TCJA After One Year

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RICE UNIVERSITY'S
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FOR PUBLIC POLICY

Overview

- Elements of the Reform
  - Individual Income Tax
  - Corporate Income Tax
- Economic Impact
  - Behavioral Effects
  - Market Outlook
- Debt Sustainability

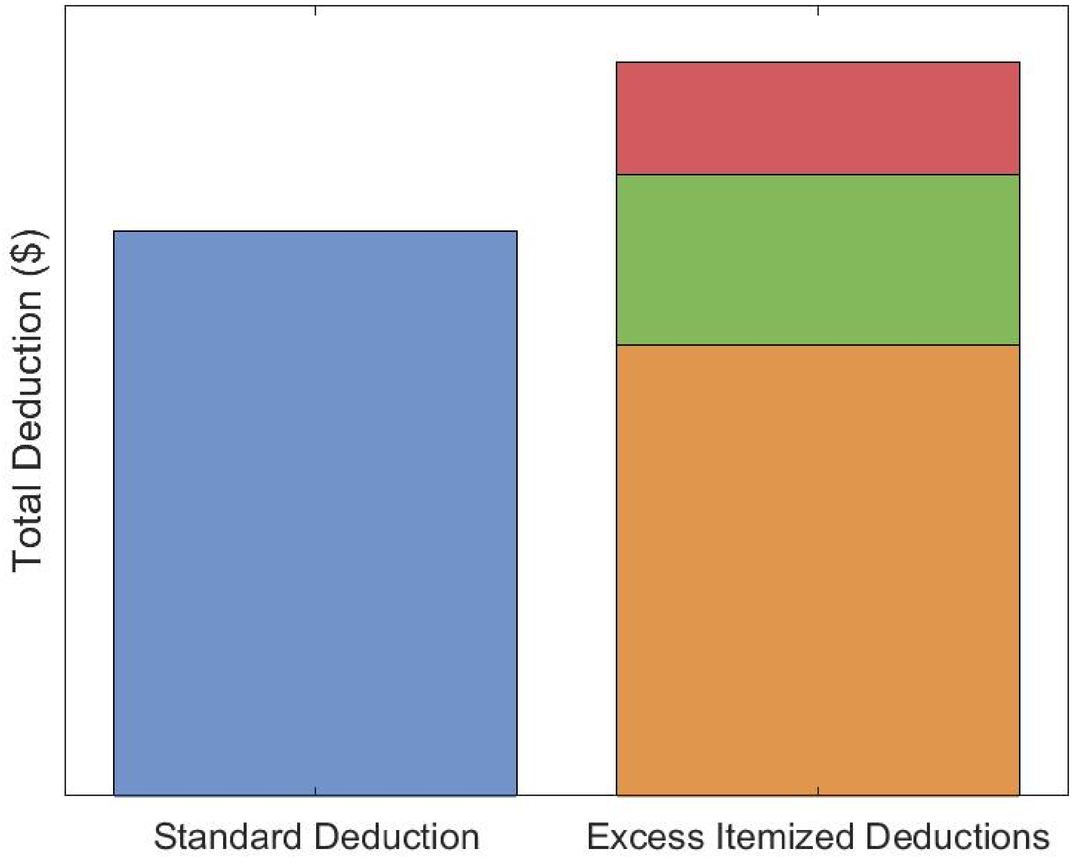
Individual Income Taxes

- Increased standard deduction
- Limited certain excess itemized deductions
- 20% Deduction on pass-through income
- Rate changes

Deductions Pre-TCJA

Excess Itemized Deductions

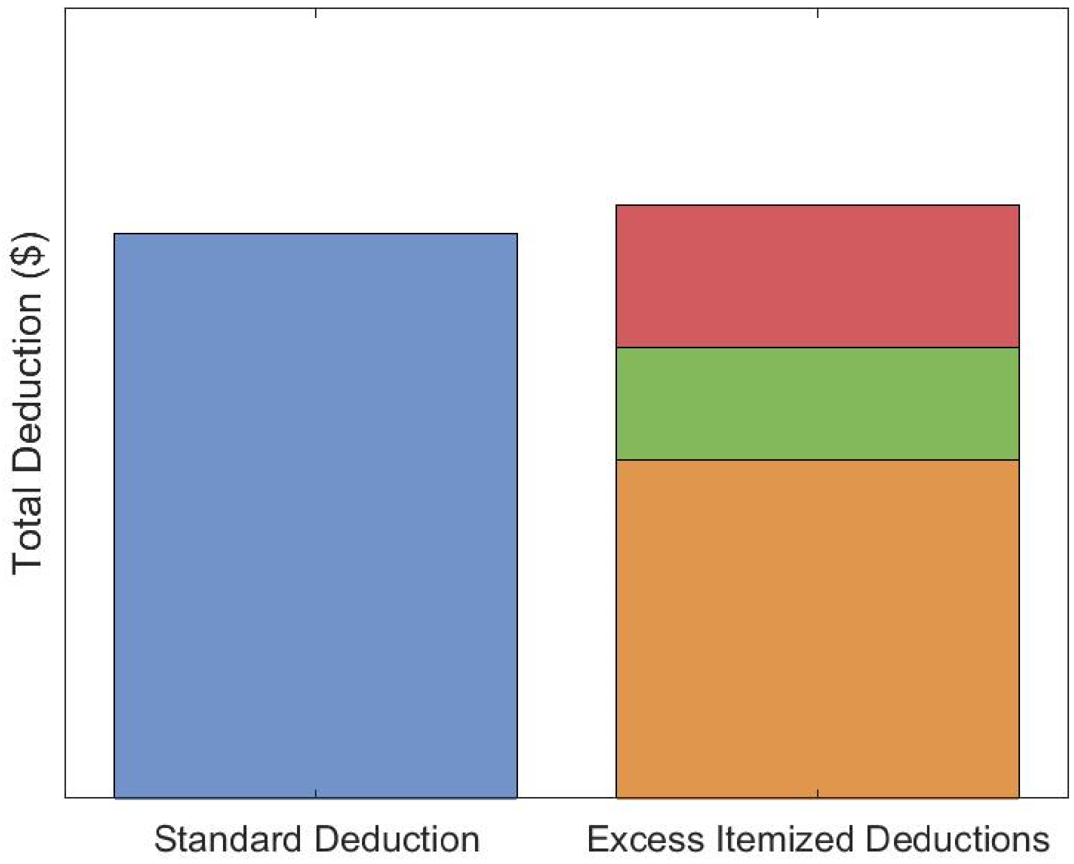
- State and local taxes (SALT)
- Mortgage interest
- Charitable deductions
- Other



