

Table 1. Key Current Law U.S. cost of capital model parameters

	Current Law 2022-2031		Policy 2022-2031	
Market Rates of Return (in percent)				
Inflation Rate	2.00		2.00	
Nominal Interest Rate	3.62		3.62	
Real Return on Equity	6.33		6.33	
Federal Tax Rates (in percent)				
Statutory Federal Corporate Income Tax Rate	2022-2025	2026-31	2022-2025	2026-31
	21.00	21.00	28.00	28.00
Individual-Level Tax Rates on:				
Dividend Income	18.45	19.30	26.55	26.66
Long-term Capital Gains	20.07	20.82	31.99	32.58
Short-term Capital Gains	29.33	31.85	31.83	33.50
Interest Income	24.79	28.37	27.20	29.78
Home Mortgage Interest and Real Estate Tax	-14.36	-20.62	-14.60	-21.26
Pass-through Business Income	27.57	31.27	29.64	31.66
Distributions of Nonqualified Annuities	17.51	20.45	17.68	20.51
Marginal Effective ITC Rate on Total R&D	6.89	6.89	6.89	6.89
Vary by Sector				
Shares of Marginal Saving Deferred or Exempted				
<i>Corporate Equity</i>				
Temporarily Tax Deferred	0.045		0.045	
Nontaxable	0.322		0.322	
<i>Corporate Debt</i>				
Temporarily Tax Deferred	0.173		0.173	
Nontaxable	0.291		0.291	
<i>Pass-through Business Debt</i>				
Temporarily Tax Deferred	0.113		0.113	
Nontaxable	0.148		0.148	
<i>Homeowner Debt</i>				
Temporarily Tax Deferred	0.029		0.029	
Nontaxable	0.078		0.078	
Vary by Industry (industry averages shown)				
Share of Investment Financed with Debt				
C-corporations	0.3226		0.3226	
Pass-through Business	0.2285		0.2285	
Owner-occupied Housing	0.4241		0.4241	
Share of After-tax Profit Retained by C-	0.6629		0.6629	
Average Holding Period (in years) for Inventories	0.3657		0.3657	



Table 2. Current Law^f Effective Marginal Tax Rates on New Investment (in Percent)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Business	21.1	21.8	22.5	23.3	24.6	25.4	25.4	25.4	25.4	25.4
Corporate Business	18.9	19.6	20.3	21.2	23.2	24.5	24.5	24.5	24.5	24.5
Asset Type										
Equipment ^a	7.5	9.6	11.9	14.5	18.8	23.3	23.3	23.3	23.3	23.3
Structures ^b	17.3	17.8	18.4	19.3	21.6	24.2	24.2	24.2	24.2	24.2
Land ^c	27.5	27.5	27.5	27.5	28.4	28.4	28.4	28.4	28.4	28.4
Inventories ^{c,d}	31.0	31.0	31.0	31.0	31.7	31.7	31.7	31.7	31.7	31.7
Intangibles ^e	8.4	8.4	8.4	8.4	9.6	9.6	6.4	9.6	9.6	9.6
Financing										
Debt-financed	2.4	3.7	5.2	6.8	13.9	16.3	16.3	16.3	16.3	16.3
Equity-financed	20.4	21.1	21.8	22.7	24.1	25.2	25.2	25.2	25.2	25.2
Pass-through Business	24.2	24.7	25.2	25.6	26.4	26.7	26.7	26.7	26.7	26.7
Asset Type										
Equipment ^a	9.3	14.7	20.0	24.0	14.3	20.2	20.2	20.2	20.2	20.2
Structures ^b	21.4	21.9	22.8	24.3	24.3	24.9	24.9	24.9	24.9	24.9
Land ^c	28.2	28.3	28.5	28.6	29.7	29.7	29.7	29.7	29.7	29.7
Inventories ^{c,d}	32.3	32.3	32.3	32.3	36.4	36.4	36.4	36.4	36.4	36.4
Intangibles ^e	9.7	11.0	14.5	21.7	6.2	6.2	6.2	6.2	6.2	6.2
Owner-occupied Housing	2.7	2.7	2.7	2.7	-4.7	-4.7	-4.7	-4.7	-4.7	-4.7
Total	14.2	14.6	15.0	15.2	15.4	16.7	16.7	16.7	16.7	16.7

Source: US Department of the Treasury, Office of Tax Analysis

Notes: LIFO = last in first out; FIFO = first in first out; EMTRs = effective marginal tax rates; TCJA = Tax Cut and Jobs Act.

The effective marginal tax rates shown include firm-level taxes and individual-level taxes. They also include Section 179 expensing, the Research and Experimentation (R&E) credit, and bonus depreciation.

The individual-level taxes used to calculate the EMTRs are budget-period (2021-30) averages obtained from OTA's Individual Tax Model. The inflation rate and the nominal interest rate used are also budget-period averages. They are taken from the Administration's fiscal-year 2021 baseline forecast.

