

# Modeling the Economic Effects of Past Tax Bills

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## Key Findings:

- While the Tax Foundation typically uses the *Taxes and Growth* model to forecast the revenue and economic effects of proposed federal tax changes, the model can also be used to “backcast” the effects of past tax changes stretching back to the 1960s.
- Modeling the economic and revenue effects of past tax bills can shed light on recent U.S. economic history and the debate over the economic effects of tax reform.
- For instance, some economists have been puzzled by the fact that the Tax Reform Act of 1986 appears to have had little effect on the size of the U.S. economy. However, this is exactly the result that the *Taxes and Growth* model predicts. The model finds that the 1986 act – a mixture of tax cuts on labor and tax increases on capital – would lead to only a 0.2 percent decrease in the size of the economy.
- Although determining the actual macroeconomic effects of past tax changes is difficult, comparing the *Taxes and Growth* model results with observed economic data can serve as an imperfect test of the model’s reliability.
- For example, before the passage of the Omnibus Budget Reconciliation Act of 1993, many lawmakers predicted that the tax increases in the bill would cause significant economic damage. However, the *Taxes and Growth* model predicts that the negative economic effects of the 1993 tax changes would be relatively small, shrinking the long-run size of the U.S. economy by only 1.5 percent. The historical evidence appears to offer greater support to the predictions of the *Taxes and Growth* model.
- The exercise of modeling the economic and revenue effects of past changes can provide context for the current predictions of the *Taxes and Growth* model. For instance, it becomes clear that several of the tax plans proposed by 2016 presidential candidates would create historically unprecedented economic effects.

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## Introduction

One of the most contentious debates in contemporary American politics concerns the relationship between federal tax policy and the U.S. economy. Some policymakers and economists believe that higher tax rates discourage work and investment, and that lowering marginal tax rates on labor and capital would lead to economic growth.<sup>1</sup> Others are doubtful that a strong relationship exists between taxes and the size of the U.S. economy, and caution against the notion that tax cuts could lead to increased prosperity.<sup>2</sup>

Often, the debate over the economic effects of tax policy boils down to competing interpretations of U.S. economic history. Some economists point to the Kennedy tax cuts of 1962 and 1964 and the Reagan tax cuts of 1981 as examples of tax changes that spurred economic growth.<sup>3</sup> Other economists, arguing against a strong relationship between tax rates and the economy, highlight the Tax Reform Act of 1986 and the Clinton tax increases of 1993, neither of which appeared to have had significant macroeconomic effects.<sup>4</sup>

There have been several studies that have attempted to measure the actual effects of tax changes in the past on the United States economy.<sup>5</sup> Needless to say, this is a difficult endeavor: it is very tricky to isolate the effects of tax policy, particularly in the context of the business cycle, changes in other areas of federal policy, and broader economic trends.<sup>6</sup>

Moreover, even if it were possible to know the exact economic effects of past tax changes, this would not be sufficient to determine whether further changes to the tax code would have a significant impact on the economy. For instance, it could be the case that policymakers have already eliminated most of the provisions in the tax code that create large economic distortions, and that current tax reform efforts are bound to have a smaller economic effect, for lack of “low-hanging fruit.” On the other hand, it could be the case that all past tax changes have been relatively modest, and that a bold tax reform bill would create larger economic effects than previously observed.

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- 1 William McBride, “What Is the Evidence on Taxes and Growth,” Tax Foundation, 2012, <http://taxfoundation.org/article/what-evidence-taxes-and-growth>; David G. Raboy, “Essays in Supply Side Economics,” Institute for Research on the Economics of Taxation, 1982, <http://iret.org/pub/SupplySideBook.pdf>
  - 2 William G. Gale and Andrew A. Samwick, “Effects of Income Tax Changes on Economic Growth,” Brookings Institution, 2016, <https://www.brookings.edu/research/effects-of-income-tax-changes-on-economic-growth/>; Thomas L. Hungerford, “Corporate tax rates and economic growth since 1947,” Economic Policy Institute, 2013, <http://www.epi.org/publication/ib364-corporate-tax-rates-and-economic-growth/>
  - 3 Brian Domitrovic, “Trashing JFK’s Tax Cuts, One of the Greatest Policy Successes of All Time,” *Forbes*, 2013, <http://www.forbes.com/sites/briandomitrovic/2013/03/12/trashing-jfks-tax-cuts-one-of-the-greatest-policy-successes-of-all-time/>; William A. Niskanen and Stephen Moore, “Supply Tax Cuts and the Truth About the Reagan Economic Record,” Cato Institute, 1996, <http://www.cato.org/pubs/pas/pa-261.html>
  - 4 Howard Gleckman, “Don’t Count on Much Economic Growth From Individual Tax Reform... Or From Tax Rate Cuts,” *Forbes*, 2014, <http://www.forbes.com/sites/beltway/2014/09/10/dont-count-on-much-economic-growth-from-individual-tax-reform-or-from-tax-rate-cuts>; Paul Krugman, “Voodoo Never Dies,” *The New York Times*, 2015,
  - 5 Martin Feldstein and Douglas W. Elmendorf, “Budget Deficits, Tax Incentives, and Inflation: A Surprising Lesson from the 1983-1984 Recovery,” National Bureau of Economic Research, 1989, <http://www.nber.org/chapters/c10943.pdf>; Alan Auerbach and Joel Slemrod, “The Economic Effects of the Tax Reform Act of 1986,” *Journal of Economic Literature* 35 (1997): 589-632.
  - 6 On the difficulties of measuring the economic impact of tax changes, see Alan Auerbach, “Measuring the Impact of Tax Reform,” *National Tax Journal* 49 (1996): 665-673, <https://www.ntanet.org/NTJ/49/4/ntj-v49n04p665-73-measuring-impact-tax-reform.pdf>
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In short, in order to evaluate the relationship between taxes and the economy, it is not enough to survey the empirical effects of tax changes in the past. Instead, it is also necessary to develop some set of expectations about the impact of tax changes on the economy, so that the observed data can be compared to the expected effects.

In this paper, we address the question, “What economic effects should we have expected from the major federal tax bills of the past several decades?” Our goal is to develop a baseline of expectations about the economic effects of past tax changes, to which the historical evidence can be compared.

