

# **THE JOINT COMMITTEE ON TAXATION REVENUE ESTIMATING PROCESS**



**Prepared by the Staff of the Joint Committee on Taxation  
January 2025**

# Outline

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- ❑ Baseline and Proposal Revenue Projections
- ❑ JCT Tax Models
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- ❑ Quality Review Process
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# JCT Revenue Estimating Overview

- ❑ The JCT staff provides estimates of revenue changes relative to a baseline of projected future Federal revenue under present law, not relative to revenue received in the current or prior years.
- ❑ The JCT staff generally assumes a fixed Gross National Product (GNP) when preparing conventional revenue estimates yet incorporates many types of behavioral responses in such estimates.
- ❑ The JCT staff began developing a capacity to model the macroeconomic (growth) impacts of tax policy proposals in 1996. Macroeconomic analysis has been provided to the Congress since 2003.

# JCT Revenue Estimating Staff (2025)

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- ❑ 21 PhD economists specialize in the budget analysis of tax legislation, with median experience on staff in this work equal to 12 years.
- ❑ These economists work collaboratively with staff tax attorneys, accountants, and other PhD economists for an interdisciplinary approach:
  - Every JCT revenue estimate is a joint product of the insights of the economic, legal, and accounting professions.
  - This approach ensures that estimates accurately reflect proposed legislation and realistically include taxpayer behavioral responses.
- ❑ The JCT revenue estimating staff provided more than 2,700 revenue estimates for requests made during the 118<sup>th</sup> Congress.

# Revenue Estimate Request Process

- ❑ Any Member of Congress may request revenue estimates of proposals to modify the Internal Revenue Code by sending a written request to the Chief of Staff of the JCT.
  - See Appendix.
- ❑ Members often ask for help in crafting their proposal so that statutory language reflects the policy intent of the proposed legislation.
- ❑ **All** requests are treated as confidential and are discussed only with the requesting Member's office.

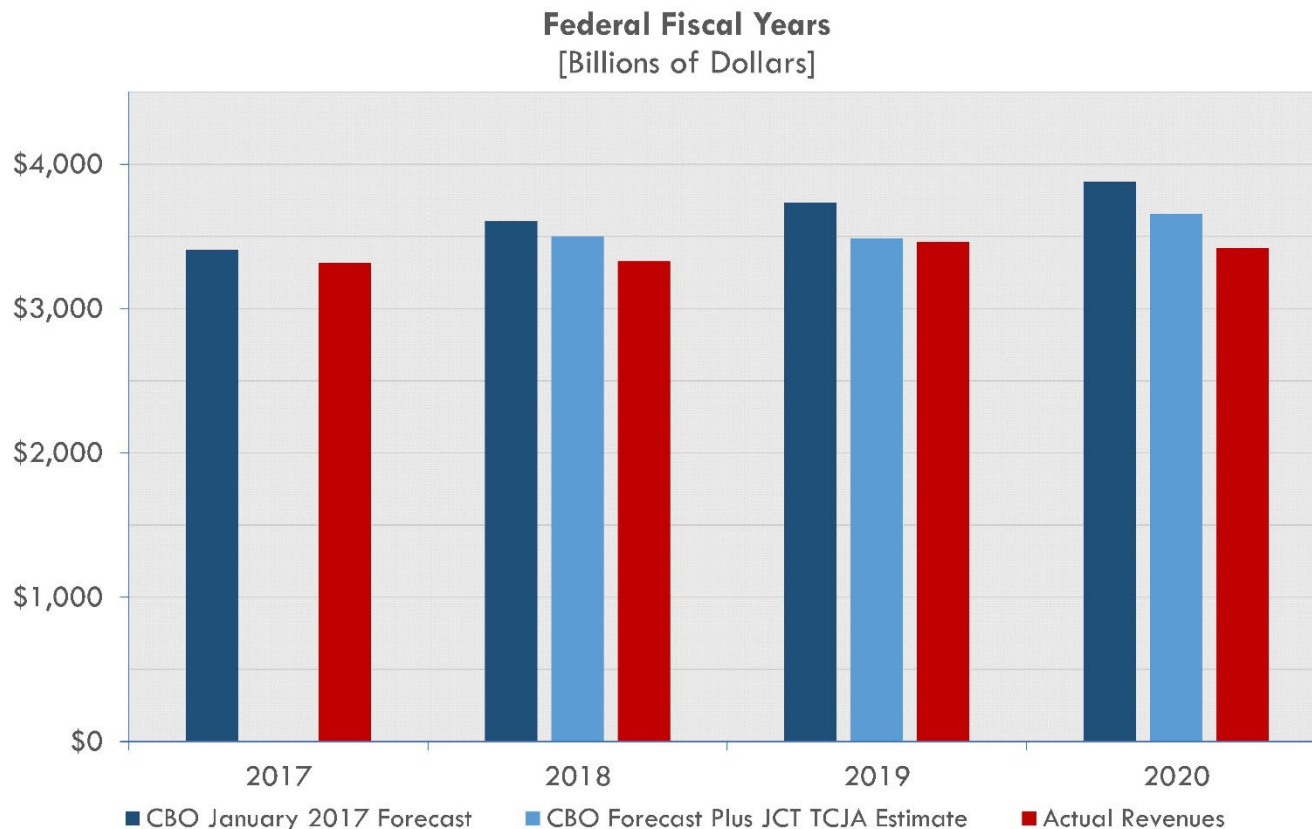
# What is a JCT Revenue Estimate?

