



HARVARD Kennedy School
JOHN F. KENNEDY SCHOOL OF GOVERNMENT

The Tax Cuts and Jobs Act: A Boost to Growth or a Missed Opportunity?

Jason Furman

**Harvard Kennedy School & Peterson
Institute for International Economics**

Tax Policy Center

Washington, DC

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Outline

1. GDP
2. National Income
3. Welfare
4. How Will We Know?
5. What's Next?

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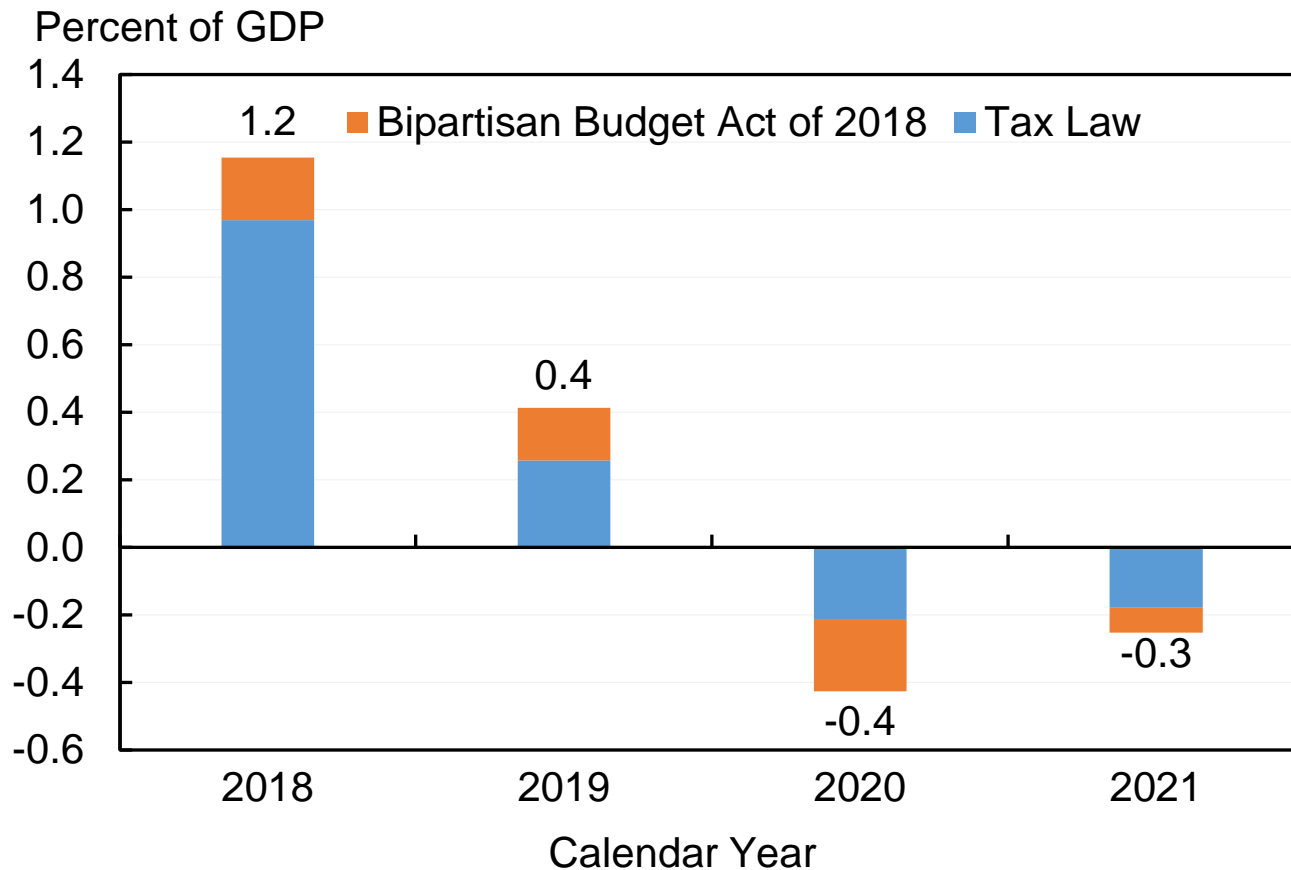
How will the tax law affect growth?

	2018	Longer Run
Cash Flow	Small +	0
Fiscal Impact	+ (Stimulus)	- (Crowd out)
Incentives	+	Smaller +

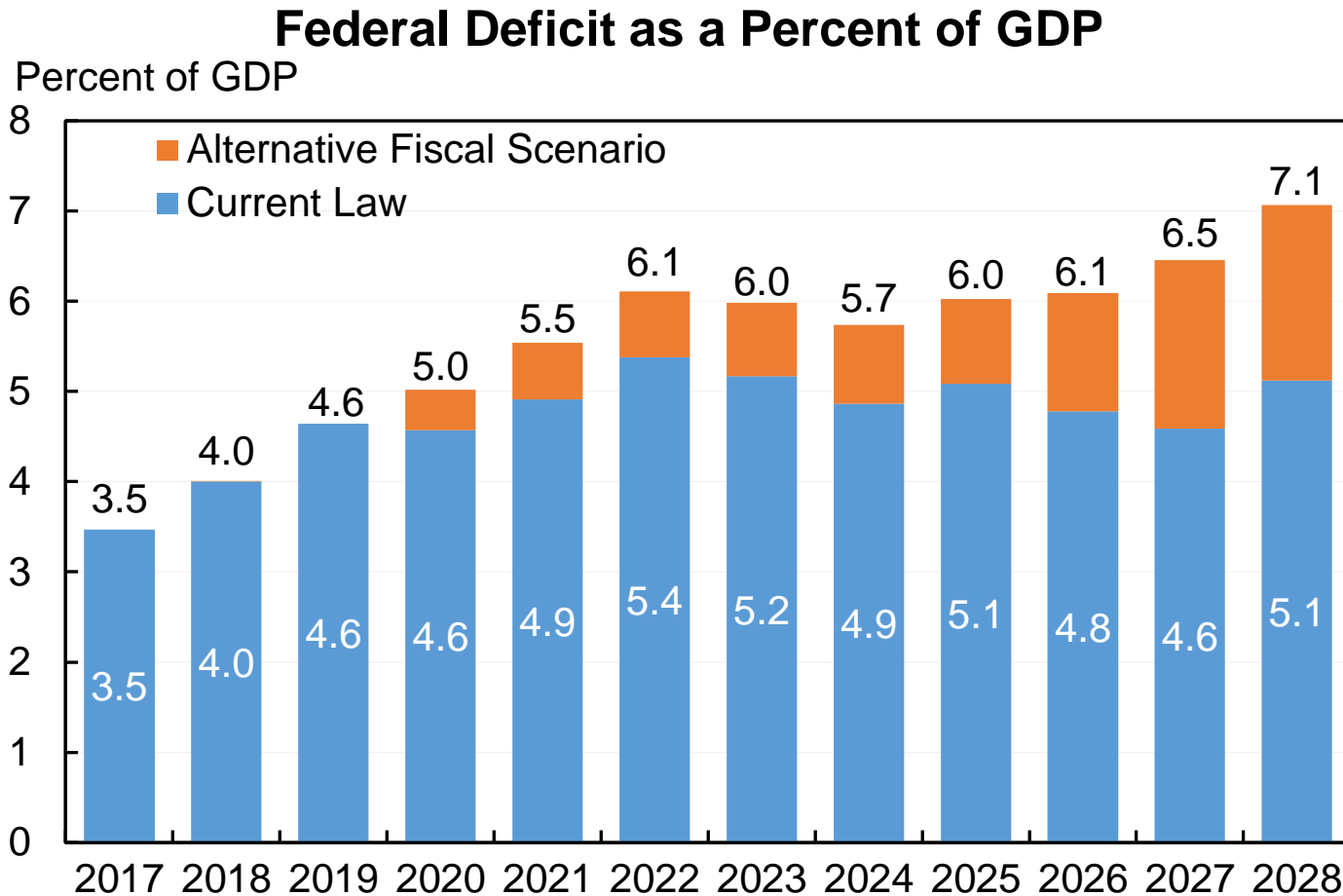
← This is the most important factor to analyze

Fiscal: Substantial stimulus in 2018 and into 2019...

