Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

How CBO Projects Corporate Income Tax Revenues

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What Is This Document About, and Why Is It Important?

This document provides details on how the Congressional Budget Office projects corporate income tax revenues. It focuses on CBO's method for mapping economic projections of corporate profits (that is, projections of corporate profits included in CBO's overall economic forecast) to projections of the corporate income tax base (that is, income subject to the corporate tax).

CBO's projections of corporate income tax revenues are an important component of the agency's budget projections. CBO generally prepares 10-year baseline budget projections each winter for its annual *Budget and Economic Outlook* and updates those projections the following summer.

This document is divided into three sections:

- A high-level overview of CBO's approach to projecting corporate tax revenues and the data the agency uses for those projections,
- A detailed discussion of the methods CBO uses to relate economic projections of corporate profits to those of the corporate income tax base, and
- Information on how CBO addresses the timing and availability of data for its projections.

It concludes with a discussion of areas for future research.

What Are the Main Takeaways?

CBO's projections of corporate income tax revenues are constructed to be consistent with the agency's economic forecast. They rely on a methodology for relating economic projections of corporate profits to the corporate income tax base. Whereas corporate profits reflect the profits that U.S. corporations earn from current production, the corporate tax base reflects net income as defined under federal tax rules.

CBO's method for projecting the corporate income tax base accounts for differences between corporate profits and the tax base—in particular, how the tax system treats income and expenses and how it accounts for profits not subject to the corporate income tax.

CBO's projections incorporate data from various sources. Delays in the availability of detailed economic and tax data for corporations often result in differences between actual and projected revenues that cannot be fully explained until several years after the baseline is published.

CBO continually seeks alternative data sources that can inform its baseline projections.

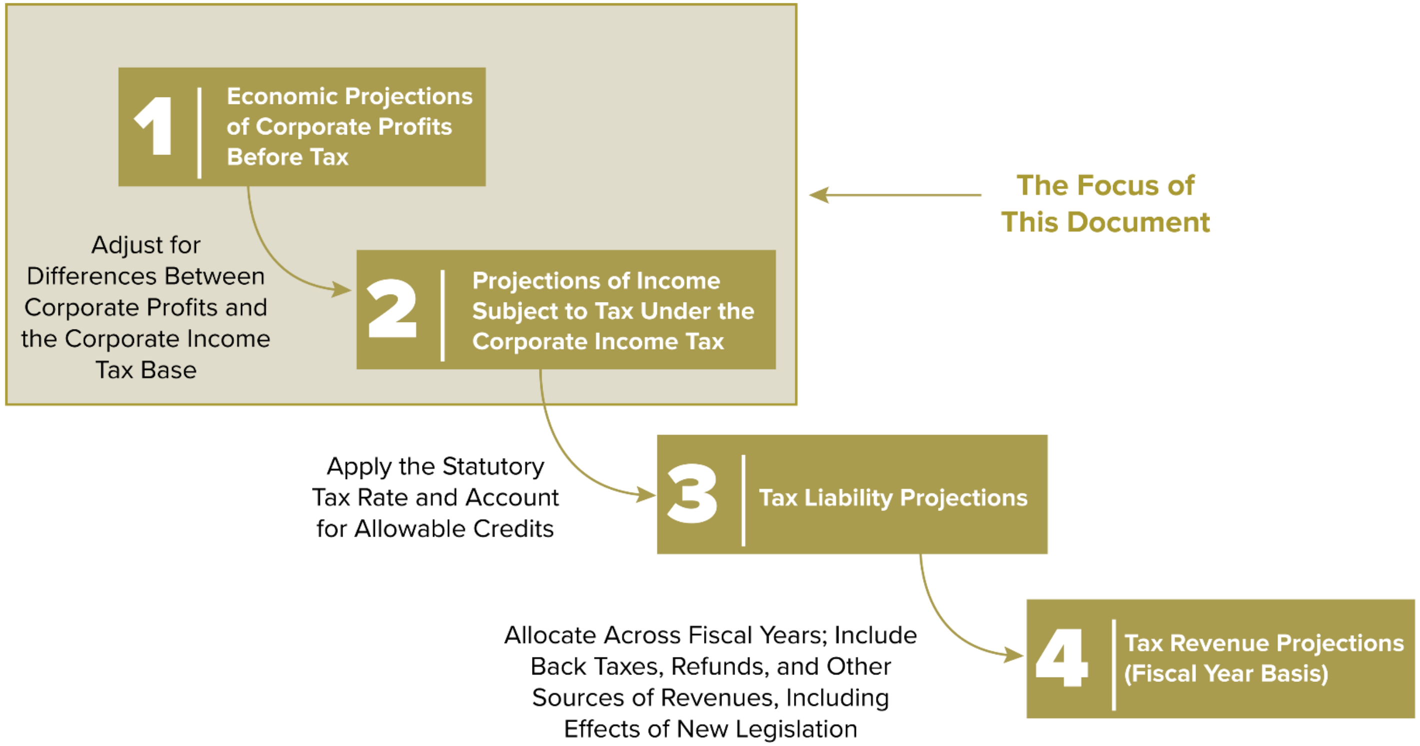
CBO's Method for Projecting Corporate Income Tax Revenues