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- ❑ A JCT revenue estimate compares *predicted* Federal revenue under the proposal with *predicted* revenue under present law. The revenue estimate equals
  - Predicted future revenue under proposed new law (**proposal revenues**),
  - Less the predicted future revenue under present law (**baseline revenues**).
- ❑ Year-by-year estimates are provided for the 10-year budget period.
- ❑ The distinction between current revenues and baseline revenues is important.
  - JCT estimates provide comparisons against predictions of future revenues under present law, *not* current revenue levels.
  - Total receipts under a new proposal in a future year may be higher than at present *but still lower than the forecasted present law receipts in that year.*
    - JCT would estimate such a proposal as losing revenue (less revenue in the future year than predicted in the baseline).

# Example: Simultaneous Revenue “Losses” and Higher Federal Receipts

- JCT estimated that P.L. 115-97, commonly referred to as the “Tax Cuts and Jobs Act” of 2017 (TCJA), would “lose” revenue.
  - These losses were relative to baseline projections of growing receipts.
  - Projections of revenue losses were both consistent with, and a good prediction of, increases in actual government receipts relative to prior years.



# JCT Tax Models

- ❑ JCT tax models simulate future taxpayer behavior under the present law baseline and under the proposal.
- ❑ JCT uses many different models to forecast receipts from different types of taxes, including
  - An individual tax model for the individual income tax and for employment taxes,
  - A corporate model for the corporate income tax,
  - A foreign model for cross-border business income,
  - An estate and gift model for changes to estate and gift taxes,
  - Several different excise tax models, and
  - Many smaller tax, credit, and exclusion specific models.
- ❑ Each model incorporates relevant taxpayer behavior, such as
  - Changes in the timing of transactions and income recognition,
  - Changes between business sectors and among legal entities,
  - Changes in the types and timing of consumption and investment, and
  - Tax planning and tax avoidance (or evasion) strategies.



# Example: Individual Tax Model

- ❑ JCT's Individual Tax Model is a representation of all 200 million U.S. tax filing units, representing
  - All categories of actual and potential taxpayers,
  - Each year in the budget window, and
  - Projected economic, demographic and social trends.
  
- ❑ The Statistics of Income (SOI) Division of the IRS provides JCT with data from a sample of individual income tax returns and their associated supplementary forms.
  - Each return in the stratified sample is assigned a “weight,” which indicates how many taxpayer units that return is assumed to represent.
  - The weights are generated to ensure that weighted totals for many demographic, income, deduction, and other items match the actual totals for the entire universe of taxpayers.

# Example: Individual Tax Model (cont'd)

- ❑ The 2025 Individual Tax Model uses a detailed representative sample of more than 360,000 actual income tax returns filed by U.S. taxpayers in 2020.
  - Information returns (e.g., W2s and 1099-INTs) provide tax information for individuals that did not file tax returns in the sample year.
  - Relevant information not reported on tax returns is inferred using multiple additional data sources, including
    - The Social Security DM-1 file (including dates of birth and death),
    - The Medical Expenditure Panel Survey, and
    - The Consumer Expenditure Survey.
- ❑ An additional module of the Individual Tax Model uses more than 19,000 filed Form 1041 returns to analyze policies affecting trusts and estates.