Fiscal Stimulus of the Tax Law and Bipartisan Budget Act of 2018



...But also growing deficits over time



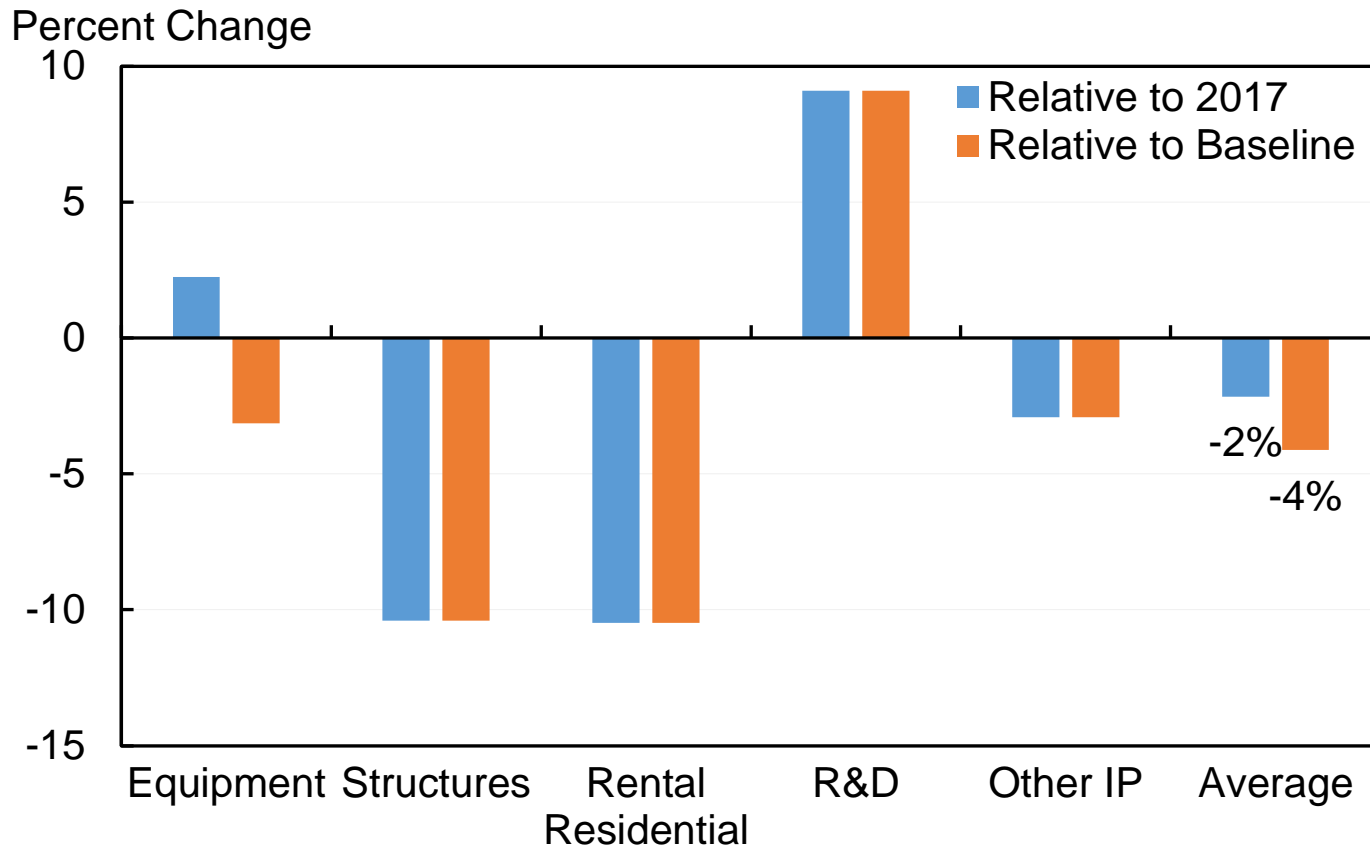
Alternative Fiscal Scenario: Extend expiring tax cuts, grow discretionary spending with inflation, and historic average for emergencies

Incentives: Modelling strategy for long-run estimates in Barro-Furman (2018)

- **Cobb-Douglas production function**
 - Five types of capital: equipment, structures, residential, R&D and other IP
 - Three sectors: corporate (39%), pass-through (36%) and government/household (25%)
- **Infinitely elastic supply of capital** (small open economy or long-run Ramsey model with offsetting effects from upward-sloping supply of capital and falling rate of time preference or intertemporal substitution)
- **Supply of capital determined competitively based on user costs.**
- **Perfect foresight, unchanging tax code, lump sum financing.**

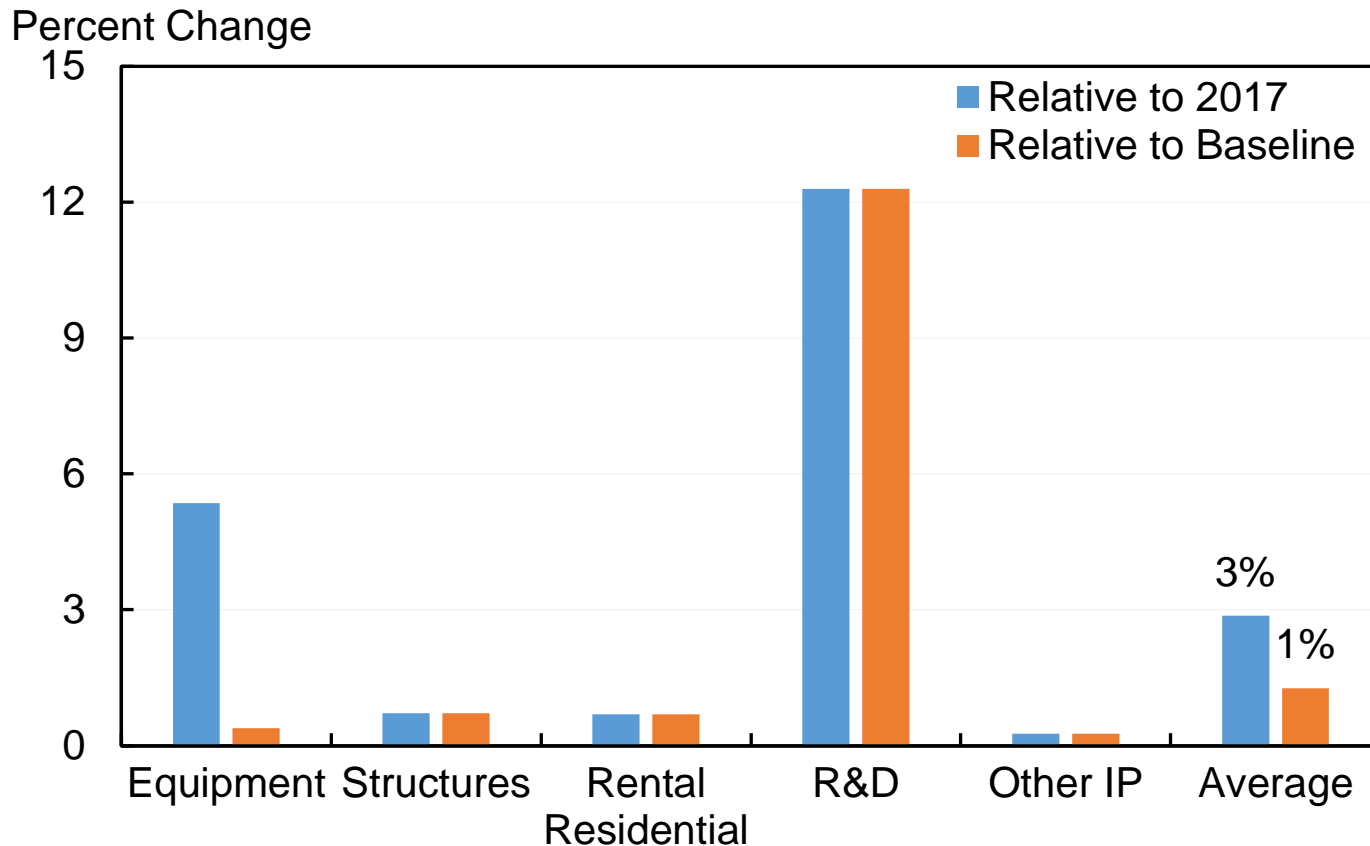
User costs generally down except for R&D (equipment user cost up from 2017)