- a. Equipment includes both nonresidential and residential equipment.
- b. Structures include nonresidential, tenant-occupied, and owner-occupied structures.
- c. The economic depreciation rate is set to zero and no tax depreciation is included when calculating EMTRs.
- d. For inventories, the effective marginal tax rate is calculated using a cost of capital that is a weighted average of the cost of capital under LIFO accounting and the cost of capital under FIFO accounting.
- e. Intangible assets include research and development (R&D), artistic originals, and advertising. Advertising is assumed to be expensed. Artistic originals are assumed to be depreciated over 15 years using the straight-line method. R&D assumed to be expensed in 2021 and amortized over 5 years beginning in 2022.
- f. The EMTRs assume that most of TCJA's individual provisions sunset at the end of calendar year 2025 and that

Table 3. Policy^f Effective Marginal Tax Rates on New Investment (in Percent)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Business	25.9	26.7	27.4	28.3	29.6	30.5	30.5	30.5	30.5	30.5
Corporate Business	26.2	27.1	28.0	29.1	31.0	32.6	32.6	32.6	32.6	32.6
Asset Type										
Equipment ^a	10.3	13.3	16.4	20.0	25.0	30.7	30.7	30.7	30.7	30.7
Structures ^b	23.6	24.3	25.1	26.1	28.5	31.7	31.7	31.7	31.7	31.7
Land ^c	36.2	36.2	36.2	36.2	36.8	36.8	36.8	36.8	36.8	36.8
Inventories ^{c,d}	40.5	40.5	40.5	40.5	40.9	40.9	40.9	40.9	40.9	40.9
Intangibles ^e	19.5	19.5	19.5	19.5	20.2	20.2	20.2	20.2	20.2	20.2
Financing							7.5			
Debt-financed	-4.9	-2.9	-0.6	2.0	9.2	12.9	12.9	12.9	12.9	12.9
Equity-financed	29.1	29.9	30.8	31.8	33.2	34.6	34.6	34.6	34.6	34.6
Pass-through Business	25.1	25.5	25.9	26.2	26.9	27.2	27.2	27.2	27.2	27.2
Asset Type										
Equipment ^a	5.7	10.4	15.1	19.0	14.7	20.8	20.8	20.8	20.8	20.8
Structures ^b	22.7	23.0	23.6	24.5	24.7	25.4	25.4	25.4	25.4	25.4
Land ^c	29.2	29.3	29.3	29.4	30.2	30.2	30.2	30.2	30.2	30.2
Inventories ^{c,d}	34.9	34.9	34.9	34.9	37.2	37.2	37.2	37.2	37.2	37.2
Intangibles ^e	8.4	9.2	11.4	16.1	6.5	6.5	6.5	6.5	6.5	6.5
Owner-occupied Housing	3.8	3.8	3.8	3.8	-4.5	-4.5	-4.5	-4.5	-4.5	-4.5
Total	18.0	18.4	18.7	19.0	19.3	20.9	20.9	20.9	20.9	20.9

Source: US Department of the Treasury, Office of Tax Analysis

Notes: LIFO = last in first out; FIFO = first in first out; EMTRs = effective marginal tax rates; TCJA = Tax Cut and Jobs Act.

The effective marginal tax rates shown include firm-level taxes and individual-level taxes. They also include Section 179 expensing, the Research and Experimentation (R&E) credit, and bonus depreciation.

The individual-level taxes used to calculate the EMTRs are budget-period (2021-30) averages obtained from OTA's Individual Tax Model. The inflation rate and the nominal interest rate used are also budget-period averages. They are taken from the Administration's fiscal-year 2021 baseline forecast.

a. Equipment includes both nonresidential and residential equipment.

b. Structures include nonresidential, tenant-occupied, and owner-occupied structures.

c. The economic depreciation rate is set to zero and no tax depreciation is included when calculating EMTRs.

d. For inventories, the effective marginal tax rate is calculated using a cost of capital that is a weighted average of the cost of capital under LIFO accounting and the cost of capital under FIFO accounting.

e. Intangible assets include research and development (R&D), artistic originals, and advertising. Advertising is assumed to be expensed. Artistic originals are assumed to be depreciated over 15 years using the straight-line method. R&D assumed to be expensed in 2021 and amortized over 5 years beginning in 2022.

f. The EMTRs include Greenbook proposals that would raise the corporate income tax rate (from 21% to 28%) and marginal tax rates on dividend income and capital gains.

