FISCAL YEAR

2024

NEW YORK STATE EXECUTIVE BUDGET

ECONOMIC AND REVENUE OUTLOOK

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INTRODUCTION

Introduction

The Economic and Revenue Outlook is a volume designed to enhance the presentation and transparency of the FY 2024 Executive Budget. The volume provides detailed information on the economic and receipt projections underlying the Executive Budget. The economic analysis and forecasts presented in this volume are also used in the development of the expenditure projections where spending trends are impacted by economic conditions.

Executive Budget Financial Plan receipts include a variety of taxes, fees and assessments, charges for State-provided services, Federal grants, and other miscellaneous receipts. The Economic and Revenue Outlook includes receipts information required by Article VII of the State Constitution and Section 22 of the State Finance Law and provides information to supplement extensive reporting enhancements undertaken in recent years. The Division of the Budget (DOB or The Division) believes the information will aid the Legislature and the public in fully understanding and evaluating the economic assumptions and receipts estimates underlying the FY 2024 Executive Budget. The receipts estimates are prepared by DOB with the assistance of the Department of Taxation and Finance (DTF) and other agencies which collect State receipts and are predicated on economic analysis and forecasts. To the extent they are material, sources of receipts not referenced in this volume are discussed in the presentations of the agencies primarily responsible for executing the programs financed by such receipts.

The Economic and Revenue Outlook is presented in two parts:

- **Economic Backdrop:** Provides a detailed description of DOB’s forecast of key economic indicators for the national and New York State (NYS) economies.

- **Receipts Explanation:** Provides a detailed summary for each tax source describing historical receipts and projections for the current and upcoming budget years, the administration, liability and history of the tax, including significant law changes in the past decade.

ECONOMIC BACKDROP

Executive Summary

- U.S. real GDP fell two consecutive quarters in the first half of 2022, triggering concerns that the U.S. economy might already be in a recession. Real GDP rebounded strongly by 3.2 percent in the third quarter, but recession fears continued to flourish throughout the year as the Federal Reserve proceeded to tighten monetary policy at the fastest pace on record. DOB expects the national economy to enter a mild downturn in 2023, constraining U.S. real GDP growth to 0.5 percent for this year on an annual average basis.

- Consumer price inflation has hit its highest levels in over 40 years, with year-over-year growth in headline CPI peaking at 9.1 percent in June 2022. Over the second half of 2022, sharply declining energy prices, retreating motor vehicle prices, and the Federal Reserve's continued monetary tightening pulled the year-over-year change in headline inflation down to 6.5 percent as of December. Headline CPI inflation is projected to ease significantly to 3.9 percent in 2023 on an annual average basis, following a surge of 8.0 percent in 2022. Inflation is expected to normalize further to 2.8 percent in 2024.

- Despite weakness in output growth, the U.S. labor market held up well until the end of 2022. Total nonfarm employment recovered all its pandemic-era job losses by August 2022 and continued to grow at the above-trend monthly pace of 253,000 jobs in the following four months. A labor supply shortage is the main reason why the U.S. labor market remains extraordinarily tight, but a considerable improvement in labor supply is unlikely to be achieved anytime soon. Weakening labor demand is expected to ease labor market tightness in 2023 and reduce inflationary pressures stemming from increasing wages. Employment growth of 0.9 percent is projected for 2023, following growth of 4.1 percent in 2022.

- Consistent with the Federal Reserve's response to accelerating inflation, long-term interest rates more than doubled over the course of 2022. However, the Federal Reserve's commitment to curbing inflation triggered a bond sell-off during the year, making 2022 the worst year in history for bond investors. Equity markets also fell precipitously during 2022 from their highs in 2021 as persistent inflation, rising interest rates, and the Russian invasion of Ukraine increased earnings risk, particularly for the financial sector.

- The interest rate for 30-year fixed mortgages surged above 7 percent in October 2022. Despite declining slightly in December, mortgage rates are still more than double their averages from a year ago, suppressing housing affordability and dampening homebuyers' demand. The sharp climb in mortgage rates also caused builders to take pause in anticipation of a cooldown in the housing market. Real residential investment is estimated to have contracted 10.3 percent in 2022, followed by an estimated steeper decline of 15.1 percent in 2023.

- The remainder of the excess savings accumulated during the first two years of the pandemic supported the increase in consumer spending in 2022. However, real consumer spending growth decelerated significantly from 8.3 percent in 2021 to an estimated 2.9 percent in 2022 in the face of surging prices, declines in equity values and house prices, and a withdrawal of fiscal stimulus. With pandemic-related pent-up demand for services estimated to have fully dissipated by the end of 2022 and job cuts expected to materialize in 2023, real consumption growth is projected to further decelerate to 1.2 percent in 2023 and remain weak at 1.6 percent in 2024.

- Business fixed investment, historically one of the most rate-sensitive and cyclical components of GDP, has held up better in this monetary tightening cycle than it has in the past, largely due to the support from historically strong corporate profits growth in 2021 and an easing of supply-chain pressures. However, with consumer demand expected to weaken in 2023, firms will have more difficulty raising prices, despite facing upward wage pressures, rising interest rates, and equity price volatility. As a result, both profit margins and investment growth are expected to diminish going forward.

- Consistent with a downshift to a smaller rate hike in the Federal Open Market Committee's December 2022 announcement and policymakers' projections, the Division anticipates the federal funds rate to peak within the 4.75 – 5.00 percent range in early 2023. Once inflation gets sufficiently close to the central bank's 2 percent objective, and a rising unemployment rate begins to take the heat out of wage growth, the Federal Reserve is expected to start cutting rates. DOB projects these conditions will be met in 2024.

- New York State's labor market continued its recovery from the global pandemic, regaining 86.5 percent of its job losses as of December 2022. However, the State's labor market lags behind the nation, which had already recovered all its pandemic-related job losses by August 2022.

- The State's unemployment rate of 4.3 percent was the sixth highest in the nation in December 2022, pushed up by New York City, which posted a rate of 5.9 percent. In comparison, the Rest of the State had an unemployment rate of 3.2 percent.

- New York State's labor market outlook remains pessimistic for 2023 due to the slowing global economy, the stock market's weak and volatile performance, and an impending national recession following the Federal Reserve's rapid rate hikes. The State's total employment is projected to grow by 0.7 percent in 2023, with private sector employment growing by 0.8 percent. As a result, the State is not expected to return to its pre-pandemic employment level until 2027.

- Finance and insurance sector bonuses are estimated to fall by 25.2 percent in FY 2023, as a bear market in equities led to weaker bank revenues and profits in 2022. As global growth slows and the U.S. economy enters a recession, the sector's bonuses are projected to decline by 5.1 percent in FY 2024.

- State wages grew by 12.4 percent in FY 2022 due to the significant number of jobs recovered, high inflation, and a strong equity market growth. However, wages are estimated to be increasing a more modest 2.4 percent for FY 2023 due to a slowdown in hiring and a substantial decline in bonuses. A smaller decline in bonuses, along with a substantial slowdown in job growth, is projected for FY 2024. On balance, wage growth of 2.3 percent is projected for the coming State fiscal year.

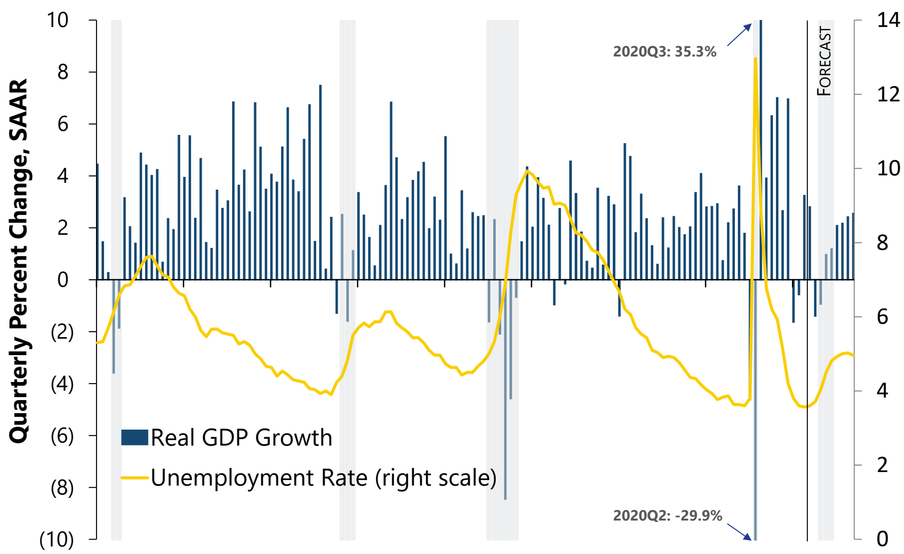
- State personal income is estimated to have grown only 0.8 percent for FY 2023 due primarily to the continued unwinding of Federal emergency spending programs and the fallout from the Federal Reserve's aggressive rate hikes aimed at bringing inflation under control. With the distortion to transfer income now totally unwound, and continued weakness in wages consistent with the impending U.S. recession, personal income growth of 3.5 percent is projected for FY 2024.

The U.S. Economy

Since the start of the 21st Century, the U.S. economy has continued to be buffeted by extremes: in 2008, the deepest recession since the Great Depression, the longest postwar expansion brought to a premature end by the worst pandemic since 1918, the fiercest war on European soil since World War II, and the highest rate of inflation in 40 years. But despite two decades of historic volatility, the U.S. economy has remained resilient, as evidenced by the tightest labor market since the early 1950s. However, that resilience is expected to be put to the test over the course of 2023 as global growth continues to soften, the labor market weakens, and household spending falters.

In a world where supply chains for countless consumer and intermediate goods are truly globalized, the COVID-19 pandemic upended both consumption and production patterns, resulting in an unprecedented array of supply chain disruptions. These disruptions combined with $3.3 trillion in Federal emergency pandemic spending over just two fiscal years to produce the fastest growth in consumer prices in two generations. The problem was only compounded by Russia's invasion of Ukraine and the ensuing sanctions, which further disrupted global trade, particularly in energy and agricultural products. Consumer price inflation spiked at 8.0 percent on an annual average basis in 2022, the highest since 1981.

Real GDP Growth and Unemployment Rate



Note: Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA, BLS; DOB staff estimates.

These developments evoked a strong response from the world's central banks that had not jousted with inflationary pressures in four decades. The backdrop of a historically tight labor market created hope that the Federal Reserve could execute its battle plan without engendering a crash landing, but a persistently inverted yield curve, along with several other reliable leading economic indicators, flat industrial production, and a significantly slower pace of job growth all point toward a recession starting in 2023. DOB projects growth in U.S. real GDP of 0.5 percent on an annual average basis for this calendar year, encompassing two quarters of decline. Correspondingly, consumer price inflation is projected to slow to 3.9 percent for 2023.

The coming recession has the potential to be shorter and shallower than the historical average. Early retirements and reduced rates of immigration continue to stymie labor supply growth, promoting wage growth and keeping a lid on job cuts. Employment growth of 0.9 percent is projected for this year on an annual average basis, encompassing declines in the latter three quarters, followed by virtually flat growth of 0.1 percent for 2024. The unemployment rate is expected to top out at 5.0 percent on a quarterly basis by the middle of 2024, the lowest peak of any postwar recession.[1]

The most interest rate-sensitive sectors of the economy, such as the housing market and nonresidential construction, have already taken a substantial hit and are expected to continue to contract in 2023. But real business investment in equipment and intellectual property products held up well last year and is expected to remain relatively flat in 2023 on an annual average basis. Though inflation has eaten away at consumers' purchasing power for well over a year, household balance sheets are relatively strong thanks to fiscal policies aimed at cushioning American families against the pain wrought by the pandemic. Finally, equity market prices are expected to bottom out in the first quarter of this year and display moderate growth going forward, providing modest support for household spending through the wealth effect. Growth in real consumption expenditures is projected to slow from 2.9 percent for 2022 to 1.2 percent for 2023.

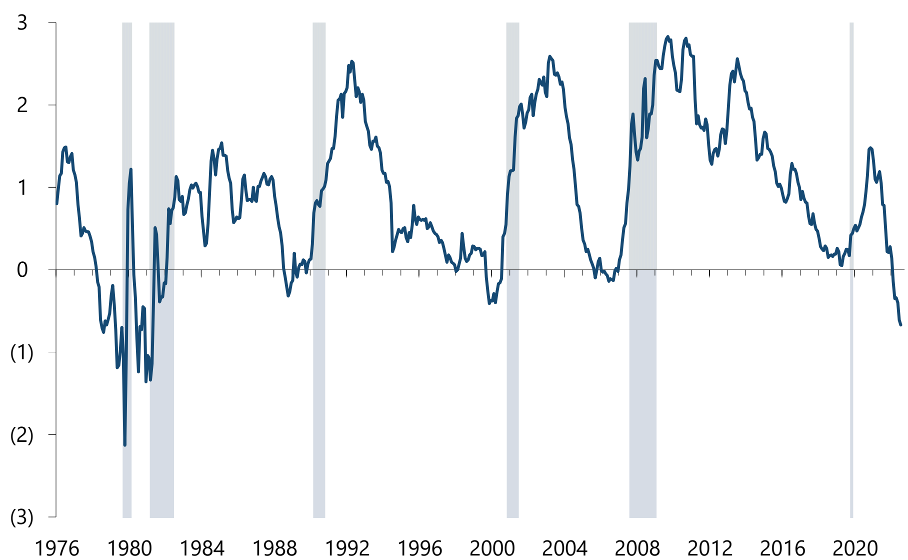
But there is a great risk to expectations for a mild downturn. The Federal Reserve was slow to recognize that inflation pressures, though engendered by transitory conditions, were becoming entrenched and would likely persist for a prolonged period, rather than dissipate quickly over the short run. The central bank could be just as slow to recognize when its actions have successfully put the inflation genie back in the bottle. Though it is well recognized that there are significant lags between monetary policy actions and economic activity, there is great uncertainty as to the length of those lags. A policy error at this juncture could be quite costly. With the personal savings rate already at historic lows, if the Federal Reserve overtightens and job losses rise substantially higher than expected, the shallow dip in household spending anticipated by this forecast could be much deeper, and a much longer and more severe downturn could ensue.

[1] The unemployment rate is a lagging indicator, sometimes peaking well after the technical end of the recession as designated by the NBER Business Cycle Dating Committee.

A Recession Is Coming

Recession fears flourished throughout 2022. Indeed, when U.S. real GDP fell two consecutive quarters in the first half of last year – the unofficial definition of recession often cited by the financial press – concern arose that the U.S. economy might already be in recession. Starting in March, the Federal Reserve proceeded to tighten monetary policy at the fastest pace on record, implementing seven rate hikes over the course of the year. By early July 2022, the 2-year Treasury yield had inched above the 10-year yield, with the 3-month Treasury yield following suit before the end of October. The resulting inverted yield curve is a reliable warning sign that has presaged every U.S. recession since World War II. Once the yield curve inverts, a recession tends to follow within 12 to 18 months. By the time 2022 came to a close, more than two-thirds of economists at 23 major financial institutions expected the U.S. to enter a downturn at some point in 2023; two others in 2024.[2]

Spread Between 10-Year and 2-Year Treasury Yields
(Percent)



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/Federal Reserve Board.

Most of the leading indicators commonly used to gauge the economy's near-term prospects are signaling a high risk of recession in the coming year. The Conference Board's Leading Economic Index (LEI), which compiles ten historically predictive economic measures,[3] fell sharply in 2022.

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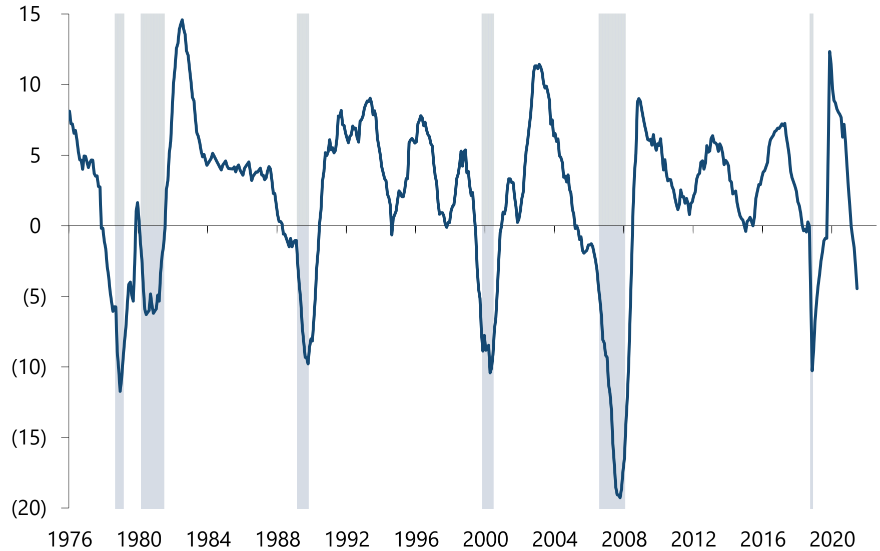
[2] Dion Rabouin, "Big Banks Predict Recession, Fed Pivot in 2023," The Wall Street Journal, January 2, 2023, available from https://www.wsj.com/articles/big-banks-predict-recession-fed-pivot-in-2023-11672618563?st=qq85he34w2dn178&reflink=desktopwebshare_permalink.

[3] The ten components of The Conference Board Leading Economic Index® for the U.S. include: Average weekly hours in manufacturing; Average weekly initial claims for unemployment insurance; Manufacturers' new orders for consumer goods and materials; ISM® Index of New Orders; Manufacturers' new orders for nondefense capital goods excluding aircraft orders; Building permits for new private housing units; S&P 500® Index of Stock Prices; Leading Credit Index™; Interest rate spread (10-year Treasury bonds less federal funds rate); Average consumer expectations for business conditions.

The U.S. LEI has been falling since July 2022. In addition to an inverted yield curve, contributions to a declining LEI include sinking consumer confidence, tighter lending standards, softening new orders from purchasing managers, and a slide in new home building permits. Only rarely has the LEI fallen on a year-over-year basis without a recession following.

The Conference Board Leading Economic Index (LEI)
(Percent Change Year-Ago, 2016=100)



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/The Conference Board.

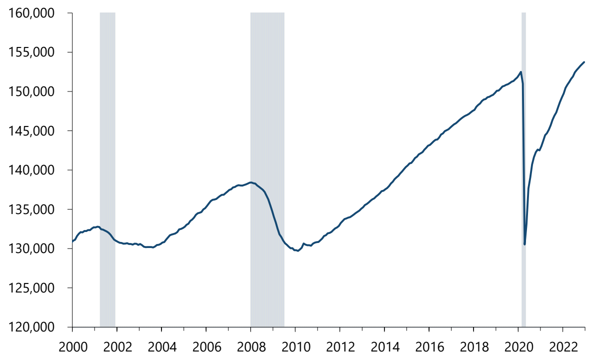
Official business cycle turning points are defined by a group of economists comprising the National Bureau of Economic Research (NBER) Business Cycle Dating Committee. The Committee defines a recession as a period during which a significant and widespread decline in economic activity occurs that lasts more than a few months. The Committee uses a range of monthly measures of aggregate real economic activity to determine business cycle peaks and troughs, usually focusing on the six key indicators shown in the charts below: real personal income less transfers, nonfarm payroll employment, employment as measured by the household survey, real personal consumption expenditures, real manufacturing and trade sales, and industrial production.[4]

Since high frequency economic data are subject to revision, the Committee often waits close to a year before declaring officially that the national business cycle has entered a new phase. Current data indicate that industrial production started to drop in November 2022 and continued to fall in December. Moreover, both payroll employment and household survey employment are decelerating. Payroll employment is one of the indicators most closely monitored by the Committee, but it is often subject to significant revisions. The Bureau of Labor Statistics (BLS) recently announced that the employment level for March 2022 will be revised upward by 462,000, but even after accounting for the coming revision, the Federal Reserve Bank of Philadelphia

[4] https://www.nber.org/research/business-cycle-dating/business-cycle-dating-procedure-frequently-asked-questions.

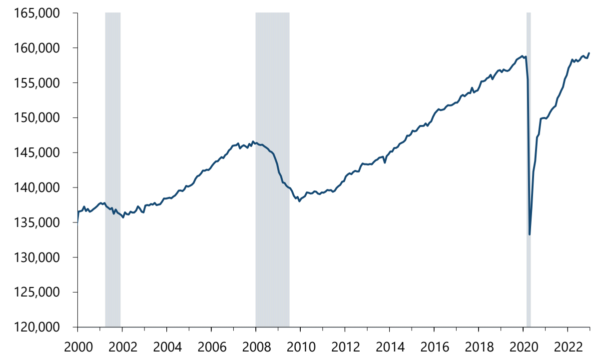
estimates that only 10,500 net new jobs were added between March and June 2022 rather than the 1,121,500 jobs implied by BLS's current estimates.[5]

U.S. Total Nonfarm Payroll Employment
(Thousands, SA)



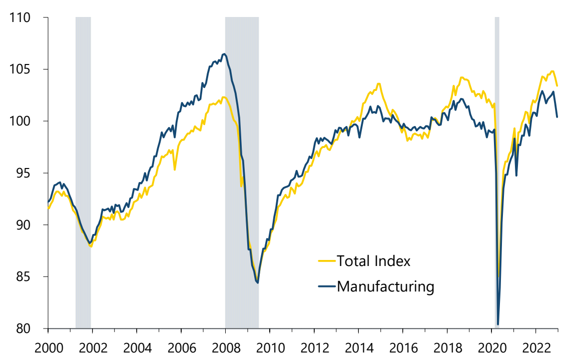
Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BLS.