To do this, we employ the *Taxes and Growth* model, an economic model developed by the Tax Foundation, which is frequently used to evaluate tax proposals from members of Congress and presidential candidates. While the *Taxes and Growth* model is typically used to forecast the revenue and economic effects of proposed tax changes, it can also be used to “backcast” the effects of past tax changes, by using economic and taxpayer data stretching back to the 1960s.<sup>7</sup>

Using this method, for any tax bill over the last sixty years, we can show how the Tax Foundation would have scored the bill at the time: what revenue and economic effects would have been predicted by the *Taxes and Growth* model. In this paper, we’ve chosen seven major U.S. tax changes to analyze in this manner:

- The Revenue Acts of 1962 and 1964 (the “Kennedy tax cuts”)
- The Economic Recovery Tax Act of 1981 (ERTA, the “Kemp-Roth tax cut,” or the “Reagan tax cut”)
- The Tax Reform Act of 1986 (TRA 86, or the “Reagan tax reform”)
- The Omnibus Budget Reconciliation Act of 1993 (the “Clinton tax increase”)
- The Taxpayer Relief Act of 1997 (the “Clinton tax cut”)
- The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA, or the “2001 Bush tax cut”)
- The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA, or the “2003 Bush tax cut”)

These seven tax changes include several of the most important pieces of federal tax legislation over the past century. By modeling their economic effects, we hope to shed light on recent U.S. economic history and to contribute to the debate about the relationship between tax changes and the economy.

While this paper is meant to inform the broader debate over the relationship between taxes and growth, it should also be useful for those looking to evaluate the reliability of the *Taxes and Growth* model. Although it is very difficult to determine the precise economic effects of past tax changes, comparing the predictions of the *Taxes and Growth* model with the

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<sup>7</sup> This study builds on and updates a series of papers by the Institute for Research on the Economics of Taxation published in 2011, which used an early version of the *Taxes and Growth* model to examine the economic effects of past tax changes.

historical record can help assess whether the model's predictions are significantly off the mark.

## Overview of Results

The table below displays the top-line results from using the *Taxes and Growth* model to backcast the economic and revenue effects of the seven major tax bills listed above.

### Predicted Economic and Revenue Effects of Seven Major Tax Bills

Tax Bill	Long-Run Change in GDP	Static Change in Annual Revenue (Percent of GDP)
Kennedy 1962/1964	6.2%	-2.2%
Reagan 1981	8.0%	-2.6%
Reagan 1986	-0.2%	-0.1%
Clinton 1993	-1.5%	0.6%
Clinton 1997	0.8%	-0.6%
Bush 2001	2.3%	-1.5%
Bush 2003	2.3%	-0.2%

Source: Tax Foundation *Taxes and Growth* Model

Note: The figures for Kennedy 1962/1964 and Reagan 1981 are somewhat overstated, because major provisions in both bills were repealed shortly afterward enactment.

While the *Taxes and Growth* model produces dozens of outputs, the table above focuses on two key results, “long-run change in GDP” and “static change in annual revenue,” which capture the effects of each tax bill on the U.S. economy and on federal revenue. It is worth pausing to explain how to interpret these outputs.

“Long-run change in GDP” represents how much larger or smaller the U.S. economy would be in the long run as a result of adopting a particular tax bill. The *Taxes and Growth* model does not make short-run, year-to-year economic forecasts; instead, it predicts what the state of the economy will be after it has adjusted fully to a change in the tax system.

Because the *Taxes and Growth* model does not forecast how long it will take for the economy to adjust to a set of tax changes, it can be difficult to translate the economic results in the table above into concrete predictions about year-to-year economic data. In practice, the Tax Foundation uses a crude heuristic: that it takes the U.S. economy ten years to adjust to a large tax change. This heuristic can be used to translate the model's long-run results into annual terms. For instance, the model predicts that the Bush 2001 tax cut would grow the size of the U.S. economy by 2.3 percent in the long run. This figure would translate into an annual GDP growth rate that is roughly 0.23 percent higher, every year for ten years, than the annual GDP growth rate that would be observed in the absence of the tax change.

“Static change in annual revenue” represents how much each tax bill would affect U.S. federal revenue collections. This is another a long-run figure; it does not take into account transitional or short-term revenue effects. Rather, it shows how much federal revenue would grow or shrink once a tax bill is fully phased into law. In order to provide an apples-to-apples comparison, the revenue effects of each tax bill are presented in this table as a percentage of U.S. GDP in the year of the bill’s passage.

## Detailed Results

The following section contains detailed model results for each major tax change. For each bill, we specify exactly which provisions were modeled and describe the predicted economic and revenue effects of each one. The goal of this section is to shed light on which elements of each tax bill are the main drivers of the model’s top-line economic and revenue results.

We did not attempt to model every provision in each bill. Most major pieces of tax legislation contain dozens of miscellaneous provisions, the majority of which have negligible effects on the U.S. economy and federal revenue collections. Instead, we modeled changes to the major structural elements of the federal tax code, such as individual income tax brackets, the corporate income tax rate, depreciation schedules, certain deductions and credits, and the alternative minimum tax.

Due to data limitations and other model constraints, we did not model changes to the tax treatment of foreign-source income, tax-deferred savings accounts, inflation indexing, or the federal estate tax.

## *The Revenue Acts of 1962 and 1964*

The Revenue Act of 1964 is often referred to as the “Kennedy tax cut” because – although the bill was passed after the death of President John F. Kennedy – it originated with Kennedy’s 1963 State of the Union address, which called for a set of federal tax changes that would “expand the long-run strength of our economy.”<sup>8</sup> While less aggressive than Kennedy’s initial proposal, the Revenue Act of 1964 cut the top individual income tax rate from 91 percent to 70 percent, significantly reduced individual income tax rates in all other brackets, created the standard deduction, and reduced the corporate tax rate from 52 percent to 48 percent.<sup>9</sup>

During the same time period, two other important tax changes occurred. First, the Revenue Act of 1962 had created a 7 percent investment tax credit, to encourage business investment.<sup>10</sup>

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8 John F. Kennedy, “Annual Message to the Congress on the State of the Union,” 1963, <http://www.presidency.ucsb.edu/ws/?pid=9138>

9 Pub. L. 88-272, “Revenue Act of 1964.”

10 Pub. L. 87-834, “Revenue Act of 1962.” Though not modeled here, the Revenue Act of 1962 also shaped the modern tax treatment of foreign-source income through its creation of Subpart F.