How Does CBO Project Corporate Income Tax Revenues?

CBO relates its economic projections to projections of the corporate income tax base. The agency’s baseline projections are made under the assumption that laws in effect when those projections are developed generally remain unchanged.

Corporate income tax revenues are federal corporate tax payments collected in a given fiscal year. Those payments are heavily influenced by the corporate income tax base and resulting tax liability for the current calendar year, which in turn depend on corporate profits in that year.

CBO’s Model of Corporate Income Tax Revenues Applies Its Method



CBO’s model of corporate income tax revenues has four stages. This document focuses on the first two.

Which Data Does CBO Use to Develop Its Projections of Corporate Income Tax Revenues?

CBO relies primarily on data from the Bureau of Economic Analysis (BEA), the Internal Revenue Service (IRS), and the Department of the Treasury.

BEA's data on corporate profits inform CBO's economic projections. As part of projecting the corporate income tax base, CBO uses data on adjustments that BEA makes to account for items of income or cost that are treated differently in estimating profits from current production than in calculating tax liability.

The IRS's data on detailed tax information from corporate tax returns—in particular, data from the Statistics of Income program—inform CBO's projections of income for firms subject to the corporate tax, certain allowable deductions, and credits.

The Treasury's data on gross receipts and refunds inform CBO's projections of net fiscal year revenues.

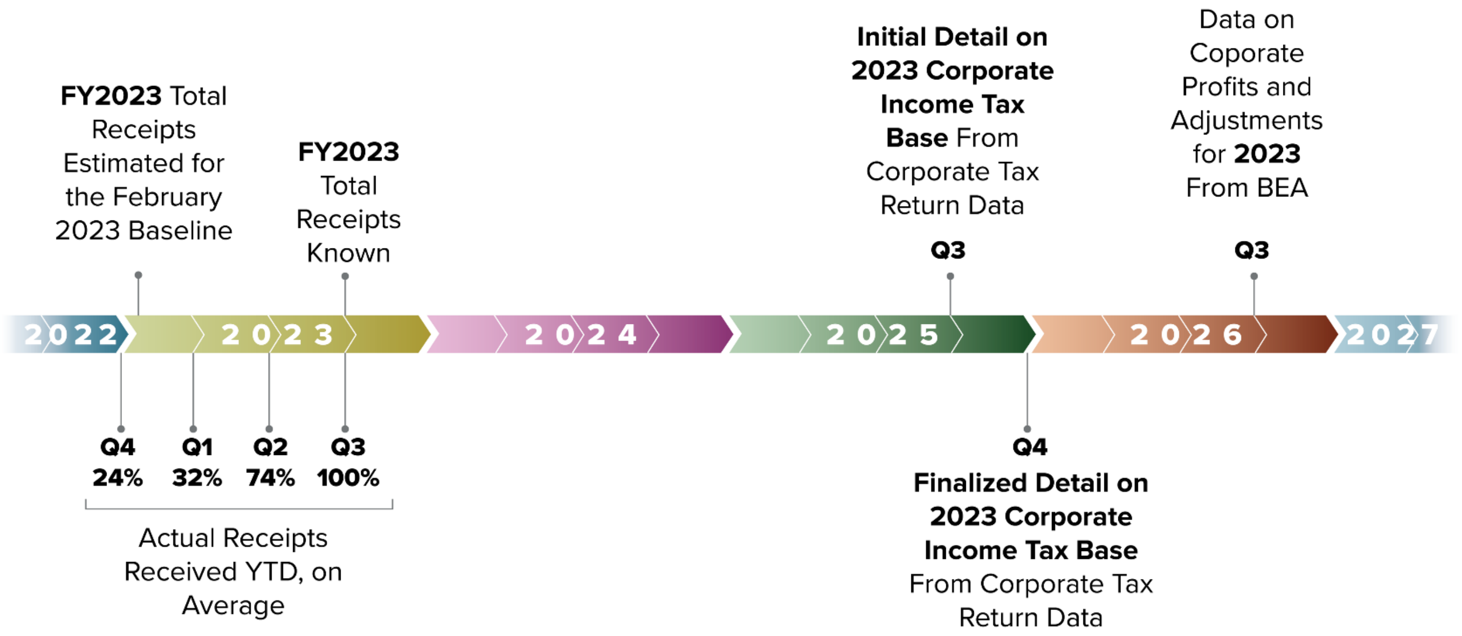
When Do Data Become Available for CBO’s Projections?