Change in User Cost of Capital, Law as Written: Corporate Sector



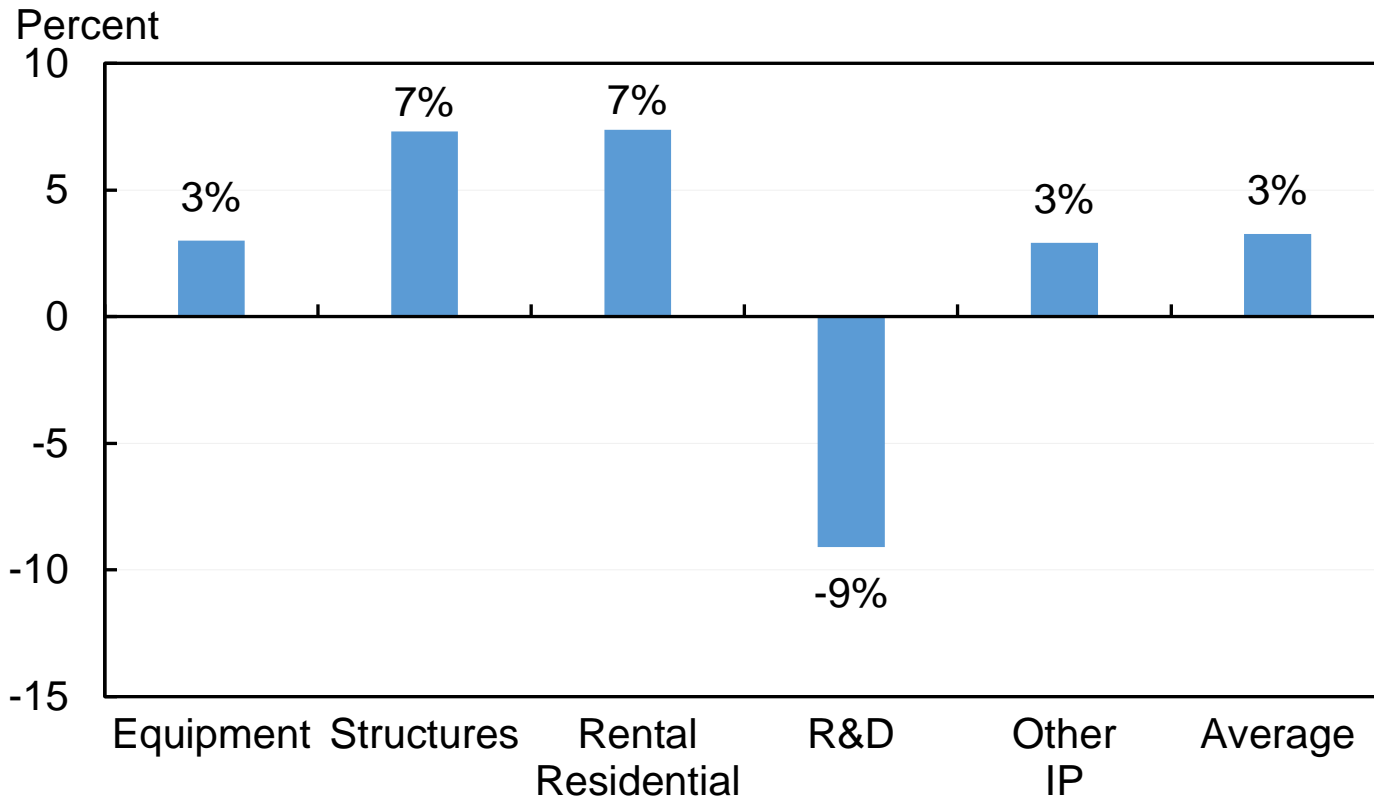
User costs up, mostly for R&D, in the passthrough sector (assuming expirations)

Change in User Cost of Capital, Law as Written: Pass-through Sector



Largest increases in structures/rental residential, smaller in equipment, R&D declines

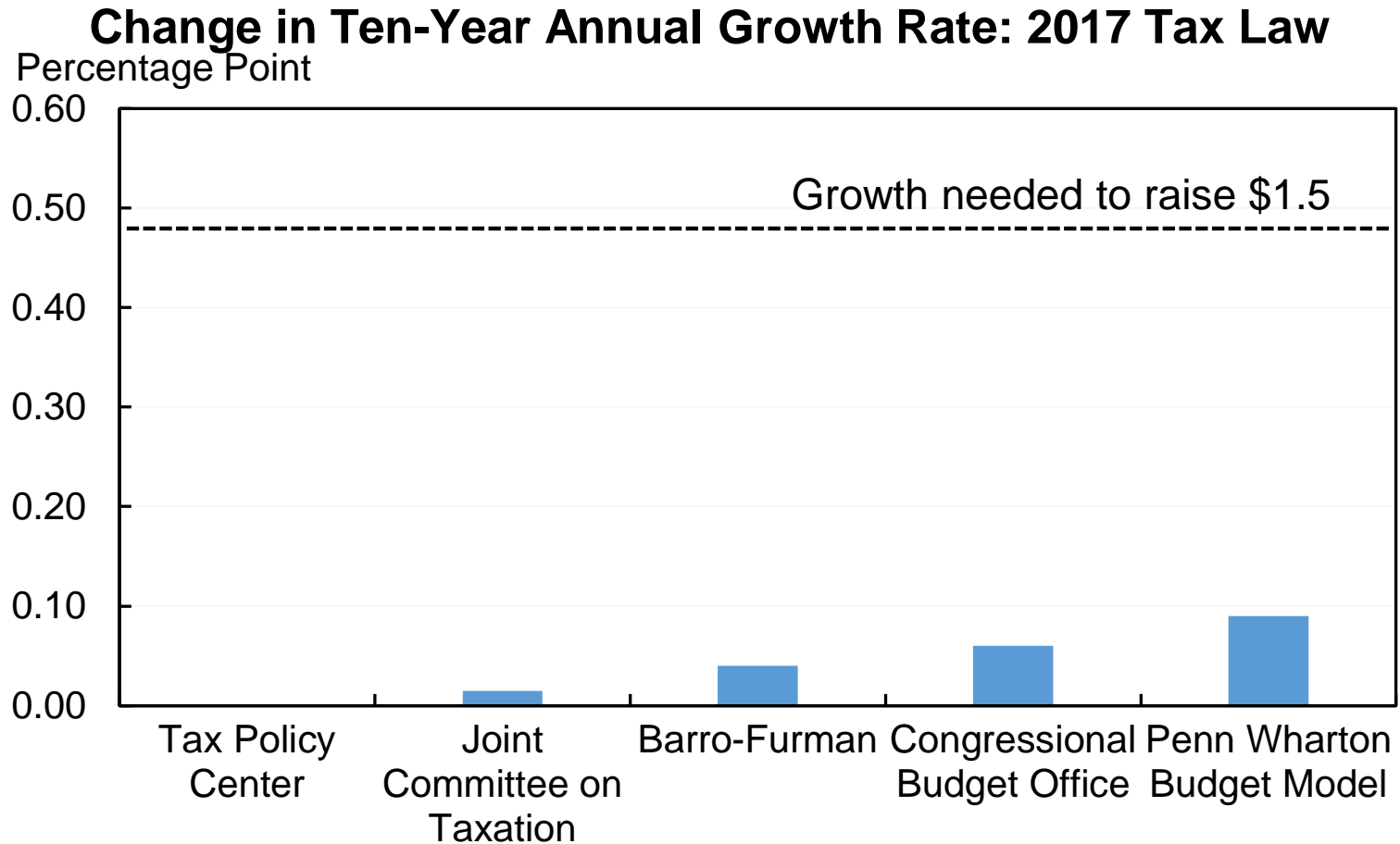
Change in Capital-Labor Ratio, Law as Written: Business Sector



Combining the sectors into economy-wide output

Effects of the Law as Written on GDP	
<u>Long Run</u>	
Corporate	2.5%
Passthrough	-0.8%
Government	0.0%
<i>Average</i>	<i>0.9%</i>
<u>10th Year</u> (using 5% convergence rate)	
Level	0.4%
Annual growth rate	0.04pp
<u>10th Year</u> (with crowd out—14 basis points)	
Level	0.2%
Annual growth rate	0.02pp

Broad agreement tax bill will add less than 0.1pp to annual GDP growth



Note: Estimates for the Joint Committee on Taxation and Penn Wharton Budget Model represent midpoint from range of estimates.
Source: Based on sources listed; Office of Management and Budget; author's calculations.

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What is national income?

	2017 Values
GDP	19,391
+ Net Receipts/Payments from World	217
- Depreciation of Fixed Capital	-3,035
- Statistical Discrepancy	-35
National Income	16,608

National Income is a much better measure of the resources available to Americans.

Normally it moves with GDP but certain policies can introduce systematic differences in their movements.