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Second, in 1962, the IRS issued a new set of depreciation guidelines for businesses, replacing the previous depreciation schedules of Bulletin F with a set of shorter asset lives, sometimes referred to as the “Guideline Lives.”<sup>11</sup> Together, these two changes significantly reduced marginal taxes on business investment.

We modeled the effects of the following tax changes from 1962 and 1964:

### Individual Income Tax Changes

- Created a minimum standard deduction of \$200 per tax return plus \$100 for each personal exemption claimed, up to \$1,000 (in 1964 dollars).
- Reduced marginal rates across the board, from rates ranging from 20 percent to 91 percent to a set of rates ranging from 14 percent to 70 percent.

### Business Income Tax Changes

- Lowered the corporate tax rate to 48 percent from 52 percent.
- Created a business investment tax credit of 7 percent.
- Changed depreciation schedules from Bulletin F to a new set of IRS guidelines.

## Predicted Economic and Revenue Effects of the Revenue Acts of 1962 and 1964

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 1962 dollars)
Create a business investment tax credit	1.35%	-\$1.23
Create a minimum standard deduction	0.09%	-\$0.30
Move from Bulletin F depreciation schedules to a new set of guidelines	1.15%	-\$2.00
Lower individual income tax rates across the board	2.51%	-\$8.44
Lower the corporate tax rate to 48% from 52%	1.09%	-\$1.48
<b>TOTAL</b>	<b>6.18%</b>	<b>-\$13.45</b>

Source: Tax Foundation *Taxes and Growth* Model

Overall, the *Taxes and Growth* model predicts that the Revenue Acts of 1962 and 1964, along with the IRS depreciation guidelines, would have grown the U.S. economy by 6.18 percent in the long run, as well as decreasing static federal revenue by \$13.45 billion a year.

While many recent articles about the Kennedy tax cuts have focused on the dramatically lower individual income tax rates (and particularly the reduction of the top tax rate from 91 percent to 70 percent), the *Taxes and Growth* model predicts that these individual rate cuts were less economically consequential than many might expect.

<sup>11</sup> Rev. Proc. 62-21, 1962-2 C.B. 418

The individual rate cuts only created 41 percent of the economic effect of the tax changes of the early 1960s, while accounting for 62 percent of the overall cost. In other words, the economic boost from the Revenue Acts of 1964 came primarily from business tax changes – the lower corporate rate, the investment tax credit, and the new depreciation guidelines, all of which reduced marginal tax rates on capital.

It is worth noting that the investment tax credit created by the Revenue Act of 1962 was suspended temporarily in 1966 and abolished in 1969.<sup>12</sup> As a result, the economic predictions above are likely overstated, given that the economic effects of the credit were reversed soon after its enactment.

## **Economic Recovery Tax Act of 1981**

The Economic Recovery Tax Act of 1981 was the largest tax reduction in U.S. history. The bill originated with a proposal by Representative Jack Kemp (R-NY) and Senator Bill Roth (R-DE) to lower marginal individual income tax rates by 30 percent over three years.<sup>13</sup> In its final form, the bill decreased the top individual tax rate from 70 percent to 50 percent and significantly reduced individual income tax rates in all other brackets. On the business side, the bill reduced marginal tax rates on business investment by increasing the investment tax credit and creating the Accelerated Cost Recovery System, which allowed for faster depreciation schedules.<sup>14</sup>

However, many of the tax provisions in the 1981 bill were repealed shortly after enactment, due to concerns about the federal deficit, in the Tax Equity and Fiscal Responsibility Act of 1982 and subsequent pieces of legislation.<sup>15</sup> In fact, one economist estimates that more than half of the net tax reduction from the 1981 act was undone by subsequent tax increases.<sup>16</sup>

We modeled the effects of the following tax changes in the Economic Recovery Tax Act of 1981:

### **Individual Income Tax Changes**

- Reduced marginal rates across the board from rates ranging from 14 percent to 70 percent to rates ranging from 11 percent to 50 percent.
- Introduced a deduction for the lower-earning spouse of a married couple filing jointly of 10 percent of the spouse's income, up to \$3,000 (in 1981 dollars).

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12 Paul Taubman, "The Investment Tax Credit, Once More," 14 *Boston College Law Review* 871 (1973), <http://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1391&context=bclr>

13 "What Kemp-Roth Would Really Do," *The Washington Post*, 1980, <https://www.washingtonpost.com/archive/politics/1980/10/01/what-kemp-roth-would-really-do/1f88f720-260c-402d-b4a2-fcd2f5dd9f0c/>

14 Pub. L. 97-34, "Economic Recovery Tax Act of 1981."

15 Pub. L. 97-248, "Tax Equity and Fiscal Responsibility Act of 1982."

16 Bruce Bartlett, "Reagan's Forgotten Tax Record," *Capital Gains and Games*, 2011, <http://capitalgainsandgames.com/blog/bruce-bartlett/2154/reagans-forgotten-tax-record>



## Business Income Tax Changes

- Changed depreciation schedules from the Asset Depreciation Range (ADR) to the Accelerated Cost Recovery System (ACRS).
- Increased the investment tax credit for short-lived assets, while eliminating it for structures.

### Predicted Economic and Revenue Effects of the Economic Recovery Tax Act of 1981

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 1981 dollars)
Introduce deduction for low-earning spouses	0.17%	-\$0.46
Move from ADR to ACRS for depreciation schedules	2.69%	-\$10.34
Increase the investment tax credit	0.52%	-\$2.75
Reduce marginal individual income tax rates across the board	4.62%	-\$69.50
<b>TOTAL</b>	<b>8.00%</b>	<b>-\$83.06</b>

Source: Tax Foundation *Taxes and Growth Model*

The *Taxes and Growth* model predicts that the 1981 Reagan tax cuts had the largest effect on both the U.S. economy and federal revenue of any of the seven tax changes examined in this paper: an 8.0 percent increase in the long-run size of the U.S. economy, and a \$83.06 billion static revenue loss. The majority of the predicted economic and revenue effects was due to the individual income tax reductions, which greatly decreased marginal and effective tax rates on wages, dividends, capital gains, and pass-through businesses.