Information on gross payments and refunds of corporate income taxes is available monthly.

By contrast, information about the components of the corporate income tax base for the most recent year is minimal.

- The highest quality data on the components of the corporate income tax base come from a sample of corporate income tax returns collected by the IRS. Those data are typically available for most corporate taxpayers in the sample about one and a half years after the end of a calendar year.
- Data on most of the adjustments made by BEA to produce its measure of corporate profits from a tax-based measure of income are released with almost a three-year lag.

The Schedule for Information on the 2023 Corporate Income Tax Base Provides a Typical Example



This figure shows the typical lag between CBO's final projection of fiscal year receipts and the availability of information on the corporate tax base. Final information on the 2023 corporate income tax base will not be available before late in calendar year 2026.

FY = fiscal year; YTD = year to date.

CBO’s Method for Projecting the Corporate Income Tax Base

How Does the Corporate Income Tax Base Differ From Corporate Profits?

The corporate income tax base captures the taxable income of entities subject to the corporate tax. It differs from corporate profits, a broader concept reflecting the U.S. corporate sector's total income earned from current production.[1]

Most large businesses are subject to the corporate income tax. However, some corporations are taxed instead under the individual income tax. Those entities, along with partnerships and other businesses, are often referred to as pass-through businesses.

International profits are treated differently in the corporate income tax base and in corporate profits.

- The corporate income tax base includes all profits earned in the United States, whether by a foreign company or a U.S. company, but it includes only some of the foreign profits earned by U.S. corporations.
- Corporate profits include all profits of U.S. corporations, whether earned in the United States or abroad, but not the profits that foreign corporations earn in the United States.

[1] For a detailed explanation of corporate profits, see Bureau of Economic Analysis, *Concepts and Methods of the U.S. National Income and Product Accounts*, "Chapter 13: Corporate Profits" (updated December 2020), www.bea.gov/resources/methodologies/nipa-handbook. Also see Congressional Budget Office, *Trends in Corporate Economic Profits and Tax Payments, 1998 to 2017* (May 2023), www.cbo.gov/publication/58267.

How Do Firms Calculate Their Income Subject to Tax?

Corporations calculate their income subject to tax by subtracting allowable deductions from net income earned from business operations and other transactions. Allowable deductions are defined by the tax code and generally relate to firms’ costs.

Firms with negative net income have no current tax liability. That negative net income can be used to offset future liabilities.

CBO's Projection of the Corporate Income Tax Base Has Five Main Steps

1: CBO estimates corporate profits as part of its macroeconomic projections.

2: The agency accounts for differences in how items of income and cost are treated when estimating corporate profits versus calculating tax liabilities.

3: CBO excludes the profits of corporations that are considered pass-through businesses and thus not subject to the corporate tax. CBO uses various methods to project the net income of those entities.

4: CBO allocates net income between firms earning positive profits and those with losses. To do that, CBO evaluates the historical movements in the profit-loss allocation, taking into account the movements in corporate profits before tax, gross domestic product, and allowable depreciation deductions.

5: The agency accounts for the tax treatment of losses and income sources taxed at reduced rates. CBO uses various methods to project deductions for net operating losses and other special deductions.

How Does CBO Relate Its Economic Projections of Corporate Profits to the Corporate Income Tax Base?

To relate corporate profits to the corporate income tax base, CBO projects values for items of income and cost that are treated differently in estimating profits and in calculating tax liabilities.