# Calibration of the Individual Tax Model

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- ❑ Each year the Congressional Budget Office produces a budget baseline that includes a forecast of present law tax receipts for the 10-year budget period.
- ❑ JCT economists extrapolate – or adjust and re-weight – the base year data to conform to the economic conditions in the CBO forecast.
  - For example, if the base year data were drawn from a peak in the business cycle, a larger share of taxpayers would have wages and capital gains than during a recessionary year; extrapolation transforms the base year data to be representative of alternative economic situations.
  - When extrapolating sample year data to match a weaker economy, weights on returns with wages and gains might be reduced, while weights on returns with unemployment insurance or capital losses would be increased.
  - JCT economists use a non-linear programming algorithm (constrained optimization) to adjust sample weights such that many economic targets are achieved simultaneously for each year through 2035.

# Individual Tax Model Tax Calculator

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- ❑ The core of the Individual Tax Model is a tax calculator that simulates taxpayers filling out tax returns – in some ways like commercial tax preparation software.
- ❑ The calculator incorporates all aspects of the present-law individual tax code (*i.e.*, tax rates, schedules, deductions, credits, limitations, exclusions).
- ❑ To estimate a proposal, the calculator is run once assuming a base law (usually present law), and once with the proposed change incorporated.
  - If the proposal would change the optimum filing choice for a taxpayer, such as choosing between the standard deduction and itemizing, the calculator takes that optimization into account.
  - Some additional behavioral responses are built into the calculator, while others are incorporated later.
  - The difference between the two simulations is the foundation for the revenue estimate.

# Taxpayer Behavior in JCT Tax Models

- ❑ Every JCT revenue estimate is a “dynamic” estimate: estimates reflect many types of predicted taxpayer reactions to a new law.
- ❑ Predicting behavioral responses requires original research as well as JCT economists’ knowledge of the relevant economics literature.
- ❑ Consistent with economic theory, JCT tax models generally assume that taxpayers will behave rationally, while incorporating other behaviors indicated by data and recent research.
- ❑ JCT attorneys and accountants help the economists to better understand the law and account for taxpayer planning or avoidance opportunities.

# Behavior in Conventional Revenue Estimates

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- ❑ Based on information from economics and legal research, and from the JCT staff's own research, a revenue estimate reflects a range of behavioral responses, such as
  - Changes in the timing of transactions and income recognition.
    - Realization of capital gains in response to changes in gains tax rates.
    - Issuance of corporate dividends in response to changes in dividend tax rates.
    - Acceleration of bonuses in anticipation of an individual income tax increase.
  - Changes among business sectors or the legal form of doing business.
    - Organizing as a partnership in response to rising corporate rates or falling individual rates.
    - Shifts in investment from more heavily taxed sectors to more lightly taxed sectors.

# Behavior in Conventional Revenue Estimates (cont'd)

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- Changes in types of portfolio investments.
  - Shifts between inferred bond and stock holdings in response to dividend, interest, or capital gains tax rate changes.
  - Shifts from taxable to tax-favored savings investments.
  
- Changes in the amount, types, and timing of consumption.
  - Reduced consumption of items that experience an excise tax increase.
  - Increased consumption of goods that are tax-favored, such as electric vehicles, energy-efficient appliances, and mortgage debt.
  
- Tax planning and tax avoidance strategies.
  - Use of foreign tax credits and income allocation rules.
  - Structuring of compensation to obtain capital gains taxed at lower rates rather than income taxed at ordinary rates.

# Conventional Analysis: Example 1

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- ❑ Estimating the Revenue Effects of Tobacco Excise Tax Increases
  - JCT starts with the CBO excise tax baselines for tobacco products and models the market for those products to encompass the detail required to estimate the proposal.
  - JCT economists research the price elasticities for cigarettes and other tobacco products in the price ranges contemplated by the new tax increases.
  - With respect to cigarette consumption, JCT economists modify the excise tax model to reflect empirical evidence regarding how smokers will respond to higher prices:
    - Some potential smokers will never start,
    - Some smokers will decide to quit, and
    - Some smokers will reduce the amount they smoke.
  - **Results:** JCT estimated that the changes made in 2009 to raise the excise tax on cigarettes by \$0.617/pack would result in 1.5 billion fewer packs of cigarettes sold annually.
    - The revenue estimate for the enacting legislation reflected this smaller tax base.