It used to be standard to report national income for dynamic analysis

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ALTIG ET AL.: SIMULATING TAX REFORM IN THE UNITED STATES

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TABLE 4—BASE CASE RESULTS, FIVE TAX REFORMS

	Year	National income ^a	Capital stock ^a	Labor supply ^a	Net saving rate	Before-tax wage ^a	Interest rate	Normalized Tobin's q	Tax rate ^b
Proportional income tax	1996	1.000	1.000	1.000	0.051	1.000	0.083	1.000	0.216
	1997	1.038	1.002	1.051	0.056	0.988	0.088	1.037	0.135
	2010	1.044	1.030	1.050	0.054	0.995	0.083	1.028	0.131
	2145	1.049	1.056	1.047	0.052	1.001	0.083	1.019	0.130
Proportional consumption tax	1997	1.044	1.010	1.063	0.073	0.987	0.079	0.960	0.142
	2010	1.063	1.108	1.054	0.067	1.013	0.076	0.934	0.138
	2145	1.094	1.254	1.046	0.059	1.046	0.073	0.906	0.127
	1997	1.010	1.006	1.016	0.065	0.997	0.076	0.964	0.214
Flat tax (standard)	2010	1.022	1.059	1.013	0.061	1.011	0.078	0.958	0.211
	2145	1.045	1.150	1.013	0.056	1.032	0.080	0.941	0.199
	1997	0.995	1.003	0.994	0.059	1.002	0.081	1.001	0.241
Flat tax (transition relief)	2010	1.005	1.031	0.998	0.057	1.008	0.080	0.994	0.234
	2145	1.019	1.083	0.998	0.055	1.021	0.078	0.983	0.226
	1997	1.018	1.009	1.027	0.069	0.996	0.063	0.949	0.178
X tax	2010	1.031	1.076	1.019	0.064	1.014	0.077	0.910	0.177
	2145	1.064	1.210	1.020	0.059	1.044	0.074	0.882	0.157

Macroeconomic Effects of Tax Reform Options: Percentage Change from Initial Steady-State for Selected Variables and Years After Reform

	PCT			GIT			SIT		
	Budget Window*	Year 20	Long-run	Budget Window*	Year 20	Long-run	Budget Window*	Year 20	Long-run
National Income									
Ramsey Growth Model	2.3%	4.5%	6.0%	1.9%	3.7%	4.8%	0.0%	0.2%	0.3%
OLG Model	0.7%	2.6%	2.8%	1.5%	2.1%	2.2%	0.4%	0.8%	0.9%
Solow Growth Model	0.2%	0.6%	1.9%	0.1%	0.4%	1.4%	0.0%	0.1%	0.2%

Capital tax reforms result in smaller increases in national income

- **Additional capital means more depreciation.** So more of GDP is devoted to replacing the capital stock and thus not available for consumption or new investment.
- **Additional capital partly financed from abroad.** Even if the cost of foreign financing is relatively low, the United States is worse off after accounting for foreign financing relative to what it appears when ignoring foreign financing.
- **If tax cuts not paid for, increased deficits partly financed from abroad.** Estimates are that about one-third of deficits are financed from abroad.

A back-of-the-envelope estimate of how national income growth would differ from GDP growth

Change After Ten Years From Law as Written			
	Baseline	Law	% Change
GDP	100	100.4	0.4%
Depreciation	-15.7	-15.7	
Net Income	+1.1	+0.9	
National Income	85.6	85.7	0.1%

Note: The capital stock remains fixed as a share of GDP and is depreciated at a constant rate. One third of the net additional gross investment and one third of the budgetary cost of the tax plan are each assumed to be financed by foreigners. Interest is paid on the cumulative amount borrowed from abroad at a rate of 6.9 percent, the average of CBO's projections for interest rates on 3-month and 10-month Treasury's for 2018–2027 from the June 2017 Budget and Economic Outlook and the nominal expected rate of return assumed in Barro and Furman (2018)

Source: Calculations based on Barro and Furman (2018) and Congressional Budget Office.

For national income to have a different sign than GDP growth is plausible

Change After Ten Years From Law as Written with Crowd Out			
	Baseline	Law	% Change
GDP	100	100.2	0.2%
Depreciation	-15.7	-15.7	
Net Income	+1.1	+0.9	
National Income	85.6	85.6	-0.1%

Note: The capital stock remains fixed as a share of GDP and is depreciated at a constant rate. One third of the net additional gross investment and one third of the budgetary cost of the tax plan are each assumed to be financed by foreigners. Interest is paid on the cumulative amount borrowed from abroad at a rate of 6.9 percent, the average of CBO's projections for interest rates on 3-month and 10-month Treasury's for 2018–2027 from the June 2017 Budget and Economic Outlook and the nominal expected rate of return assumed in Barro and Furman (2018)

Source: Calculations based on Barro and Furman (2018) and Congressional Budget Office.

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Welfare is not the same as growth or even a standard distributional table

Welfare benefits:

- Direct benefit of tax cuts
- Higher GDP means higher wages

Welfare costs:

- Cost of repaying additional fiscal debt and national borrowing
- Cost of reduced leisure
- Cost of reduced consumption

Note – in some cases the timing differs, for example you need to reduce consumption today to get the additional capital/wage increases in the future.

We should do a much better job capturing these issues for the next tax debate

Alternative macroeconomic metrics

- National Income (or GNP) instead of GDP
- Consumption instead of output
- Welfare in micro-founded models

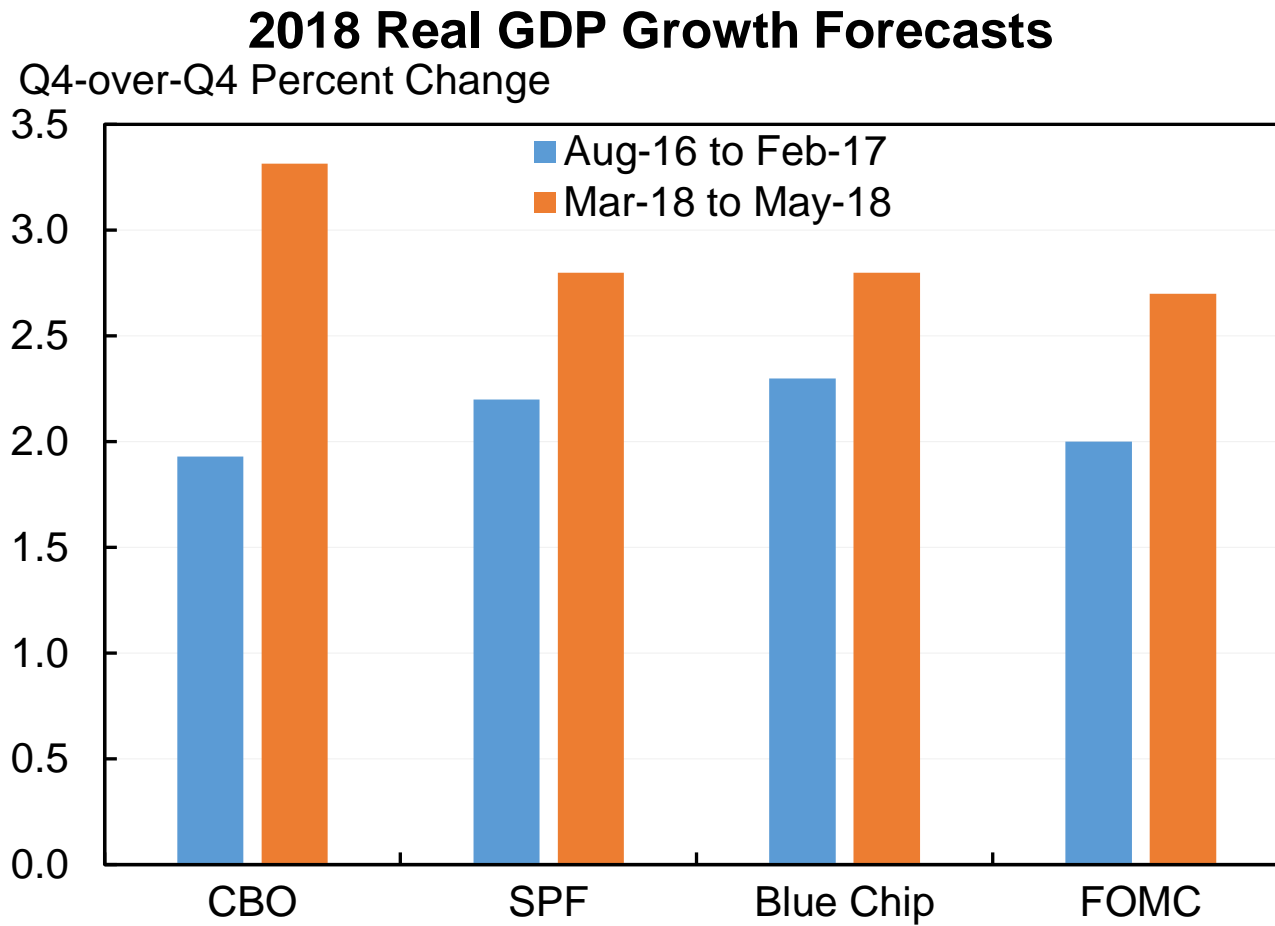
Interpretation/presentation of distribution tables