Deductions Post-TCJA

Excess Itemized Deductions

- SALT
  - Capped at $10,000
- Mortgage interest
  - Reduced deductible debt from $1 million to $750,000
- Charitable contributions
  - Increased limit from 50% to 60% of AGI
- Other
  - Several miscellaneous deductions eliminated



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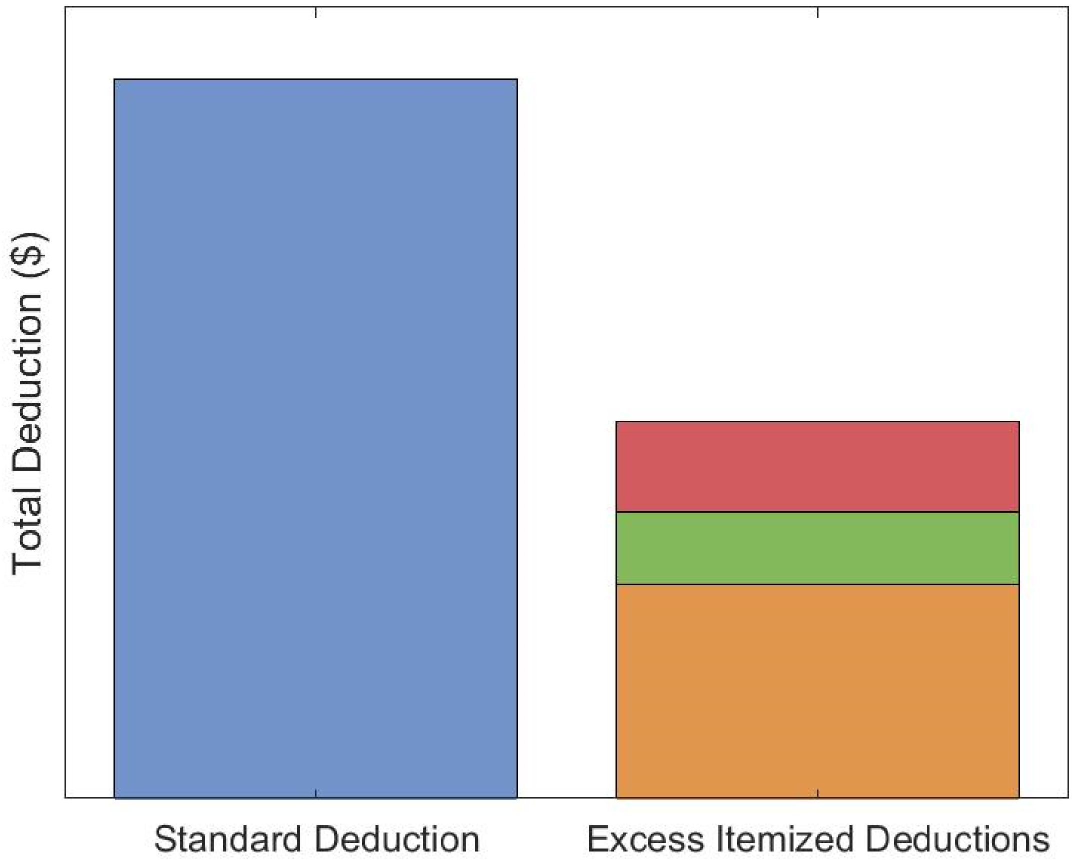
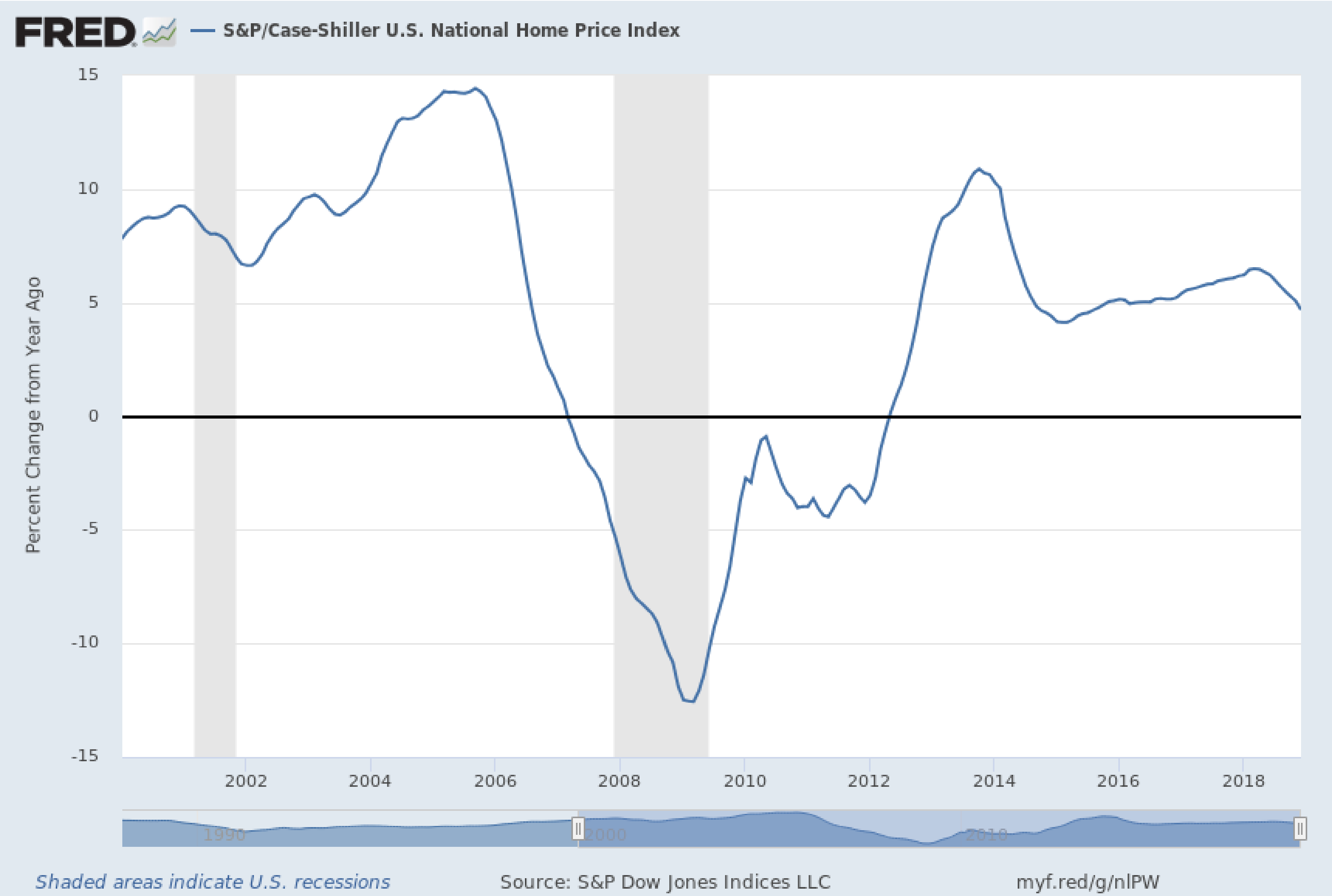
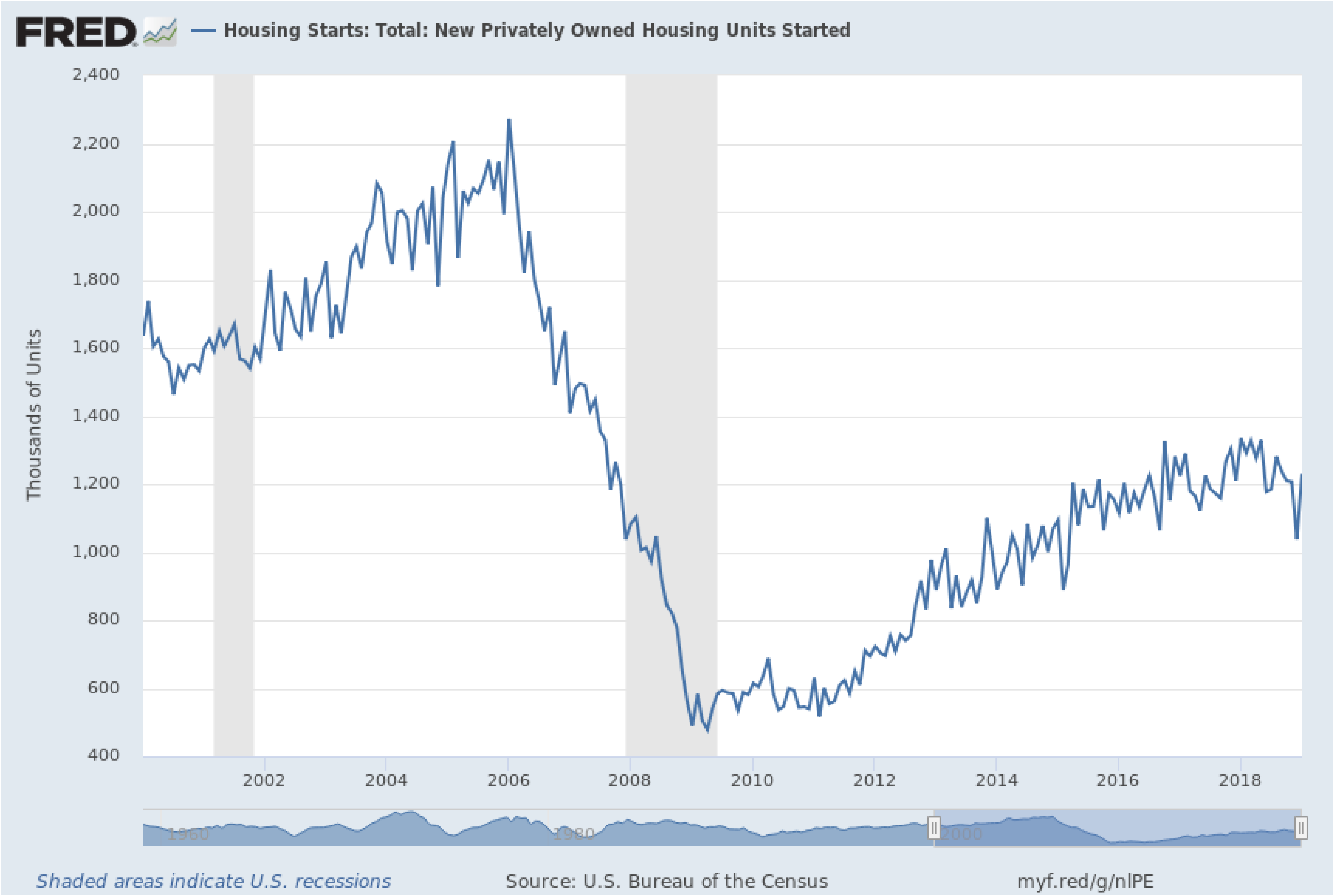
~Doubled the Standard Deduction