The estimates above are likely somewhat overstated, because the investment tax credit increase and the faster depreciation schedules in the 1981 Act were curtailed shortly thereafter. On the other hand, we did not model several other important provisions in the 1981 Act: an increase in the maximum contribution to Individual Retirement Accounts, the creation of the research and experimentation tax credit, a large increase in the federal estate tax exclusion, and (perhaps most importantly) a provision that indexed individual income tax brackets to inflation. Had these provisions been modeled, the results would likely have shown a greater static revenue loss and a larger economic effect.

## Tax Reform Act of 1986

The Tax Reform Act of 1986 was a landmark moment in U.S. tax history. It is perhaps the only instance where U.S. lawmakers attempted a comprehensive reform of the federal income tax aimed at simplifying the tax code rather than raising or lowering federal revenue.<sup>17</sup>

17 For an overview of the history of the Tax Reform Act of 1986, see Joseph J. Minarik, "How Tax Reform Came About," *Tax Notes*, 1987, <http://cdn.bipartisanpolicy.org/wp-content/uploads/sites/default/files/TRA86.How%20Tax%20Reform%20Came%20About.pdf>

The central strategy of the Tax Reform Act of 1986 was to “broaden the base and lower rates”: to raise revenue from curtailing credits, deductions, and other tax expenditures, in order to reduce overall tax rates on individuals and businesses, without changing overall federal revenue collections. The bill contained more than 100 base-broadening provisions, which modified virtually every part of the income tax code. With the additional revenue from these provisions, the bill was able to lower the top individual income tax rate from 50 percent to 28 percent and the corporate income tax rate from 46 percent to 34 percent.<sup>18</sup>

Importantly, many of the major base-broadening provisions in the Tax Reform Act of 1986 were aimed at moving the federal tax system toward a pure income tax, where individuals and businesses are taxed not only on their consumption, but also on their change in wealth.<sup>19</sup> For instance, the bill eliminated the partial exclusion of capital gains, causing capital gains to be taxed at the same rates as ordinary income for the first time since 1921. On the business side, the bill created the Modified Accelerated Cost Recovery System, which required companies to deduct the cost of their capital investments using slower depreciation schedules.

We modeled the effects of the following tax changes in the Tax Reform Act of 1986:

### Individual Income Tax Changes

- Taxed capital gains as ordinary income.
- Expanded the personal exemption from \$1,080 to \$2,000 (in 1986 dollars).
- Expanded the standard deduction from \$3,670 to \$5,000 for joint filers, from \$2,480 to \$3,000 for single filers, and from \$2,480 to \$4,400 for heads of household.
- Collapsed the 16 individual income tax brackets, with rates ranging from 11 percent to 50 percent, to two brackets of 15 percent and 28 percent (with a 33 percent “rate bubble” for certain middle-income households).

### Business Income Tax Changes

- Changed depreciation schedules from the Accelerated Cost Recovery System (ACRS) to the less generous Modified Accelerated Cost Recovery System (MACRS).
- Repealed the investment tax credit.
- Lowered the corporate tax rate from 46 percent to 34 percent.

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<sup>18</sup> Pub. L. 99-514, “Tax Reform Act of 1986.”

<sup>19</sup> For a succinct discussion of the differences between a Haig-Simons income tax and a consumption-based tax, see Scott Greenberg, “Cost Recovery for New Corporate Investments in 2012,” Tax Foundation, 2016, <http://taxfoundation.org/article/cost-recovery-new-corporate-investments-2012>

## Predicted Economic and Revenue Effects of the Tax Reform Act of 1986

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 1986 dollars)
Tax capital gains as ordinary income	-2.59%	\$10.91
Move from ACRS to MACRS	-1.81%	\$8.24
Repeal the investment tax credit for businesses	-2.67%	\$23.73
Expand the personal exemption and standard deduction	0.56%	-\$27.35
Collapse the 16-bracket structure to a 2-bracket structure	2.97%	\$3.78
Lower the corporate tax rate from 46% to 34%	3.31%	-\$24.25
<b>TOTAL</b>	<b>-0.23%</b>	<b>-\$4.93</b>

Source: Tax Foundation *Taxes and Growth* Model

As expected, the *Taxes and Growth* model predicts that the Tax Reform Act of 1986 was more or less revenue-neutral, reducing federal revenue by \$4.93 billion a year, on a static basis. Perhaps more surprising are the model's economic predictions: the bill had a negligible effect on the U.S. economy, reducing long-run GDP by a mere 0.23 percent.

The basic intuition behind this economic result is that, essentially, the Tax Reform Act of 1986 lowered taxes on labor but raised taxes on capital. By reducing income tax rates across the board, the bill encouraged individuals to work and led to a larger supply of labor. However, several of the base-broadening measures in the bill led to higher marginal tax rates on saving and investment: moving to the MACRS depreciation system, repealing the investment tax credit, and taxing capital gains as ordinary income. These provisions discouraged savings and investment, leading to a smaller supply of capital. As such, the *Taxes and Growth* model predicts that the 1986 tax reform led to higher employment and lower investment than would otherwise have occurred.

These results may help shed light on the long-standing question of why the Tax Reform Act of 1986 appeared to have little effect on the size of the U.S. economy.<sup>20</sup> In short, no one should have expected the bill to have an effect on GDP in the first place. Economists and pundits need not resort to the claim that taxes do not affect the economy in order to explain why the Tax Reform Act of 1986 did not lead to growth.

It is important to stress that lack of growth from the Tax Reform Act of 1986 had very little to do with the fact that the bill was revenue-neutral. Indeed, there have been several recent revenue-neutral tax proposals that the *Taxes and Growth* model predicts would grow the economy.<sup>21</sup> Rather, the main reason why the model shows no growth from the 1986 tax reform is because so many of the base-broadening measures in the bill increased taxes on saving and investment.