U.S. Total 16+ Civilian Household Employment
(Thousands, SA)



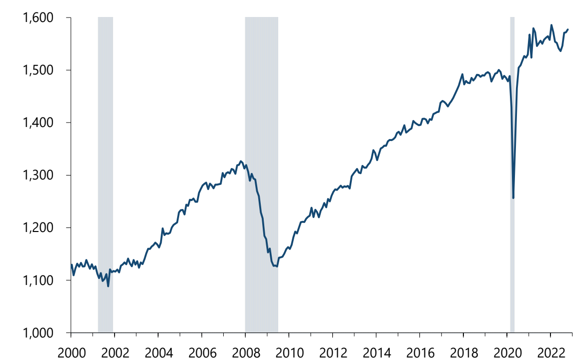
Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BLS.

U.S. Industrial Production: Total Index
(Index 2017=100)



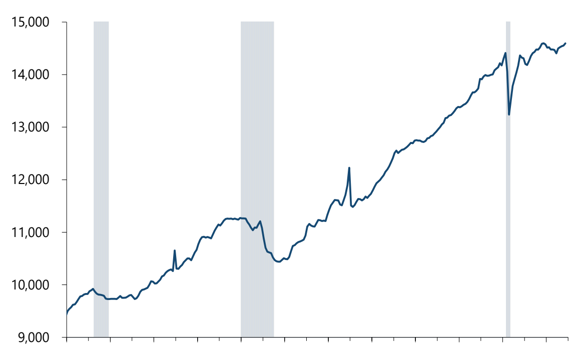
Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/Board of Governors of the Federal Reserve System.

U.S. Real Manufacturing and Trade Industries Sales
(Billions of Chained 2012 Dollars)



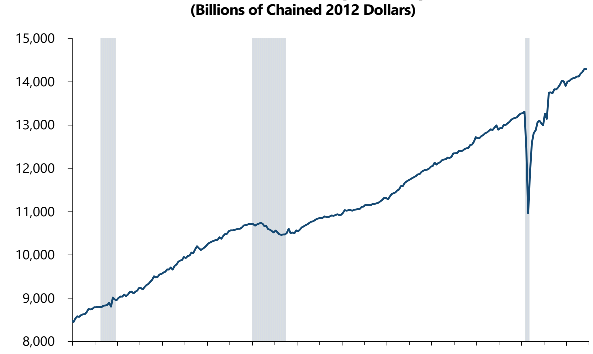
Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA.

U.S. Real Personal Income Excluding Current Transfer Receipts
(Billions of Chained 2012 Dollars)



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA.

U.S. Real Personal Consumption Expenditure
(Billions of Chained 2012 Dollars)

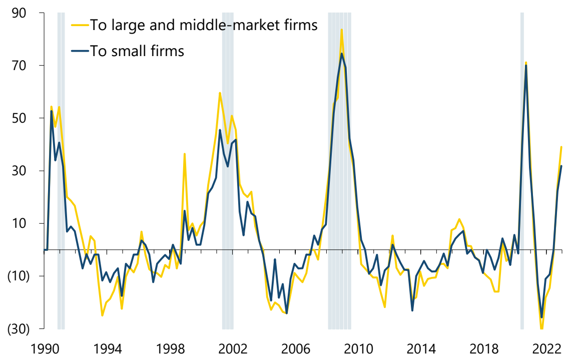


Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA.

[5] https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/early-benchmark-revisions

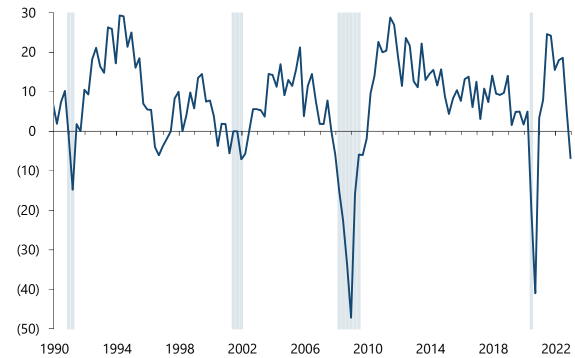
The signals are clear that U.S. economic conditions will deteriorate in 2023, but is a recession inevitable? The answer depends on how resilient consumers and businesses are. Some of the leading indicators, including the stock market, are already blinking red, as is the overall leading index. One of the strongest signals is the recent tightening of borrowing standards for loans to businesses and consumers. Another is the Institute of Supply Managers (ISM) indexes, which are in negative territory for both the manufacturing and the non-manufacturing sectors.[6]

Tightening Standards – Commercial & Industrial Loans
Net Percentage of Banks, (%, NSA)



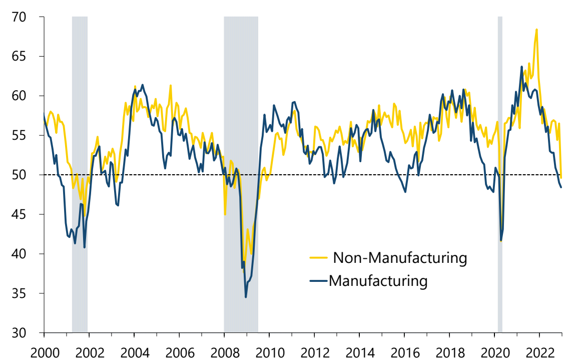
Note: Shaded areas represent U.S. recessions.
Source: Moody's Analytics/U.S. Board of Governors of the Federal Reserve System (FRB) Loan Officer Survey.

Tightening Standards – Willingness to Make Consumer Loans
Net Percentage of Banks, (%, NSA)



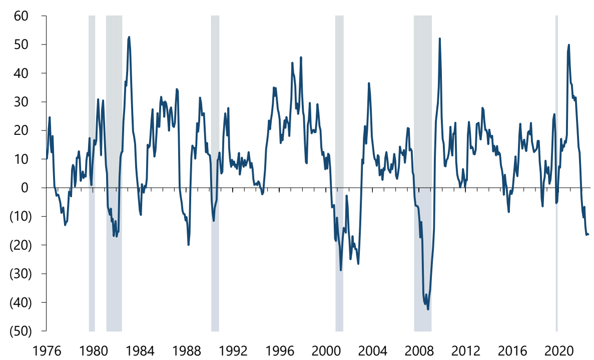
Note: Shaded areas represent U.S. recessions.
Source: Moody's Analytics/U.S. Board of Governors of the Federal Reserve System (FRB) Loan Officer Survey.

ISM: Purchasing Managers' Index



Note: Shaded areas represent U.S. recessions.
Source: Moody's Analytics/Institute for Supply Management (ISM).

Standard and Poor's 500 Composite Index
(Percent Change Year-Ago)



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics.

The strength in nonfarm payroll employment indicates that, at least for now, a massive layoff of workers is yet to come. A still-tight labor market, with baby boomers aging out of the labor force and restrained foreign immigration, is preventing businesses from significantly cutting their workforce. Nonetheless, job growth has significantly slowed since the first half of 2022. The Federal Reserve's expected course of monetary tightening to sufficiently curb inflationary pressures is projected to result in at least a modest decline in payrolls down the road in 2023. DOB expects a weakening in consumption spending is likely to follow soon thereafter. But given the

[6] The December 2022 ISM manufacturing report states that "A Manufacturing PMI® above 48.7 percent, over a period of time, generally indicates an expansion of the overall economy. Therefore, the December Manufacturing PMI® indicates the overall economy contracted in December after 30 consecutive months of expansion following a contraction in April and May 2020."
https://www.ismworld.org/supply-management-news-and-reports/reports/ism-report-on-business/pmi/december/.

historically tight labor market conditions that have prevailed since the early stage of the pandemic, DOB expects the coming recession to be short-lived and shallow.

Labor Markets

Key Points

- Despite weakness in real GDP, the U.S. labor market held up well until the end of 2022. Total nonfarm employment recovered all its pandemic-era job losses by August 2022 and continued to grow at the above-trend monthly pace of 253,000 jobs in the following four months. As of December 2022, the payroll count was 1.2 million above its February 2020 pre-pandemic peak.

- All major nonfarm sectors added jobs in 2022. Among those, leisure and hospitality, which includes the arts, entertainment, and recreation sector and the accommodation and food services sector, continued to post significant job gains in 2022. Despite double-digit growth rates, employment levels in these sectors still felt short of their pre-pandemic levels.

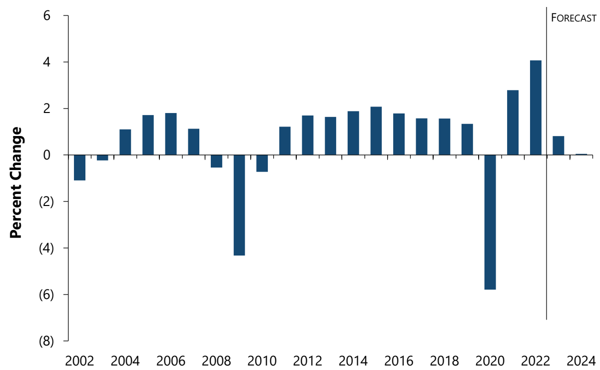
- A supply shortage of labor is the main reason why the U.S. labor market remains extraordinarily tight. The labor supply has been constrained by several factors, including long-COVID related health problems, demographic factors such as an acceleration in baby boomer retirements, and a significant decline in international migration. The labor force participation rate among prime-age workers, aged 25 to 54, has recovered close to its pre-pandemic level; however, the participation rate remains muted for the older age groups. The labor force participation rate is expected to recover further, but a considerable improvement in labor supply is unlikely to be achieved anytime soon.

- Weakening labor demand is expected to ease labor market tightness further in 2023 and reduce inflationary pressures stemming from increasing wages. The number of job openings per unemployed person has continued to slide since April 2022, indicating somewhat cooling labor demand, but the ratio of 1.7 openings per unemployed person in November 2022 is well above the pre-pandemic level of 1.2. Although the November reading is down from the historic high of 2.0 reached in March 2022, further declines in labor demand will be needed to bring balance back to the labor market and lower wage-induced inflation pressures.

- Total nonfarm employment registered an estimated 4.1 percent increase in 2022. However, job losses are expected to start in the first half of 2023 as a result of the Federal Reserve's resolve to combat inflation even at the cost of higher unemployment. On an annual average basis, total nonfarm employment is projected to increase by only 0.9 percent in 2023 and 0.1 percent in 2024.

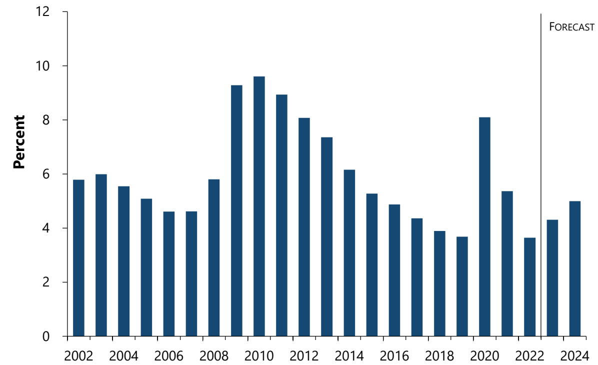
- The civilian unemployment rate fell from 4.0 percent at the beginning of 2022 to 3.5 percent in July 2022, edging up to 3.7 percent in August and averaging 3.6 percent during the fourth quarter of 2022, as monthly job gains slowed. The unemployment rate is projected to rise gradually to 5.0 percent by the end of 2024, following an average of 4.3 percent in 2023. A rising unemployment rate is expected to lower wage inflation.

U.S. Employment Annual Growth



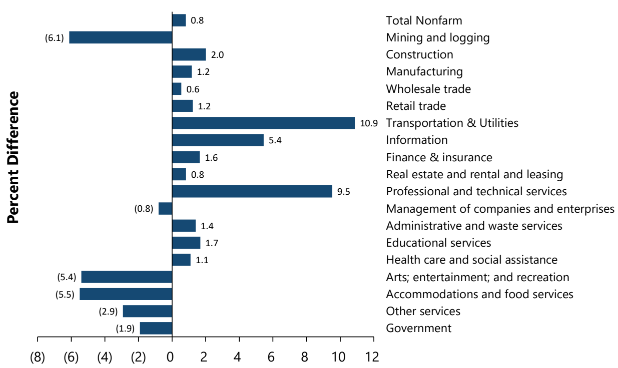
Source: Haver Analytics/BLS; DOB staff estimates.

U.S. Annual Average Unemployment Rate



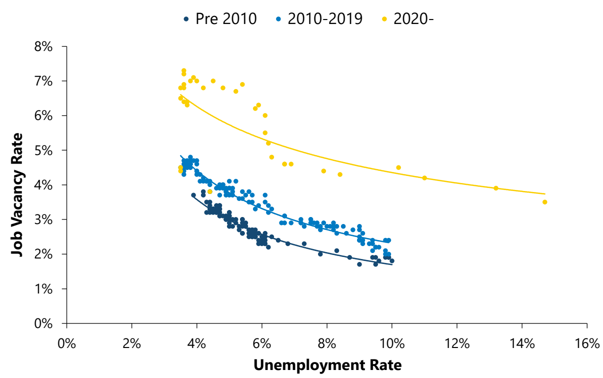
Source: Haver Analytics/BLS; DOB staff estimates.

U.S. Employment: December 2022 Relative to February 2020



Source: Moody's Analytics/BLS.

The Pandemic Shifted the Beveridge Curve Outward



Source: Moody's Analytics/BLS.

Recent Developments

The U.S. labor market largely recovered in 2022 with a rapid closing of the job deficit from the recent COVID-19-induced recession. During the first seven months of 2022, job gains averaged 457 thousand per month.[7] The gains in payroll employment slowed after July, averaging 261 thousand over the remainder of the year. Some of the indicators of labor demand, such as job openings and layoffs, softened toward the end of the year. Similarly, for the prime working-age population, defined as adults aged 25 to 54, the employment to population ratio started to decrease from a near pre-pandemic level of 80.2 percent in August 2022, to 79.7 percent in November 2022, recovering back to 80.1 in December. That indicator had reached a pre-pandemic high of 80.6 percent in January 2020 and a pandemic-related low of 69.6 percent only three months later in April 2020.

[7] In August 2022, the Bureau of Labor Statistics (BLS) announced the 2022 preliminary benchmark revisions to the Current Employment Statistics (CES). According to BLS, employment was an estimated 462K higher than the current estimates for March 2022. Final benchmark revisions will be issued in February 2023 with the January 2023 employment data release. The numbers reported throughout this document do not reflect the upcoming revisions. See https://www.bls.gov/web/empsit/cesprelbmk.htm.

As of December 2022, nonfarm payroll employment had surpassed its February 2020 pre-pandemic peak by 1.24 million, or 0.8 percent. Notable rates of job growth occurred in the leisure and hospitality, mining, professional and business services, private education, and transportation and warehousing sectors. While job losses in most sectors have fully recovered as of December of 2022, employment still fell short in customer-facing sectors, particularly the leisure and hospitality and other services sectors, as well as in low-skilled service-related occupations. Employment in the leisure and hospitality sector was still nearly one million below its pre-pandemic level as of December 2022.

The headline unemployment rate (also known as the "U-3") fell to 3.5 percent in July 2022, matching its pre-pandemic low reached in February 2020. It edged up to 3.7 percent in August and averaged 3.6 percent through the rest of the year, ending up at 3.5 percent in December 2022. The number of workers defined as long-term unemployed (unemployed for 27 weeks or more in duration) continued to decline in 2022 from its peak of 4.2 million in March 2021. By December 2022, only 1.1 million, or 18.7 percent of all unemployed workers, remained among the long-term unemployed, similar to its pre-pandemic level.

The underemployment rate (also known as the "U-6"), which includes the underutilized (those working part-time but willing to work more hours) and discouraged workers (those who have dropped out of the labor force but still desire a job), declined to 6.5 percent in December 2022, 0.3 percentage points below its level in February 2020. The number of employees considered as "underutilized" declined to 3.9 million in December 2022, which is below its pre-pandemic level, an indication of just how tight the national labor market currently still is.

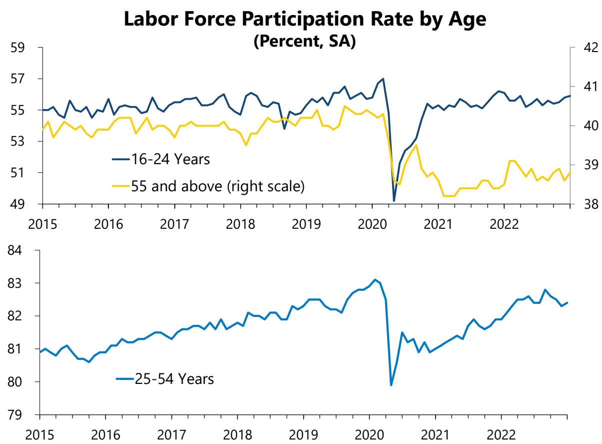
Tight Labor Market: A Considerable Improvement in Labor Supply Is Far from Guaranteed

More than two years into the pandemic, the U.S. civilian labor force finally returned to its pre-pandemic level in August 2022. However, the overall labor force participation rate remains below its pre-pandemic level. After gradually picking up from a pandemic trough of 60.1 percent in April 2020, the labor force participation rate has fluctuated just above 62.0 percent since the beginning of 2022. As of December 2022, the labor force participation rate posted at 62.3 percent; one percentage point below the February 2020 level of 63.3 percent.

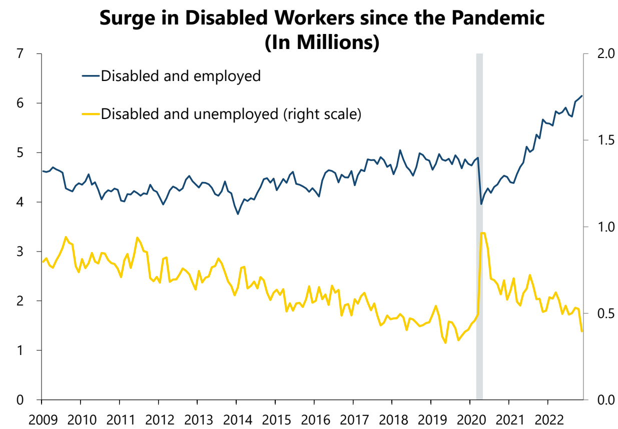
The disappointing recovery in participation is attributed in large part to lower participation among people aged 55 and above. As of December 2022, the size of the labor force aged 55 and above was 70 thousand below its February 2020 level, while the size of the prime-age labor force was 311 thousand higher than its February 2020 level. The pandemic prompted many workers to retire early, limiting the rebound in labor force participation among older workers. A recent study by the Federal Reserve shows that about 3.5 million people are missing from the labor force, compared with what one might have expected based on pre-2020 trends.[8] Pandemic deaths and slower immigration also explain some of that decline, but a large number of the missing workers, roughly two million, have simply retired. Long COVID (or post-COVID health problems) have also prevented people from returning to the labor force. Some of those people suffering from long COVID

[8] Joshua Montes, Christopher Smith, and Juliana Dajon, "'The Great Retirement Boom': The Pandemic-Era Surge in Retirements and Implications for Future Labor Force Participation," Federal Reserve Board, Washington, D.C., 2022 https://www.federalreserve.gov/econres/feds/files/2022081pap.pdf.

symptoms can no longer work and have thus dropped out of the labor force, while others are working but with disabilities.[9] A post-pandemic surge in the number of disabled workers may reflect this situation.



Source: Haver Analytics/BLS.



Notes: Data are for U.S. population, aged 16 to 65. Shaded area represents U.S. Recession.
Source: IPUMS-CPS, University of Minnesota/ DOB staff calculations.

The labor force participation rate is expected to recover further as the excess savings accumulated during the pandemic runs down, the cost-of-living continues to grow, and health concerns gradually ease. However, a considerable improvement in labor supply is far from guaranteed.

Tight Labor Market: Labor Demand Has to Decline in Order to Slow Wage Growth

The job quits rate, another measure of labor market tightness, gradually declined over the course of 2022, partially reversing the 2021 increase that has been misleadingly designated as "the Great Resignation."[10] As of November 2022, the quits rate was 2.7 percent, down from 3.0 percent in December 2021, but significantly above the 2019 average of 2.3 percent. The near record-high number of job openings per unemployed worker indicates that the demand for labor continues to exceed the supply. Job openings remain well above their pre-pandemic level, having peaked in March 2022, when the gap between the number of job openings and the number of unemployed workers was at its widest. Correspondingly, labor market tightness, measured by the ratio of job openings to unemployed workers, also peaked in March 2022 at 2.0, compared to 1.2 openings per unemployed worker just prior to the pandemic.