Effects of Deductions: Implicit Subsidies

- SALT Cap → increased state and local tax burden
- Deduction reform → reduced demand for (certain) housing
  - Overall cost of housing is higher
  - Higher effective property tax (on average)
  - Higher effective mortgage costs
  - More money in pocket (opposite effect)


FRED
S&P/Case-Shiller U.S. National Home Price Index
Percent Change from Year Ago
15
10
5
0
-5
-10
-15
2002
2004
2006
2008
2010
2012
2014
2016
2018
Shaded areas indicate U.S. recessions
Source: S&P Dow Jones Indices LLC
myf.red/g/nlPW


FRED
Housing Starts: Total: New Privately Owned Housing Units Started
Thousands of Units
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
2002
2004
2006
2008
2010
2012
2014
2016
2018
1960
1980
2000
Shaded areas indicate U.S. recessions
Source: U.S. Bureau of the Census
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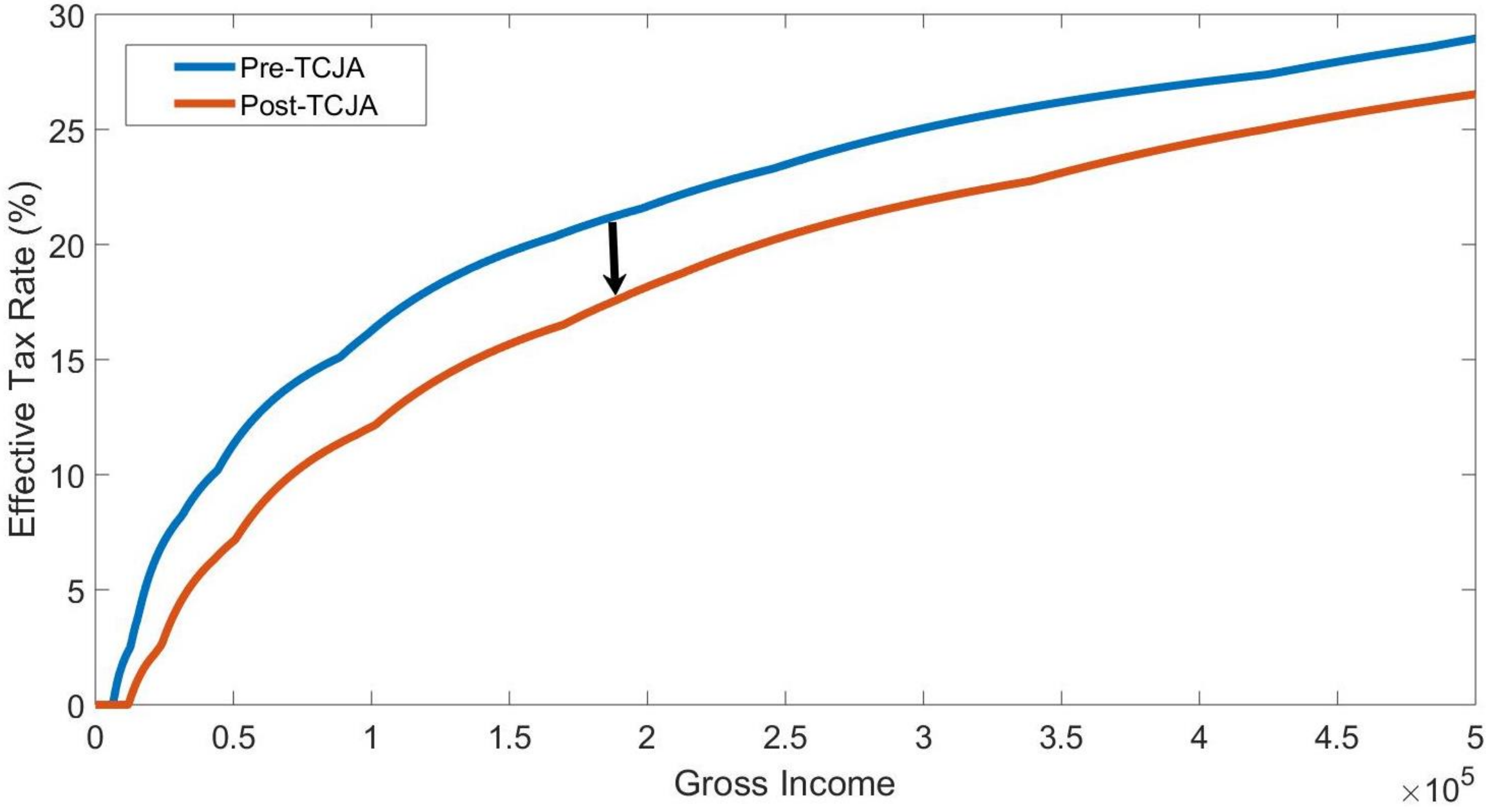
Tax Rate Changes



Effects of Rate Cuts

- Increase in labor hours (JCT, 2017):

“The significant reduction in marginal tax rates on labor… provide strong incentives for an increase in labor supply.”

“On average, employment is projected to increase by about 0.6 percent relative to baseline levels during the budget period.”