As part of that process, CBO projects each of the adjustments that BEA makes to derive its measure of corporate profits from a tax-based measure of income.[2]

[2] Bureau of Economic Analysis, *Concepts and Methods of the U.S. National Income and Product Accounts*, "Chapter 13: Corporate Profits" (updated December 2020), www.bea.gov/resources/methodologies/nipa-handbook.

Which Modeling Approaches Does CBO Use?

The modeling approaches CBO uses to project each adjustment depend on the characteristics of the adjustment and the availability of data.

Approaches include the following:

- Models that use microsimulated inputs;
- Time-series models that examine past movements of adjustments and other economic projections;
- Equations that relate an adjustment to another economic projection, most often corporate profits before tax; and
- Long-term average values.

A supplemental table posted along with this document summarizes the approach CBO uses to project each adjustment.[3]

CBO publishes its projections of those adjustments, with the largest items displayed individually, in the data posted along with each iteration of the *Budget and Economic Outlook*.[4]

[3] See “CBO’s Adjustments to Corporate Profits Before Tax” at www.cbo.gov/publication/59436.
[4] CBO’s projections of the corporate tax base are available at www.cbo.gov/data/budget-economic-data#7.

Some Adjustments Rely on Projections of Other Components of CBO’s Overall Economic and Revenue Baselines

For example, the adjustment for income of organizations not filing corporate income tax returns accounts for organizations, such as the Federal Reserve banks, that are not subject to federal income taxes but whose net income is included in corporate profits. CBO’s projection of that adjustment relies on its projections of the Federal Reserve’s profits and remittances to the Treasury.[5]

CBO projects the adjustment for state and local taxes by using a log-linear time-series approach, which relates those types of taxes to a measure of corporate income per person. The adjustment for gains, net of losses, from the sale of property relies on CBO’s projection of individual capital gains.[6]

CBO projects the adjustment for income received from equities in foreign corporations and branches in developing its projections of U.S. profits earned abroad and foreign profits earned in the United States. That adjustment is modeled using a time-series approach, which relates those profits to asset values, exchange rates, and foreign growth rates.

[5] Congressional Budget Office, *Recent Changes to CBO’s Projections of Remittances From the Federal Reserve* (February 2023), www.cbo.gov/publication/58913, and *How CBO Prepares Baseline Budget Projections* (February 2018), www.cbo.gov/publication/53532.
[6] Congressional Budget Office, *CBO’s Projections of Realized Capital Gains Subject to the Individual Income Tax* (February 2023), www.cbo.gov/publication/58914.

Others Are Projected Using Historical Relationships and Patterns

For example, CBO projects some adjustments on the basis of their relationship to corporate profits before tax or profits earned abroad. The projection is generally estimated using this equation:

$$Adjustment = \alpha + \beta * profits$$

Some adjustments add more explanatory variables, along with profits. The projection is generally estimated this way:

$$Adjustment = \alpha + \beta 1 * profits + \sum_{2}^{i} \beta i * Xi$$

Some are projected solely on the basis of their relationship to a specific type of price index or investment. The projection is generally estimated as follows:

$$Adjustment = \alpha + \sum_{1}^{i} \beta i * Xi$$

And some use a long-term average for the 10-year budget period or apply a historical growth rate.

Effects of the Timing of Data Availability on CBO's Projections

Actual Revenues Sometimes Deviate Substantially From Projected Revenues for Recent Fiscal Years With Incomplete Data

Actual corporate income tax revenues can depart from what would be expected on the basis of CBO's projections of the corporate income tax base.

Those departures may be especially large when corporations are responding to rapid or substantial changes in economic conditions or the policy environment.

- Corporate income tax revenues may be affected by the performance of a few large firms or a particular sector of the economy that may be experiencing conditions specific to those firms or that sector.
- Such changes to overall conditions or to sector-specific conditions may affect one or more of the adjustments made by CBO when it projects the corporate income tax base from corporate profits before tax.

Data Availability Affects CBO's Ability to Fully Explain Observed Movements in Corporate Income Tax Revenues

CBO generally has limited information about why actual revenues for the most recent fiscal years differ from its projections. To fully explain the deviations, CBO needs detailed information on the tax base—information that is not available for several years.

The initial limited information about the sources of the deviation affects the accuracy of CBO's projections of future revenues.