The quits rate has been especially high within the manufacturing, leisure and hospitality, education, and health care industries, indicating that the labor market remains particularly tight within those sectors. Notably, these are industries that harbor large numbers of low-wage, low-skill jobs, many of which require close contact with customers. One study finds evidence that as of spring 2022, there was increased movement out of low-skilled service jobs toward professional occupations

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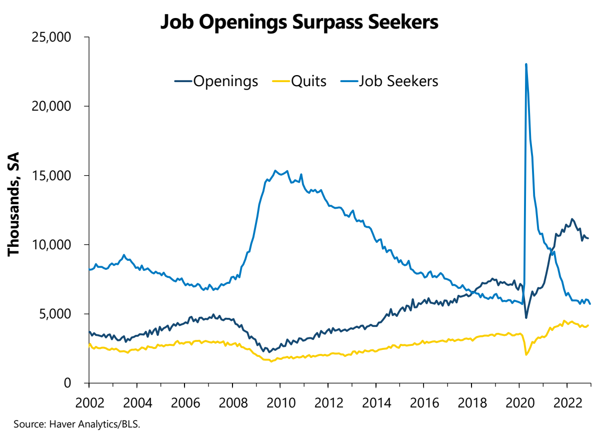
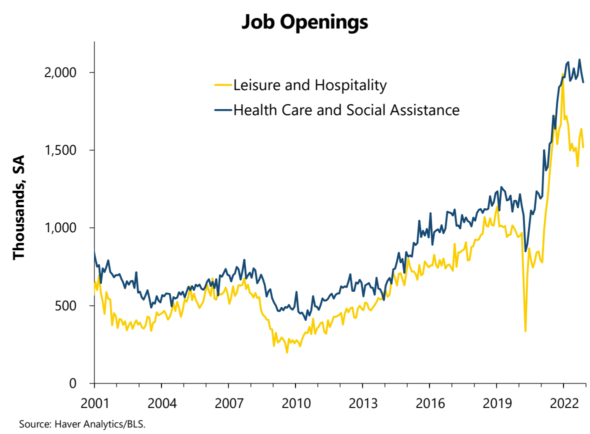
[9] Richard Deitz, “Long COVID Appears to Have Led to a Surge of the Disabled in the Workplace,” Federal Reserve Bank of New York Liberty Street Economics, October 20, 2022, https://libertystreeteconomics.newyorkfed.org/2022/10/long-covid-appears-to-have-led-to-a-surge-of-the-disabled-in-the-workplace/.
[10] Bart Hobijn, “Great Resignations Are Common During Fast Recoveries," Federal Reserve Bank of San Francisco, Economic Letter 2022-08, April 4, 2022, https://www.frbsf.org/economic-research/publications/economic-letter/2022/april/great-resignations-are-common-during-fast-recoveries/.

and other areas that tend to be both higher paying and offer lower exposure to health risks.[11] The authors find that the excess retirements induced by the pandemic appear to have created opportunities for movement up the job ladder for lower-skilled workers. Another study finds that the share of workers in low-pay service sector industries moving into higher-paying, white-collar industries had risen to an unusually high level by the end of 2021.[12] The author suggests that the Great Resignation is more aptly described as the Great Reshuffling.

The unprecedented rise in the number of job openings per unemployed worker is also reflected in the Beveridge Curve, which captures the inverse relationship between the job vacancy rate, defined as the number of job openings per member of the labor force, and the unemployment rate. Since 2020, the Beveridge Curve has shifted upwards, indicating a rising mismatch between the jobs not yet filled and the workers available to work. This mismatch appears to be particularly acute among those low-wage industries requiring close customer contact.





Although the number of job openings per unemployed person has slid since April 2022, indicating some cooling of labor demand, the 1.7 openings per unemployed person in November 2022 is well above the pre-pandemic level of 1.2. Since the labor supply is unlikely to expand significantly anytime soon, weaker labor demand is the most likely path toward easing labor market tightness and reducing the inflationary pressure stemming from the labor market.

Outlook

Over the second half of 2022, the levels of job openings and quits have been trending lower, and payroll employment gains have slowed. While a significant rise in initial claims for unemployment insurance has yet to materialize, the latest Challenger Report shows that announced job cuts by U.S.-based firms rose 129 percent in December 2022 from the prior year.[13] Technology companies announced the most job cuts of any sector in 2022, near the levels seen during the Great

[11] Eliza Forsythe, Lisa B. Kahn, Fabian Lange, and David G. Wiczer, “Where Have All the Workers Gone? Recalls, Retirements, and Reallocation in the COVID Recovery,” NBER Working Paper No. 30387, August 2022.

[12] Joseph Politano, “What Does a Labor Shortage Mean? It's About Workers' Wins Just as Much as Businesses' Woes,” December 31, 2022. https://www.apricitas.io/p/what-does-a-labor-shortage-mean.

[13] The Challenger Report, December 2022, https://www.challengergray.com/blog/the-challenger-report-job-cuts-in-2022-up-13-over-2021/.

Recession. Although survey results show that most laid off tech workers quickly find new jobs,[14] the job market is signaling a slowdown, consistent with broader economic trends. DOB expects the amount of monetary restraint that will be needed to sufficiently reduce labor demand and wage growth to achieve the Federal Reserve's inflation target will result in at least a modest decline in payrolls over the course of 2023.

Total nonfarm employment growth is projected to slow from 4.1 percent in 2022 to 0.9 percent in 2023, followed by 0.1 percent growth in 2024.

Similarly, private sector employment growth is projected to slow from 4.6 percent in 2022 to 0.9 percent in 2023 and remain flat in 2024. Public sector employment is projected to grow 1.1 percent in 2023, after growing 1.2 percent in 2022, before slowing to 0.3 percent in 2024. Even with these projected increases, employment in the public sector is not expected to return to its pre-pandemic 2019 level before 2025.

With the labor market cooling and layoffs increasing, the unemployment rate is expected to increase from an annual average of 3.6 percent in 2022, to 4.3 percent in 2023 and 5.0 percent in 2024.

Risks

A more hawkish stance on the part of the Federal Reserve, resulting in higher-than-expected interest rates, may prompt firms to slow their hiring or increase layoffs further than implied by this forecast. Similarly, lower household or business spending could result in lower labor demand than expected. However, if the Federal Reserve pivots away from further rate hikes sooner than expected due to lower inflation, or higher immigration boosts the labor force, thereby easing wage pressures, then employment growth may be higher than projected.

[14] The Wall Street Journal, "Laid Off Tech Workers Quickly Find New Jobs," December 27, 2022, https://www.wsj.com/articles/laid-off-tech-workers-quickly-find-new-jobs-11672097730.

Inflation

Key Points

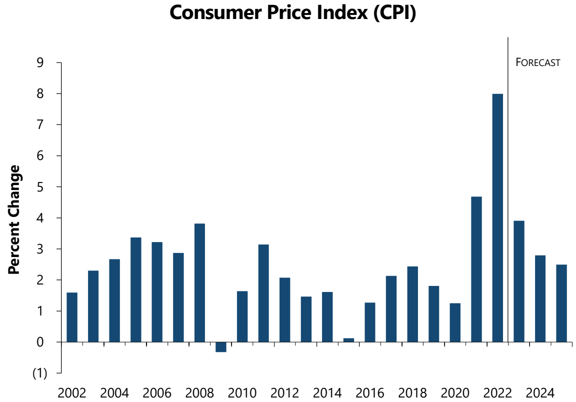
- Consumer price inflation has hit its highest levels in over 40 years, with year-over-year growth in headline CPI peaking at 9.1 percent in June 2022. The inflation surge during the first half of 2022 is chiefly attributable to several key factors: overly accommodative monetary policy, which extended well beyond the initial shock and uncertainty brought about by the pandemic; strong post-pandemic demand that outpaced the unwinding of supply chain pressures; spikes in energy and other commodity prices, largely due to Russia's invasion of Ukraine; and skyrocketing rents, which accelerated in a lagged response to soaring home prices.

- Over the second half of 2022, sharply declining energy prices and retreating motor vehicle prices pulled the year-over-year change in headline inflation down to 6.5 percent as of December. With energy and core goods contributing less to headline inflation, core services became the driving force keeping price growth elevated. However, there are signs of disinflationary pressure even within a number of core services categories: pent-up demand for travel and recreation services is expected to unwind, while rents are projected to ultimately fall in the wake of falling home prices.

- Inflation expectations also peaked in the first half of 2022. A benchmark University of Michigan survey shows that expected inflation for 2023 gradually decreased to 4.4 percent by the end of 2022 after surging to 5.4 percent in April 2022. Meanwhile, expected inflation for the next five years has fallen below 3 percent after staying above 3 percent in the first half of 2022.

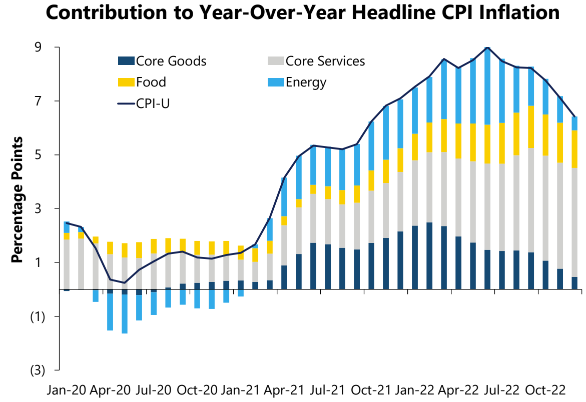
- The Federal Reserve's monetary tightening is also contributing to disinflationary pressures, particularly within the housing market. The FOMC raised its federal funds rate by 425 basis points during 2022, a pace never seen in history. With Federal Reserve Chair Powell affirming on several occasions that the FOMC is willing to do whatever it takes to bring inflation back toward its 2 percent long-term target, both headline and core inflation are expected to continue easing over 2023 and 2024.

Consumer Price Index (CPI)

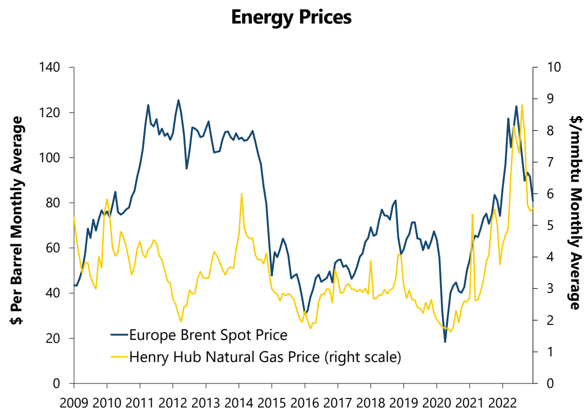


Source: Haver Analytics/BLS; DOB staff estimates.

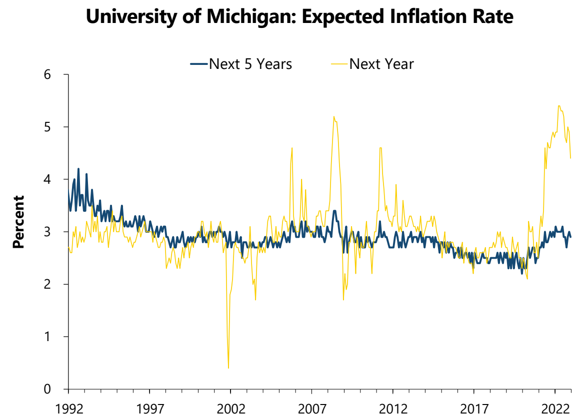
Contribution to Year-Over-Year Headline CPI Inflation



Source: Haver Analytics/BLS.



Source: Haver Analytics/EIA/WSJ.



Source: Haver Analytics/University of Michigan.

Recent Developments

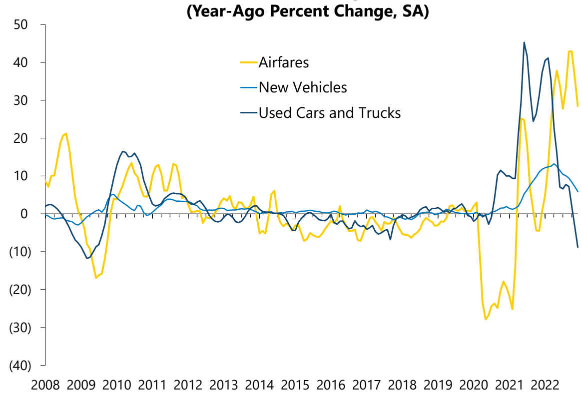
As of December 2022, headline CPI increased 6.5 percent from a year ago, down from its peak growth of 9.1 percent in June 2022, but still significantly above its pre-pandemic trend of about 2.0 percent. The energy component of the CPI rose 7.3 percent, markedly down from its June 2022 peak of 41.6 percent. The food index rose 10.4 percent, down from an August 2022 peak of 11.4 percent. Core CPI, which excludes food and energy prices, increased 5.7 percent in December, below a cyclical high of 6.6 percent posted in September 2022.

Among the components of the core CPI basket, prices of used and new motor vehicles pulled back significantly thanks to easing supply shortages of microchips and lower shipping costs for imported vehicles and parts. Indeed, supply-chain commodities, as defined by Moody's Analytics[15], are becoming a disinflationary force. However, rents have continued to rise. Two shelter-related components of the CPI, rent of primary residence and owners' equivalent rent, have soared to 40-year highs. These two components alone represent a combined share of about 40 percent of the core CPI basket. Airline fares picked up speed in 2022 and were up 42.9 percent from a year ago as of October, before pulling back to a 28.5 percent increase as of December. Hotel rate inflation slowed from 29.0 percent on a year-ago basis in March to just 3.2 percent as of December. Both airline fares and hotel rates now exceed their pre-pandemic peak levels.

Correspondingly, growth in the core personal consumption expenditures (PCE) price index, which is closely monitored by the Federal Reserve, peaked at 5.4 percent in February 2022 on a year-ago basis. Growth in this key index has exceeded the central bank's 2.0 percent target since March 2021, though growth has drifted down to 4.7 percent as of November 2022. Global supply chain pressures, as measured by the Federal Reserve Bank of New York using transportation data and manufacturing indicators, have fallen back in line with historical levels. Therefore, how much further we can expect inflation to ease in the short run depends on how much the labor market weakens in response to the Federal Reserve's monetary tightening policies.

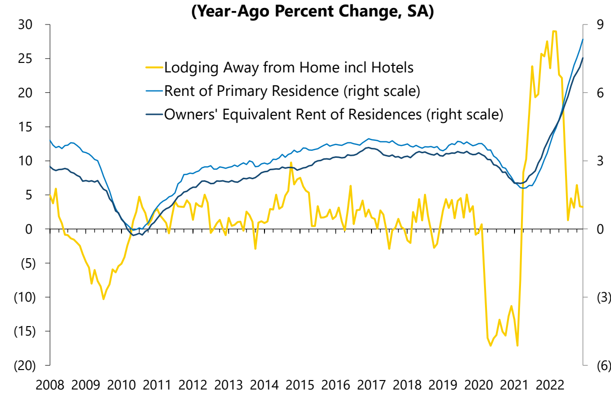
[15] Supply-chain commodities are defined by Moody's Analytics as those whose production depends on highly globalized supply chains, including New and Used Motor Vehicles, Motor Vehicle Parts and Equipment, Motor Vehicle Maintenance and Repair, Video and Audio Equipment, Sporting Goods, and Furniture and Bedding.

CPI Inflation: Transportation
(Year-Ago Percent Change, SA)



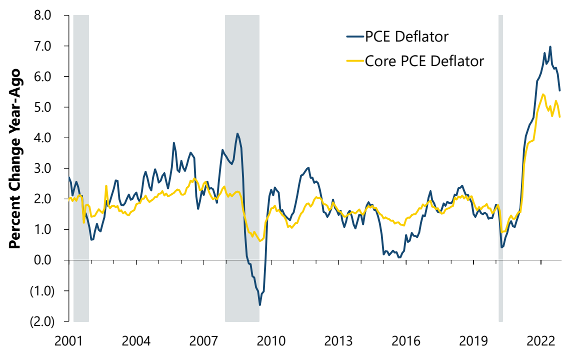
Source: Haver Analytics/BLS.

CPI Inflation: Shelter
(Year-Ago Percent Change, SA)



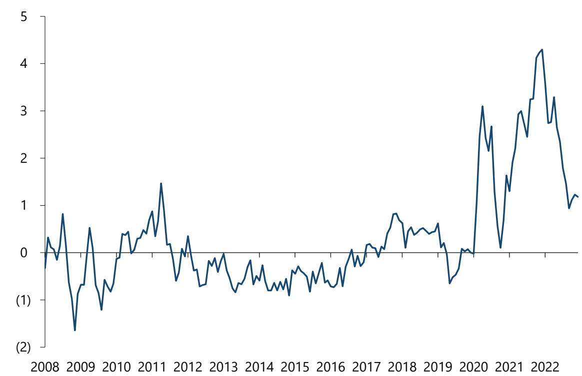
Source: Haver Analytics/BLS.

Personal Consumption Expenditure (PCE) Deflator



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA.

Global Supply Chain Pressure Index (GSCPI)



Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index, https://www.newyorkfed.org/research/policy/gscpi#/overview.

Outlook

Further declines in core inflation from its current elevated rate are expected due primarily to three factors. First, growth in several key price components is expected to either recede or partially reverse. In particular, easing supply-chain pressures, as evidenced by declining transportation costs and rising retail inventories, have started to unwind apparel, motor vehicles, and other goods inflation. Second, rising interest rates resulting from the Federal Reserve's monetary tightening have strengthened the dollar, putting downward pressure directly on the cost of imports and indirectly on the prices of domestic goods. In fact, the import prices have declined for five consecutive months starting in July 2022. Higher interest rates also reduce consumer demand for goods and services, discouraging hiring and thus pushing up the unemployment rate. Third, services inflation is expected to soften as the post-pandemic shift in spending back toward services unwinds. A cooler housing market in response to elevated borrowing costs is also expected to dampen services inflation.

A reversal of the recent spike in energy costs and a deceleration in food price inflation are expected to push headline inflation below core inflation when commodity markets adjust to disruptions caused by slowing national and global growth. On balance, with medium-term inflation expectations still well anchored and the Federal Reserve resolute in its fight against inflation, DOB expects a return to a low inflation environment over the next few years. Headline CPI inflation is projected to ease significantly to 3.9 percent in 2023 on an annual average basis, following a surge of 8.0 percent in 2022. Inflation is expected to normalize further to 2.5 percent in 2025, modestly above the pre-pandemic trend and consistent with the Federal Reserve's long-run 2.0 percent objective, which should be viewed as an average, not a ceiling.

Risks

The risk that the Great Inflation of the 1970s and 1980s might repeat itself is low. However, there are several sources of inflationary pressure that are deemed unlikely to be permanent but could persist longer than expected. For example, prolonged global supply bottlenecks and labor shortages could prevent production input and freight costs from declining further. Firms would likely continue passing any increases in these costs along to consumers. Furthermore, rents might be stickier than expected and lag the decline in home prices by a longer period than expected, keeping services inflation elevated. In addition, adverse developments in the war in Ukraine could put upward pressure on energy and food prices, which could also be subject to idiosyncratic shocks such as disease and drought, pushing headline inflation higher than projected.

If consumer price inflation does not slow markedly in response to the ongoing rate hikes, the Federal Reserve could implement a more aggressive monetary tightening policy, which could further weigh on employment, resulting in larger and more sustained job losses. And if stagflationary shocks become more frequent or more pronounced, inflation expectations could become unanchored, leading to a more sustained tightening and, ultimately, a more severe recession.

Federal Reserve

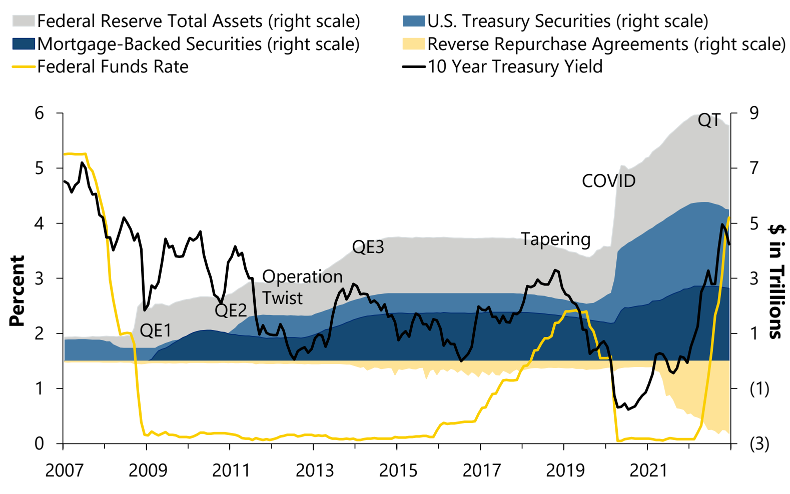
Key Points

- The Federal Open Market Committee (FOMC) raised its target range for the federal funds rate from 0 – 0.25 percent to 4.25 – 4.50 percent over the course of seven meetings in 2022, the fastest pace on record. DOB expects the federal funds rate to peak within the 4.75 – 5.00 percent range in early 2023. Once inflation gets sufficiently close to the central bank's 2 percent objective, and a rising unemployment rate begins to take the heat out of wage growth, the Federal Reserve is expected to start cutting rates. DOB projects these conditions will be met in 2024.

- Reducing the size of its balance sheet is yet another tool that the central bank is using to tighten financial conditions and increase long-term interest rates in its fight against inflation. As of December 2022, the Federal Reserve's asset holdings, including Treasury securities and agency mortgage-backed securities, had shrunk by $388 billion from April 2022. Holdings are expected to decline further as the Federal Reserve continues its quantitative tightening (QT). Recent increases in Treasury yields and mortgage rates can be partially attributed to sales of these assets from the Federal Reserve.

- On the liabilities side, reverse repurchase agreements (RRPs) have ballooned from less than $250 billion in early 2021 to over $2.5 trillion as of December 2022. The Federal Reserve uses RRPs to drain reserves from the banking system resulting in tighter monetary conditions.

Monetary Policy, Federal Reserve Balance and Interest Rates



Source: Haver Analytics/Federal Reserve Board/U.S. Treasury.

Recent Developments

At the beginning of 2022 when the FOMC's preferred inflation measure, the price index for personal consumption expenditures excluding food and energy ("core PCE"), rose above 5 percent from 2 percent only a year ago, financial market participants were questioning whether the Federal Reserve had gotten behind the curve on inflation. At its March meeting, the FOMC finally initiated the current monetary tightening cycle. Since then, the target range for the federal funds rate has been raised at every FOMC meeting to-date. Rate hikes started from 25 basis points, accelerated to 75 basis points, and then shifted down to 50 basis points at the December meeting. This 425 basis-point increase over the course of seven meetings is the fastest rate hike cycle in FOMC history.