Corporate Income Tax

- Reduced top marginal tax rate from 35% to 21%
- Limited NOL carryforwards
- Limited debt deductibility
- “Worldwide” (“residential”) towards “territorial” tax system
- Incentivized investment

Basics of a Corporate Tax Rate Change

- Value of a firm:

$$V = d_0 + \frac{d_1}{1+r} + \frac{d_2}{(1+r)^2} + \ ...$$

- Dividends are profits after corporate income taxes:

$$d_0 = (1-t)\pi_0$$

- Rewrite value of a firm:

$$V = (1-t)\pi_0 + \frac{(1-t)\pi_1}{1+r} + \frac{(1-t)\pi_2}{(1+r)^2} + \ ...$$

$$V = (1-t)\left\{\pi_0 + \frac{\pi_1}{1+r} + \frac{\pi_2}{(1+r)^2} + \ ...\right\}$$

Basics of a Corporate Tax Rate Change

Quick forecast of market appreciation:

$$\frac{V_{new}}{V_{old}} - 1$$

$$= \frac{1 - t_{new}}{1 - t_{old}} - 1$$

$$= 21.5\%$$

S&P 500 Appreciation After 2016 Election

NOL Carryforwards

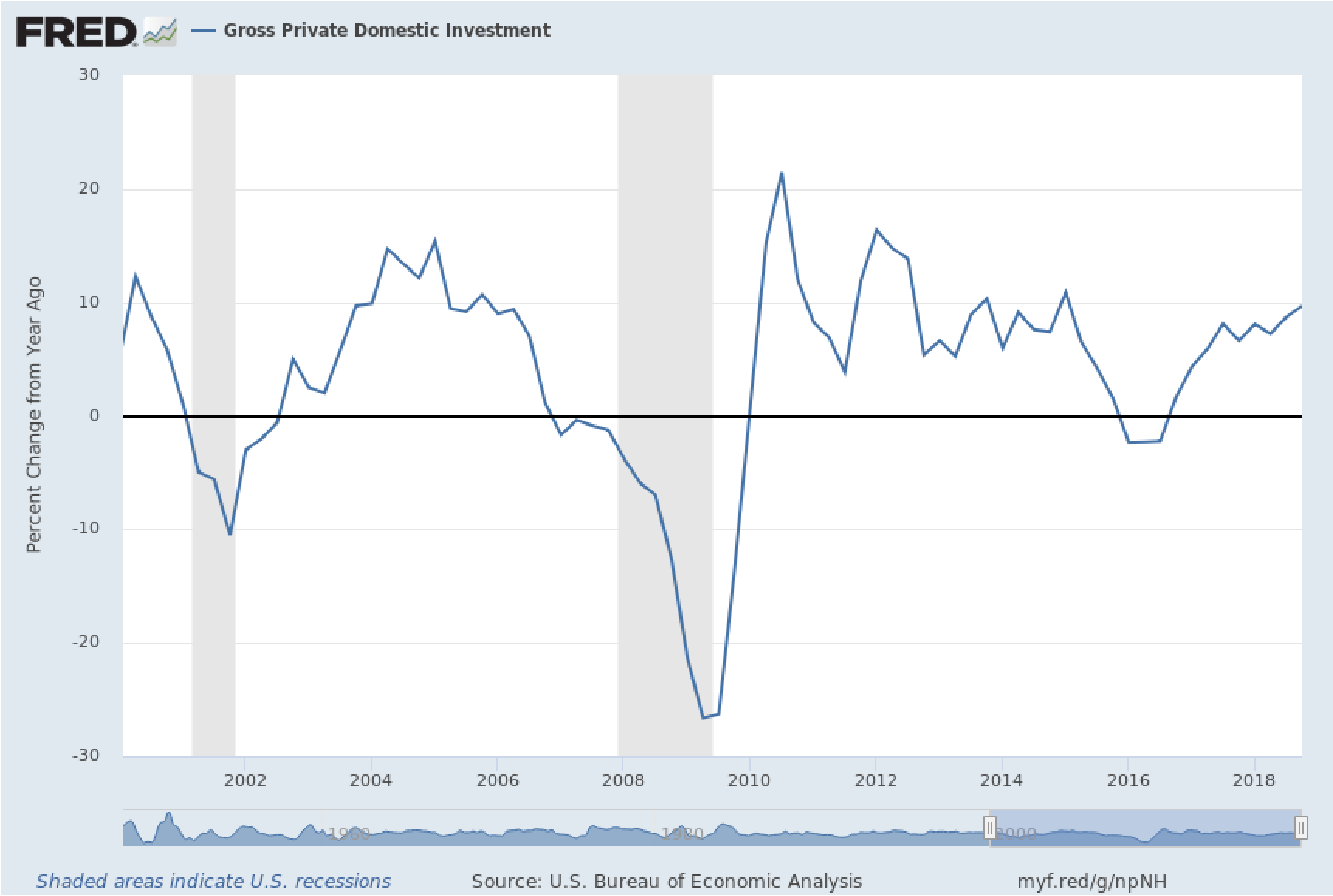
- Losses incurred are deductible from future income
  - Ex: $\pi_1 = -100$; : $\pi_2 = 100$
  - Pre-TCJA: Taxable income in year 2 is $0.
  - Post-TCJA: Taxable income in year 2 is $20.
  - Remaining $20 is deductible in future period.
- Claim: NOL provision of TCJA only shifts *timing* of tax payments

“Residential” → “Territorial” Tax System

- Pre-TCJA: Residential
  - Profits stockpiled internationally (est. $2.6 trillion; JCT 2016)
  - Encouraged “corporate inversion”
- Post-TCJA: “Hybrid”
  - Exempted foreign profits from taxable income
  - Minimum tax (10%) to prevent base erosion

Investment Incentives

- Short-lived investment (< 20 years)
  - Pre-TCJA: Cost deduction spread out over years
  - Post-TCJA: Immediate (full) deductibility for 5 years; phased out
- R&D expenditures
  - Pre-TCJA: Immediate (full) deductibility
  - Post-TCJA: Ends immediate (full) deductibility after 5 years