20 Alan J. Auerbach and Joel Slemrod, "The Economic Effects of the Tax Reform Act of 1986," *Journal of Economic Literature* 35 (1997): 589-632.

21 E.g. Michael Schuyler, "An Analysis of Senator Ben Cardin's Progressive Consumption Tax," Tax Foundation, 2015, <http://taxfoundation.org/article/analysis-senator-cardin-s-progressive-consumption-tax>; Scott Greenberg, "Details and Analysis of Rep. Jim Renacci's Tax Reform Proposal," Tax Foundation, 2016, <http://taxfoundation.org/article/details-and-analysis-rep-jim-renacci-s-tax-reform-proposal>

## Omnibus Budget Reconciliation Act of 1993

The Omnibus Budget Reconciliation Act of 1993 was one of the largest tax increases in recent U.S. history. The bill was originally proposed by the Clinton administration as part of an effort to decrease the federal budget deficit.<sup>22</sup>

Several provisions in the bill were specifically aimed at increasing taxes on high-income households, including the creation of two new income tax brackets, of 36 percent and 39.6 percent. Other provisions in the bill increased taxes on lower- and middle-income households as well, such as an increase in the federal gas tax. In addition, the bill included several modest tax increases on businesses, such as a corporate tax rate increase from 34 percent to 35 percent.<sup>23</sup>

We modeled the effects of the following tax changes in the Omnibus Budget Reconciliation Act of 1993:

### Individual Income Tax Changes

- Created two new top income tax brackets of 36 percent and 39.6 percent for incomes above \$115,000 and \$250,000 (in 1993 dollars), respectively.
- Increased the alternative minimum tax rate from 24 percent to two rates of 26 percent and 28 percent, while increasing the exemption.
- Increased taxation of Social Security benefits by introducing an 85% inclusion rate for retirees with a Modified Adjusted Gross Income (MAGI) of above \$34,000 for singles and above \$44,000 for couples.

### Business Income Tax Changes

- Lengthened asset lives for nonresidential structures from 31.5 years to 39 years.
- Raised the corporate income tax rate from 34 percent to 35 percent.

### Other Tax Changes

- Subjected all wages to Medicare payroll taxes, eliminating the cap of \$125,000 in 1991 dollars.
- Increased the excise tax on gasoline by 4.3 cents per gallon, to 18.4 cents per gallon.

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<sup>22</sup> David E. Rosenbaum, "The Clinton Tax Bill; Clinton Proposal for Tax Increases Passes First Test," *The New York Times*, 1993, <http://www.nytimes.com/1993/05/14/us/the-clinton-tax-bill-clinton-proposal-for-tax-increases-passes-first-test.html>

<sup>23</sup> Pub. L. 103-66, "Omnibus Budget Reconciliation Act of 1993."

## Predicted Economic and Revenue Effects of the Omnibus Budget Reconciliation Act of 1993

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 1993 dollars)
Increase AMT rates to 26% and 28% while raising the exempt amount	-0.04%	\$1.12
Expand asset lives for nonresidential structures to 39 years	-0.17%	\$1.12
Create two new top income brackets of 36% and 39.6%	-0.78%	\$18.12
Raise the corporate tax rate from 34% to 35%	-0.17%	\$3.63
Increase taxation of Social Security benefits	-0.13%	\$3.15
Subject all wages to Medicare payroll taxes	-0.06%	\$6.33
Increase the excise tax on gasoline by 4.3 cents per gallon	-0.12%	\$7.37
<b>TOTAL</b>	<b>-1.47%</b>	<b>\$40.84</b>

Source: Tax Foundation *Taxes and Growth* Model

The *Taxes and Growth* model predicts that the Omnibus Budget Reconciliation Act of 1993 would decrease the long-run size of the U.S. economy by 1.47 percent, due to higher marginal tax rates on labor and capital. All things considered, this is a relatively modest economic effect, roughly equivalent to a 0.15 percent lower annual GDP growth rate for ten years than otherwise would have been observed.

The most significant provision in the bill, both from an economic and revenue standpoint, was the creation of the 36 percent and 39 percent individual income tax brackets – which applied not only to wages, but also to dividends, capital gains, and the expanding pass-through business sector. The *Taxes and Growth* model predicts that this tax increase on high-income households would reduce long-run GDP by 0.78 percent.

On the other hand, several of the tax increases in the 1993 bill were relatively efficient sources of revenue. For instance, the model predicts that eliminating the cap on Medicare payroll taxes raised \$6.33 billion a year, with only a 0.06 percent decrease in long-run GDP. This provision increased marginal tax rates on wages – which are relatively insensitive to tax changes – rather than on dividends, capital gains, or business income, all of which are more responsive to taxes.

It is interesting to note that, in advance of the passage of the 1993 Clinton tax increase, many lawmakers in the opposing party predicted that the bill would cause severe negative economic consequences, such as creating a recession.<sup>24</sup> On the other hand, the *Taxes and Growth* model predicts that the economic effects of the 1993 bill would be relatively modest.

<sup>24</sup> Pat Garofalo, "FLASHBACK: In 1993, GOP Warned That Clinton's Tax Plan Would 'Kill Jobs,' 'Kill The Current Recovery,'" Think Progress, 2010, <https://thinkprogress.org/flashback-in-1993-gop-warned-that-clintons-tax-plan-would-kill-jobs-kill-the-current-recovery-96adb3663484>

It appears that the historical economic record lends greater support to the predictions of the *Taxes and Growth* model in this case, as GDP growth in the mid-1990s remained relatively strong.<sup>25</sup>

## Taxpayer Relief Act of 1997

The Taxpayer Relief Act of 1997 was a bipartisan bill aimed at lowering the federal tax burden on U.S. households.<sup>26</sup> Many of the provisions in the bill were focused on reducing marginal taxes on household saving, such as a reduction in the top tax rate on capital gains from 28 percent to 20 percent, the creation of a new exclusion for capital gains on home sales, and the expansion of eligible contributions to retirement accounts (not modeled). The bill also created a substantial child tax credit for low- and middle-income households.<sup>27</sup>

We modeled the effects of the following tax changes in the Taxpayer Relief Act of 1997:

### Individual Income Tax Changes

- Reduced the capital gains rate from 28 percent to two rates of 10 percent and 20 percent
- Excluded capital gains on personal residences up to \$250,000 for single filers and up to \$500,000 for joint filers.
- Increased excise taxes, primarily on domestic airline tickets and international departures.
- Created a child tax credit of \$500 per child per year (imputed value).