In addition to changing its short-term interest rate target, adjusting the size of its balance sheet is yet another tool that the central bank has used since the Great Recession to achieve its policy goals. To that end, the Federal Reserve's pandemic-era asset purchase program ("quantitative easing" or QE) was terminated in early 2022, with the central bank's balance sheet peaking at an unprecedented $8.9 trillion in April. In May, the Federal Reserve announced its "Plans for Reducing the Size of the Federal Reserve's Balance Sheet," in which it outlined the transition from QE to QT (quantitative tightening) and undertook immediate steps to reduce its holdings of Treasury securities, agency debt, and agency mortgage-backed securities. The plan stipulated that starting on June 1, principal payments from securities were to be reinvested only if they exceeded a set of monthly caps that would be allowed to grow after the first three months. For Treasury securities, the cap was initially set at $30 billion per month and, after three months, increased to $60 billion per month. For agency debt and agency mortgage-backed securities, the cap was initially set at $17.5 billion per month and, after three months, increased to $35 billion per month. As of December 2022, the Federal Reserve's total asset holdings had declined to $8.6 trillion from its April peak of $8.9 trillion.

In addition to a downshift to a smaller rate hike in FOMC's December 2022 meeting, the post-meeting statement repeated the language that "The Committee anticipates that ongoing increases in the target range will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time." [16] The "ongoing increase" language implies that additional rate increases are expected by policymakers for 2023.

Outlook

DOB expects that the FOMC will continue its inflation battle and follow the clues in the December "dot plot" of anticipated federal funds rate targets submitted by participating FOMC members. [17] The plot portends a single 50 basis-point increase in the federal funds rate target at the first FOMC meeting of the year as the most likely scenario for 2023, with rate cuts expected to start as early as 2024. Consistent with this projection and DOB's outlook for real output growth and inflation, the effective federal funds rate is expected to rise from 1.7 percent on an annual average basis in 2022

[16] See page 1 of the "FOMC statement," December 14, 2022, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/files/monetary20221214a1.pdf.
[17] See page 4 of the "Summary of Economic Projections," December 14, 2022, Board of Governors of the Federal Reserve System, available at https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20221214.pdf.

to 4.8 percent in 2023, dropping to 4.6 percent in 2024 before normalizing towards its long-term equilibrium level of 2.5 percent in 2026.

Risks

There are many risks to DOB's monetary policy forecast as to the pace of inflation reduction and the degree of economic resilience. If consumer price inflation does not slow markedly in response to the ongoing rate hikes, the Federal Reserve could implement a more aggressive monetary tightening policy. The current forecast is consistent with inflation expectations remaining anchored, but if evidence should emerge that this is not the case, the FOMC could choose to hike further than expected. In both cases, the U.S. economy would suffer from a deeper contraction and larger and/or more sustained job losses. In contrast, if inflation turns out to be more responsive to monetary tightening than anticipated, then the FOMC could ease earlier than expected.

Financial Markets

Key Points

- As it became clear that inflation was more broad-based and persistent than anticipated, the Federal Reserve began hiking its short-term interest rate target in March of 2022, pushing up Treasury yields. For example, the 2-year Treasury yield had gained over 275 basis points as of December 2022 on a monthly average basis, from 1.44 percent in February 2022.

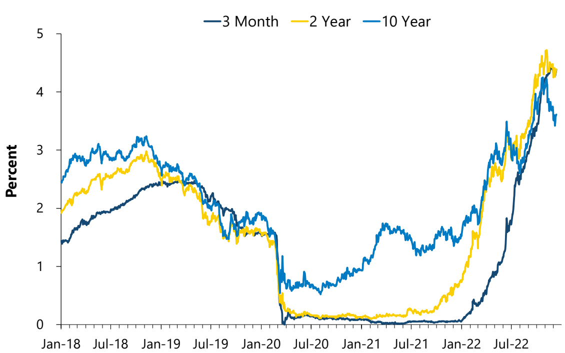
- The yield curve represents an indirect indicator of investor sentiment and is widely used as a leading indicator of the future direction of the economy. When the curve inverts and short-term rates rise above long-term rates, it indicates that investors anticipate a weakening economy. The 10-year to 2-year yield curve turned negative in July 2022, while the 10-year to 3-month curve turned negative in October 2022, possibly indicating an upcoming recession.

- Long-term interest rates more than doubled over the course of 2022, consistent with the Federal Reserve's response to accelerating inflation. However, the Federal Reserve's commitment to curbing inflation triggered a bond sell-off during the year, making 2022 the worst year in history for bond investors.

- The recent rise in long-term rates has been mitigated by recessionary fears, with the increase in the 10-year Treasury yield receding more than 50 basis points from its October 2022 peak. The 10-year Treasury yield is expected to rise moderately over the course of 2023.

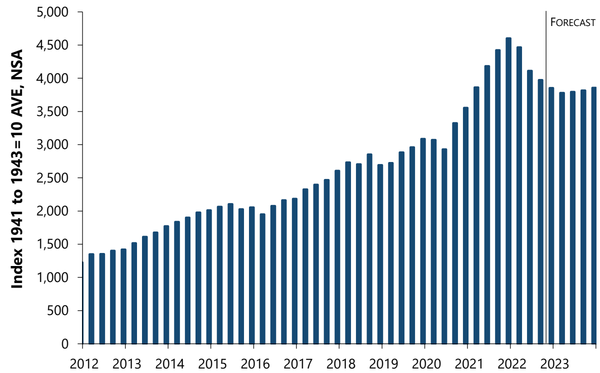
- Equity markets fell precipitously during 2022 from their highs in 2021 as persistent inflation, rising interest rates, and the Russian invasion of Ukraine increased earnings risk, particularly in the financial sector. Corporate profits started to decline in the third quarter of 2022, and the decline is expected to continue at least through the first quarter of 2023, when the Federal Reserve is expected to stop raising the federal funds rate. The S&P 500 stock price index ended the year with a monthly average of 3,913 in December 2022, down 16.3 percent from a year ago. Equity prices are expected to continue to decline in early 2023 as interest rates rise and corporate profits fall under the weight of high borrowing costs, strong wage and input price inflation, and weak consumer demand.

Treasury Yields



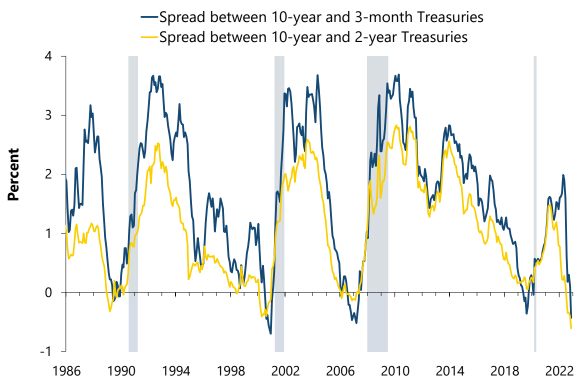
Source: Haver Analytics/FRB.

S&P 500 Stock Price Index



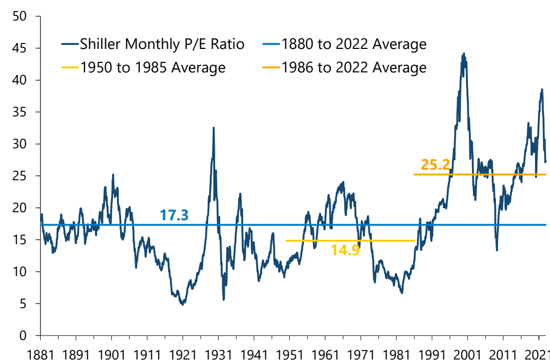
Source: Haver Analytics/S&P; DOB staff estimates.

Yield Curve Inverted



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/The Conference Board.

Shiller Cyclically Adjusted Price-to-Earnings (P/E) Ratio



Source: Robert Shiller; DOB staff estimates.

Outlook

As a result of the projected rate hike in February 2023, short-term interest rates are expected to increase in the first quarter and remain elevated for the remainder of the year. Although the 10-year Treasury yield dropped below 4.0 percent in the last two months of 2022, it is projected to rise gradually to 4.0 percent in 2023 and fall only slightly to 3.9 percent in 2024, with monetary policy remaining tight until then.

With interest rates near their highest levels since the Great Recession, the economy is projected to enter a mild recession in early 2023. Stock prices are expected to retreat further in the first quarter of 2023 but begin to recover from the current bear market in the second quarter. The S&P 500 stock price index is projected to remain relatively flat over the course of 2023, exhibiting growth of only 0.1 percent for the fourth quarter of 2023 on a year-over-year basis, following a decline of 16.3 percent for the fourth quarter of 2022. On an annual average basis, the S&P 500 stock price index is expected to fall 7.0 percent for 2023, following a 3.9 percent decline in 2022. In the longer term, stock prices are projected to grow at a moderate pace, mirroring expected growth in corporate profits as the Federal Reserve loosens monetary policy starting in mid-2024.

Risks

Following a mild downturn in 2023, a resilient labor market is expected to support consumer spending and corporate profits. However, an extended or more severe-than-anticipated recession would erode consumers' disposable income, cutting into corporate profits and depressing investor confidence. The Federal Reserve could also negatively impact the stock market's performance if it raises the federal funds target rate beyond the expected terminal range of 4.75-5.00 percent or holds the rate there for longer than the market expects. On the other hand, a quicker-than-expected end to the Federal Reserve's tightening cycle could boost the market's performance.

Personal Income and Household Wealth

Key Points

- Real disposable personal income (DPI) increased 1.0 percent at an annual rate in the third quarter of 2022 after five consecutive quarterly declines. Real DPI is estimated to have fallen 6.5 percent in 2022 as fiscal stimulus programs expired and inflation took off. Real DPI is projected to rise 1.8 percent in 2023 as inflation moderates and the large swings in transfer income wrought by Federal emergency COVID-19 spending dissipate.

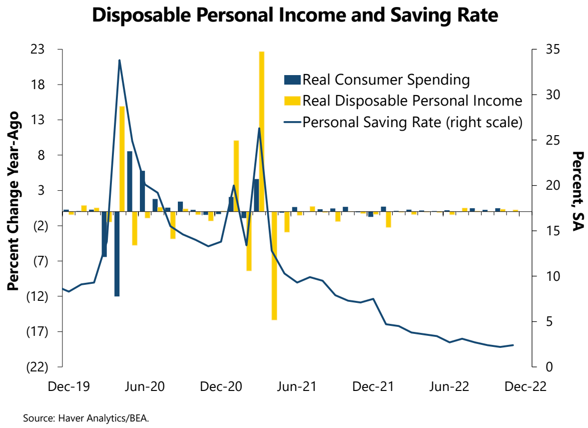
- Emergency COVID spending programs fueled an unprecedented magnitude of transfer payments in 2020 and 2021. As those programs unwound in 2022, transfer income became a drag on personal income. Meanwhile, interest income and rental income picked up rapidly in 2022, augmented by rising interest rates and soaring rents. Wage growth was also robust in 2022 due to the still tight labor market and elevated average hourly earnings.

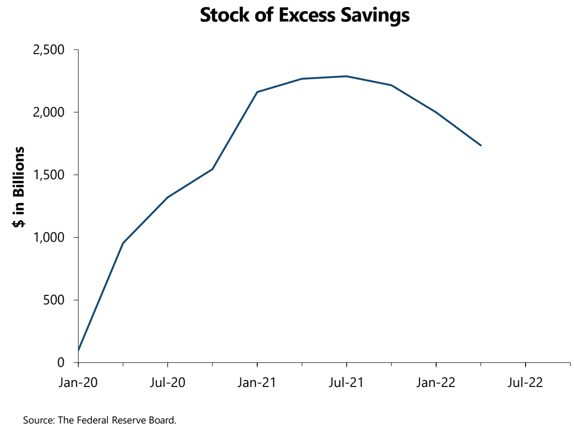
- The excess savings that households accumulated during the pandemic era – primarily due to fiscal stimulus payments and depressed consumer spending as the pandemic raged – fell from its peak of $2.3 trillion in the third quarter of 2021 to $1.7 trillion in the second quarter of 2022. However, nearly 80 percent of the excess savings have been held by households at the top half of the income distribution. [18]

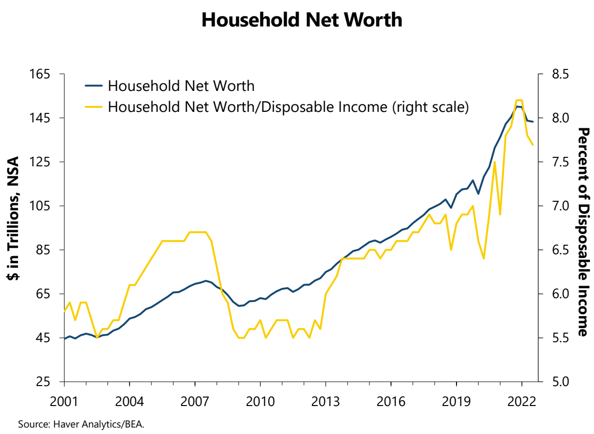
- The personal saving rate stood at 2.4 percent in November 2022 after declining to 2.2 percent in October from a peak of 33.8 percent in April 2020. The personal saving rate has fallen markedly below its pre-pandemic level of around 9 percent. Although the stock of excess savings will continue supporting consumer spending, savings will dwindle rapidly as households return to relying primarily on labor income to finance spending.

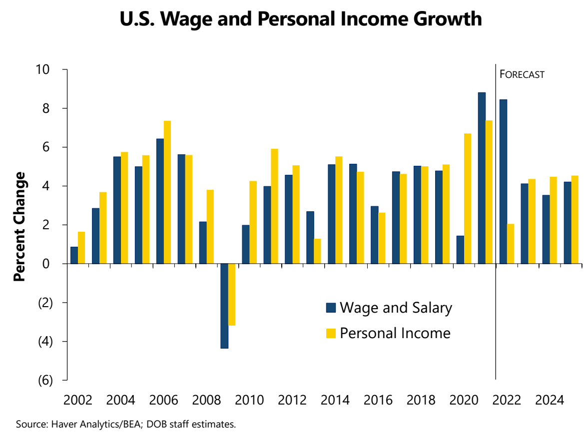
- Household balance sheets deteriorated in 2022, as the value of households' assets declined and liabilities increased. With U.S. equity prices in bear market territory, the largest component of household wealth – equity holdings – were down 11.6 percent from a year ago as of the third quarter of 2022. Although household net worth dropped during the first three quarters of 2022, it remains 22.9 percent above its pre-COVID level at the end of 2019.

[18] For more detailed information, see https://www.federalreserve.gov/econres/notes/feds-notes/excess-savings-during-the-covid-19-pandemic-accessible-20221021.htm.









Recent Developments

Growth in employee wage and salary compensation decelerated very slowly against the backdrop of a tight labor market in the second half of 2022. The nominal wage level in November 2022 was still 6.2 percent above November 2021. However, real wage growth has been undercut by the recent strength in inflation. The Consumer Price Index grew 7.1 percent over the same period.

Among non-wage personal income components, interest income growth continued to accelerate in response to rising interest rates. As of November 2022, it rose 6.6 percent from a year ago. Rental income growth also skyrocketed in the face of elevated home prices, peaking at 11.9 percent in June on a year-over-year basis before slowing to 7.2 percent as of November. However, dividend income growth decelerated during 2022, dropping to 3.2 percent in November on a year-over-year basis from 9.7 percent in January. Meanwhile, Federal pandemic relief programs, which boosted transfer income and proprietors' income in 2020 and early 2021, continued to be a drag in 2022. All fiscal supports to proprietors' income have expired since April 2022. Only a small amount of transfer payments under the pandemic relief programs continued through the end of 2022, mostly under the Advance Child Tax Credit program.

With the value of household assets dropping and household liabilities rising, household net worth has been declining since the start of 2022, though it remains significantly above its pre-pandemic level. Similarly, the ratios of household debt service and financial obligations to disposable personal income continued to rise in 2022, although they have not returned to their pre-pandemic levels as of the third quarter of the year.[19] However, since interest rates have surged to their highest levels in more than a decade, households are facing considerable debt service costs, especially on recently acquired debt.

Outlook

DOB estimates that U.S. wage income remained robust in 2022, increasing 8.4 percent after growing 8.8 percent in 2021. Payroll employment continued to strengthen in 2022, and upward pressures on average hourly earnings remained high amid labor shortages. However, both employment growth and average hourly earnings are expected to weaken in 2023. Thus, growth in wage income is projected to moderate to 4.1 percent in 2023. The outlook for non-wage income is highly impacted by interest rates, equity market performance, and home prices. With interest rates up substantially on an annual average basis in 2023, interest income is expected to grow at 9.5 percent for the year, whereas dividend and rental incomes are expected to decelerate in 2023 under a backdrop of declining equity market and home prices. On balance, personal income growth is estimated to slow from 7.4 percent in 2021 to 2.0 percent in 2022, improving modestly to 4.4 percent in 2023.

Household net worth growth is expected to be sharply lower in 2022 and 2023, after an 18.9 percent rise in 2021 when equity values and home prices were booming. Falling equity and home prices are expected to reverse the unprecedented gains in wealth during the pandemic, but the still elevated level of household net worth is expected to keep consumer spending relatively resilient during the upcoming recession.

Risks

Downside risks to the personal income outlook tie mainly to the strength of the labor market. If labor demand – especially in high-wage sectors such as high-tech firms – were to drop faster than expected in the face of an overall economic downturn, wage income would become much weaker. In addition, deeper corrections to equity and housing prices could potentially depress non-wage income and household wealth more than projected.

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[19] The household debt-service ratio is an estimate of the ratio of debt-service payments to disposable personal income. Debt payments consist of the estimated required payments on outstanding mortgage and consumer debt. The financial obligations ratio is an estimate of the ratio of financial obligations payments to disposable personal income. It is a broader measure than the debt-service ratio. It includes automobile lease payments, rental payments on tenant-occupied property, homeowners' insurance, and property tax payments.

Consumer Markets

Key Points

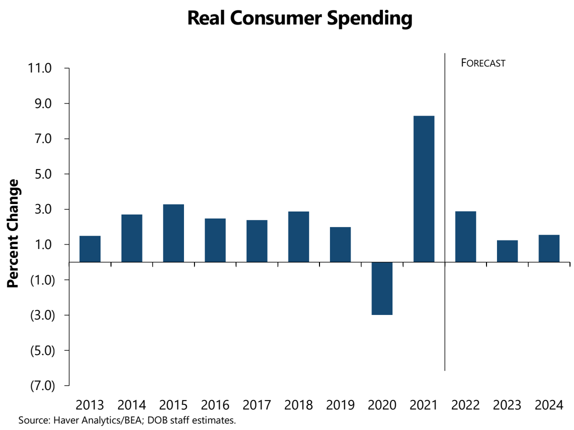
- Consumer spending growth weakened in 2022 in the face of surging prices, declines in equity values and house prices, and a withdrawal of fiscal stimulus. Real consumption growth averaged 1.9 percent annualized during the first three quarters of 2022, compared to double-digit growth in the first half of 2021 and 3.0 percent growth in the second half of 2021.

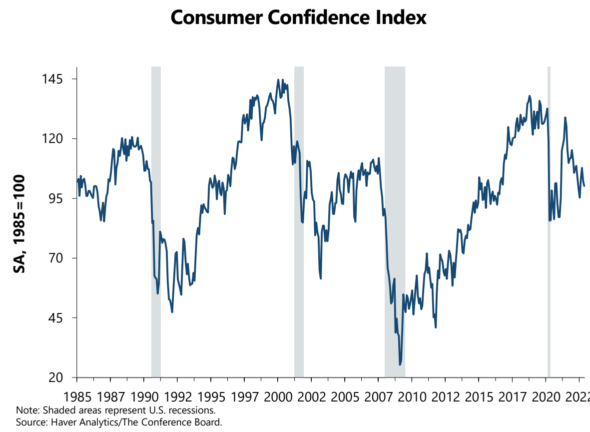
- Household balance sheets remained strong in 2022. The remainder of the excess savings accumulated during the first two years of the pandemic supported the increase in consumer spending in 2022. However, the personal savings rate fell from a pandemic-related peak of 33.8 percent in April 2020 to 2.2 percent in October 2022 and 2.4 percent in November 2022. Although the savings rate is currently at historic lows, households' remaining excess savings are expected to keep consumption in positive territory for most of 2023, with only a modest 0.5 percent dip projected for the second quarter.

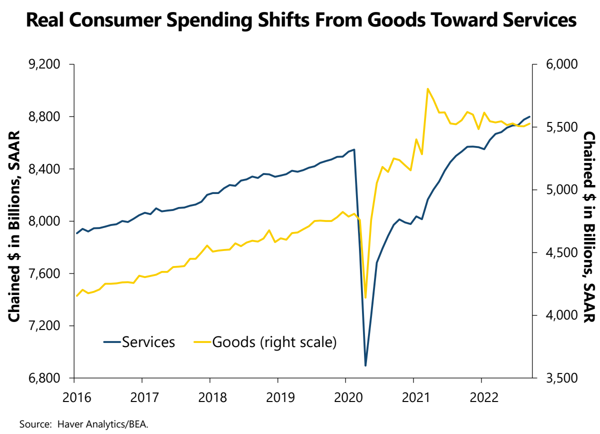
- With the COVID pandemic slowly transitioning to an endemic phase, real consumer spending on services has continued to gain momentum. Accommodation and food services, transportation, recreation, and other services spending all saw an uptick in 2022.