FRED
Gross Private Domestic Investment
30
20
10
0
-10
-20
-30
Percent Change from Year Ago
2002
2004
2006
2008
2010
2012
2014
2016
2018
Shaded areas indicate U.S. recessions
Source: U.S. Bureau of Economic Analysis
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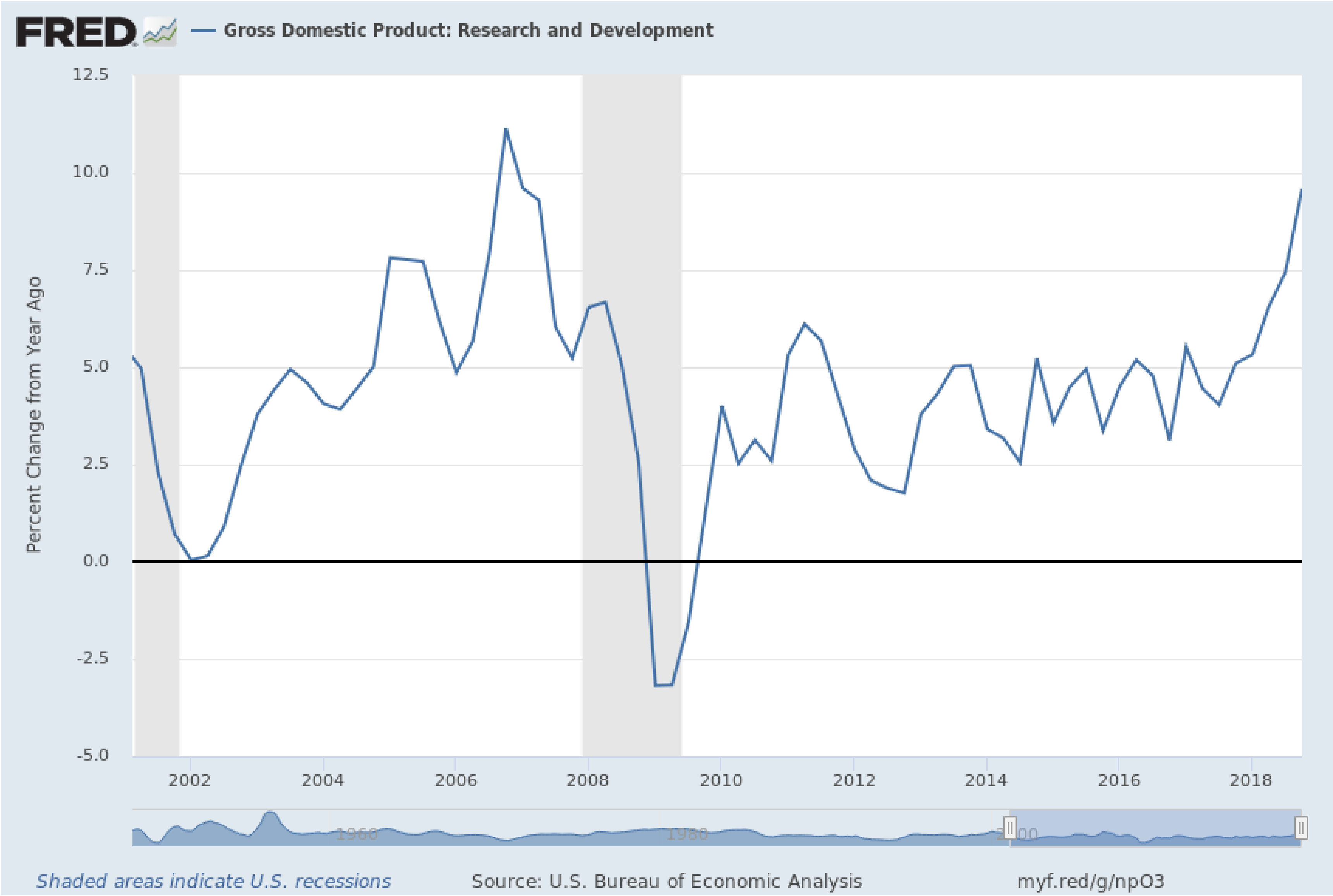

FRED
Gross Domestic Product: Research and Development
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
-5.0
Percent Change from Year Ago
2002
2004
2006
2008
2010
2012
2014
2016
2018
1960
1980
2000
Shaded areas indicate U.S. recessions
Source: U.S. Bureau of Economic Analysis
myf.red/g/npO3

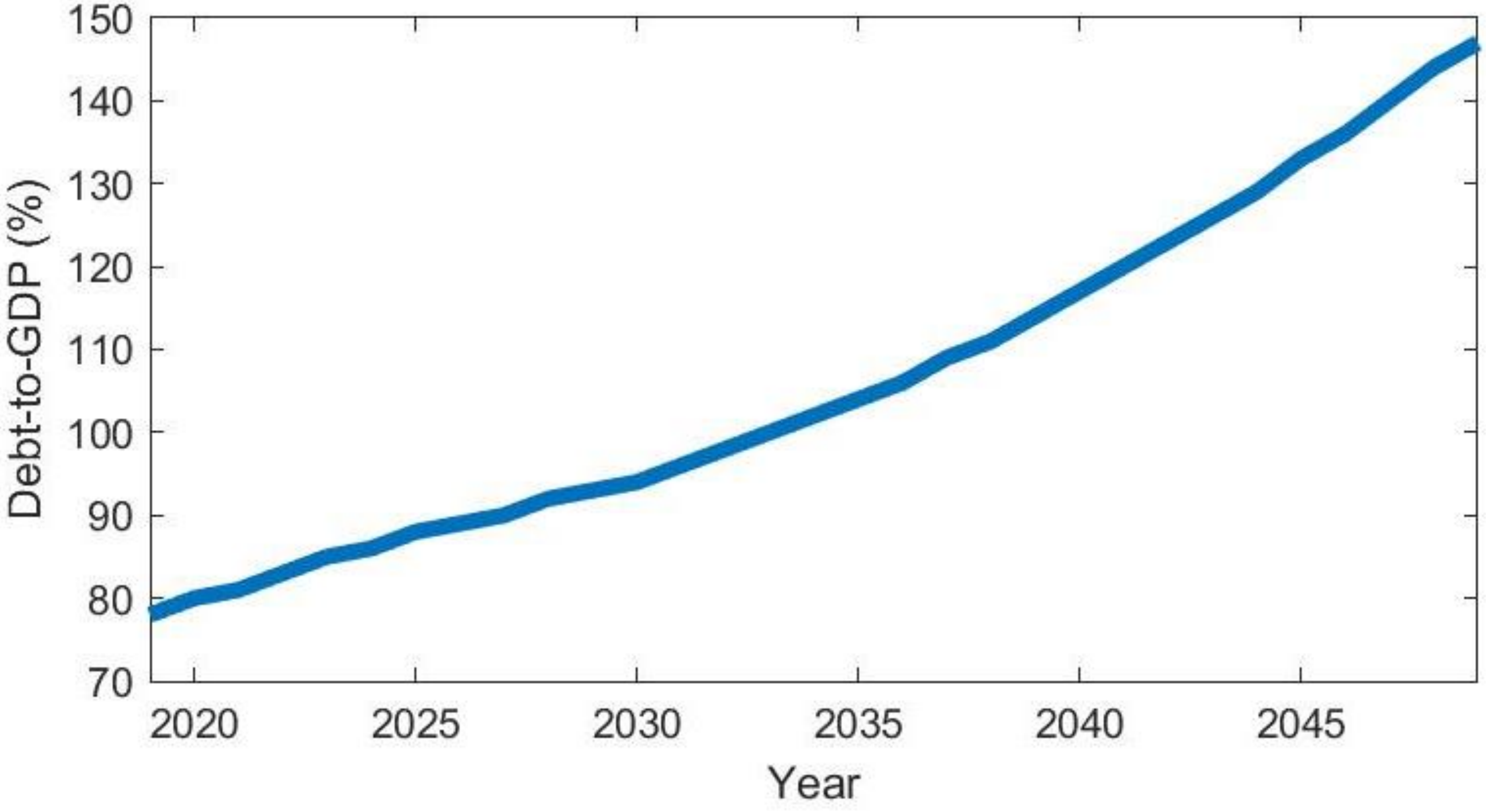
Corporate Tax Cut: Model-Simulated Impact