### Predicted Economic and Revenue Effects of the Taxpayer Relief Act of 1997

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 1997 dollars)
Reduce long-term capital gains rates	0.71%	-\$25.28
Create an exclusion for capital gains on personal residences	0.14%	-\$6.67
Increase excise taxes, mainly on air travel	-0.01%	-\$0.56
Create a child tax credit of \$500	0.00%	-\$20.05
<b>TOTAL</b>	<b>0.84%</b>	<b>-\$52.56</b>

Source: Tax Foundation *Taxes and Growth* Model

25 Real gross domestic product grew by 2.7 percent in 1993, 4.0 percent in 1994, 2.7 percent in 1995, and 3.8 percent in 1996. Bureau of Economic Analysis, National Income and Product Accounts, Table 1.1.1.

26 John F. Harris and Eric Pianin, "Bipartisanship Reigns at Budget Signing," *The Washington Post*, 1997, <http://www.washingtonpost.com/wp-srv/politics/special/budget/stories/080697.htm>

27 Pub. L. 105-34, "Taxpayer Relief Act of 1997."

The *Taxes and Growth* model predicts that the Taxpayer Relief Act of 1997 would increase the size of the U.S. economy by 0.84 percent and decrease federal revenue collections by \$52.56 billion a year, on a static basis. The economic estimate is likely somewhat understated, because we did not model the effects of a provision in the bill that increased contribution limits to retirement accounts, which further reduced marginal tax rates on saving. Meanwhile, it is important to note that the revenue estimate does not take into account the micro-behavioral effects of a rate reduction on capital gains, whereby households increase their realized capital gains in the short run.<sup>28</sup> Indeed, realized capital gains increased sharply after the passage of the 1997 Act.<sup>29</sup>

While the new child tax credit created by the bill reduced tax burdens significantly for low- and middle-income households, the *Taxes and Growth* model predicts that the credit had little economic effect. This is because the credit simply offered households the equivalent of a lump-sum payment, rather than altering marginal tax rates on most households' labor and investment.

Notably, the model predicts that the positive economic effects of the Taxpayer Relief Act of 1997 made up for over half of the negative economic effects of the 1993 Clinton tax hikes. Indeed, the last four years of the Clinton administration saw higher GDP growth than the first four years, giving some credence to this prediction.<sup>30</sup>

## ***Economic Growth and Tax Relief Reconciliation Act of 2001***

The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) began as a campaign promise by George W. Bush to lower taxes for all U.S. households, following projections of a large federal budget surplus.<sup>31</sup> In general, EGTRRA focused almost entirely on reducing individual income taxes, without any accompanying base-broadening provisions, and without offering business tax relief to boost investment.

EGTRRA substantially lowered the top four individual income tax rates, reducing the top rate from 39.6 percent to 35 percent. For low-income households, EGTRRA increased the standard deduction, created a new 10 percent income tax bracket, and expanded the child tax credit and the earned income tax credit. Though not modeled here, the bill also increased retirement account contribution limits and reduced the federal estate tax.<sup>32</sup>

We modeled the effects of the following tax changes in the Economic Growth and Tax Relief Reconciliation Act of 2001:

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28 See Paul Evans, "The Relationship Between Realized Capital Gains and Their Marginal Rate of Taxation, 1976-2004," Institute for Research on the Economics of Taxation, 2009, <http://iret.org/pub/CapitalGains-2.pdf>

29 According to the IRS Statistics of Income Division, individual net capital gains increased from \$16.6 billion in 1996 to \$24.2 billion in 1997.

30 Real gross domestic product grew by 4.5 percent in 1997, 4.5 percent in 1998, 4.7 percent in 1999, and 4.1 percent in 2000. Bureau of Economic Analysis, National Income and Product Accounts, Table 1.1.1.

31 "Bush: Surplus Justifies Tax Cut," CBS, 2001, <http://www.cbsnews.com/news/bush-surplus-justifies-tax-cut/>

32 Pub. L. 107-16, "Economic Growth and Tax Relief Reconciliation Act of 2001."

## Individual Income Tax Changes

- Expanded the child tax credit from \$500 to \$1,000.
- Increased the phase-out point of the earned income tax credit for joint filers by \$3,000.
- Expanded the standard deduction for joint filers to twice that of single filers.
- Introduced a bottom income tax bracket of 10 percent for low-income households, and reduced the rates of the top four individual income tax brackets, lowering the top individual rate from 39.6 percent to 35 percent.
- Eliminated the phaseout of personal exemptions and the limitation on itemized deductions (commonly known as PEP and Pease).
- Increased the amount exempt from the Alternative Minimum Tax by \$2,000 for single filers and heads of households and \$4,000 for joint filers.

### Predicted Economic and Revenue Effects of the Economic Growth and Tax Relief Reconciliation Act of 2001

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 2001 dollars)
Increase the AMT exempt amount	-0.01%	-\$0.81
Expand the child tax credit and EITC	0.01%	-\$20.70
Expand the standard deduction for joint filers	0.05%	-\$6.02
Create 10% bracket and lower rates on top four brackets	1.70%	-\$102.96
Eliminate phaseout of exemptions and deductions	0.52%	-\$30.75
<b>TOTAL</b>	<b>2.27%</b>	<b>-\$161.24</b>

Source: Tax Foundation *Taxes and Growth* Model

Overall, the *Taxes and Growth* model predicts that EGTRRA would reduce federal revenue by \$161.24 billion a year, on a static basis, and increase the size of the U.S. economy by 2.27 percent. The main driver of both the economic and revenue effects is the reduction in individual income tax bracket rates.

It is worth pausing to consider how remarkably modest the predicted economic effects of EGTRRA are, particularly compared to the high revenue loss from the bill. Translated into year-over-year figures, our model predicts that EGTRRA would lead to 0.23 percent higher annual GDP growth rate than otherwise would have been, for ten years.