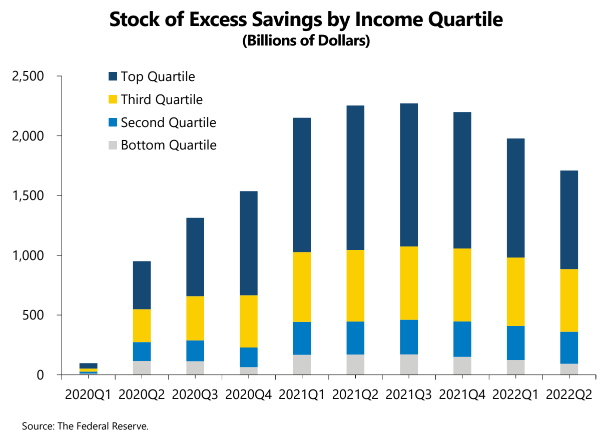
- Last year's surge in inflation, particularly in gasoline prices, put a dent in consumer confidence in 2022. The Conference Board's Consumer Confidence Index exhibited a declining trend during the first half of 2022. After reaching its lowest level for the year in July, a month after gasoline prices peaked, the index increased for two consecutive months, supported by strong job and wage growth, as well as declining gasoline prices. The confidence index ebbed again in October and November, followed by an increase in December of 2022, in line with the fluctuations in gasoline prices.

- Real consumption is estimated to have increased 2.9 percent in 2022, with real disposable income falling an estimated 6.5 percent, after record growth of 8.3 percent in 2021. With a recession looming on the horizon, real consumption growth is projected to slow to 1.2 percent in 2023 and 1.6 percent in 2024.









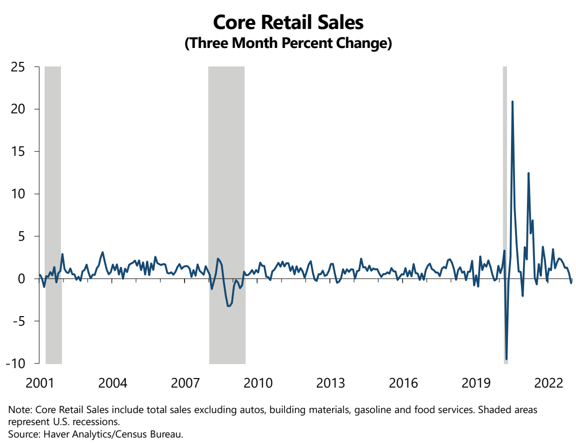
Recent Developments

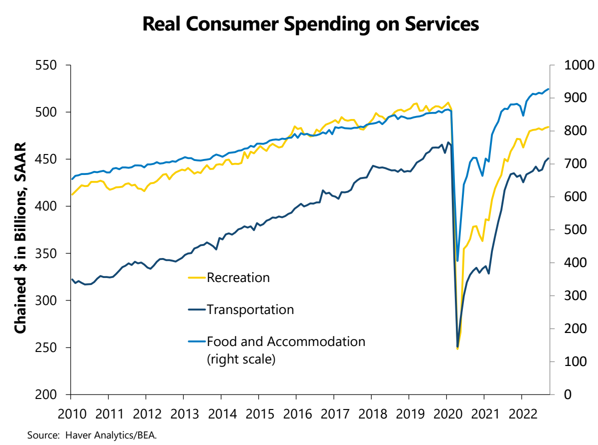
Real consumer spending proved to be resilient in 2022 despite surging inflation and lapsing fiscal stimulus, with the latter leading to two quarters of declines in real disposable income during the first half of the year. Real personal consumption expenditures grew 2.3 percent at an annualized rate in the third quarter of 2022, following growth of 1.2 percent and 2.0 percent in the first and second quarters, respectively.

The surge in durable goods spending witnessed in both 2020 and 2021 paused in 2022, with COVID-19 restrictions largely in the rearview mirror. Spending on durable goods as a share of total nominal consumption decreased from 13.8 percent in March 2021 to 12.3 percent as of November 2022. Motor vehicles and parts stood out as an exception to slowing durable goods spending. Total light vehicle sales, which had been constrained by supply-chain issues, especially in 2021, reached an annualized 15.1 million in October, after dipping to 12.6 million in May. However, light vehicle sales fell to 14.1 million in November, partly due to rising interest rates. Nevertheless, the ongoing easing of supply chain pressures is likely to support the resolution of pent-up demand for vehicle sales, keeping them above 14 million units, which is still significantly below the pre-COVID annual average level over the last decade of 15.7 million.

Total nominal retail and food services sales peaked in October 2022, rising by 1.1 percent from the previous month and 8.0 percent from October 2021. Total sales fell 1.0 percent in November 2022 and 1.1 in December as a result of declines in sales of vehicles and other big-ticket items impacted by falling home sales and higher interest rates. Core retail sales, which excludes sales of autos, gasoline, building materials and restaurants, fell 0.2 percent in November 2022 and 0.7 percent in December, after increasing during the first ten months of the year.

The split in consumer spending between goods and services continued to normalize in 2022. Consumer spending on services reached 66.3 percent of total spending in November, the highest spending share since December 2020. That share averaged 68.9 percent for all of 2019 but fell to a low of 64.2 percent in March 2021 as the Omicron variant raged. Spending on services continued to increase as consumers returned to the in-person activities that they avoided at the onset of the pandemic. Real spending on services caught up with its pre-pandemic level in the third quarter of 2021 and continued to increase in 2022, though its share of total spending remains depressed. Within services, increases were widespread among the various subcategories, with the largest increase over the first 11 months of 2022 coming from food services and accommodation, recreational services, other services, and transportation services, with the latter particularly supported by international travel. Real spending on food services and accommodation exceeded its pre-pandemic level in the third quarter of 2021, however, real spending on transportation and recreational services has yet to catch up.





A combination of robust consumer demand and higher prices resulted in substantial increases in credit card usage and mortgage balances. According to the Household Debt and Credit Report released by the Federal Reserve Bank of New York, U.S. household credit card debt increased 15.0 percent during the third quarter of 2022 on a year-over-year basis, the fastest pace in 15 years.[20]

[20] "Quarterly Report on Household Debt and Credit," Center for Microeconomic Data, Federal Reserve Bank of New York, November 2022, https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/hhdc_2022q3.pdf.

On the other hand, households still had an estimated $1.7 trillion in excess savings built up during the pandemic by mid-2022.[21] The Federal Reserve's Flow of Funds data show that household checkable deposits and currency accounts grew threefold between the last quarter of 2019 and the third quarter of 2022.

Although much of the savings stockpiled over the various installments of fiscal stimulus are now dwindling for low-income households, those who are in the top income quartile still hold significant excess savings. Evidence suggests that the primary driver of the excess savings for households in the top quartile has been their foregone consumption, whereas the excess savings for the bottom half of the income distribution was driven by fiscal support early in the pandemic — in particular, IRS economic impact payments, popularly known as fiscal stimulus checks, and extended unemployment insurance benefits. This is consistent with recent research that found that the marginal propensity to consume out of the stimulus checks was higher for low income households.[22] The still relatively healthy level of excess savings, albeit running off at a significant clip, is likely to support U.S. consumers as they continue to navigate rising prices and the likely economic downturn to come.

Outlook

The recent surge in borrowing costs is projected to result in a slowdown in interest rate-sensitive spending in 2023. In addition, employment is expected to weaken and eventually decline starting in the second quarter of 2023. As a result, DOB projects a decline of 1.2 percent for real durable goods consumption in 2023, following 0.2 percent decline for all of 2022. Real nondurable consumption fell during the first three quarters of 2022 as a result of high food and energy prices.

Consumer spending on services is expected to weaken in 2023, with pandemic-related pent-up demand estimated to have fully dissipated by the end of 2022. After an estimated 9.8 percent increase in 2022, boosted by high inflation, growth in the nominal consumption of services is forecast to slow to 6.8 percent in 2023 and 5.5 percent in 2024.

Falling equity and house prices are expected to drive household net worth lower in 2023. DOB projects real consumer spending to decrease by 0.5 percent in the second quarter of 2023, following 0.5 percent growth in the first. Real consumption growth is projected to remain weak at 1.2 percent in 2023 and 1.6 percent in 2024.

Risks

Elevated energy and food prices, rising unemployment, and limited inventories of consumer goods pose downside risks to the consumption forecast. Additionally, higher than anticipated interest rates could depress vehicle sales and big-ticket items, while declining house and equity prices may

[21] Aldana, Aditya, David Cho, Laura Feiveson, and Eugenio Pinto. "Excess Savings during the COVID-19 Pandemic," FEDS Notes. Washington: Board of Governors of the Federal Reserve System, October 21, 2022, https://doi.org/10.17016/2380-7172.3223.

[22] Anna Sokolova, "Marginal Propensity to Consume in Recessions: a Meta Analysis," Washington Center for Equitable Growth Working Paper Series, September 2022, https://equitablegrowth.org/working-papers/marginal-propensity-to-consume-in-recessions-a-meta-analysis/.

reduce household net wealth, possibly inducing consumers who feel poorer to spend less. Sources of upside potential include higher labor force participation resulting in higher employment and wages than projected, leading to stronger consumption. Lower than anticipated inflation could also boost real incomes, leading to higher than expected real household spending.

Business Fixed Investment

Key Points

- Business fixed investment, due to the longer term nature of underlying business decisions, is historically one of the most rate-sensitive and cyclical components of GDP, but it has held up better in this monetary tightening cycle than it has in the past. As supply chain pressures eased, real nonresidential fixed investment posted strong growth in the first and third quarters of 2022, while second quarter growth was muted.

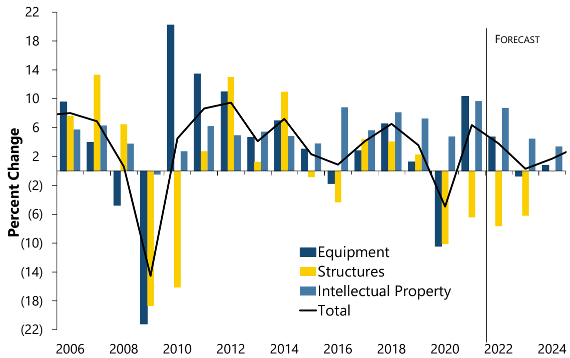
- The growing reliance on investment in intellectual property products (IPP) has also reduced some of the volatility in overall business investment. Real IPP investment continued its strong growth in 2022, boosted by businesses' growing demand for software products. Following 9.7 percent growth for all of 2021, real IPP investment is estimated to have grown 8.7 percent in 2022. But even IPP investment will not be immune to the coming downturn. Real IPP investment growth is projected to slow to 4.5 percent in 2023 and 3.4 percent in 2024.

- Real equipment investment rose 4.7 percent in 2022, benefiting from the clearing of supply chain bottlenecks. However, elevated borrowing costs, tighter bank lending standards, and deteriorating business confidence are expected to drag real equipment investment growth into negative territory in 2023, with a projected decline of 0.7 percent, followed by muted growth of 0.8 percent for 2024.

- Real nonresidential structures investment contracted in the first three quarters of 2022, resulting in an estimated decline of 7.6 percent for the year as a whole; 2022 was the third consecutive year of decline for structures investment. Last year's weakening demand for office space was largely due to the post-pandemic shift to remote or hybrid work, higher interest rates, and increasing labor costs. With these trends expected to continue, DOB projects real nonresidential structures investment to decline further in 2023 by 6.2 percent, followed by a slow decline of 0.1 percent in 2024.

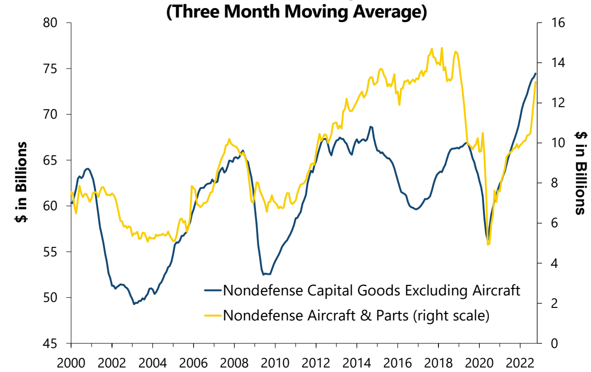
- On balance, total real nonresidential fixed investment is estimated to have increased 3.8 percent in 2022, down from 6.4 percent growth in 2021. A modest growth of 0.3 percent is projected for 2023, followed by growth of 1.7 percent for 2024.

Real Nonresidential Fixed Investment



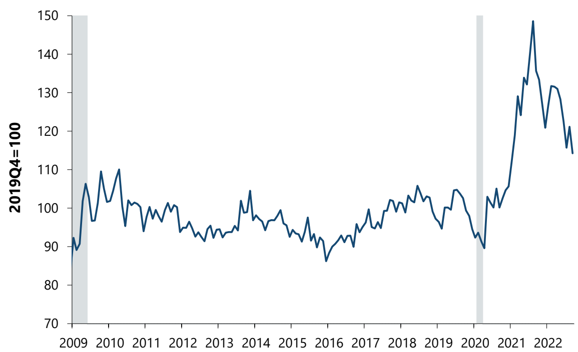
Source: Haver Analytics/BEA; DOB staff estimates.

Manufacturers' Shipments (Three Month Moving Average)



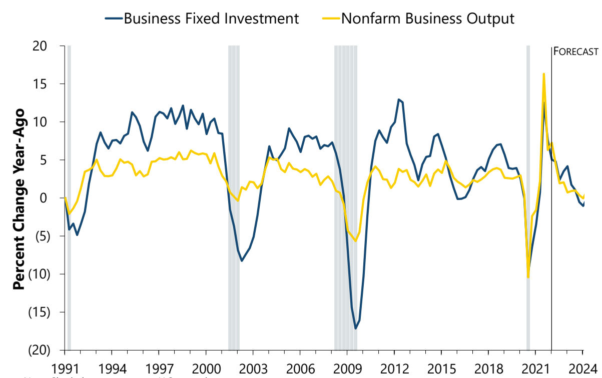
Source: Haver Analytics/Census Bureau.

Supply-Chain Stress Index



Note: Shaded areas represent U.S. recessions.
Source: Moody's Analytics.

Real Business Fixed Investment vs. Nonfarm Business Output



Note: Shaded areas represent U.S. recessions.
Source: Haver Analytics/BEA; DOB staff estimates.

Recent Developments

Historically strong corporate profits growth in the prior year supported business fixed investment in 2022, led by growth in business equipment and IPP. Aggregate profit margins, measured by after-tax profits per unit of real gross value added for nonfinancial corporations, rose to $0.17 in the third quarter of 2022, compared to only $0.12 before the pandemic. The high profit margins observed in 2022 likely reflect the ease with which firms were able to pass high labor and other input costs onto consumers, which in turn increases firms' willingness to invest. However, with consumer demand expected to weaken in 2023, firms will have more difficulty raising prices, despite facing upward wage pressures, rising interest rates, and equity price volatility. As a result, both profit margins and investment growth are expected to diminish going forward.

The coming slowdown in business fixed investment is being presaged by a reliable leading indicator of equipment investment, manufacturers' new orders for nondefense capital goods excluding aircraft. Both new orders and shipments had begun to weaken prior to the pandemic, plummeted in 2020, but began to recover in 2021, with shipments lagging even further than usual due to supply chain pressures that delayed the filling of orders. Based on the U.S. Supply-Chain Stress Index (SCSI) constructed by Moody's Analytics to gauge the logistical strains that impact the economy, supply-chain pressures peaked in the third quarter of 2021.[23] By the first quarter of 2022, year-ago growth in shipments began to exceed that of orders, implying that a slowdown in shipments, and therefore investment could be expected to follow down the road. Indeed, year-ago growth in manufacturers' new orders for nondefense capital goods excluding aircraft deteriorated every month in 2022 from March through November.

The 2022 growth in the equipment component of business fixed investment has been largely driven by transportation and information processing equipment. After dipping in the first quarter of 2022, transportation equipment investment rebounded strongly in the second and third quarters of 2022, as supply-chain problems eased. Although real investment in transportation and related equipment grew 90.3 percent at an annualized rate in the third quarter, it remained 7.1 percent below its pre-pandemic level. The recovery in orders and deliveries of civilian aircraft at Boeing was robust in 2022, supported by the removal of most COVID-related travel restrictions. Despite supply chain volatility and events currently unfolding in Ukraine, Boeing was able to deliver 411 commercial jets by November 2022, compared to 340 deliveries last year. Business investment in transportation equipment was also supported by vehicle sales to the business sector as chip shortages eased. Although vehicle sales to all sectors were down 7.9 percent in 2022 on an annual average basis, they were up 9.6 percent in the fourth quarter alone from a year ago.

Strong and consistent growth in IPP investment continued throughout 2022. Within IPP, investment in software, research and development (R&D), and entertainment, literary, and artistic originals all saw an uptick in 2022 although the R&D component had a small decline in the third quarter. Real IPP investment growth has been mainly supported by consistent growth in business demand for software products and the relatively short life cycle for these products compared to physical capital, as well as the quality adjustment made by BEA.

Nonresidential investment in structures has fallen in ten out of the past twelve quarters starting in the last quarter of 2019. The main contributor to these declines was weakness in commercial and healthcare structures, as demand for office and retail space diminished. Overall construction activity began to slow in early 2022, amid widespread industry concerns about high inflation in construction materials and labor supply prices. However, there has been an increase in construction starts pertaining to infrastructure projects; through the first 11 months of 2022, highway and bridge starts were 25 percent higher than in 2021.[24] This increase is due in part to an increase in public spending under the Infrastructure Investment and Jobs Act (IIJA) that was enacted in November 2021.[25] The headwinds facing commercial structures were partially offset by tailwinds spurring manufacturing structures, supported by the domestic semiconductor industry and a ramp-up of electric vehicle production capacity. In addition, mining structures construction was supported by elevated energy prices.

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[23] The SCSI is comprised of various metrics for production, inventory, and transportation. It is indexed such that 100 is the average pre-pandemic stress level in U.S. supply chains. Thus, a value above 100 suggests a level of strain that is above the historical norm. The index ebbed to 114 in October of 2022, the lowest level in 20 months, indicating a substantial improvement from its September 2021 peak of 148.6.
[24] "Total Construction Starts Fall in November," *Dodge Construction Network*, December 19, 2022, https://www.construction.com/news/November-Starts
[25] See the "Fiscal Policy" section for more detail.

Business confidence consistently deteriorated over the course of 2022, largely due to higher borrowing costs and tightening lending conditions. The Conference Board's CEO confidence index plunged into negative territory in the second quarter of 2022, edging down to 32 in the fourth quarter of 2022, its lowest level since the Great Recession. As a reading of less than 50 reflects more negative than positive responses, rising expectations of a recession and tight labor market conditions – two phenomena that are typically crosscurrents – appear to be restraining CEOs' confidence.

Outlook

Real nonresidential fixed investment growth is estimated to have slowed from 6.4 percent in 2021 to 3.8 percent in 2022 on an annual average basis. Under the weight of rising borrowing costs and weakening consumer demand, real nonresidential fixed investment growth is projected to slow down to 0.3 percent in 2023, before recovering 1.7 percent in 2024.

Growth in real investment in equipment is estimated to have decelerated to 4.7 percent in 2022 from 10.3 percent in 2021. Equipment investment is projected to fall 0.7 percent in 2023, recovering 0.8 percent in 2024. Real investment in structures is estimated to have fallen 7.6 percent in 2022, and is projected to fall another 6.2 percent in 2023, followed by a modest decline of 0.1 percent for 2024. Real IPP investment has remained strong, growing an estimated 8.7 percent in 2022, though growth is expected to weaken along with the remainder of business investment. Growth in IPP investment is expected to decelerate to 4.5 percent in 2023 and 3.4 percent in 2024.

Risks

Weaker consumer spending, significantly higher borrowing costs, and tighter bank lending conditions than expected could lead to lower growth in real business fixed investment than is reflected in this forecast. Supply chain uncertainty related to Russia's invasion of Ukraine and geopolitical uncertainty surrounding China still loom large over businesses and could affect investment decisions even more adversely than anticipated. Capital market volatility could also depress business confidence and dampen investment plans. Alternatively, if supply-chain disruptions improve more quickly than expected, relieving upstream inflationary pressures, or if the growth in labor costs diminishes sooner than expected, business fixed investment could be more robust than projected.

Housing Market

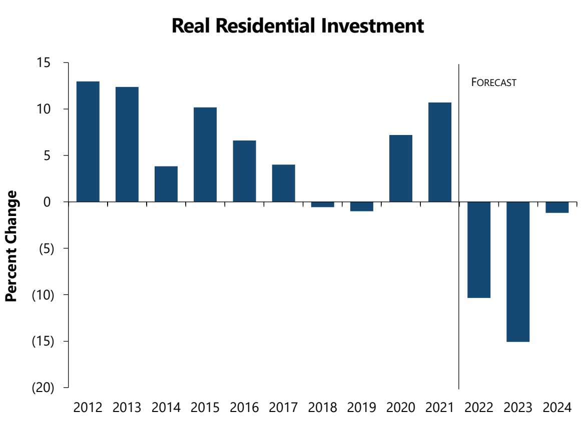
Key Points

- Real residential fixed investment dropped 27.1 percent at an annual rate in the third quarter of 2022 after falling 17.8 percent in the second quarter, marking the sixth consecutive quarterly decline. As of the third quarter of 2022, real residential investment was 2.6 percent below its pre-pandemic peak reached in the first quarter of 2020.

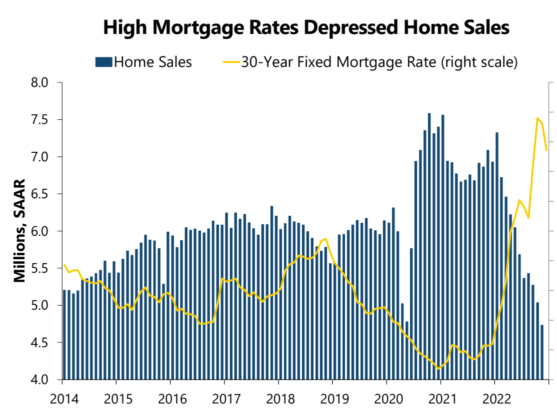
- Monetary tightening — aimed at curbing the highest inflation rates in four decades — and increased borrowing costs, suppressed housing affordability, and dampened homebuyers' demand in the second half of 2022.