	Baseline Economy	Corporate Tax Reform
HOUSEHOLDS		
Wealth Gini	0.802	0.791
Indebted Households	14.8%	12.4%
BUSINESSES		
Profit Margin	14.8%	15.2%
Dividend Yield	1.8%	1.9%
P/E Ratio	30.1	32.4

Government Debt

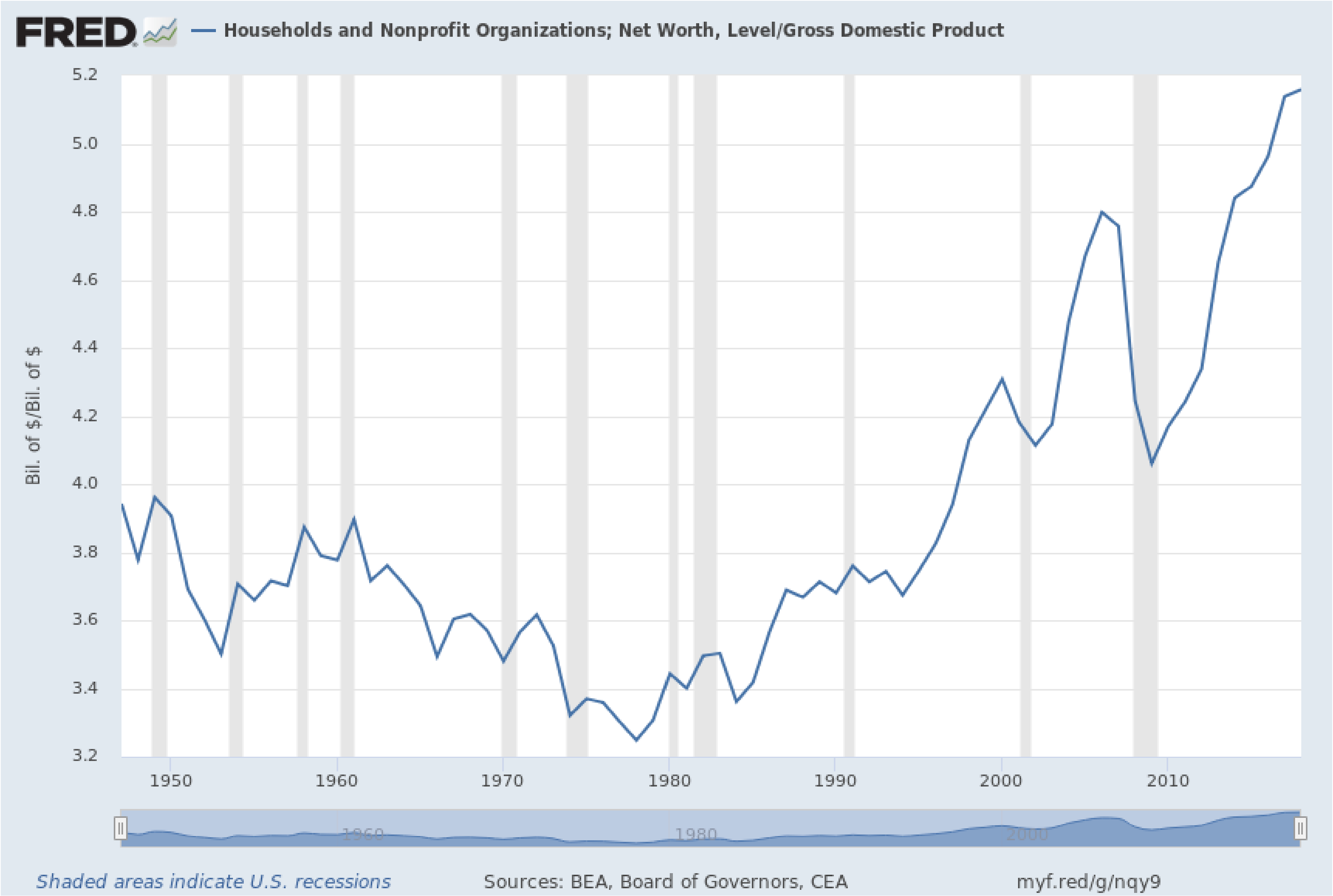
- CBO/JCT: TCJA will grow debt by $1-2 trillion over 10 years
- Is this a problem?
  - ↑ Growth rate of debt → ↑ Taxes required for stabilization
  - Private capital crowd-out?