- Distribution tables show welfare for revenue neutral changes and overstate welfare for revenue reducing changes (Furman 2016 and Leiserson 2017)
- Distribution tables with financing (Gale and others 2001 through 2018)
- Dynamic distributional tables incorporating direct and indirect effects (Elmendorf et al. 2007)

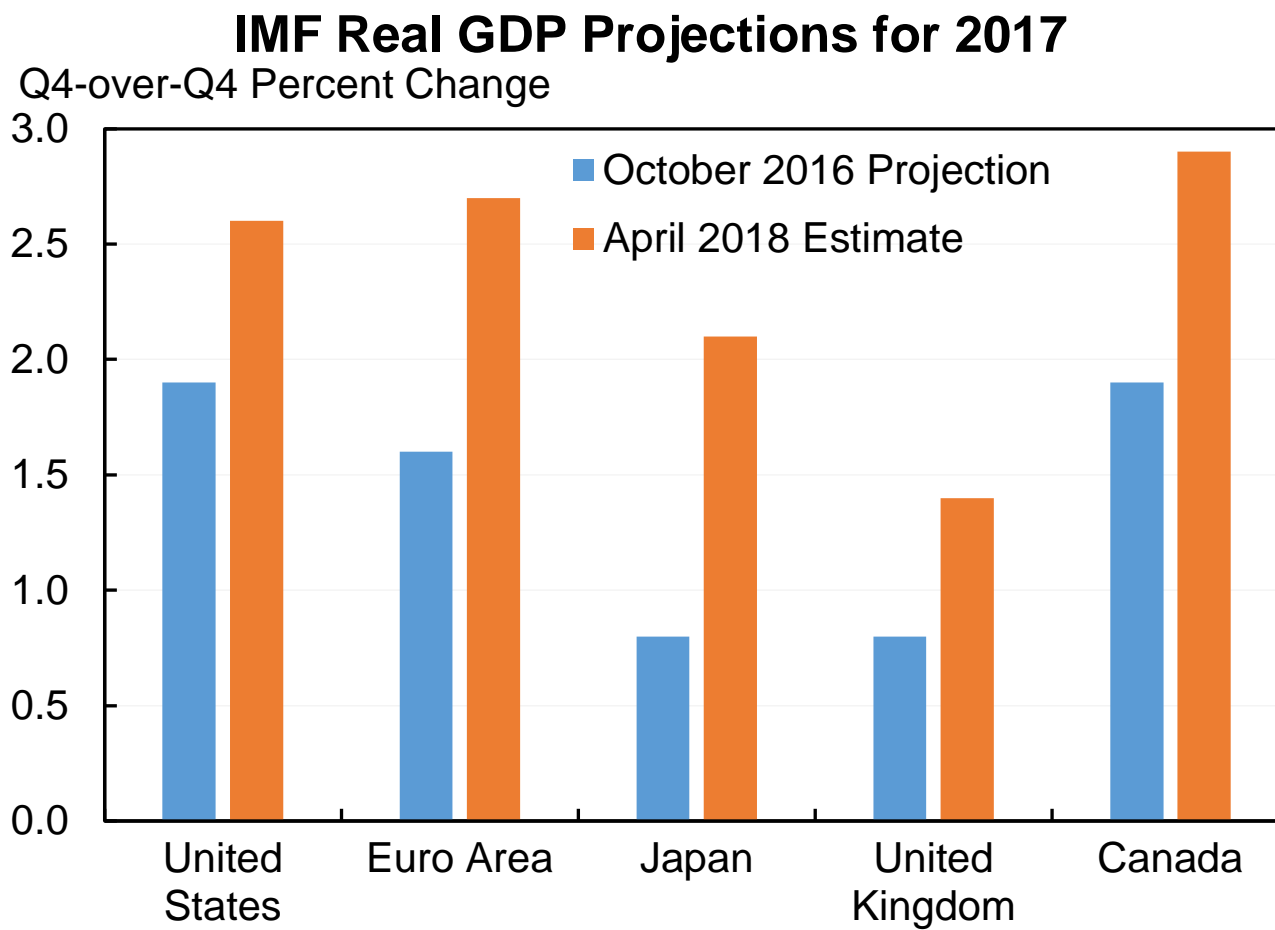
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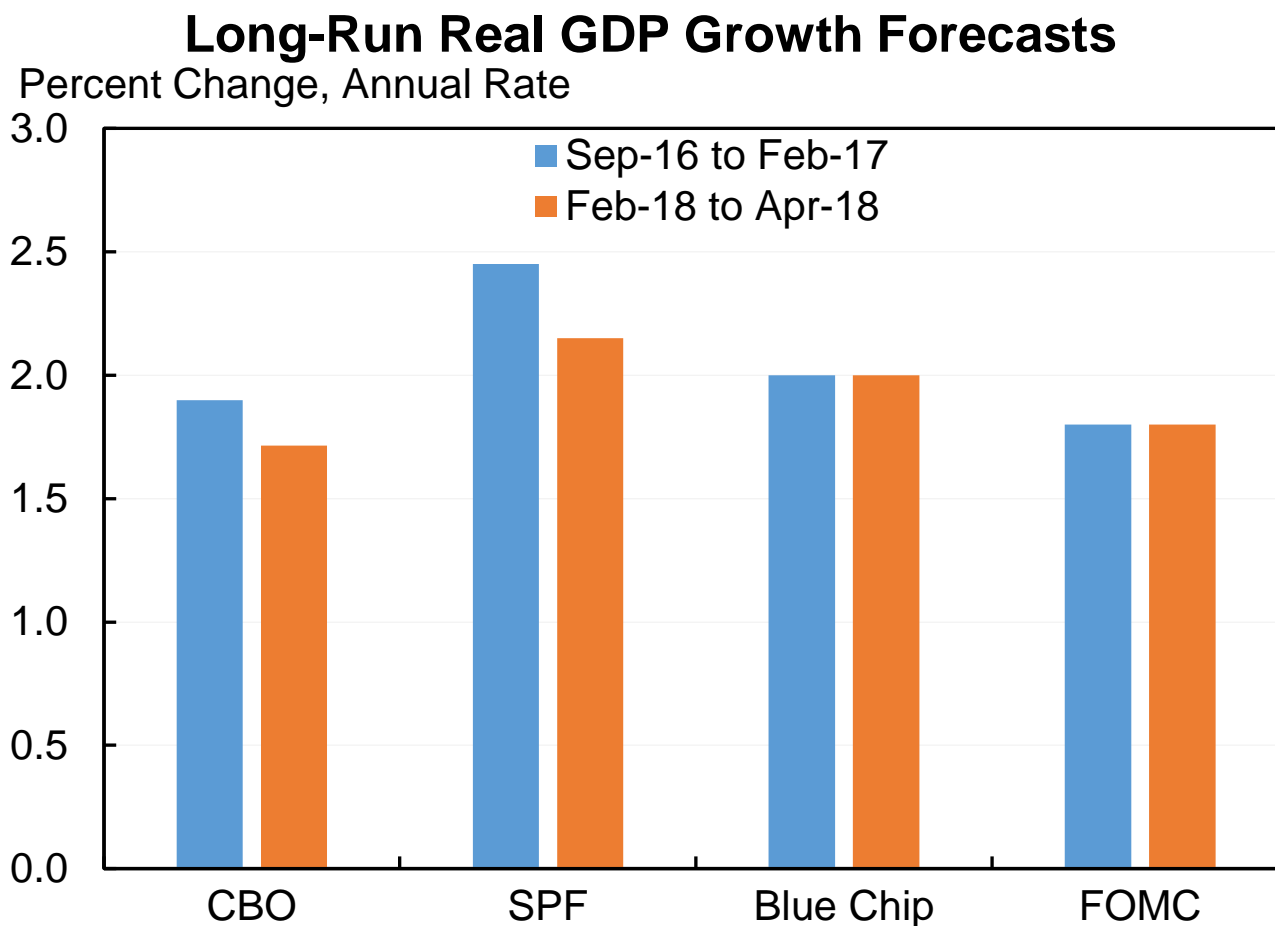
Forecasts for 2018 revised up substantially



At least part of the revision reflects a general improvement in the global outlook