- The sharp climb in mortgage rates in 2022 caused builders to take pause in anticipation of a cooldown in the housing market. As of November 2022, housing starts stood at 9.2 percent below their pre-pandemic level in February 2020.

- After reaching the most recent peak growth of 10.7 percent in 2021, real residential investment is estimated to have dropped 10.3 percent in 2022, followed by a steeper estimated decline of 15.1 percent in 2023. The peak-to-trough contraction is expected to be 26.5 percent, far smaller than the nearly 59.9 percent plunge after the housing bubble burst in 2008.



Source: Haver Analytics/BEA; DOB staff estimates.



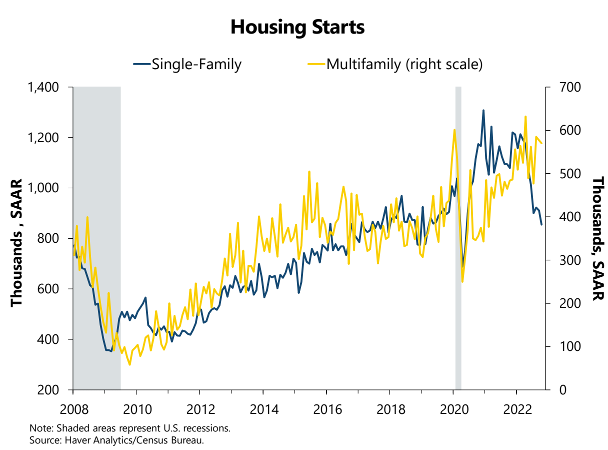
Note: *Home sales include both new and existing home sales.
Source: Moody's Analytics/Census Bureau/NAR/Freddie Mac.

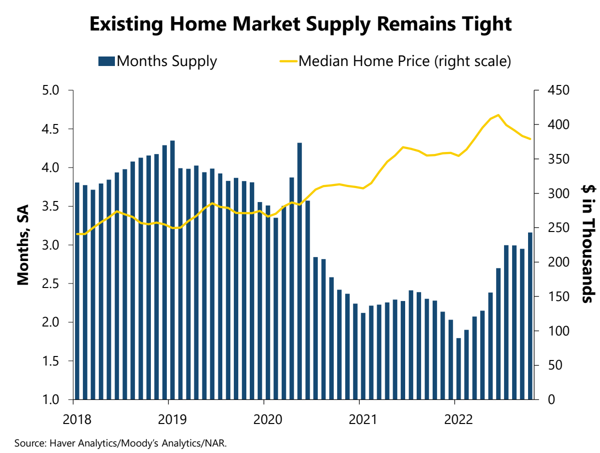
Recent Developments

The residential housing market began to buckle under the constraints of higher borrowing costs, lower inventories, and contracting household budgets due to widespread inflation. As of November 2022, new and existing home sales reached 4.7 million units (annualized) in total, a level that is 33.2 percent lower than a year ago and 25.0 percent below its pre-recession peak in February 2020. After seven consecutive rate hikes by the Federal Reserve throughout the year, the average monthly interest rate for 30-year fixed mortgages surged to 6.90 percent in October 2022. Since then, the mortgage rate declined slightly, averaging 6.36 percent in December. However, this rate is still more than double the 3.10 percent average from a year ago, causing potential homebuyers to postpone their search amid the tightening climate.

While new residential construction showed resiliency throughout the first half of the year, the sharp climb in mortgage rates caused builders to take pause in anticipation of a cooldown in the market. Total housing starts reached 1.805 million (annualized) in April 2022, the highest level since the Great Recession of 2008. However, home-building activity quickly retreated afterward and, as of November 2022, stood 9.2 percent below its pre-pandemic level in February 2020. Single-family starts dropped to an annualized 828,000 units in November 2022, the lowest level since May 2020 and 32.1 percent below its recent high in November 2021. Conversely, multifamily starts showed strength in November 2022, increasing 23.3 percent compared to a year ago and reaching 12.4 percent above its pre-pandemic level in February 2020. Rising mortgage rates favor the multifamily market as deteriorating affordability tends to keep potential buyers within the rental market.

Housing inventories began to grow in 2022, albeit from historically low levels. At the current sales pace, existing home inventories equate to a 3.3-month supply as of November 2022, the highest rate in over two years but still well below the six-month threshold generally associated with moderate price appreciation. During the first 11 months of 2022, the months' supply measure for existing homes averaged 2.6 months, 13.7 percent higher than the same period a year ago. As inventory grew, the median sales price for existing homes started to decline from its peak level of $413,800 in June 2022 to $370,700 in November 2022, down 10.4 percent over five months but still up 3.5 percent from its year-ago level.





Outlook

Mortgage rates are expected to remain at high levels throughout 2023, further cooling the housing market. After peaking at 10.7 percent in 2021, real residential investment growth is estimated to have decreased 10.3 percent in 2022, followed by a steeper decline of 15.1 percent in 2023. Housing market activities are expected to recover gradually in 2024 as financial conditions loosen.

Risks

If inflation becomes entrenched, alongside a tight labor market, construction costs could continue to rise above forecast, pushing up home prices and further weakening residential investment and real estate inventory. In addition, sustainably higher mortgage rates could continue to impact affordability and damper buyers' demand, causing future home sales activity to contract more than anticipated in this forecast. On the other hand, as sales slow down, the rush-to-build sentiment experienced in the past two years could lead to an oversupply in unsold homes, placing downward pressure on home prices and alleviating some hurdles for potential buyers to enter the market.

Fiscal Policy

Key Points

- As the pandemic-era stimulus programs lapsed, the Federal deficit experienced a sharp decline in Federal fiscal year (FFY) 2022,[26] on par with its pre-pandemic level in 2019.

- The Infrastructure Investment and Jobs Act (IIJA) that was enacted in November 2021 started to boost investment in 2022. The IIJA authorized $550 billion in new spending, spread over five years, that is projected to boost real GDP growth by 0.2 percentage point in 2024 and provide a temporary boost to employment.[27]

- Following Russia's invasion of Ukraine in February 2022 and the subsequent imposition of sanctions by the West, the United States announced a 180 million-barrel drawdown from the Strategic Petroleum Reserve (SPR) in response to surging oil prices. Releases from the SPR have no direct net effect on U.S. real GDP, but they succeeded in slightly lowering oil prices.

- Additional Federal legislation includes the Inflation Reduction Act (IRA) of 2022, which raises $738 billion in revenues, provides for $238 billion in deficit reduction, and authorizes $391 billion in energy and climate change spending.

- The Creating Helpful Incentives to Produce Semiconductors and Science (CHIPS) Act of 2022 authorizes $280 billion in investment over ten years to bolster U.S. semiconductor production capacity while creating regional high-tech hubs. This act is expected to impact U.S. GDP growth only marginally on an annual basis.

- At the end of 2022, the Consolidated Appropriations Act of 2023 was also signed into law, authorizing $1.7 trillion in discretionary resources to fund the U.S. Federal government for FFY 2023.

- Real Federal government spending growth slowed to 2.3 percent in 2021 from 6.2 percent growth in 2020. Although nominal tax receipts reached new records, real Federal spending declined during the first half of 2022, followed by 3.7 percent annualized growth in the third quarter. The latter quarter was boosted by Federal defense spending, which started to grow in the second quarter of 2022 for the first time since the fourth quarter of 2020, in connection with U.S. military support for Ukraine.

- As inflation accelerated, real state and local government spending also fell during the first half of 2022, following a 0.5 percent decline in 2021. State and local government spending has been especially weak since the start of the pandemic, falling in seven of the ten quarters starting with the second quarter of 2020. As of the third quarter of 2022, this

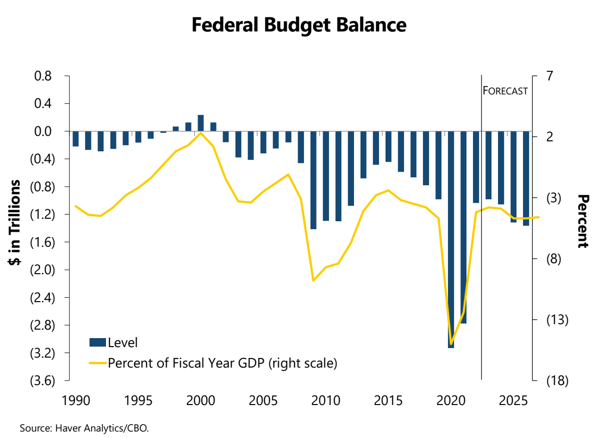
[26] The Federal fiscal year runs from October 1 to September 30.
[27] S&P Global, *U.S. Economic Outlook*, November 2021.

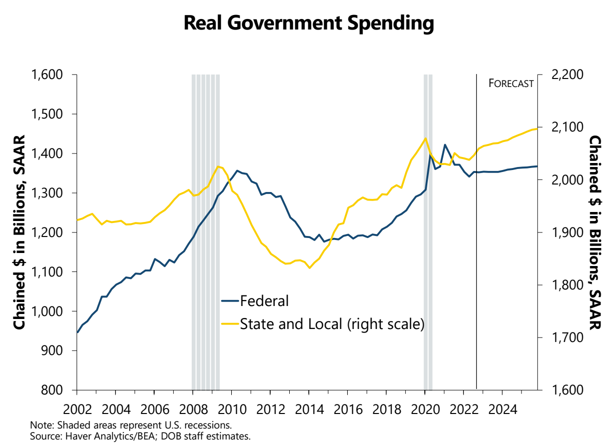
component of government spending had yet to surpass its most recent peak, posted in the first quarter of 2020.[28]

Recent Developments

The U.S. fiscal policy response to the pandemic pushed the Federal deficit up to $3.1 trillion in FFY 2020, followed by another $2.8 trillion in FFY 2021. As the pandemic-era stimulus programs lapsed, the deficit experienced a sharp decline to $1.0 trillion in FFY 2022, on par with its pre-pandemic level in 2019. According to the U.S. Congressional Budget Office (CBO), the level of Federal debt held by the public is estimated to have topped $24.2 trillion at the end of FFY 2022, mounting to 97.9 percent of GDP. The CBO projects the debt-to-GDP ratio to remain elevated for the remainder of the decade.

Based on BEA national income and product accounts data, real Federal government consumption expenditure and gross investment grew 2.3 percent in the calendar year 2021, followed by an estimated decline of 2.9 percent in 2022. In comparison, real state and local government consumption expenditure and gross investment fell 0.5 percent in 2021, followed by estimated growth of 0.6 percent in 2022.





Outlook

Despite the accelerated growth in Federal debt due to the pandemic, lawmakers do not yet appear to be on track to pass any significant fiscal restraint measures as they did after the Great Recession of 2008. On the other hand, the divided Congress that emerged from the midterm elections is unlikely to provide fiscal support if the U.S. economy tips into a recession in 2023 as expected. Real Federal government consumption expenditure and gross investment is projected to grow a modest 0.3 percent in 2023, following an estimated decline of 2.9 percent in 2022. Real state and local government spending is projected to grow 1.3 percent in 2023 as IIJA spending ramps up, following estimated growth of 0.6 percent in 2022.

[28] State and local government spending as measured under the BEA national income and product accounts (NIPA) does not include Federal transfer payments that ultimately go directly to individuals, such as unemployment insurance and Medicaid payments, though these programs may be administered by the states. However, the cost of administering these programs does count as state and local government spending under the NIPAs.

Risks

A divided Congress will face a vote later this year to raise the Federal debt ceiling, putting the nation at risk of defaulting on its debt if not passed. If the debt ceiling increase is tied to spending cuts, or if a standoff between the two parties leads to a government shutdown, government spending could be lower than projected in this forecast. The Federal government's mounting debt burden could place upward pressure on long-term interest rates, raising inflation expectations and possibly creating pressure to reduce government spending in both the short run and the long run. Alternatively, if the war in Europe should take a turn inducing further military support for Ukraine, Federal government spending could be greater than anticipated.

Trade

Key Points

- The U.S. dollar appreciated considerably against most foreign currencies over the course of 2022, supporting imports but undermining global demand for U.S. exports. As of December 2022, the broad trade-weighted dollar index had grown by 6.3 percent since the beginning of the year and surpassed its most recent April 2020 peak, reached at the height of the pandemic. The dollar is expected to continue to remain strong into early 2023 as the Federal Reserve tightens further and the U.S. economy continues to exhibit more resilience than its major trading partners.

- The volatility injected into the foreign sector by the pandemic extended well into 2022. After posting annualized growth of 14.1 percent for the first half of 2022, compared with the prior two quarters, real imports of goods and services fell 7.3 percent at an annualized rate in the third quarter of 2022. That decline was dominated by an 8.6 percent drop in real goods imports that largely reflects the unwinding of an earlier spike in consumer goods imports. That spike had been driven by the long-awaited easing of global supply bottlenecks and shipping congestion, allowing a rebuilding of depleted inventories.

- Real growth in exports of goods and services has displayed a similar degree of volatility since the pandemic but its recovery has generally lagged that of import growth throughout the period. For the first three quarters of 2022, exports displayed year-ago growth of 7.9 percent, compared with 10.4 percent for real imports. In the third quarter of 2022, real exports finally surpassed its fourth quarter of 2019 level, lagging the recovery of real imports by over one and a half years.

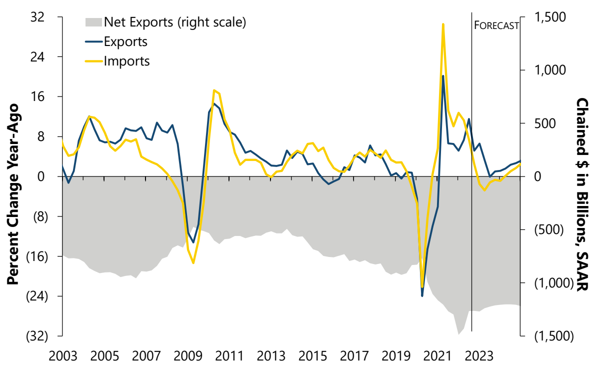
- Although weak foreign demand and the relative strength of the U.S. dollar were the main causes of their slow recovery, export shipments were also undermined by supply chain disruptions among imported industrial inputs that resulted in a domino effect of domestic production delays. This development has highlighted the complex global supply chain network that has come to underly the production of goods, particularly those that incorporate advanced technology. For example, in 2019, 29.1 percent of total value added for motor vehicles, bodies and trailers, and parts exports is estimated to have been produced internationally. However, this share fell to 27.0 percent in 2020, as producers were forced to pivot towards domestic producers of intermediate goods.[29]

- By the last quarter of 2021, the level of real goods exports had surpassed the fourth quarter of 2019. But as of the third quarter of 2022, the level of real services exports still lagged the fourth quarter of 2019 by 8.2 percent. Exports of travel services (foreigners visiting the U.S.) — which collapsed during the pandemic — remained a drag.

[29] BEA is developing data on global value chains identifying the domestic and imported inputs used to create a U.S. industry's exports. BEA, "Global Value Chains," in Special Topics (Washington, DC: BEA, December 2022). https://www.bea.gov/data/special-topics/global-value-chains.

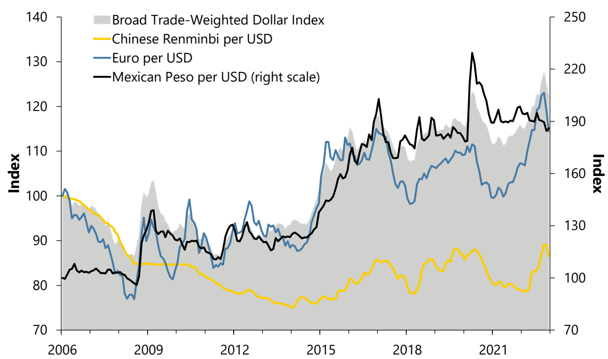
- U.S. exports depend heavily on the performance of foreign economies and their demand for U.S. goods and services. The International Monetary Fund (IMF) projects real growth in global GDP to decelerate from 6.0 percent in 2021 to 3.2 percent in 2022 and 2.7 percent in 2023 amidst cost-of-living increases, tightening financial conditions, the continuation of the war in Ukraine, and the lingering weight of the pandemic.[30] Therefore, DOB's outlook for U.S. exports in 2023 is pessimistic.

U.S. Exports, Imports, and Net Exports



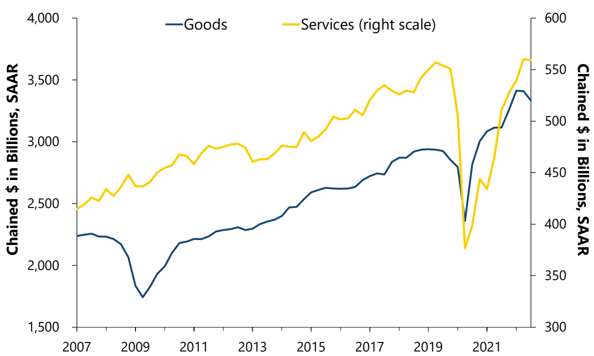
Source: Haver Analytics/BEA; DOB staff estimates.

U.S. Dollar Movements



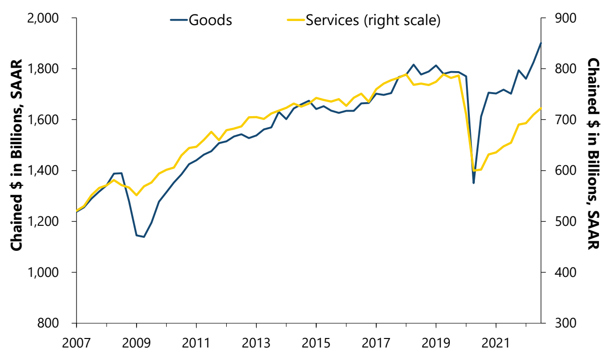
Note: Index January 2006=100.
Source: Haver Analytics/FRB.

Real Import of Goods and Services



Source: Haver Analytics/BEA.

Real Export of Goods and Services



Source: Haver Analytics/BEA.

Recent Developments

Real imports fell by 7.3 percent at an annual rate in the third quarter of 2022, after moderating from 18.4 percent growth in the first quarter to 2.3 percent in the second. In contrast, real export growth accelerated from an annualized decline of 4.6 percent in the first quarter of 2022 to growth of 13.8 percent in the second quarter and 14.6 percent in the third. On balance, real net exports of goods and services rose to negative $1.3 trillion in the third quarter of 2022, adding 2.9 percentage points to real GDP growth in the quarter.

At the beginning of the economic recovery from the pandemic, lockdowns, social distancing, travel restrictions, and limited vaccination rates biased consumption in favor of goods over services. That

[30] International Monetary Fund, *World Economic Outlook*, October 2022, https://www.imf.org/en/publications/weo.

dynamic has since largely been reversed in the U.S. thanks to the progress made against the most severe forms of the virus, boosting growth in U.S. travel abroad, as well as other services imports. But remaining travel restrictions have continued to constrain foreign travel to the U.S., particularly from China. Consequently, real value added to U.S. exports by travel to the U.S. from abroad was still down 36.3 percent between the fourth quarter of 2019 and the third quarter of 2022, while real value added to U.S. imports by U.S. residents traveling abroad was down only 11.7 percent over the same period. Moreover, with growth in U.S. final domestic demand outpacing that of its major trading partners during much of 2021 and 2022, global demand for services has been weaker than domestic demand. As of the third quarter of 2022, real U.S. services imports were 1.5 percent above their fourth-quarter of 2019 level, while real U.S. services exports remained 8.2 percent below.

A prolonged period of monetary accommodation, coupled with an unprecedented level of fiscal support, fueled a strong global rebound in consumer demand worldwide. This strong demand alongside persistent supply chain constraints and the war in Ukraine fueled the most formidable bout of inflation seen in 40 years, prompting strong responses from central banks but also fanning fears of recession as real incomes eroded. Financial markets have since retreated to lower-risk assets, notably U.S. Treasury bonds, causing an appreciation in the U.S. dollar to near parity with the euro and British pound in the second half of 2022. The Federal Reserve's trade-weighted dollar index peaked in October 2022 at 127.6 on a monthly average basis, an 11.9 percent increase from a year ago, before falling to 122.3 in December 2022. The strength of the dollar has reduced the cost of imports but increased the price of exports.

Outlook

Fears of pandemic-related disruptions have given way to fears of recession over the course of 2022 as broad-based inflation and rising interest rates threaten households and businesses alike worldwide. In addition, Russia's war in Ukraine and the resulting sanctions show no signs of abating. China continues to wrestle with COVID-19 outbreaks. Meanwhile, all of Europe faces the very likely possibility of falling into recession as housing, energy, and food price spikes spiral into a cost-of-living crisis. The dollar is expected to remain strong as the Federal Reserve leads the world's central banks in their race to hike interest rates and choke off inflation. Once the Federal Reserve ends its tightening cycle, the dollar is expected to begin to depreciate, most likely during the second half of 2023.

DOB expects real imports of goods and services to reverse from estimated growth of 8.3 percent in 2022 to a decline of 1.6 percent in 2023, owing primarily to declining domestic demand, before stabilizing at 0.5 percent growth in 2024. Similarly, weakening global demand for U.S. goods and services is projected to reduce real growth in U.S. exports in 2023 to 2.6 percent from an estimated 7.2 percent in 2022, followed by growth of 1.9 percent in 2024.

Risks

Uncertainty surrounding global economic conditions remains the greatest risk to U.S. trade. A European recession would adversely affect the U.S. economy, directly through reduced demand for U.S. exports, but also indirectly by lowering domestic income, weakening demand for imports from abroad. A stronger contraction in the U.S. resulting from a longer or more severe monetary tightening cycle could reduce imports as well. On the upside, an end to the war in Ukraine or an end to the COVID outbreaks in China would help ease lingering supply chain pressures, while a mild winter in Europe or a cooling of inflation abroad, accompanied by a quicker end to the global tightening cycle, would boost international demand for U.S. exports.