Notes on Effective Marginal Tax Rates (EMTRs) on new investment under Current Law (CL) and Policy (i.e., the 2021 Greenbook proposals):

1. EMTRs on new investment are calculated under CL and policy (see Tables 2 and 3). The policy proposals include an increase in the flat federal corporate income tax rate from 21% to 28%. They also include an increase in the top marginal individual income tax rate to prior law levels (of 39.6%) in 2022 through 2025 and higher marginal tax rates on dividend income and capital gains.
2. EMTRs under CL and policy from 2027 forward are the same because bonus depreciation has fully phased out and TCJA’s individual provisions have sunset.
3. EMTRs between 2022 and 2026 vary by year because bonus depreciation phases out at a rate of 20 percentage points per year beginning in 2023 (i.e., bonus depreciation is 80% in 2023, 60% in 2024, 40% in 2025, 20% in 2026, and 0% in 2027) and TCJA’s individual provisions sunset at the end of calendar year 2025. The effects of these year-to-year changes in tax law are captured in the cost of capital model using a “comprehensive” measure for the user cost of capital (c_s) given by

$$(1) \quad c_s = ((1 - \Gamma_s)/(1 - \tau_s))(r + \delta + ((\Gamma_{s+1} - \Gamma_s)/(1 - \Gamma_s))),$$

where $\Gamma_s = k_s + A_s(1 - k_s)$, A_s is the present value of the tax benefit from depreciation allowances, k_s is an investment tax credit rate, r is the real discount rate, and δ is the economic depreciation rate.

Equation (1) includes a component, $((\Gamma_{s+1} - \Gamma_s)/(1 - \Gamma_s))$, that makes the user cost of capital in period s a function of an anticipated one-period change in the present value (PV) of the tax benefit from depreciation allowances. The PV of the tax benefit from depreciation allowances can vary as a result of either a change in the business income tax rate or a change in the PV of tax depreciation.

4. For corporate businesses, EMTRs on new investment for all asset types are higher under policy. However, it is worth noting that two types of effects work in opposite directions. The increase in the corporate income tax rate from 21% to 28% would tend to increase the user cost of capital. However, it would also increase the value of deductions for interest expenses, which would have the effect of reducing the real discount rate on debt-financed investment. A lower real discount rate would imply a higher PV of tax depreciation and a higher PV of the tax benefit of depreciation allowances. The net result of these offsetting effects can vary depending on how the investment is financed and the extent to which the investment benefits from depreciation.
 - a. Under policy, the PV of tax depreciation and the PV of the tax benefit from depreciation allowances are higher for debt-financed corporate investment and for total corporate investment (i.e., a weighted average of debt-financed investment and equity-financed investment). This is true for equipment, structures, and intangibles.
 - b. The user cost of capital is lower for debt financed corporate investment for all asset types and for total corporate investment in equipment. However, it is higher for total corporate investment in structures and intangibles.
 - c. All 43 types of equipment in the cost of capital model benefit from bonus depreciation. Only some of the 33 nonresidential structure types (e.g., electric structures, wind and solar

structures) benefit from bonus depreciation, and all but one intangible asset type (advertising) is amortized.

- d. As a result, only in the calculation of the user cost of capital for total corporate equipment investment is the effect of the higher PV of the tax benefit of depreciation allowances **not** offset by the effect of the higher corporate tax rate.
5. For pass-through business investment, EMTRs on new investment for equipment and intangibles are lower under policy than under CL between 2022 and 2025. However, EMTRs on new investment in all asset types are higher under policy from 2026.
- a. The business income tax rate for pass-through businesses is about 2.1 percentage points higher under policy between 2022 and 2025; it is just slightly higher under policy between 2026 and 2031 (see Table 1). This means that as in the case of corporate investment the overall PV of tax depreciation and the overall PV of the tax benefit from depreciation allowances are higher for pass-through investment under policy between 2022 and 2025.
 - b. A comparison of calculations for pass-through businesses and corporate businesses shows that, as compared to CL, the decline in the user cost of capital is generally greater for pass-through business investment than it is for corporate business investment. This is a function of the smaller percentage point increase in the pass-through business income tax rate.
 - i. More specifically, for pass-through business investment, the user cost of capital is lower for equipment, structures, and intangibles under policy. The declines in the user cost of capital are greatest for equipment and intangibles, the two asset types for which the EMTRs on new investment are lower between 2022 and 2025 relative to CL.
 - c. The EMTRs for pass-through business investment are also influenced by the expiration of the 20% deduction for domestic, pass-through business income. The absolute value of the change in the user cost of capital attributable to $((\Gamma_{s+1} - \Gamma_s)/(1 - \Gamma_s))$ in equation (1) is greater under policy because of the higher PV of the tax benefit of depreciation allowances relative to CL. Between 2022 and 2024, $((\Gamma_{s+1} - \Gamma_s)/(1 - \Gamma_s)) < 0$, generating a reduction in the user cost of capital. With the reduction in the user cost of capital greater under policy than under CL, this produces an incentive to pull investment forward into the phase-out period for bonus depreciation.
 - d. In the case of both CL and policy, the EMTRs on pass-through business investment are lower in 2026 than in 2025. This can be explained as follows. First, the sunset of the 20% deduction increases the tax rate on pass-through business income. The higher tax rate on pass-through business income increases the anticipated PV of the tax benefit of depreciation allowances in 2026 ($s + 1$) relative to 2025 (s). In terms of equation (1), $((\Gamma_{s+1} - \Gamma_s)/(1 - \Gamma_s)) > 0$ in 2025. The result is an increase in the user cost of capital and the EMTR.