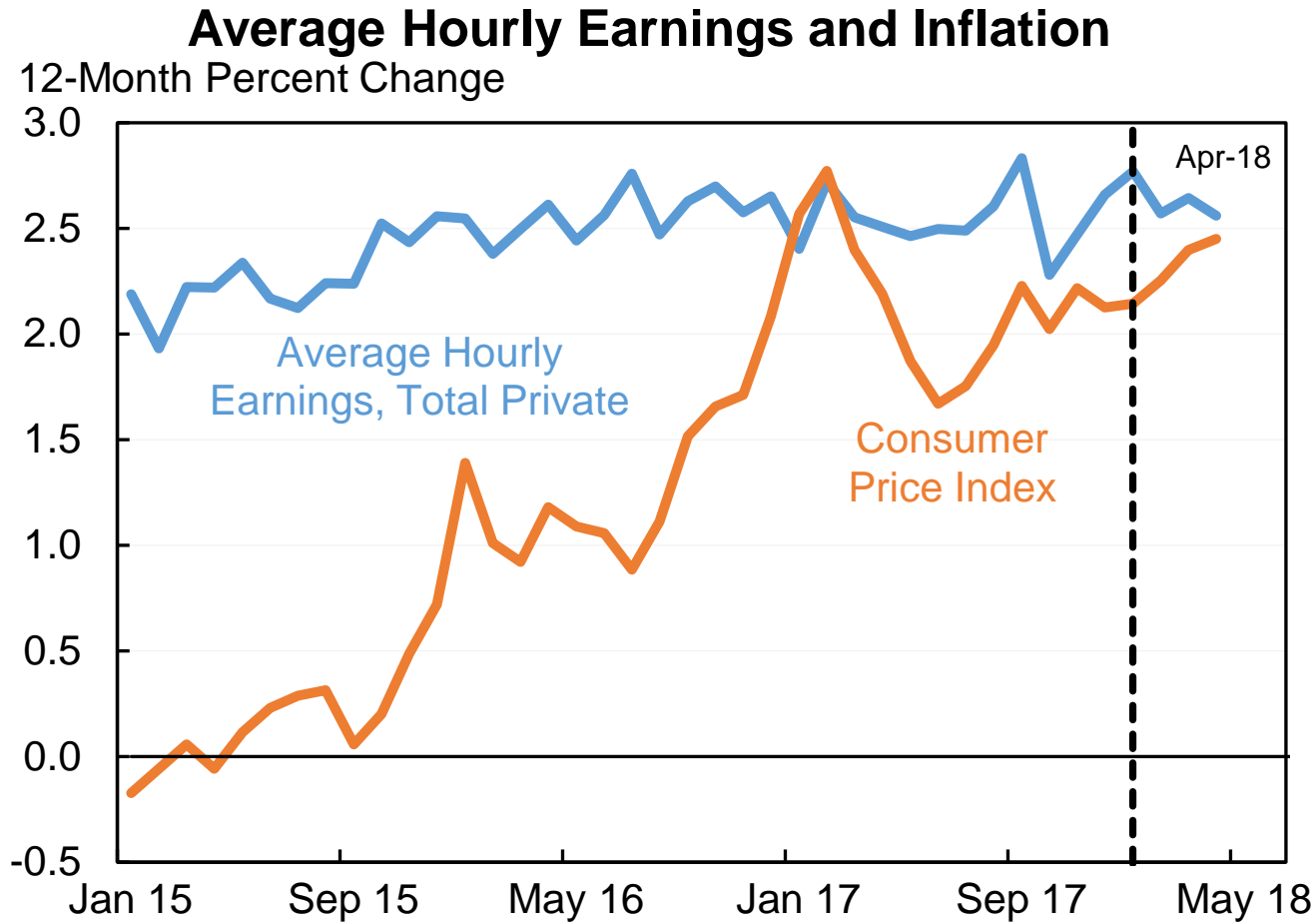


Long-term growth forecasts have been unchanged or revised down slightly



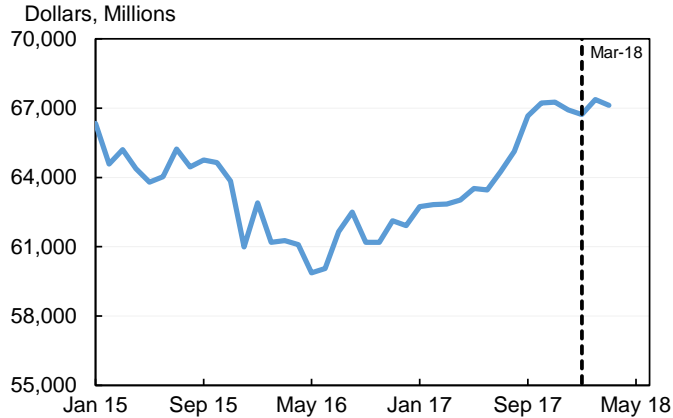
Note: Based on sources listed and author's calculations. CBO forecasts are for 2022-2027; SPF forecasts are for the following 10 years; Blue Chip forecasts are for the last 5-year period reported; FOMC forecasts are for the longer run.

Wages are the most important way to evaluate tax cut, no wage discontinuity (at least so far)

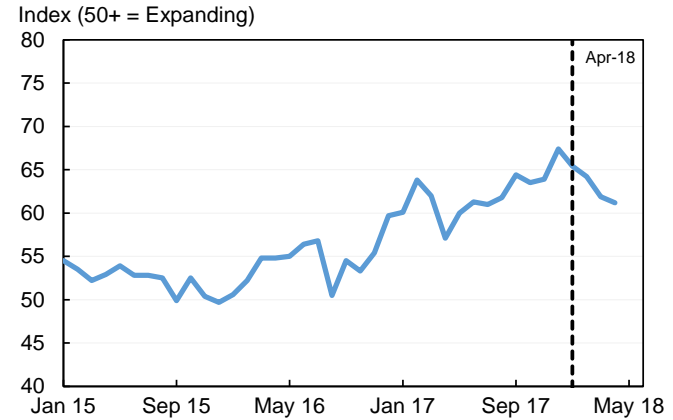


Forward-looking investment generally started rising in 2016 & flat/down so far this year

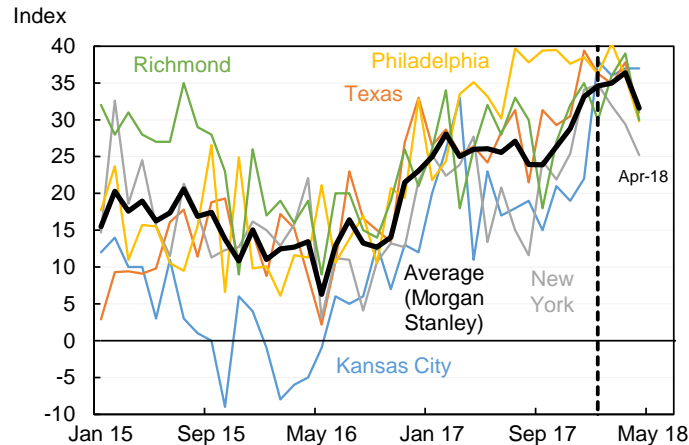
New Orders: Nondefense Capital Goods excluding Aircraft