# Conventional Analysis: Example 2

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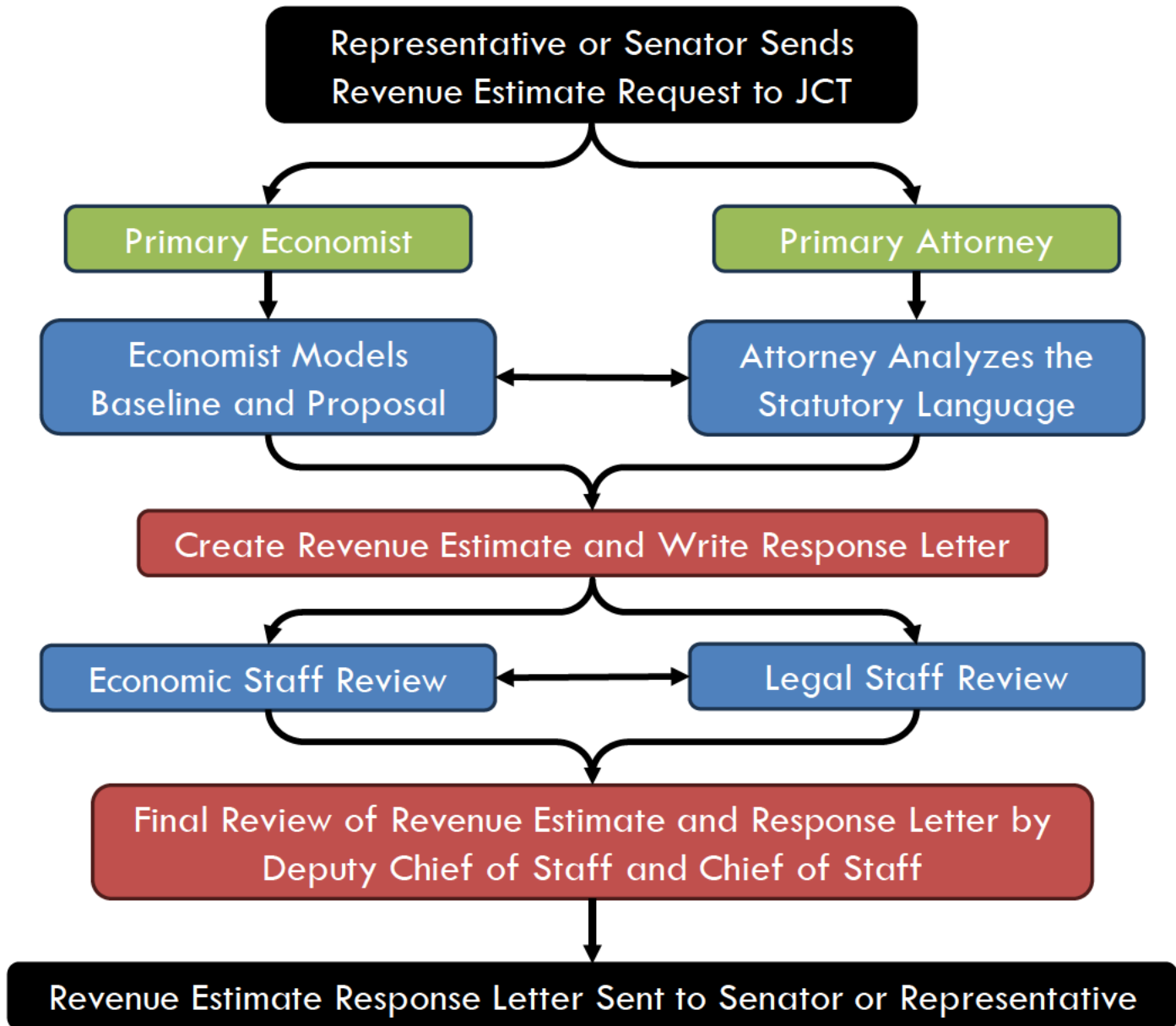
- ❑ Estimating the Revenue Effect of 2020 CARES Act Stimulus Payments
  - JCT started with the Individual Tax Model, which accounts for relevant policy features, including
    - The population of taxpayers and qualifying children,
    - Individual eligibility under the proposed SSN requirements, and
    - Payment reductions under the proposed income phase outs.
  - Model results were adjusted using research on the historical difference between model estimates and actual payments for the 2008 stimulus payments.
  - JCT's revenue estimate further accounted for
    - Stimulus payments made to U.S. territories, and
    - Prisoners who were initially denied but then later allowed these payments. (JCT's revenue estimate included these payments.)
  - **Results:** JCT estimated that the 2020 CARES Act stimulus payments (“economic impact payments”) would total \$292 billion.
    - JCT estimated \$269 billion would be paid in fiscal year 2020 (i.e., by Sept. 30). Treasury found that \$264 billion was paid by May 21 and \$275 billion by Sept. 30.