Much has been made of the fact that the 2001 Bush tax cuts did not appear to have a noticeable effect on GDP in the two years following enactment.<sup>33</sup> In fact, this is fairly consonant with what the *Taxes and Growth* model predicts. It is particularly important to note that the 2001 Bush tax cuts were scheduled to be phased in over five years, so the initial economic effect of the bill was likely to be especially muted.

## **Jobs and Growth Tax Relief Reconciliation Act of 2003**

The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) was the second of the two Bush tax cuts, and contained several provisions that reduced taxes on individual saving and business investment. In addition, JGTRRA accelerated several provisions of EGTRRA that had not yet fully phased in.

On the individual side, the bill lowered the top capital gains rate from 20 percent to 15 percent, and changed the taxation of dividends such that they would be subject to the same low rates as capital gains (this lowered the top tax rate on dividends from 28 percent to 15 percent). On the business side, JGTRRA created a temporary provision, known as bonus expensing, which allowed businesses to immediately deduct 50 percent of the cost of certain capital investments.<sup>34</sup>

We modeled the effects of the following tax changes in the Jobs and Growth Tax Relief Reconciliation Act of 2003:

### **Individual Income Tax Changes**

- Lowered capital gains rates to 0 percent and 15 percent, from 10 percent and 20 percent.
- Reduced the tax rate on dividends to the same lower rates as capital gains.

### **Business Tax Changes**

- Implemented temporary 50 percent bonus expensing for eligible capital investment.

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<sup>33</sup> See, e.g., Mark Thoma, "Did the Bush Tax Cuts Lead to Economic Growth?" CBS, 2011, <http://www.cbsnews.com/news/did-the-bush-tax-cuts-lead-to-economic-growth/>

<sup>34</sup> Pub. L. 108-27, "Jobs and Growth Tax Relief Reconciliation Act of 2003." A temporary 30 percent expensing provision had been added previously in 2002.

## Predicted Economic and Revenue Effects of the Jobs and Growth Tax Relief Reconciliation Act of 2003

Provision	Long-Run Change in GDP	Static Change in Annual Revenue (billions of 2003 dollars)
Lower long-term capital gains rates to 15% and 0%	0.34%	-\$14.45
Extend reduced capital gains rates to qualified dividends	1.95%	-\$9.87
<b>TOTAL</b>	<b>2.29%</b>	<b>-\$24.32</b>
Addendum: Implement temporary 50% bonus expensing on capital investment	1.10%	-\$10.18

Source: Tax Foundation *Taxes and Growth* Model

The *Taxes and Growth* model predicts that the Jobs and Growth Tax Relief Reconciliation Act of 2003 would increase U.S. GDP by 2.29 percent in the long run, at a static cost of only \$34.5 billion a year. The reason why the predicted economic effects of JGTRRA are so pronounced is that the bill focused almost entirely on reducing marginal tax rates on investment. Because the *Taxes and Growth* model assumes that capital is significantly more sensitive to taxation than labor, it predicts that bills like JGTRRA are especially effective at growing the U.S. economy.

Because bonus expensing was a temporary provision, it is not included in the overall estimates of the long-run economic effects of JGTRRA. Nonetheless, the *Taxes and Growth* model predicts that if bonus expensing were enacted permanently in 2003, it would have increased the long-run size of the U.S. economy by an additional 1.10 percent.

### Key Takeaways

While readers are encouraged to draw their own conclusions from the data presented above, this section offers a few observations about the overall results of backcasting the *Taxes and Growth* model.

#### 1. Larger tax changes do not always lead to larger economic effects

The *Taxes and Growth* model estimates that the 2001 Bush tax cuts reduced federal revenue by \$161 billion a year, while the 2003 Bush tax cuts reduced federal revenue by only \$24 billion a year. Nevertheless, the model predicts that the two bills increased the long-run size of the U.S. economy by almost the same amount: 2.27 percent, compared to 2.29 percent.

In general, it is impossible to predict the long-run economic effect of a tax change by looking at how much revenue it raises or loses. This is because the economic effects of a tax change are driven primarily by marginal tax rates, while the revenue gain or loss from a tax change is driven by effective tax rates. It may be the case that a tax bill causes large changes in effective tax rates, without substantially affecting marginal tax rates, or vice versa.<sup>35</sup> All in all, the economic and revenue effects of tax changes are, at best, imperfectly correlated.

## 2. Although recent tax changes have had little economic effect, this does not imply that taxes do not affect the economy.

Looking over the top-line results of this paper, it is striking that the *Taxes and Growth* model predicts that no tax change since 1981 would grow or shrink the long-run size of the U.S. economy by more than 2.3 percent.

Some observers have argued that, because recent tax changes have not led to conspicuous changes in GDP growth, the connection between taxes and economic growth is tenuous. In this paper, we suggest that this is a reflection on the economic merits of the tax changes in question, rather than a refutation of the general proposition that changes to the tax code can have large economic effects.

## 3. The top individual tax rate isn't everything.

Lawmakers sometimes focus on the top individual income tax rate when assessing whether a tax change would grow or shrink the U.S. economy. However, the results in this paper show that the top individual tax rate is only one factor of the overall economic effect of a tax change.

As an example, the Kennedy tax cuts lowered the top individual rate from 91 percent to 70 percent, yet the *Taxes and Growth* model predicts that the business tax changes in the bill were more economically significant. The Tax Reform Act of 1986 lowered the top individual rate from 50 percent to 28 percent, but the *Taxes and Growth* model predicts that the bill did not create any net positive effect on GDP, due to adverse effects of other provisions.

Now that taxes on capital gains and dividends are divorced from tax rates on ordinary income, the top individual rate is less economically consequential today than it has been in the past.

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<sup>35</sup> To some extent, the entire project of tax reform – “broadening the base and lowering rates” – is about finding ways to lower marginal tax rates while keeping effective tax rates high. This is why a well-crafted revenue-neutral tax reform could potentially have just as large of an economic effect as a revenue-losing tax cut.