Inventory Investment

Key Points

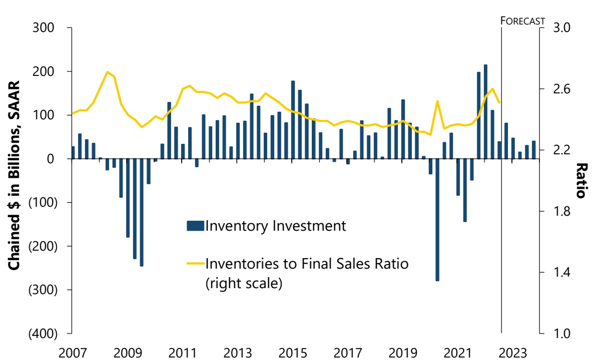
- With many of the nation's factories in lockdown at the height of the pandemic, the U.S. economy saw an unprecedented drop of $279 billion in inventory investment in the second quarter of 2020. That historic decline was followed by strong growth in industrial production as factories came back on line and businesses sought to replenish depleting inventories. Since then, the ups and downs in inventory investment have largely reflected the collision between pent-up domestic demand that favored goods over services and the global supply chain pressures that hobbled global trade for most of 2021 and the first half of 2022.

- By the third quarter of 2022, the balance in consumer preferences between goods and services had largely returned to pre-pandemic patterns and supply chain pressures had continued to ease, though the latter remained elevated compared to before the pandemic. As a result, retail inventory-to-sales ratios were largely able to return to pre-pandemic levels in 2022, with the exception of retail motor vehicles and parts, which was 1.51 as of October 2022, compared to 2.31 in October 2019.

- While real inventory investment was a slight boon to GDP in the first quarter of 2022, contributing 0.15 percentage point to real GDP growth, it deducted 1.9 percentage points in the second quarter and 1.2 percentage points in the third quarter.

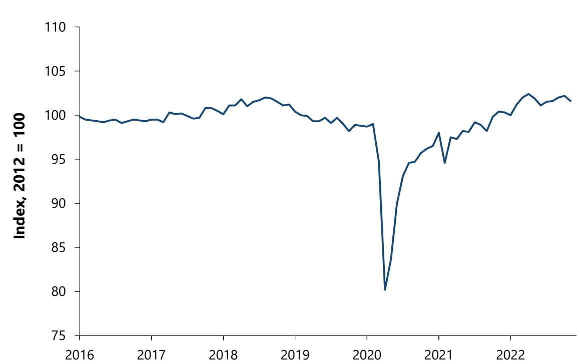
- Despite a substantial amount of relief, the differential impacts of supply chain disruptions continued to weigh on inventories in 2022, particularly within the retail sector, and have remained a source of inflationary pressure. Between the fourth quarter of 2019 and the third quarter of 2022, total business retail sales jumped 30.9 percent, while total business retail inventories grew only 13.3 percent, representing a substantial gap. Real inventory investment is projected to decline to an annual average of $29.0 billion in 2023 after an estimated increase to $113.4 billion in 2022.

Inventory Investment

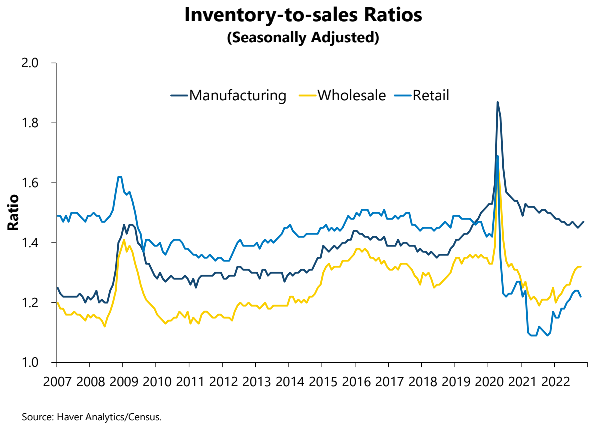


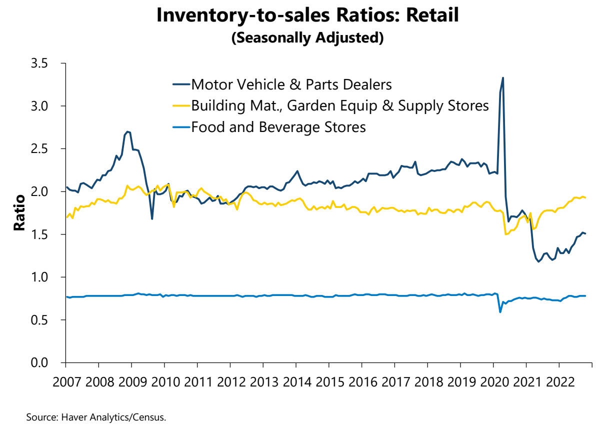
Source: Haver Analytics/BEA; DOB staff estimates.

Industrial Production: Manufacturing



Source: Haver Analytics/FRB.





Recent Developments

The stock of inventories continued to rebuild throughout 2022 as both supply constraints and the surge in demand for goods faded. The change in real inventories broke records with $197.6 billion in the fourth quarter of 2021 and $214.5 billion in the first quarter of 2022. But as prices surged, consumer demand for goods shifted quickly to services in the second quarter of 2022, with durable goods spending falling 2.8 percent at an annualized rate in the second quarter and 0.8 percent in the third. With retailers possibly having overordered to meet strong expected demand, inventory investment slowed to $110.2 billion in the second quarter of 2022 and $38.7 billion in the third, deducting 1.9 and 1.2 percentage points from real GDP growth in those quarters, respectively.

In 2021, widespread supply-chain disruptions caused inventory-to-sales ratios to plummet, especially in the retail sector, as businesses struggled to meet consumer demand, but as supply-chains began stabilizing in early 2022, businesses began restocking bringing inventory-to-sales ratios closer to their pre-pandemic levels. However, with the shift in demand away from goods, some industries, such as general merchandise retailers, appear to have become overstocked in the fall of 2022 and have begun to taper orders to reduce inventories. But other industries faced supply constraints for longer, particularly the motor vehicles and parts retail industry, where in October 2022 the inventory-to-sales ratio was 0.80 percentage point below its October 2019 level, dragging down the total retail inventory-to-sales ratio to 1.22 percentage points in October 2022, or 0.25 percentage point below its October 2019 level. Meanwhile, the total retail inventory-to-sales ratio excluding motor vehicles and parts dealers was 1.15 percent in October 2022, just 0.07 percentage point below its October 2019 level.

Outlook

Real inventory investment is estimated to tick up slightly in the fourth quarter of 2022, resulting in an estimated annual average of $113.4 billion for 2022. However, with weakening consumer demand, the strong recovery in inventory investment in 2022 is projected to be followed by a more muted $29.0 billion in 2023 as the economy retreats into a mild recession.

Risks

As economic growth continues to slow under the weight of rising prices and high interest rates, purchasing managers are projected to adjust to weaker consumer demand by paring back investment in inventories. However, if consumer spending or business fixed investment weakens by more than anticipated, a greater degree of involuntary inventory accumulation could result. Alternatively, if consumer or business spending is stronger than expected, and industrial production does not rise commensurately, inventory investment could be lower than anticipated.

Corporate Profits

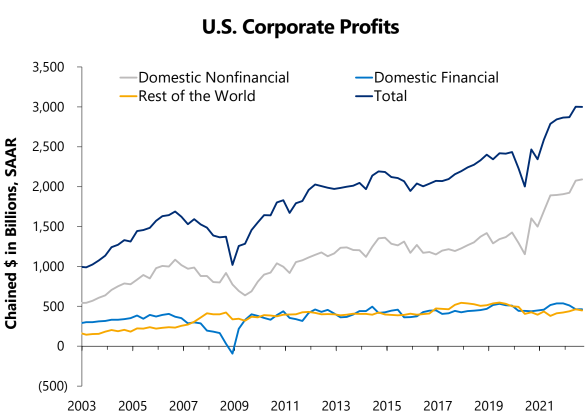
Key Points

- U.S. corporate profits from current production grew by 22.6 percent in 2021 from the depths of the pandemic in 2020 but struggled in 2022 as the fortunes of domestic financial and nonfinancial firms began to diverge significantly.

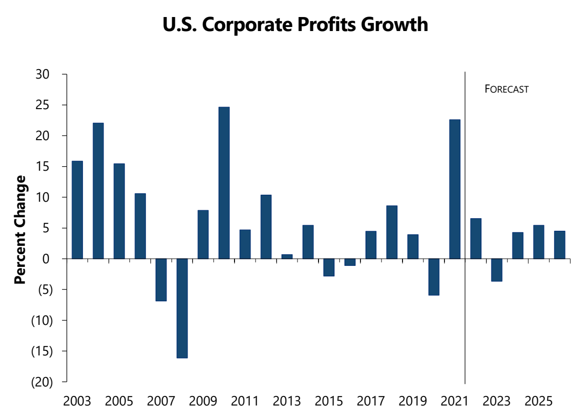
- U.S. corporate profits growth for the domestic nonfinancial sector weakened in the second half of 2021 and the beginning of 2022 as a tight labor market pushed up wages, while intermediate goods prices soared due to the war in Ukraine and persistent global supply-chain disruptions. However, domestic nonfinancial firms were largely able to pass these costs along to consumers thanks to robust household demand. Consequently, profits growth for this sector has remained positive, albeit volatile. Domestic nonfinancial corporate profits were up 11.1 percent for the first three quarters of 2022 from the same period in 2021.

- In contrast, domestic financial corporate profits fell in each of the first three quarters of 2022, as financial markets buckled under high inflation, rising interest rates, and recession fears. Domestic financial corporate profits were down 4.9 percent for the first three quarters of 2022 from the same period in 2021.

- Future growth in corporate profits is expected to be constrained by weaker earnings as the economy slows, higher costs due to elevated interest rates, rising wages as firms struggle to recruit and retain employees, and higher energy prices. These increased costs are expected to be passed along to consumers in part, with the rest absorbed in the form of lower corporate profits.



Source: Haver Analytics/BEA.



Source: Haver Analytics/BEA; DOB staff estimates.

Outlook

Corporate profits growth is expected to be negative in 2023 due to weaker consumer demand, in addition to elevated labor and borrowing costs and a struggling financial market. Growth in U.S. corporate profits from current production — including inventory valuation and capital consumption adjustments — is estimated to drop from growth of 6.5 percent in 2022 to a decline of 3.7 percent in 2023 before recovering to 4.3 percent in 2024.

Risks

Should wage inflation continue to rise along with higher-than-expected commodity prices, corporate profits would be further weakened by higher costs of production. Additionally, if the Federal Reserve raises interest rates higher than DOB's forecast, this would lead to even higher borrowing costs and lower consumer demand, resulting in weaker corporate profits.

On the positive side, quicker monetary easing would strengthen the position of consumers and businesses, lowering borrowing costs and boosting profits. Stronger-than-expected global economic activity or lower commodity prices could also result in stronger U.S. corporate profits.

Comparison with Other Forecasters

DOB's U.S. macroeconomic forecast for the FY 2024 Executive Budget was completed in early January 2023 and incorporates the third estimate of 2022 third quarter real GDP, November 2022 personal income and outlays, the first estimate of December 2022 employment, and the November 2022 CPI report.[31]

The following table compares DOB's forecast for a selection of U.S. indicators with those of other forecasters released in January 2023. The 2023 forecasts for real U.S. GDP growth fall into a range from 0.5 percent to 1.3 percent, with DOB's forecast agreeing with both S&P Global and the Blue Chip Consensus at 0.5 percent. DOB's projection for CPI growth in 2023 is at 3.9 percent, matching S&P Global and between the Blue Chip Consensus and Moody's Analytics. DOB forecasts the unemployment rate to edge up to 4.3 percent for 2023 on an annual average basis, in the middle of a forecast range that stretches from 3.9 percent to 4.6 percent. For 2024, all forecasters expect real U.S. GDP growth to strengthen, with DOB's 1.7 percent projection landing in the middle of the forecast range. But the unemployment rate is projected to rise in 2024, with DOB at the top of the forecast range at 5.0 percent. All forecasters expect a substantial drop in consumer price inflation from 8 percent in 2022 to near 4 percent in 2023, and expect inflation to approach the Fed's 2 percent target in 2024. While DOB's 2024 outlook for real GDP growth falls in the middle of the forecast range, DOB's outlook for inflation and the unemployment rate are both above consensus.

U.S. ECONOMIC FORECAST COMPARISON

	2022	2023	2024
Real Gross Domestic Product (GDP)			
(chained percent change)			
DOB	2.1	0.5	1.7
Blue Chip Consensus	na	0.5	1.2
S&P Global	2.0	0.5	1.8
Moody's Analytics	2.1	1.3	2.1
Consumer Price Index (CPI)			
(percent change)			
DOB	8.0	3.9	2.8
Blue Chip Consensus	na	3.8	2.3
S&P Global	8.0	3.9	2.2
Moody's Analytics	8.0	4.0	2.4
Unemployment Rate			
(percent of the labor force)			
DOB	3.6	4.3	5.0
Blue Chip Consensus	na	4.4	4.8
S&P Global	3.7	4.6	4.8
Moody's Analytics	3.6	3.9	4.0

Source: NYS DOB, January 2023; Blue Chip Economic Indicators, January 2023; S&P Global, January 2023; and Moody's Analytics, January 2023.

[31] For a detailed description of the DOB/US model methodology, see New York State Economic, Revenue, and Spending Methodologies (https://www.budget.ny.gov/pubs/supporting/methodology.html).

Risks to the U.S. Macro Forecast

DOB projects that the coming recession will be shorter and shallower than the historical average, but there are many risks to this forecast. The Federal Reserve effectively acknowledged that it was slow to recognize that the current bout of inflation, though engendered by transitory conditions, was becoming entrenched. The central bank could just as easily commit a policy error on the other side by misjudging the highly uncertain length of the lag between its actions and economic activity and tightening more than is required to return inflation to its 2 percent target. Alternatively, if inflation proves more persistent than expected, threatening a de-anchoring of inflation expectations, the Federal Reserve could be forced to be more aggressive and continue tightening beyond DOB's forecast, pushing the economy into a deeper recession.

Similarly, if the pandemic-era outward shift in the relationship between job vacancies and the unemployment rate, also known as the Beveridge curve, persists, then a higher increase in the unemployment rate may be necessary to meet the Federal Reserve's inflation target rate of 2 percent, since the mismatch between labor supply and demand could lead to employers offering higher wages to potential workers. A higher-than-expected unemployment rate could lead to consumers cutting real spending, leading to weaker economic growth than projected.

Further deterioration in the global economic outlook could weaken demand for U.S. exports, adversely affecting U.S. economic growth. Additionally, poor crop conditions could further inflate already high food prices, while higher commodity prices due to the war in Ukraine could be passed on to consumers, reigniting the central bank's battle with inflation. If the recent change in China's COVID-19 policy leads to a substantial increase in global prices resulting from increased demand for commodities to support stronger output, inflation could accelerate beyond what is projected in this forecast, resulting in a similar outcome.

Conversely, if inflation turns out to be more responsive to monetary tightening than previously anticipated or if rate-sensitive sectors are more resilient to rate hikes and tighter financial conditions, the anticipated economic downturn may be shorter and less severe than projected. Moreover, an end to the war in Ukraine or an earlier end to the COVID outbreaks in China could help ease lingering supply chain pressures. If the recovery of supply chains translates into lower inflation than anticipated and allows for a quicker easing of monetary conditions, real GDP growth could be stronger than projected. Similarly, higher than expected labor supply growth that helps to restore balance to the labor market more quickly than expected could result in lower average wage growth, a quicker end to the current tightening cycle, and a stronger labor market and economy overall than is reflected in this forecast.

The New York State Economy

Almost three years since the novel coronavirus was declared a global pandemic in March 2020, the New York State economy is continuing to recover from the devastating impact of COVID-19. As of December 2022, the State had recovered 86.5 percent of its 2.0 million pandemic-related job losses, though the nation as a whole had regained all its job losses by August 2022. During 2022, the State recouped 285,000 jobs, including 101,000 in the health care and social assistance sector, as well as another 87,000 jobs in the leisure, hospitality, and other services sector. However, the State's recovery has been hampered by labor shortages, the highest inflation in 40 years, rising interest rates leading to a bear market in equities, slowing global growth, and the uncertainty surrounding a likely recession in 2023. State employment growth is projected to slow to 0.7 percent for this year, following 5.0 percent growth for 2022.

The pandemic had an asymmetric impact across the State's industrial sectors, with low-wage high-contact service industries bearing a disproportionately large brunt of the job losses. But the recovery has been equally uneven. Nine of the State's major industrial sectors are still under water relative to their February 2020 pre-pandemic peaks. The size of the jobs deficit ranges from a gap of 2.7 percent in the financial activities sector to a gap of 9.1 percent in leisure and hospitality. In contrast, only four major sectors were posting net job gains as of December 2022 relative to February 2020: transportation, warehousing and utilities, information, professional and business services, and healthcare and social assistance. Indeed, overstaffing in the information sector appears to be contributing to layoffs and a hiring freeze, as firms begin to prepare for a looming recession.

Meanwhile, the high-wage, high-skill, and information-intensive sectors have adapted to remote work in relatively large numbers. It is estimated that more than half of the commuters to New York City could work remotely, representing half a million jobs.[32] Businesses that rely heavily on commuter traffic, such as leisure and hospitality, transportation, and administrative and support services, have tended to experience the greatest losses in real wages and output. This phenomenon is likely a central factor causing the State's labor market recovery to continue to lag that of the nation almost three years in.

The State's 4.3 percent unemployment rate posted in December 2022 was the sixth-highest in the country; the U.S. unemployment rate was 3.5 percent for the same month. The statewide unemployment rate for December was pulled up by New York City, which posted a rate of 5.9 percent, compared to the Rest of the State's rate of 3.2 percent. The State's labor market remains remarkably tight. As of December 2022, the State labor force was 3.9 percent below its February 2020 level, compared to a national surplus of 0.3 percent. In comparison, New York City's labor force was down 7.2 percent, while the Rest of the State was down only 1.4 percent.

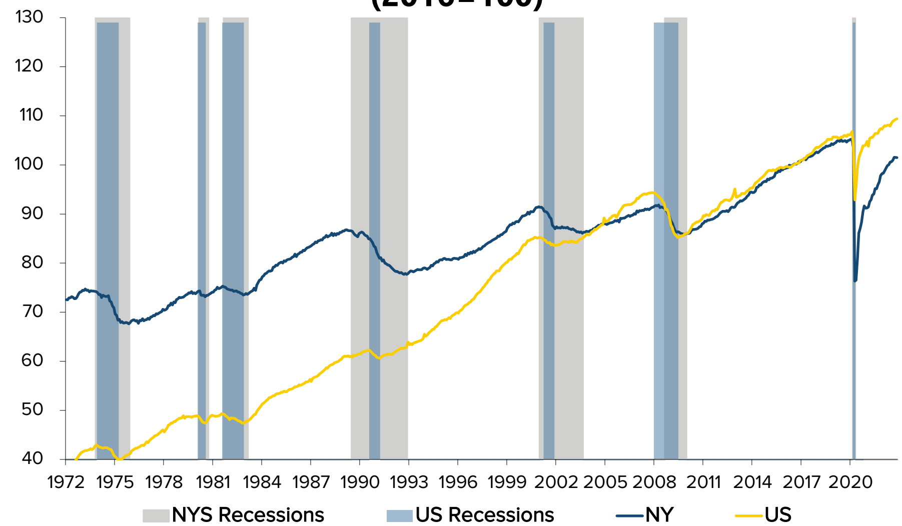
State wages experienced robust growth of 12.4 percent in FY 2022, supported by 7.1 percent employment growth and 15.7 percent bonus growth. However, these wage gains were also associated with high inflation and an extraordinarily tight labor market. Despite this strong wage growth, State personal income grew by only 1.5 percent in FY 2022. The disconnect between wage

[32] New York City Comptroller, "The Impact Of Hybrid Work On Commuters And NYC Sales Tax." October 2021. https://comptroller.nyc.gov/reports/the-impact-of-hybrid-work-on-commuters-and-nyc-sales-tax/#_ftn5.

and personal income growth was primarily due to an 8.7 percent decline in non-wage income as the pandemic-related fiscal payments lapsed in FY 2022. State personal income is estimated to grow by only 0.8 percent in FY 2023 due to an anticipated 25.2 percent decline in finance and insurance sector bonuses largely engendered by the Federal Reserve's aggressive rate hikes, the lapsing of the remaining fiscal stimulus, and the deteriorating global and national economic outlooks.

With financial markets beginning to stabilize during CY 2023, a smaller finance and insurance sector bonus decline of 5.1 percent is projected for FY 2024. But owing to the downturn in the real economy, a slightly greater bonus decline is projected outside of Wall Street, resulting in an overall bonus decline of 6.0 percent. On balance, wage growth of 2.3 percent is projected for FY 2024, little changed from FY 2023, along with overall personal income growth of 3.5 percent.

Coincident Economic Indexes (2016=100)



Note: NYS recession dates are DOB staff estimates.
Source: Moody's Analytics/Conference Board; National Bureau of Economic Research (NBER); DOB staff estimates.

New York State's lagging recovery is evident in the chart above that compares the Coincident Economic Indexes for New York and the U.S.[33] Following a record decline of 27.5 percent between February and April 2020, New York State's coincident index rose by 33.0 percent between April 2020 and November 2022. Thus, the State's deepest and most unique recession since the 1930s was also the shortest. However, the Index remains 3.6 percent below its pre-pandemic high, reflecting the State's lagging labor market recovery. In comparison, the U.S. coincident index fell by only 13.0 percent between February and April 2020 and was fully recovered by October 2021.