# Accounting for Proposal Interactions

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- ❑ Many tax bills make multiple changes to the tax code that interact with each other, such as
  - Simultaneously changing tax rates and adding or eliminating deductions, and
  - Adding a category of activity that is eligible for an expiring tax credit while simultaneously extending the credit.
  
- ❑ A revenue table with separate estimates for each provision in such a bill accounts for interactions either by
  - Adding a separate line for interaction effects, or
  - Incorporating the interaction effect between two provisions into the estimate of one of the provisions.
    - Incorporating the interaction effects into the estimate of one of the provisions is referred to as “stacking” the interacted provision after the non-interacted provision.
    - For example, for a bill that reduces tax rates and changes deductions, the estimate of the tax rate change may be “stacked first” (without the interaction effect) while the deduction estimates (“stacked after the rate change”) would incorporate the interaction effect by being estimated assuming the rate change is already in effect.

# JCT Quality Review Process



# Limits of Conventional Estimates

- ❑ A conventional JCT estimate incorporates behavioral responses in projecting tax revenues, but generally assumes that these tax and behavioral changes do not change the size of the U.S. economy, as projected in the CBO baseline of Gross National Product (GNP).
- ❑ The fixed GNP constraint generally results in the following type of assumptions:
  - Because total labor supply, employment and investment do not change,
    - A wage credit in certain industries results in a shift of employment into the favored industry, but the overall size of the labor force remains the same; and
    - A tax credit for certain types of investment or production results in shifts in investment to the tax favored activity, but the overall level of investment remains the same.

# Macroeconomic Analysis, 2003 – 2018

- From 2003–2014, the JCT staff was required by House Rule XIII(3)(h)(2) to provide a macroeconomic impact analysis of all tax legislation reported by the Ways and Means Committee.
  - For most tax bills, the expected effects were so small that a brief statement was all that was required; policies making larger changes required more detailed analyses.
  - The JCT staff generally provided a range of estimates in these macroeconomic analyses to account for different assumptions regarding taxpayer responsiveness and modeling frameworks.
- In 2015, the House adopted a new “dynamic scoring” rule, XIII(8)(b), which was eventually incorporated into a joint Concurrent [House-Senate] Budget Resolution for the 114th Congress.
- The 2015 rule required a single point estimate within the budget window of the deficit effect due to the macroeconomic response to certain proposed legislation.
  - The requirement applied to bills with gross budget effects greater than 0.25% of GDP (a threshold of about \$49 billion in FY 2017) in any fiscal year of the budget period.
  - The rule also required qualitative analysis for 20 years after the budget period.

# Macroeconomic Analysis, 2019 – Present

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- ❑ The House Rules adopted in 2019 for the 116<sup>th</sup> Congress removed all requirements related to macroeconomic analysis and dynamic scoring. The House Rules adopted in 2021 for the 117<sup>th</sup> Congress made no further changes related to macroeconomic analysis.
  - JCT staff continued to produce macroeconomic analyses of select legislation as requested by the staffs of the Finance Committee and Ways and Means Committee.
- ❑ The House Rules adopted in 2023 for the 118<sup>th</sup> Congress re-adopted the dynamic scoring rule, XIII(8)(b). The House Rules adopted in 2025 for the 119<sup>th</sup> Congress maintained the dynamic scoring rule.
- ❑ The rule again requires a single point estimate within the budget period of the deficit effect due to the macroeconomic response to certain proposed legislation.
  - The requirement applies to bills with gross budget effects greater than 0.25% of GDP (a threshold of about \$75 billion in FY 2025) in any fiscal year of the budget period.
  - The rule also requires qualitative analysis for 20 years after the budget period.

# JCT Macroeconomic Models

**Macroeconomic Equilibrium Growth Model (MEG)**

**Overlapping Generations Model (OLG)**

**Dynamic Stochastic General Equilibrium Model (DSGE)**

# JCT Macroeconomic Models Overview

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- Economic policy is inherently complex, and the forecasted macroeconomic impacts of policy changes are sensitive to assumptions about taxpayer responsiveness, fiscal and monetary policy, and general modeling frameworks.
  - While no single model can address every scenario effectively, combining multiple models, each offering complementary perspectives of policy changes, provides for a more comprehensive analytical framework.
- JCT staff employs three macroeconomic models for policy analysis, all calibrated to represent the U.S. economy.
  - The shared economic baselines common to these models facilitates cross-validation and robustness checks, enhancing the reliability of results.
- These different models address different aspects of economic policy, leading each to have specific strengths.
  - **MEG Model:** Useful for examining the effect of limited foresight on taxpayers' reactions, and situations where fiscal solvency assumptions are not required.
  - **OLG Model:** Ideal for analysis of targeted policy changes due to its life-cycle structure and the granularity of its modeling of tax policy.
  - **DSGE Model:** Best suited for analyzing monetary policy and fiscal policy interactions, with taxpayers who have varying degrees of foresight into future fiscal policy.



