourage investment in small corporations, and the extension of expensing would favor investment in equipment for certain small businesses. To the extent that small businesses tend to be unincorporated, the favorable treatment of the noncorporate sector would be increased, as would the favorable treatment of equipment in those businesses. There are a number of provisions that would significantly reduce the tax on income from investment overseas (foreign investments are currently favored in some cases and penalized in others), and would address some tax shelter issues. Finally there are provisions affecting carryovers of losses, application of the alternative minimum tax, and temporary extension of the R&D tax credit. It is very difficult to quantify these effects. S. 1637 also contains additional provisions, but the focus on a more limited number of foreign tax revisions. Overall, H.R. 2896 loses $128 billion over 10 years according to the Joint Committee on Taxation, while S. 1637 is roughly revenue neutral.

Effects on Efficiency and Tax Neutrality

The 2001-2003 temporary tax cuts have a mixed effect in that they magnify some existing distortions while reducing others.[13] All capital income tax cuts reduce the distortion that favors consumption over investment, although it is by no means clear that tax cuts for capital income increase saving (because of offsetting income and substitution effects[14]) and debt financed tax cuts could well reduce the national (government plus private) savings rate. Any capital income tax cut also reduces the favorable treatment of owner occupied housing.

In looking at the allocation of business capital, the dividend relief provision seems most consistent with economic efficiency, because it reduces distortions affecting payout choices, choice of finance, and sectoral allocation, without

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[13] Distorting taxes may be considered appropriate to maximize economic efficiency if there are external effects that justified these interventions;. however, there is little consensus that these effects are significant or can be determined in a way that could inform policy. A full discussion is outside the scope of this paper, but see the discussion of justifications for nonneutral taxation in Jane G. Gravelle, *The Economic Effects of Taxing Capital Income*, Cambridge, MIT Press, 1994, pp. 60-73.

[14] While the higher rate of return with a lower tax has a price effect that encourages individuals to substitute future consumption for present consumption, the higher overall incomes allow both present and future consumption to increase. The effect on savings is ambiguous in theory and has not been settled by empirical evidence.

magnifying any existing distortions. Reducing individual tax rates magnifies existing distortions, by favoring debt finance and noncorporate investment. Bonus depreciation, if made permanent, has aspects that detract from efficiency, by expanding the favorable treatment of the returns from equipment investments relative to returns from investment in structures, while doing little to reduce financial or sectoral distortions.

The revisions in the bills addressing the ETI provision favor manufacturing, and when accomplished via equipment depreciation expand the favorable treatment of equipment within that sector. The overall effects outside of that sector are very small, however.

Of course, there are other issues aside from the efficiency considerations that might be considered in making the temporary provisions permanent or in enacting new ones. Many of these provisions, particularly bonus depreciation, were originally aimed at short run stimulus of the economy. An investment subsidy such as bonus depreciation is a more effective stimulus if it is temporary, and making it permanent might undermine the credibility of the government and hamper its ability to manage fiscal policy in the future. That is, the effectiveness of a temporary investment stimulus depends on investors believing it to be temporary, and if the government transforms the current temporary stimulus into a permanent one, firm managers may be less likely to believe that another temporary stimulus enacted in the future will actually be temporary. Capital income taxes play an important role in the revenue base and the overall distribution of tax burdens, which might be considered. Some tax revisions may add to administrative costs while others reduce those costs, and others (such as changing rates) are largely neutral. For example, tax rate cuts confined to manufacturing create a classification issue for firms (or related firms) that engage in activities both within and without manufacturing. These tax rate cuts would require allocation rules that may add significantly to both administrative costs and opportunities for tax sheltering.

Appendix

The tax rates in this paper are calculated by first determining, given a required after-tax return and an expected rate of decline in productivity of the asset due to depreciation, how much the investment must initially produce in order for the sum of profits after tax over time, discounted by the after-tax return, to equal the individual investment outlay (i.e., to break even). Then all of the tax payments and deduction are eliminated and the before profit flows are used to determine what pre-tax discount rate would sum the flows to original cost. The effective tax rate is the pretax rate of return minus the after tax rate of return, divided by the pretax rate.

Discounting means dividing each flow by a discount factor; for a flow earned a year from now, the discount factor is (1+r), for a flow earned 2 years from now $(1+r)^{2,}$ for a flow 3 years from now $(1+r)^{3,}$ where r is the discount rate. In practice, however, the analysis uses a continuous time method with continuous compounding. The formula derived from this method is

(1) $r = (R+d)(1-uz)/(1-u) - d$

where r is the pre-tax return, R is the after tax-discount rate of the corporation, d is the economic depreciation rate, u is the statutory tax rate and z is the present value of depreciation deductions (discounted at $R + \pi$, where π is the inflation rate). The effective tax rate for equity at the firm level is (r-R)/r. When including individual level taxes and debt finance, the tax rate is measured by determining r as above, where $R = f(i(1-u)-\pi) + (1-f)E$, where f is the share debt financed, i is the nominal interest rate, and E is the real return to equity before individual tax but after corporate tax. E is equal to D + g, where D is the dividend rate and g is the growth rate. The after tax real return, R*, is $f(i(1-t)-\pi) +(1-f)(D(1-t) +g(1-c))$, where t is the effective individual tax rate and c is the effective capital gains tax rate. The total tax rate is (r-R*)/r.

For a more complete description of the methodology and data sources, including useful lives for depreciation purposes, formulas for measuring z, and the allocation of assets in the economy see Jane G. Gravelle, *The Economic Effects of Taxing Capital Income*, Cambridge, MA, MIT Press, 1994.

For purposes of this analysis, the following assumptions were made: the interest rate is 7.5%, the inflation is 2%, and the real return to equity before individual taxes is 7% , with a 4% (or 57% of real profits) paid as dividends. The corporate rate is 35%, the average individual marginal tax rate on investment income is 26% under permanent law and 23% under the lower individual rates (data consistent with calculations in the National Bureau of Economic Research TAXSIM model). Tax rates on dividends fall from 26% to 15% and the statutory tax rate on capital gains falls from 20% to 15%. One half of corporate stock is sold (and the remaining half held until death); the holding period is 5 years. Half of financial assets are held in tax exempt forms such as pensions and IRAs.

Data to calculate domestic shares of income for purpose of analyzing the Crane-Rangel bill data on receipts and assets for controlled foreign corporations were taken

from John Comisky, "Controlled Foreign Corporations, 1998," *Statistics of Income Bulletin*, Winter 2002-2003, pp. 47-86. Data for U.S. corporations overall were taken from Internal Revenue Service, *Statistics of Income 1998, Corporation Income Tax Returns*, Washington DC, 2000.