#### 4. Changes to depreciation schedules are particularly significant.

For several of the tax changes examined in this paper, changes to the tax treatment of business investment play a large role in the overall economic results. For instance, moving to the ACRS depreciation system accounted for 12 percent of the long-run cost of the 1981 Reagan tax cuts, but was responsible for 34 percent of the predicted long-run GDP growth from the bill.

Tax changes to depreciation are particularly consequential because they directly affect businesses' incentives to increase their capital investment, without changing tax rates on super-normal business profits. Because depreciation is a relatively obscure element of the federal tax code, lawmakers do not always pay close attention to it, but they should.

#### 5. The tax plans proposed by the 2016 presidential candidates would create historically unprecedented economic effects.

The *Taxes and Growth* model has sometimes been criticized for offering overly optimistic assessments of proposed changes to the tax code, particularly those offered by 2016 presidential candidates. For instance, the model predicted that the tax plan proposed by Senator Marco Rubio (R-FL) would grow the U.S. economy by 15 percent in the long run.<sup>36</sup> On the flip side, the model predicted that the tax plan offered by Senator Bernie Sanders (I-VT) would decrease long-run GDP by 9.5 percent.<sup>37</sup>

If these economic predictions seem unusually large, it is because the tax plans offered by the 2016 candidates are unusually ambitious, not necessarily because the *Taxes and Growth* model is too aggressive. For instance, Senator Rubio's plan would reduce effective marginal tax rates on saving and investment to zero, while Senator Sanders's plan would increase federal revenue collections by more than 20 percent.

This paper allows us to put the 2016 presidential candidate tax plans in context, to see just how unprecedented these proposals are, compared to tax changes in the past. Going forward, the results in the paper should serve as a useful benchmark for interpreting the predictions of the *Taxes and Growth* model.

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<sup>36</sup> Michael Schuyler and William McBride, "The Economic Effects of the Rubio-Lee Tax Plan," Tax Foundation, 2015, <http://taxfoundation.org/article/economic-effects-rubio-lee-tax-reform-plan>

<sup>37</sup> Alan Cole and Scott Greenberg, "Details and Analysis of Senator Bernie Sanders's Tax Plan," Tax Foundation, 2015, <http://taxfoundation.org/article/details-and-analysis-senator-bernie-sanders-s-tax-plan>

## 20 Conclusion

The debate over the economic effects of tax policy is closely connected with the larger question of how to interpret recent U.S. economic history. For instance, economist Bruce Bartlett recently criticized the idea that tax reform could grow the economy by pointing to the experience of 1986:

The final proof that tax cuts are not the be-all and end-all of growth policy is the Tax Reform Act of 1986, which dropped the top income-tax rate to 28 percent. Conservative doctrine predicted an economic boom, but I don't remember one, nor can I find one in the data.<sup>38</sup>

Economist Paul Krugman made a similar argument in *The New York Times* last October, regarding the 1993 Clinton tax increase:

Tax-cut enthusiasts have a remarkable track record: they've been wrong about everything year after year... Some readers may remember the forecasts of economic doom back in 1993, when Bill Clinton raised the top tax rate. What happened instead was a sustained boom, surpassing the Reagan years by every measure.<sup>39</sup>

In this paper, we have argued that, to properly evaluate the lessons of the 1986 tax reform, the 1993 tax increase, and all other major tax changes, it is necessary to begin with a set of expectations about the impact of each of these changes on the U.S. economy. The *Taxes and Growth* model predicts that the 1986 reform would have no effect on GDP and the 1993 tax increase would have only a small effect. These results should count in favor of the model's other predictions.

A more general conclusion from this paper is that pro-growth, revenue-neutral tax reform in the United States has never been tried. The only comprehensive attempt to broaden the U.S. tax base in order to lower rates was the Tax Reform Act of 1986, and many of the major base-broadening measures in that bill were economically harmful tax increases on investment. As a result, U.S. lawmakers have a unique opportunity: to be the first Congress to seriously undertake the project of creating a tax code that raises revenue as efficiently as possible.

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38 Bruce Bartlett, "Trump's Misguided Embrace of Tax Cuts," *The New York Times*, 2016, [http://www.nytimes.com/2016/08/13/opinion/campaign-stops/trumps-misguided-embrace-of-tax-cuts.html?\\_r=0](http://www.nytimes.com/2016/08/13/opinion/campaign-stops/trumps-misguided-embrace-of-tax-cuts.html?_r=0)

39 Paul Krugman, "Voodoo Never Dies," *The New York Times*, 2015, <http://www.nytimes.com/2015/10/02/opinion/voodoo-never-dies.html>

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## Appendix: Methodology

The *Taxes and Growth* model was developed by the Tax Foundation and is frequently used to evaluate tax proposals from members of Congress and presidential candidates. It consists of two main components: a tax return simulator and a neoclassical economic model.

The tax return simulator relies primarily on the IRS Public Use File, a set of more than 100,000 anonymous tax returns released annually by the IRS since 1960. With this data, the tax simulator estimates how households' tax obligations would change under different federal tax rules, leading to its static revenue estimates. In addition, the tax simulator estimates how changes to the federal tax code would affect marginal tax rates on labor and capital.

The economic component of the *Taxes and Growth* model is a neoclassical production function, which predicts how changes to marginal tax rates on labor and capital affect the macroeconomy. The economic model assumes constant prices, a small open economy, a constant capital share of factor income, a labor supply elasticity of 0.3, and constant federal spending.

When predicting the overall effect of a tax proposal, the *Taxes and Growth* model begins by computing a static revenue score, then feeds the marginal tax rates calculated by the tax return simulator into the economic production function. After calculating a first approximation of the economic effects of a tax change, the model scales the household income data in the Public Use File to account for changes in wages and investment income. The model then re-calculates each household's tax liability and marginal tax rates, re-calculates the economic effects, and cycles through the two modules until it reaches an equilibrium.

When "backcasting" the *Taxes and Growth* model to analyze past tax changes, we used the same equations and methodology that we use to analyze current proposals. However, we ran the model using economic and taxpayer data from the year in which each bill was enacted, to account for the different economic and demographic climates in which each tax change occurred. For instance, the economy in the 1960s had fewer pass-through businesses and more married households than today's economy.

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