# Macroeconomic Equilibrium Growth Model (MEG)

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- ❑ In the MEG model, prices adjust so that demand equals supply in the long run, but not necessarily in the short run.
- ❑ Taxpayers' labor supply responses (elasticities) to changes in after-tax wages are separately modeled for six different groups:
  - Very high-income primary and secondary earners,
  - High-income primary and secondary earners, and
  - Low-income primary and secondary earners.
- ❑ Household saving and consumption respond to the after-tax return to saving and after-tax income. This response is referred to as the marginal propensity to consume.
- ❑ Business production and housing production are modeled separately. Business investment responds to changes in the user cost of capital (the after-tax return on investment).
- ❑ MEG is an open economy model: cross border capital flows and changes in net exports affect domestic economy outcomes.
- ❑ Individuals are myopic: they do not anticipate changes in the economy or government policy.

# Overlapping Generations Model (OLG)

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- ❑ Unlike the MEG model, the OLG model assumes that prices adjust to any changes in economic conditions (such as a change in fiscal policy) so that supply equals demand in both the short and long run.
- ❑ Economic decisions are modeled separately for each household, which vary by age, productivity, and demographic characteristics.
- ❑ The OLG model has distinct production sectors for corporate and noncorporate businesses, allowing analysis of the economy as a whole and within specific sectors.
- ❑ The tax code is more explicitly modeled within the OLG model than the other models, with ordinary income and preferential capital income taxed appropriately.
  - Household tax liabilities are computed directly from statutory income tax schedules, deductions, and credits as specified by tax law and legislative proposals.
- ❑ The OLG model includes individual-level risks (income shocks reflecting real-life uncertainties) but assumes a stable and predictable overall economy.
  - The model cannot allow the Federal government debt to grow faster than GDP indefinitely, to avoid unsustainable financial situations.

# Dynamic Stochastic General Equilibrium Model (DSGE)

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- Unlike the OLG model, the DSGE model incorporates nominal rigidities, such as sticky prices and adjustment costs, making it particularly well-suited to analyze the interplay between monetary policy, inflation, and real economic activity.
- The DSGE model emphasizes the role of demand in driving economic fluctuations, allowing for a richer analysis of policy changes and short-term dynamics.
- The model recognizes that taxpayers differ in their financial access: some taxpayers are “savers,” owning capital and participating in financial markets; others are non-savers who lack access to credit and have lower incomes.
  - These taxpayers have fundamentally different responses to fiscal policy.
- The model also incorporates uncertainty about the future and allows for varying degrees of foresight, therefore making less extreme foresight assumptions than either of the other models.
- Like the OLG model, the DSGE model requires the economy to maintain long-run fiscal sustainability.
  - The DSGE model nevertheless allows for flexibility in the timing and persistence of changes to tax policy, even capturing the effects of policy change announcements before the changes are implemented.