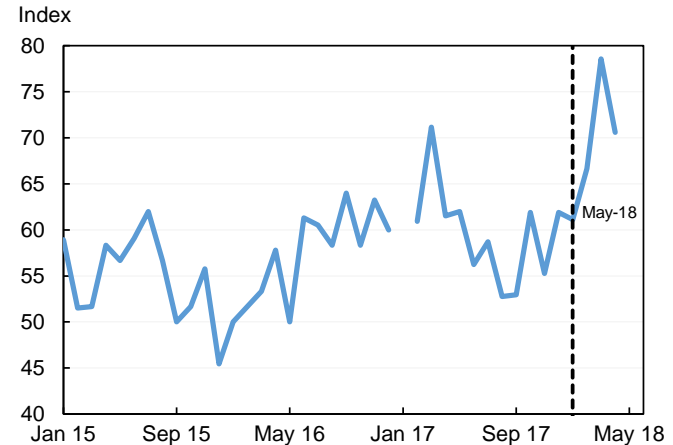
ISM Manufacturing: New Orders Index



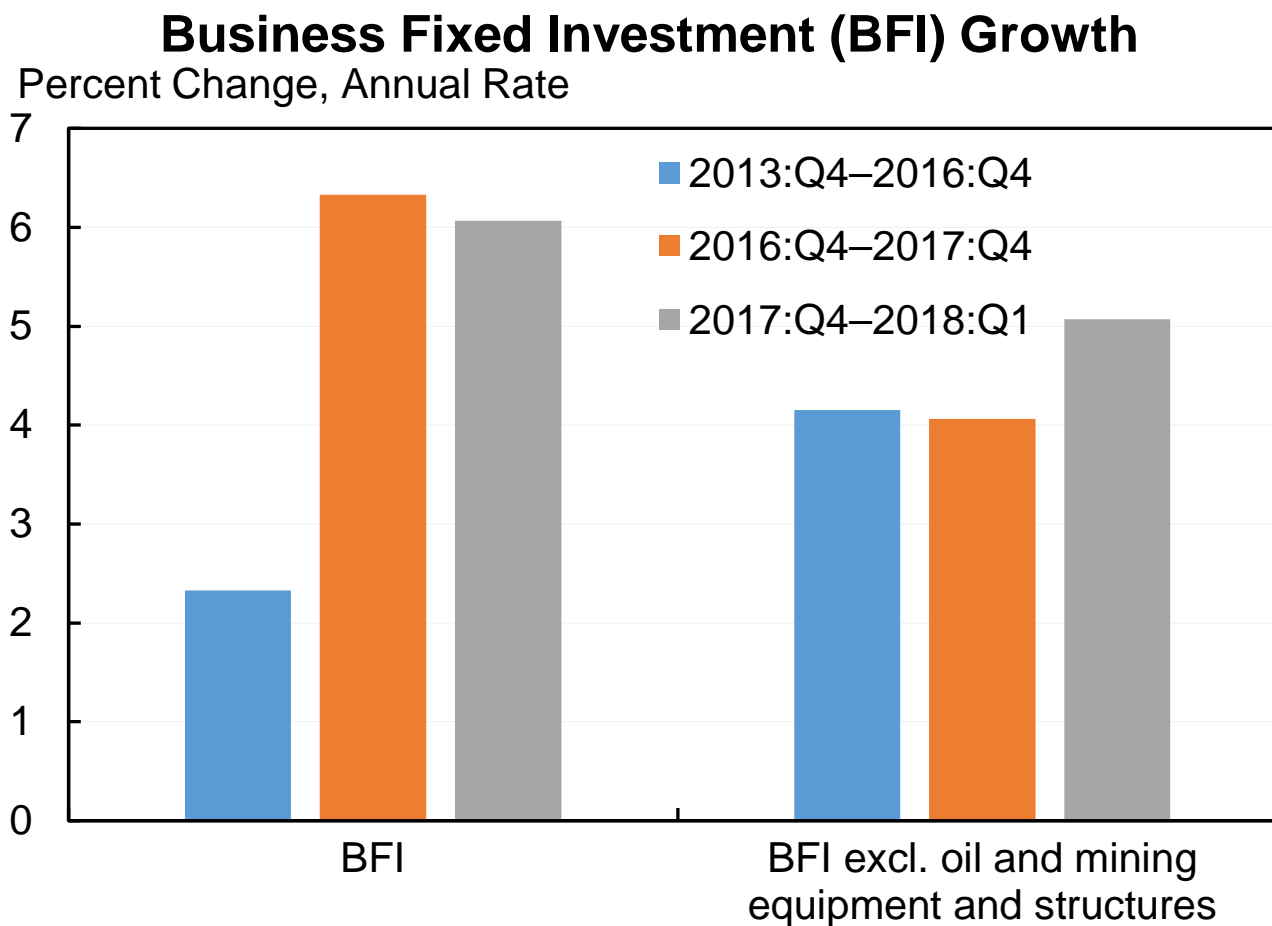
Future Capital Expenditures Diffusion Index