Government Debt Projection (CBO)



Asset Markets

- **Supply**: Creditors (Households)
- **Demand**: Debtors (Businesses & Government)
- **Price**: Interest Rate
- Crowd-out theory:
  - ↑ Government debt → ↑ Interest rate → ↑ Business cost of capital
  - Demand seems “high.” How about supply?


FRED
Households and Nonprofit Organizations; Net Worth, Level/Gross Domestic Product
Bil. of $/Bil. of $
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
1950
1960
1970
1980
1990
2000
2010
Shaded areas indicate U.S. recessions
Sources: BEA, Board of Governors, CEA
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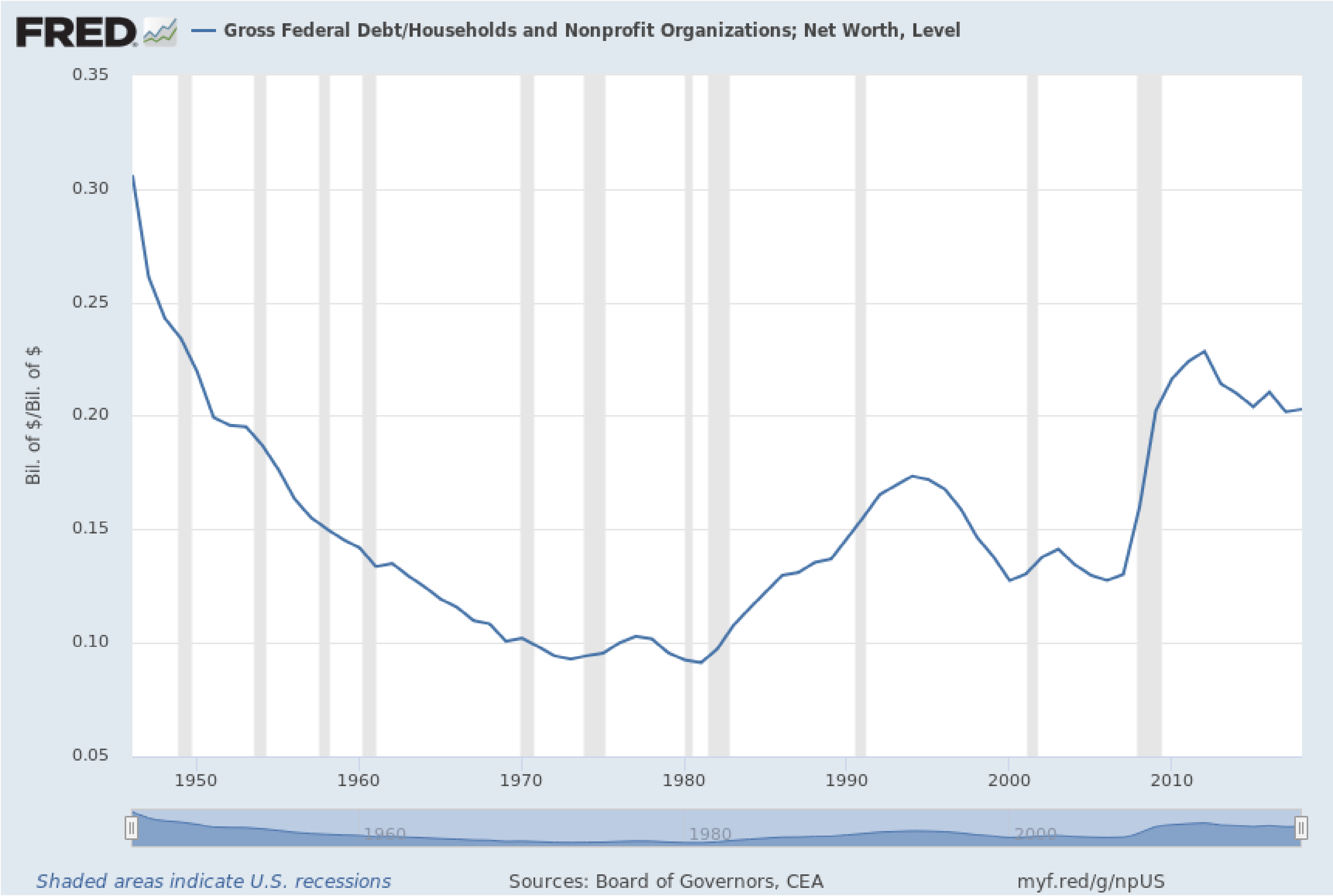
FRED
Gross Federal Debt/Households and Nonprofit Organizations; Net Worth, Level
0.35
0.30
0.25
0.20
0.15
0.10
0.05
Bil. of $/Bil. of $
1950
1960
1970
1980
1990
2000
2010
Shaded areas indicate U.S. recessions
Sources: Board of Governors, CEA
myf.red/g/npUS

Future of Debt Sustainability

- Back of the envelope calculation:
  - Net worth/GDP will increase by 0.52 (or 50% of GDP) by 2035.
  - Government debt/GDP is expected to rise by 0.26 (or 26% of GDP) by 2035.
  - Crowd-out from government debt unlikely in the near term.
- Long-term macroeconomic outlook
  - International asset demand
  - Immigration

Conclusion

- Individual Income Taxes
  - Reduces rates, reduces itemized deductions
  - Shifts demand away from housing
- Corporate Income Taxes
  - Appreciates market valuation
  - Tax system more competitive internationally
  - Potentially reduces inequality
- Government Debt
  - Increases growth rate of debt
  - Unlikely to crowd out private investment in the near term