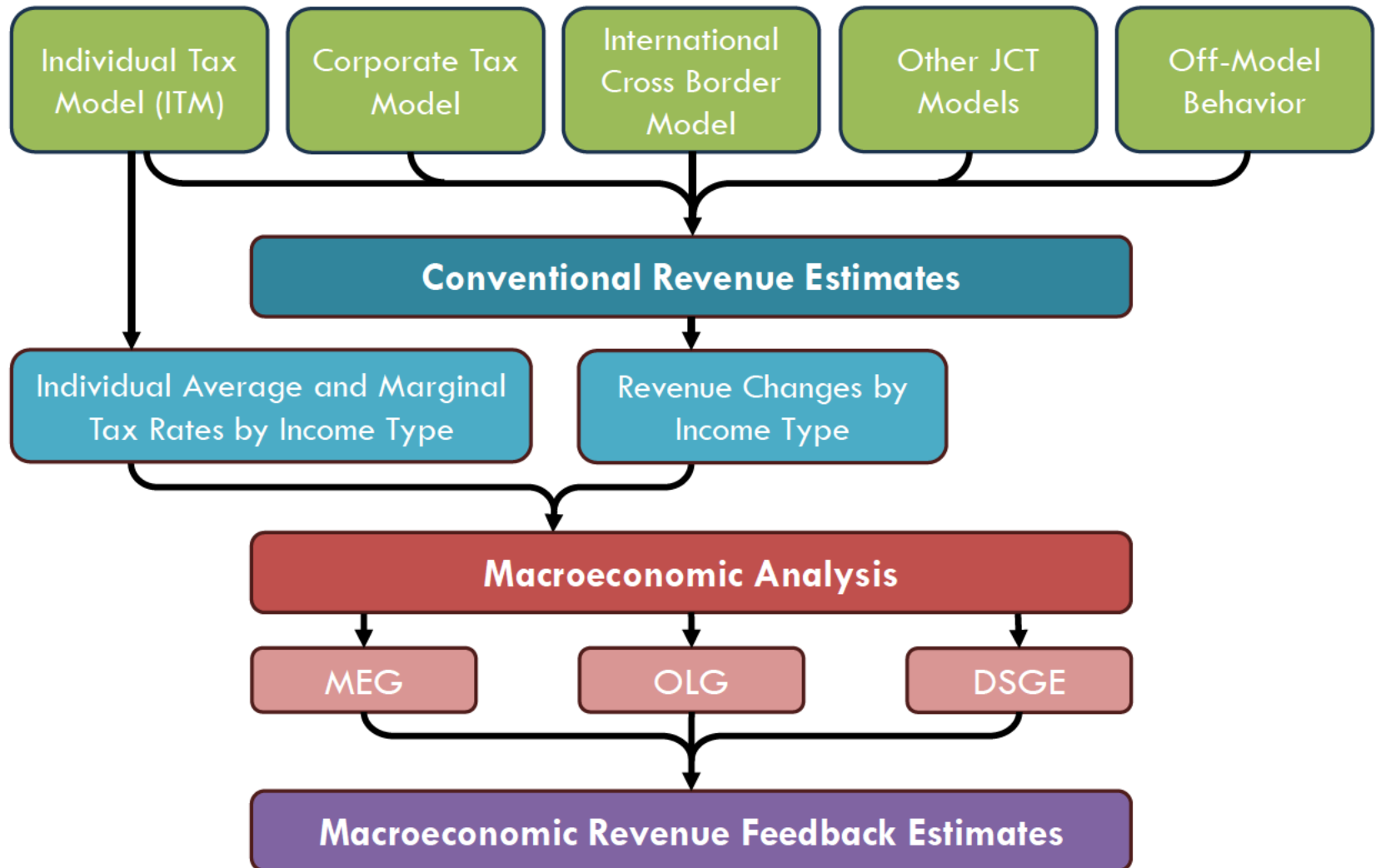
# Macroeconomic Analysis Estimating Process

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- ❑ Each macroeconomic model is calibrated to closely represent the U.S. economy, ensuring that the resulting estimates are meaningful and relevant.
  - Calibration relies on administrative and public data, as well as input from other JCT models and estimates of off-model behavioral responses.
- ❑ JCT staff uses each of the calibrated models to separately analyze the U.S. economy under present law and under the proposed law.
- ❑ The “macroeconomic revenue feedback” from the proposed policy change equals
  - The macroeconomic estimate of tax revenue under the proposed law,
  - Less the macroeconomic estimate of tax revenue under present law,
  - Less the conventional revenue estimate.
- ❑ To provide a single point estimate of the macroeconomic revenue feedback as required under House rules, JCT staff applies a model-weighting scheme that balances the strengths and weaknesses of each macroeconomic model.
  - For example, tax policy proposals with age-specific impacts may rely more on the OLG model, while tax policy proposals that are expected to generate large monetary policy reactions might prioritize the DSGE model.

# Macroeconomic Analysis Estimating Process

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# Example: JCT Macroeconomic Analysis

- ❑ Pursuant to the House Rules on dynamic scoring in effect from 2015–2018, JCT staff provided point estimates of the revenue effects of major tax legislation, with accompanying point estimates of changes in key macroeconomic aggregates.
- ❑ In 2017, JCT staff provided this analysis for three versions of the tax reform proposal that was enacted in December 2017 as P.L. 115-97.
  - The JCT staff estimated that P.L. 115-97 would increase real GDP by about 0.7 percent on average over the 2018–2027 budget period, due to increased investment in response to a reduction in the after-tax cost of capital and increased labor effort in response to a reduction in the marginal tax on labor.
  - Correspondingly, JCT staff estimated that capital stock would be 0.9 percent higher on average over the budget period than under the bill than under prior law, while employment would be roughly 0.6 percent higher on average.
  - Because both bonus depreciation and the reduction in the marginal tax rate on labor were phased-out or eliminated by 2026, the change in GDP was estimated to be reduced to 0.1 to 0.2 percent by the end of the budget period.
  - JCT staff estimated that the growth projected to result from the bill would reduce the conventionally estimated revenue loss by about \$451 billion over the 2018–2027 budget period, while the increased debt would increase the cost of Federal debt service by about \$66 billion over the same period.