Morgan Stanley Capex Plans Index

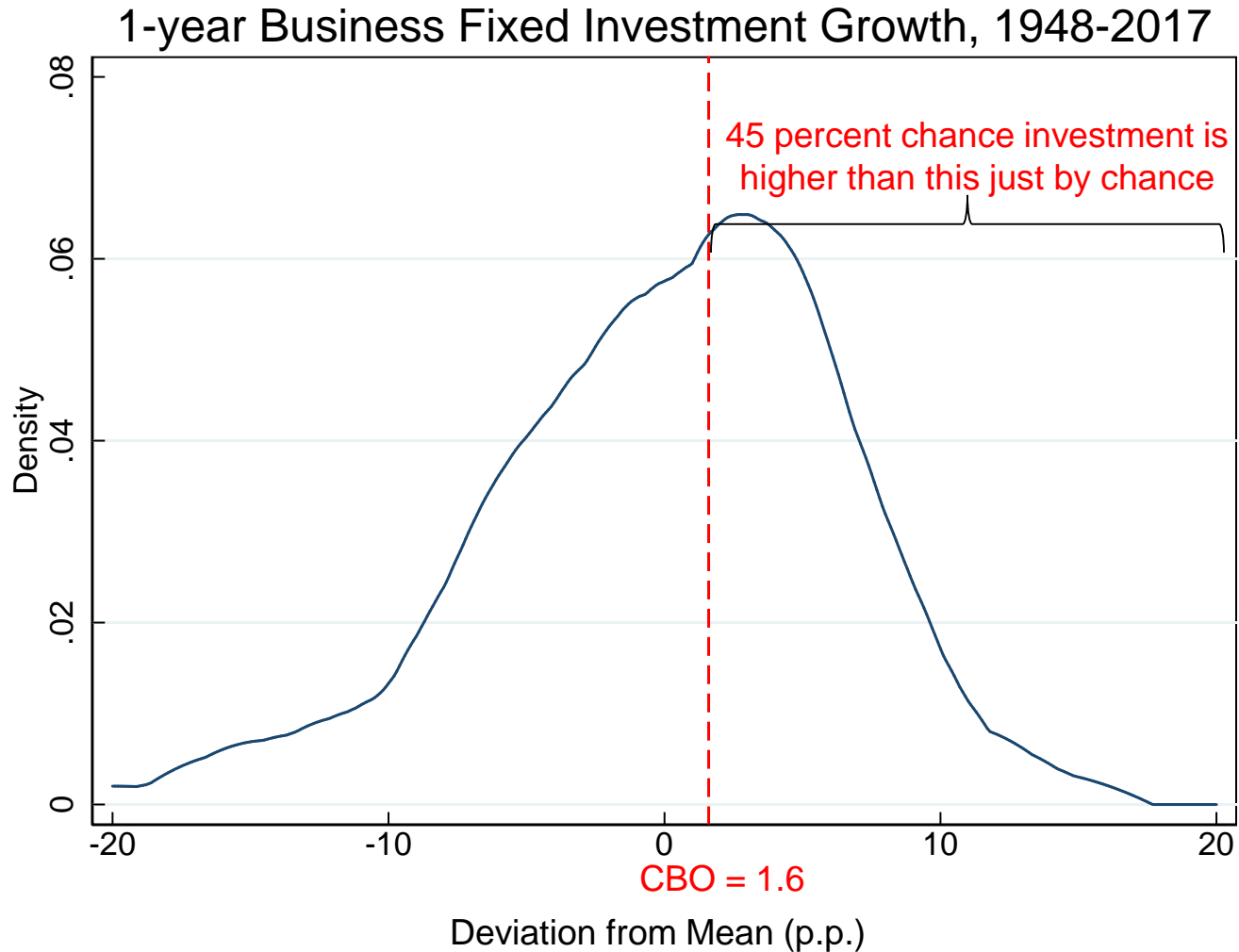


A small pickup in business investment excluding oil/mining in the first quarter

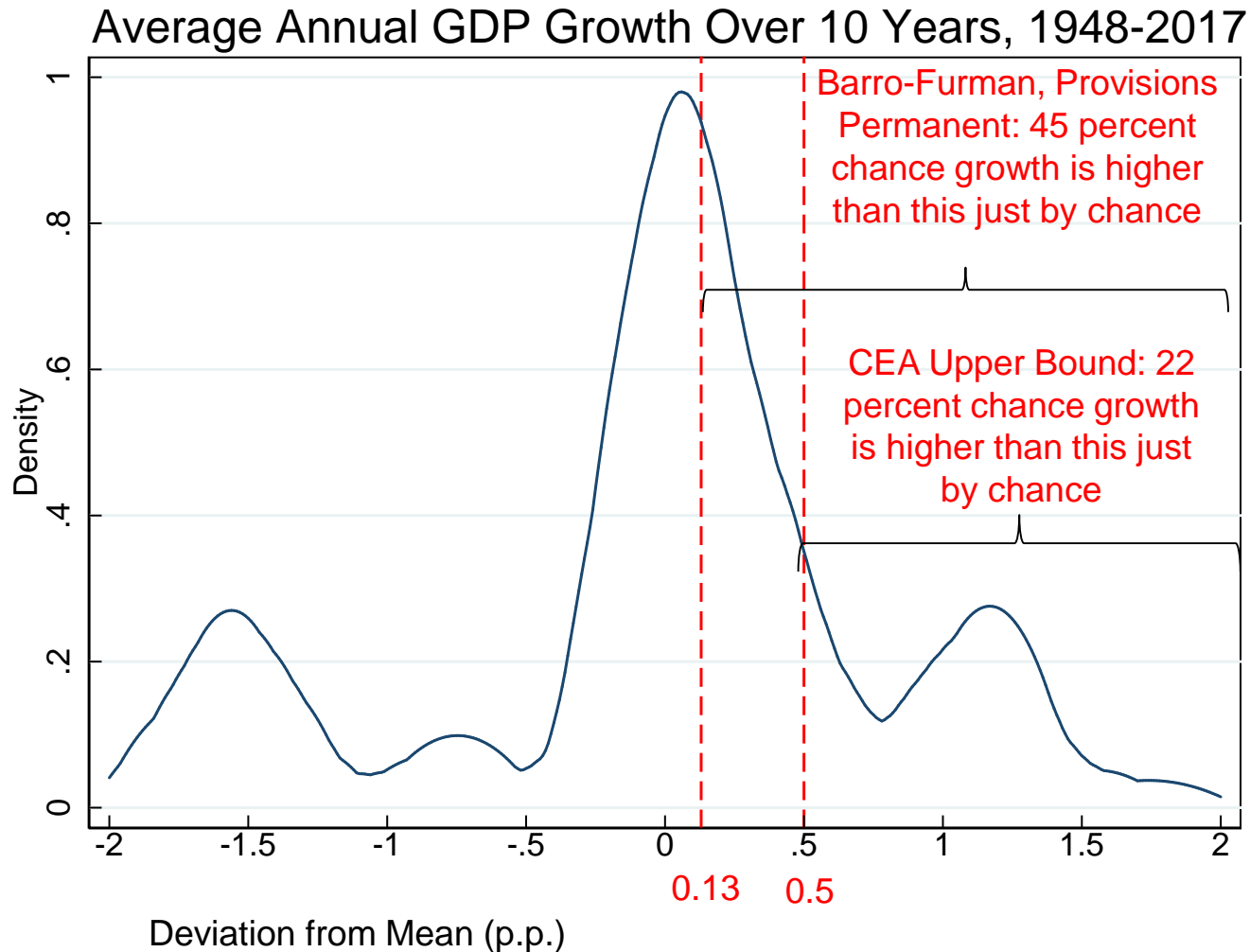


Note: BFI excluding oil and mining equipment and structures calculated using Tornqvist approximation.
Source: U.S. Bureau of Economic Analysis; author's calculations.

Inferring whether the tax cuts worked from one year of spending data is like trying to determine if a coin is really 55-45% from a single toss



The longer-term numbers we really care about are not very different



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Substantial future tax legislation is inevitable

- **Legislated instability:**
 - Extenders not permanently addressed
 - Backloaded offsets start in 2022
 - Expensing expires after 2022
 - Individual/estate/pass-through end after 2025
- **Economic instability.** Deficits of 5 to 7% of GDP and debt over 100% of GDP make future tax legislation inevitable.
- **Political instability.** Lack of bipartisan buy in.

Tax reform needed now more than ever!!!

- **Revenue.** Will average 17 percent of GDP over the next five years. Bowles-Simpson called for 21 percent of GDP.
- **Progressivity.** The Tax Cuts and Jobs Act will widen the dispersion of after-tax incomes.
- **Efficiency.** Effective marginal tax rates on investment will be *higher* in the future than they were in 2017.
- **Simplicity.** Although for most people less itemizing will increase simplicity, substantial new complexity associated with pass-through provisions.
- **Stability.** Unsustainable fiscal situation colliding with delayed implementation and sunset of major provisions provisions that will cost 0.5 percent of GDP growing to 1.5 percent of GDP.

What the next tax reform should look like

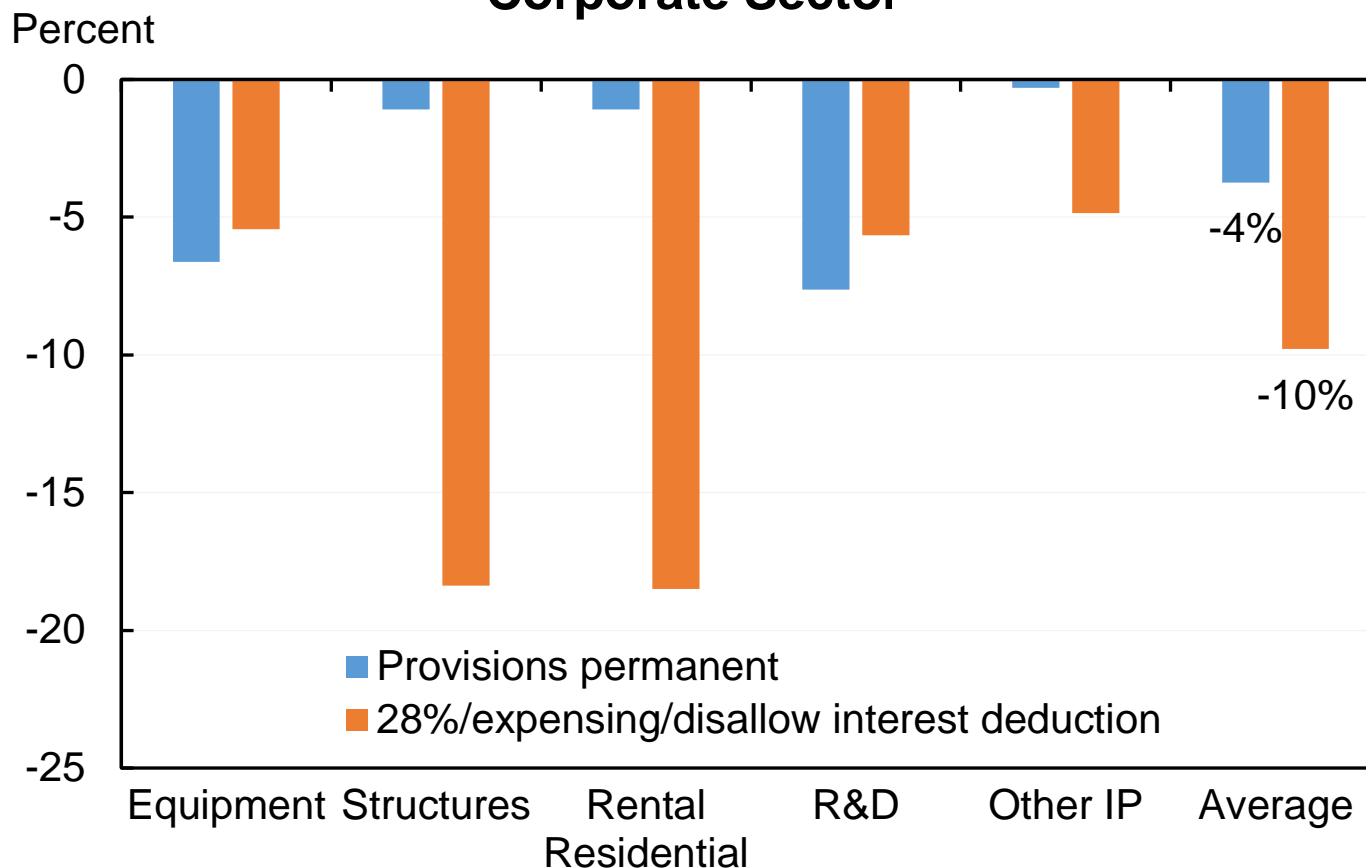
1. **Stability.** Permanent tax law that is fiscally sustainable.
2. **Efficiency.** Improve the base while raising rates. Expensing, end interest deductions, VAT, Carbon Tax, addressing health exclusion.
3. **Simplicity.** Return free filing.
4. **Helping working/middle class.** Childless EITC, fully refundable child allowance.

Modelling the corporate component of future reform

Law As Written (\$1.5T conventional cost)	Provisions Permanent (\$2.2T conventional cost)	28% Rate, Expensing and Disallow Interest Deductions
21% corporate rate	21% corporate rate	28% corporate rate
Normal depreciation for equipment	Expensing for equipment	Expensing for equipment
5-year amortization for R&D	Expensing for R&D	Expensing for R&D
Normal depreciation for structures etc.	Normal depreciation for structures etc.	Expensing for structures etc.
Interest capped at 30% of EBIT	Interest capped at 30% of EBITA	Disallow interest deductions

Larger user cost reductions under 28 percent rate/expensing than provisions permanent

Change in User Cost of Capital Relative to Law as Written, Corporate Sector



Combining the sectors into economy-wide output

Effects of Alternative Reforms (relative to Law as Written)		
	<u>Provisions Permanent</u>	<u>28%/Expensing/ No Interest</u>
<u>Long Run</u>		
Corporate	+2.3%	+6.0%
Passthrough	+3.8%	+10.4%
Government	0%	0%
<i>Average</i>	+2.2%	+5.9%
<u>10th Year</u> (using 5% convergence rate)		
Level	+0.9%	+2.4%
Annual growth rate	+0.09pp	+0.24pp
<u>10th Year</u> (with crowd out/in: +6 / -5 basis points)		
Level	~+0.8%	~+2.4%
Annual growth rate	~+0.08pp	~+0.25pp



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