- At the close of each fiscal year, CBO evaluates the accuracy of its projections. The projection of corporate income tax revenues typically experiences the largest variation around actual values—plus or minus 18 percent, on average.
- Much of the variation between CBO's projections and actual corporate income tax revenues stems from differences between CBO's economic forecast and actual economic developments.[7]

[7] Congressional Budget Office, *An Evaluation of CBO's Past Revenue Projections* (August 2020), www.cbo.gov/publication/56499, and *The Accuracy of CBO's Budget Projections for Fiscal Year 2022* (January 2023), www.cbo.gov/publication/58603.

CBO Uses Alternative Data Sources to Calibrate Its Projections While Awaiting Detailed Data

The reasons projected and actual revenues differ often cannot be precisely identified until detailed economic and tax data become available. In advance of obtaining that data, CBO incorporates additional sources of information about the economy, related policy developments, and corporate behavior. Two examples:

- In some cases, corporations' financial reports contain information on adjustments related to changes in tax policy or operations that materially affect their income or costs. In 2019, CBO examined information in companies' financial reports to inform its estimate of payments resulting from the provision of the 2017 tax act that requires companies to pay taxes on previously untaxed profits in foreign jurisdictions.[8]
- Information in corporations' financial reports also may indicate changes to broad patterns of aggregate profits or losses affecting how corporate profits are flowing to the corporate income tax base. CBO looked at aggregate data from financial disclosures on the overall profitability and losses of corporations to inform its assessment of how corporate profits flowed to the tax base during 2020 and 2021.

[8] Molly Saunders-Scott and Jennifer Shand, Congressional Budget Office, "Reconciling Data on Transition Tax Payments: An Examination of Tax, Economic, and Financial Sources" (presentation to the National Tax Association, November 21, 2019), www.cbo.gov/publication/55873.

CBO Adjusts for Any Remaining Difference in Its Projections

If projected and actual revenues for recent fiscal years differ even after CBO has used all available information to calibrate relevant components of its model, then the agency makes an additional modification in its mapping to align its estimate with actual amounts. How that modification affects projected revenues over the rest of the baseline period depends on CBO's assessment of the underlying causes of the difference.

- If the difference represents a structural change, then the modification is carried into future years. That was the situation with provisions of the 2017 tax act and other recent changes to law.
- If deviations are believed to be isolated or idiosyncratic, then the modification is not carried forward. That was the situation with the effects of the Paycheck Protection Program in 2020 and 2021.[9]

[9] Bureau of Economic Analysis, "How Does the Paycheck Protection Program Impact the National Income and Product Accounts?" (updated May 2021), www.bea.gov/help/faq/1408.

What Happens As Additional Information Becomes Available?

As more detailed data become available over subsequent years, CBO allocates the effects of the modification to affected adjustments and updates how those adjustments are projected. For example, as part of its updates, BEA incorporated the effects of legislative changes to how corporations deduct expenses related to net interest. As of 2022, CBO updated its projections to reflect that inclusion.

When there is no clear legislative or economic reason for the deviation between actual and projected revenues, CBO's projections for the later years of the 10-year baseline period and beyond reflect the expectation that corporate income tax revenues will generally converge with their historical average relative to the size of the economy.

How Could Additional Information Improve the Accuracy of CBO's Projections?

CBO continuously explores improvements to its current methods.

That effort includes seeking out new sources of timely data. Those data could improve the process of allocating the difference between projected and actual revenues, enabling CBO to improve the accuracy of its projections of corporate income tax revenues.

Those data also could help CBO assess the effects of new tax provisions on the revenue baseline and incorporate them into it. Certain approaches—particularly those that use long-term averages and historical relationships—are not always well-suited to analyzing new provisions, such as these:

- The recent enactment of a minimum tax based on financial statement income for large corporations, and
- The potential enactment of provisions domestically and internationally that would set a minimum global tax rate of 15 percent or apportion the tax revenues of certain firms differently among various countries.

About This Document

This document was prepared to enhance the transparency of the work of the Congressional Budget Office and to encourage external review of that work. In keeping with CBO's mandate to provide objective, impartial analysis, the document makes no recommendations.

Molly Saunders-Scott and Jennifer Shand prepared the document with guidance from John McClelland and Joseph Rosenberg. Eshika Kaul fact-checked the document.

Mark Doms and Robert Sunshine reviewed the document. Christine Bogusz edited and formatted the text, and Jorge Salazar created the graphics. The document is available at www.cbo.gov/publication/59436.

CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.