# Further References on the JCT Estimating Models and Process

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[December 12, 2024](#): Overview of JCT Methodology for Analyzing the Macroeconomic Effects of Proposed Changes in Tax Law.

[JCX-9-24](#): Income and Payroll Tax Offsets to Changes in Excise Tax Revenues for 2024-2034

[JCX-48-23](#): Estimating Changes in the Federal Individual Income Tax: A Description of the Individual Tax Model for 2023

[May 26, 2023](#): Energy Estimates for PL 117-169. Factors Considered when Estimating the Revenue Effects of the Energy Provisions of Public Law 117-169 and Subsequent Developments.

[JCX-5-22](#): Linking Entity Tax Returns and Wage Filings

[JCX-20-21](#): Estimating Leakage from Retirement Savings Accounts

[JCX-69-17](#): Macroeconomic Analysis of the Conference Agreement for H.R. 1, The “Tax Cuts and Jobs Act”

[JCX-2-17](#): Estimating Changes in the Federal Individual Income Tax: Exploring the Elasticity of Taxable Income

# Further References on the JCT Estimating Models and Process

[JCX-90-16](#): Factors Affecting Revenue Estimates of Tax Compliance Proposals: A Joint Working Paper of the Congressional Budget Office and the Staff of the Joint Committee on Taxation

[JCX-89-16](#): The Income and Payroll Tax Offset to Changes in Payroll Tax Revenues

[JCX-75-15](#): Estimating Changes in the Federal Individual Income Tax: Description of the Individual Tax Model

[JCX-76-12](#): Modeling the Federal Revenue Effects of Changes in Estate and Gift Taxation

[JCX-60-12](#): The Federal Revenue Effects of Tax-Exempt and Direct-Pay Tax Credit Bond Provisions

[JCX-56-12](#): New Evidence on the Tax Elasticity of Capital Gains: A Joint Working Paper of the Staff of the Joint Committee on Taxation and The Congressional Budget Office

[JCX-59-11](#): The Income and Payroll Tax Offset to Changes in Excise Tax Revenues

[JCX-48-11](#): Testimony of the Staff of the Joint Committee on Taxation before the House Committee on Ways and Means Regarding Economic Modeling



# Further References on the JCT Estimating Models and Process

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[JCX-46-11](#): Summary of Economic Models and Estimating Practices of the Staff of the Joint Committee on Taxation

[JCX-101-07](#): Modeling The Federal Revenue Effects of Proposed Changes in Cigarette Excise Taxes

[JCX-17-07](#): Estimating The Revenue Effects of the Administration's Fiscal Year 2008 Proposal Providing a Standard Deduction for Health Insurance: Modeling and Assumptions

[JCX-53-06](#): Macroeconomic Analysis of a Proposal to Broaden the Individual Income Tax Base and Lower Individual Income Tax Rates

[JCX-19-06](#): Exploring Issues in the Development of Macroeconomic Models for Use in Tax Policy Analysis

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# Appendix

# Procedures for Members of Congress

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Procedures for Members of Congress requesting revenue estimates from the Joint Committee on Taxation are as follows:

1. Address the request to

Thomas A. Barthold, Chief of Staff  
Joint Committee on Taxation  
502 Ford House Office Building  
Washington, DC 20515

The request must be submitted on Member's letterhead and signed by the Member.

2. Reference the subject and provide any supporting bills or documentation relating to the proposal for which the request is being submitted. A proposal need not have been introduced as a bill but must include sufficient detail for a revenue estimate to be prepared. Questions concerning whether proposals are sufficiently detailed should be directed to the Joint Committee's main office at Extension 5-3621.
3. List the name and contact information (phone and email) of the person in the Member's office handling the request.
4. Submit the request by email to [REQUESTS.JCT@JCT.GOV](mailto:REQUESTS.JCT@JCT.GOV)

Requests may also be sent via inter-office mail or hand carried directly to Room 502 of the Ford House Office Building.