[33] For Coincident Economic Index methodology, see FY 2022 Economic and Revenue Outlook, p.49. https://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf.

Labor Markets

Key Points

- New York State's labor market continues to recover from the global pandemic, regaining 86.5 percent of the jobs lost in March and April 2020 as of December 2022.[34] However, the nation had already recovered all its pandemic-related job losses by August 2022.

- The State's initial economic impact and ensuing recovery from the pandemic have exhibited wide regional and sectoral disparities. As a result, the State's most acute labor market imbalances can be found in low-wage industries. As a magnet for international tourists and business travelers, the pandemic hit the low-wage segment of New York City's labor market particularly hard. The City's lagging recovery compared to the nation represents a significant concern, given its role as an economic engine for the State.

- As of December 2022, New York City had recovered 87.5 percent of its job losses from the onset of the pandemic. The Rest of Downstate New York had recovered 85.2 percent of its pandemic-related job losses as of December 2022, while Upstate had recovered 86.0 percent.[35] The Upstate labor market was not hit as hard initially by the pandemic as Downstate, but its recovery stalled in 2022.

- The sectors slowest to bounce back from their pandemic losses are also among the State's lowest-wage industries, such as leisure and hospitality, other services, and retail trade. Leisure and hospitality sector jobs were down 9.1 percent as of December 2022, compared to their February 2020 pre-pandemic level. The other services sector — including repair and maintenance, personal care and laundry services, and domestic services — was down by 5.3 percent over the same period. Likewise, the retail trade sector was 6.8 percent below its pre-pandemic level. These low-wage but high-contact service industries have been the most at risk throughout the pandemic and are not expected to surpass their pre-pandemic employment levels within the forecast horizon.

- New York State's December 2022 unemployment rate of 4.3 percent was the sixth highest in the nation. Since the start of the labor market recovery from the depths of the pandemic, the State's unemployment rate has been pushed up by New York City, which posted a rate of 5.9 percent in December 2022. The Rest of the State had an unemployment rate of 3.2 percent in December 2022, 0.3 percentage point below the national rate. Overall, the State's labor force was still 3.9 percent below its pre-pandemic level in February 2020. Although New York City accounted for 42.0 percent of the State labor force in December 2022, it accounted for 79.6 percent of the remaining statewide labor force deficit for that month.

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[34] The Bureau of Labor Statistics (BLS) released the 2022 preliminary benchmark revisions to the Current Employment Statistics (CES) for states. According to BLS, New York State's employment was 51,400 higher than the current estimates as of March 2022. Final benchmark revisions will be issued in March 2023 with the publication of the January 2023 State Employment data release. Numbers reported throughout this document do not reflect the benchmark revisions.
[35] Downstate is defined as the counties that comprise the MTA region, which in addition to New York City and Long Island includes Dutchess, Orange, Putnam, Rockland, and Westchester counties.

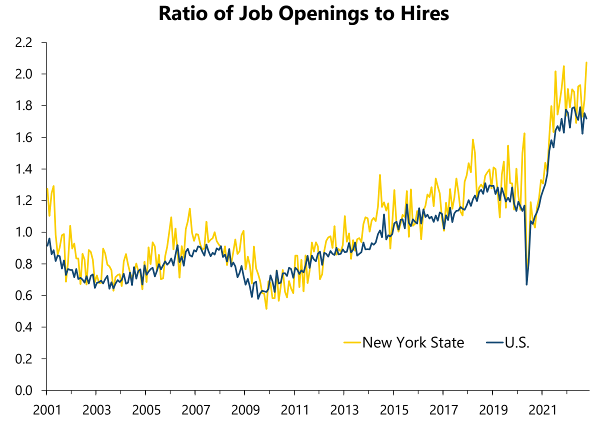
- Based on Quarterly Census of Employment and Wages (QCEW) data, the most accurate employment data available, total New York State employment is estimated to have grown by 5.0 percent in 2022, with private sector jobs growing by 5.9 percent. However, weakening global and national economic conditions are expected to place significant downside pressure on the State labor market in 2023.

Recent Developments

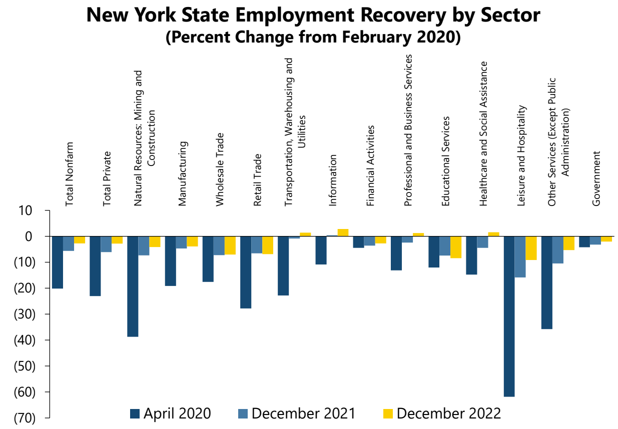
New York State's employment recovery experienced a slowdown during 2022 due to four-decade-high inflation, the Federal Reserve's aggressive rate hikes, and ongoing labor shortages. Based on the most recent Current Employment Statistics (CES) data, the timeliest available, a monthly average of 23,800 jobs were added during 2022, compared to a monthly average of 54,200 in the fourth quarter of 2021. The State had recovered 86.5 percent of its combined March and April 2020 losses as of December 2022. In contrast, the nation had recovered all its pandemic-related job losses by August 2022. New York City's jobs recovery lagged behind the rest of the State in 2021; however, the City caught up over the course of 2022, as the recovery across the rest of the State had either slowed down or stalled.

The slower recovery in the State relative to the nation is partly attributed to New York City and the unique challenges large and densely populated metropolitan areas faced in the wake of the pandemic. These challenges include the City's extraordinary concentration of high-skilled/high-income workers and business professionals, which have a high potential for remote work. As a result, New York State experienced a net population loss during the pandemic, which shrank the size of the State's workforce. Additionally, with a strong U.S. dollar and the reduced number of visitors from China, the City's volume of tourism and business travel remains well below its pre-pandemic level. These factors have contributed to the State's slower job recovery rate compared to the nation.

Despite the slowing recovery, New York State's labor market was tight through the end of 2022. The job-openings-to-hires ratio is a common measure of labor market tightness, where the larger the ratio, the tighter the labor market. Before the pandemic, the State averaged 1.1 job openings per hire from January 2011 through February 2020. However, the job-openings-to-hires ratio increased to 2.1 in October 2021. This surge coincided with a near-record number of quits and a moderately low level of layoffs. The ratio remained elevated during the course of the following 12 months; however, the ratio has again ticked up, reaching 2.1 in October 2022.



Source: Moody's Analytics/Bureau of Labor Statistics (BLS).



Source: Moody's Analytics; NYS Department of Labor.

The above right graph presents the evolution of the State's labor market by sector since the start of the pandemic. It shows the percent change in employment levels from their February 2020 pre-pandemic peak to April 2020, the labor market trough; December 2021, the end of the initial rebound phase; and December 2022, the most recent employment data available. This graph reveals that only four of the State's major economic sectors have fully recovered from their pandemic-related job losses as of December 2022.[36] These sectors are transportation, warehousing, and utilities; information; professional and business services; and healthcare and social services.

The industries that have been the slowest to come back are also among the State's lowest-wage industries, such as leisure and hospitality, other services, and retail trade. As of December 2022, the leisure and hospitality sector was down by 9.1 percent compared to February 2020. Likewise, the other services sector was 5.3 percent below its pre-pandemic level, while retail trade sector employment was down by 6.8 percent from its level in February 2020. These low-wage, high-contact service industries were the most at risk throughout the pandemic. They are not expected to surpass their pre-pandemic employment levels within the current forecast horizon.

As of the second quarter of 2022, New York State's labor market had made significant progress, but the State continued to lag behind the nation. The table below compares employment gains by sector using non-seasonally adjusted QCEW data, the most accurate employment data — although less timely than the CES. A comparison of the employment recoveries of New York State and the nation by sector finds the largest growth rate differential in the leisure, hospitality, and other services sector, where New York's growth exceeded that of the nation by 9.1 percentage points.

New York State's overall employment growth was stronger than the nation's in the first half of 2022. However, the State's sectoral employment gains were substantially lagging behind the nation in construction, real estate and rental and leasing; professional, scientific, and technical services; private educational services, and the government sector.

[36] Natural Resources and Mining in isolation did exceed its February 2020 peak in August 2021, but due to its small size, it is here combined with Construction.

EMPLOYMENT GROWTH - FIRST HALF OF 2022 (Percent Change Year-Ago)	NYS	US
Total Private	**6.8**	**5.1**
Utilities	0.6	(0.6)
Construction	2.2	3.4
Manufacturing and Mining	3.9	3.7
Wholesale Trade	4.7	3.2
Retail Trade	2.8	3.0
Transportation and Warehousing	10.8	7.6
Information	6.3	6.2
Finance and Insurance	1.5	1.0
Real Estate and Rental and Leasing	3.8	5.2
Professional, Scientific, and Technical Services	5.0	6.3
Management, Administrative, and Support Services	8.0	4.7
Educational Services	4.7	6.9
Healthcare and Social Assistance	2.6	1.9
Leisure, Hospitality, and Other Services	21.0	11.9
Government	**0.4**	**1.3**
Total	**5.8**	**4.5**

Note: Management, administrative, and support services includes NAICS sectors 55 and 56; sum of sectors may vary from the total due to the exclusion of unclassified.
Source: NYS Department of Labor Moody's Analytics.

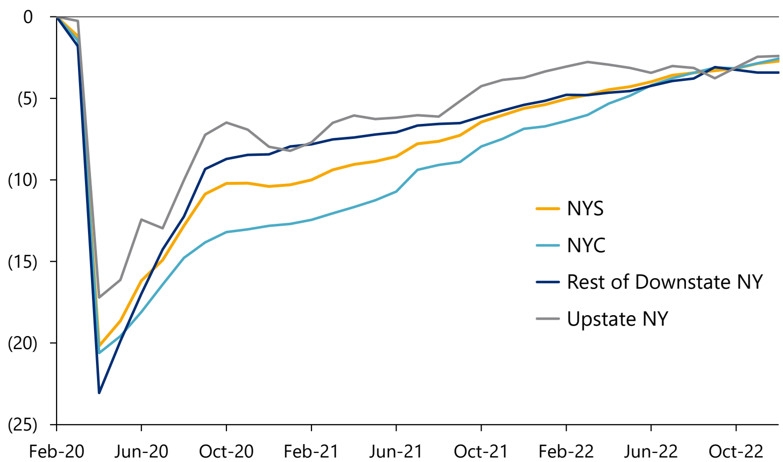
The State's unemployment rate of 4.3 percent in December 2022 was the sixth highest in the country, and contrasts with a national unemployment rate of 3.5 percent for that month. Since the start of the recovery from the pandemic, the State's unemployment rate has been held back by New York City, which posted a rate of 5.9 percent in December 2022. However, the State's labor market remains remarkably tight despite the elevated unemployment rate. As of December 2022, the State's labor force was 3.9 percent below its February 2020 level and is not expected to surpass its pre-pandemic level for several years.

New York State's economic rebound has exhibited broad regional disparity. For instance, as a magnet for international tourists and business travelers, New York City was hit particularly hard during the pandemic, having been its epicenter in the early phase. On March 14th, 2020, the City's economy was almost completely shut down to contain the spread of the virus, with only those workers either deemed essential or able to work remotely could be found at their jobs.

New York City had regained 87.5 percent of its pandemic-related job losses as of December 2022, while the Rest of Downstate had recovered 85.2 percent. Upstate New York had also recouped 86.0 percent of its pandemic-related job losses as of December 2022. However, the Upstate labor market appears to have stalled and is not expected to regain the balance of its job losses during the current forecast horizon, with labor shortages likely the chief culprit. However, the easing of pandemic-related restrictions and the reopening of leisure and hospitality venues led to a significant uptick in consumer activity across the State's service-oriented sectors in the first half of 2022, particularly in New York City. As a result, New York City's beleaguered leisure and hospitality sector finally began to experience a long awaited boost, leading the pace of the City's overall employment recovery to surpass the statewide average as of September 2022.

Despite New York City's recent employment gains, the City's unemployment rate of 5.9 percent as of December 2022 continued to lag behind the Rest of the State's rate of 3.2 percent. Generally, a region with stronger employment gains tends to have a lower unemployment rate. This divergence between employment gains and the unemployment rates is due to New York City's relatively larger initial job losses at the onset of the pandemic, followed by its slow recovery in high-contact service industries.

Tracking Employment Recovery
(Percent Change from February 2020, Seasonally Adjusted)

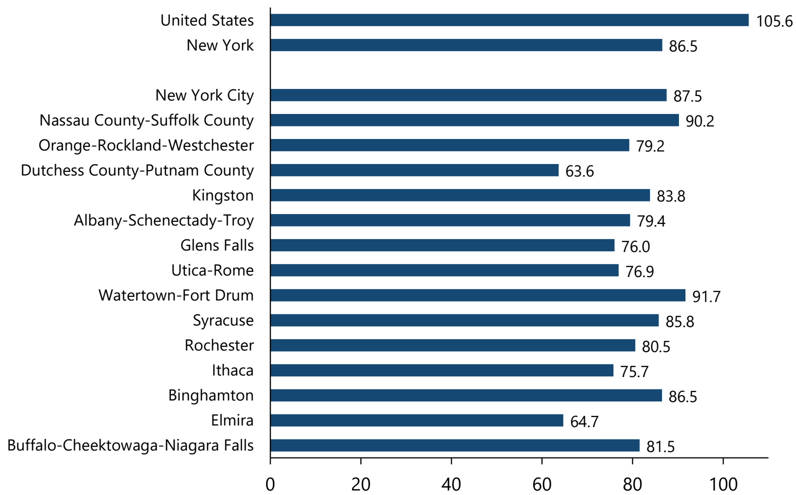


Source: Moody's Analytics; NYS Department of Labor.

As shown in the above figure, the Rest of Downstate was the hardest hit region in the State at the onset of the pandemic. The region experienced an initial employment decline of 23.1 percent as of April 2020, compared to its pre-pandemic level in February 2020. This decline compares to a decline of 20.6 percent in New York City and 17.2 percent Upstate. Since then, the Rest of Downstate has experienced a relatively strong job recovery, though it has more recently started to falter. The rest of Downstate employment was down 3.4 percent as of December 2022 from its pre-pandemic level, compared to 2.6 percent in New York City and 2.4 percent in Upstate New York.

The chart below shows the employment recovery for the State's major metropolitan statistical areas (MSAs). The Watertown-Fort Drum MSA has experienced the strongest employment recovery among these areas, recovering 91.7 percent of its pandemic-related job losses as of December 2022. In contrast, the MSA covering Dutchess and Putnam counties has experienced the weakest recovery, regaining only 63.6 percent of its pandemic-related job losses as of December 2022. Upstate's two largest MSAs, Buffalo-Cheektowaga-Niagara Falls and Rochester, recovered 81.5 percent and 80.5 percent of their pandemic-related job losses, respectively, as of December 2022.

Regional Employment Recovery
Percentage of March – April 2020 Job Losses Recovered as of December 2022



Source: NYS Department of Labor, Current Employment Statistics (CES).

Outlook

A national recession following continued rate hikes, the stock market's weak performance, a slowing global economy, and the lingering ill effects of the pandemic represent significant economic headwinds for the State's labor market. State employment growth is expected to continue to soften and dip into negative territory during the next 12 months. As a result, the State is not expected to return to pre-pandemic employment levels until 2027.

The table below shows projected employment changes for New York State by economic sector. State employment is estimated to have increased by 5.0 percent in 2022, amounting to 444,000 jobs added on an annual average basis from the prior year. The outlook for 2023 is much weaker, with the State's employment projected to increase by only 0.7 percent, representing an additional 64,000 jobs.

New York State's jobs recovery outlook is estimated to have been led by the leisure, hospitality, and other services sector. The employment level in this sector is estimated to have increased by 15.3 percent in 2022, amounting to 159,000 jobs recovered from the prior year on an annual average basis. Moreover, this sector is expected to remain the State's fastest growing in 2023, as tourism continues to rebound, and patrons return to traditional arts and entertainment venues — especially in New York City. Employment in the leisure, hospitality, and other services sector is projected to increase by 3.9 percent in 2023, representing an additional 47,000 jobs recovered.

The State's healthcare and social assistance sector is also expected to experience strong job gains. The sector's employment level is estimated to have increased by 3.2 percent in 2022, followed by 1.5 percent growth projected for 2023. Based on these combined employment gains of 76,000 over two years, this sector is expected to surpass its pre-pandemic employment level at some point during 2023. However, sector growth is expected to remain well below its pre-pandemic annual average growth rate of 3.7 percent witnessed from 2016 to 2019, when the healthcare and social assistance sector was an important growth catalyst for the State labor market.

CHANGE IN NEW YORK STATE EMPLOYMENT	2022		2023	
	Percent	Level (Thous.)	Percent	Level (Thous.)
Total Private	**5.9**	**442**	**0.8**	**66**
Utilities	0.9	0	(0.4)	(0)
Construction	2.1	8	(1.2)	(5)
Manufacturing and Mining	3.5	14	(1.3)	(6)
Wholesale Trade	4.5	13	1.0	3
Retail Trade	2.6	21	(1.0)	(9)
Transportation and Warehousing	8.8	22	(1.4)	(4)
Information	5.3	15	(0.5)	(1)
Finance and Insurance	1.9	10	(0.4)	(2)
Real Estate and Rental and Leasing	4.4	8	(0.6)	(1)
Professional, Scientific, and Technical Svs.	5.5	37	1.0	7
Management, Administrative, and Support Svs.	8.0	48	0.7	5
Educational Services	4.5	15	2.1	7
Healthcare & Social Assistance	3.2	51	1.5	25
Leisure, Hospitality and Other Services	15.3	159	3.9	47
Government	**0.1**	**2**	**(0.1)**	**(1)**
Total	**5.0**	**444**	**0.7**	**64**

Note: Management, administrative, and support services includes NAICS sectors 55 and 56; sum of sectors may vary from the total due to the exclusion of unclassified.
Source: NYS Department of Labor; Moody's Analytics; DOB staff estimates.

The State's management, administrative, and support services sector is estimated to have experienced job growth of 8.0 percent in 2022, and is projected to be followed by a more modest gain of 0.7 percent in 2023, implying 53,000 additional jobs over two years. Although these gains represent significant progress in the recovery process, this sector is not expected to surpass its pre-pandemic employment level at any point within the current forecast horizon. Indeed, the untethering of workers from in-office workplaces — coupled with the accelerated adaptation of emerging technologies due to the pandemic — created a lasting rethinking and reshaping of the workplace.

New York State employment is estimated to have experienced strong growth in 2022, with all sectors gaining jobs. However, the State's labor market is projected to soften in 2023, consistent with a national recession developing in the wake of the Federal Reserve's aggressive monetary tightening and a slowing global economy. In 2023, more than half of the State's sectors are projected to experience an employment decline, with construction, manufacturing, retail trade, and transportation and warehousing bearing the brunt of the job losses.

Risks

The risks to the New York labor market forecast are similar to the national forecast. However, the State's status as an international travel hub and the world's financial capital heightens many of these risks. The persistence of supply-chain disruptions and Russia's prolonged war in Ukraine could add further upward pressure to global prices, which could cause the Federal Reserve to be overly aggressive in its battle with inflation. Due to the importance of the financial sector to the

State economy, monetary policy shifts can have an outsized impact on New York relative to the nation. Additionally, higher borrowing costs and weaker consumer purchasing power could contribute to more layoffs and fewer hirings.

A more severe recession than anticipated could cause the employment situation to deteriorate further. The ongoing persistence of telework, the continued relocation of urban-based workers outside of the State, and the decline in State population remain downside risks to State employment growth. Since the growing prevalence of telework is a recent phenomenon, its evolution is highly uncertain. Likewise, international tourism remains well below its pre-pandemic level, and a strong dollar could slow the recovery in sectors that rely on tourism spending. The leisure and hospitality sector is projected to continue to lead job growth in 2023, but the New York labor market remains vulnerable to consumers' and businesses' reluctance to return to pre-pandemic norms — especially spending patterns in close-contact service-oriented industries. A new and more severe COVID-19 variant could exacerbate these risks.

New York State's labor market faces several upside risks, including the potential for a more rapid and substantial return to an in-office working environment — especially in densely populated urban areas like New York City. This shift could propel stronger growth through higher output and employment in office support services, including facilities support services, business support services, office administrative support services, eating and drinking establishments, and other consumer service-based establishments. A sooner-than-expected return of Chinese tourists could also help the recovery of the leisure and hospitality sector. Additionally, a swifter-than-anticipated end to Russia's war in Ukraine could ease energy prices further, resulting in a milder national recession and stronger-than-anticipated State job growth.

Financial Markets

Key Points

- The United States experienced a rapid drawdown of pandemic-related fiscal stimulus during the second half of 2021 and early 2022, as inflation surged to 40-year highs. At the start of the year, the Federal Reserve reversed its previous course and began to aggressively raise interest rates, attempting to reign in spiraling price pressures. These developments had an adverse impact on financial sector activity and revenues, with FY 2023 finance and insurance sector bonuses estimated to have fallen 25.2 percent, following strong growth of 14.6 percent in FY 2022.

- The U.S. economy's strong rebound from the pandemic in 2021 resulted in a reversion of banks' loan-loss allowances, providing a one-time increase in profits. However, there was no such boost from that source in 2022, leaving investment banks reliant on their more traditional revenue streams, which — other than trading revenues — underperformed through the first three quarters of the year. For example, U.S. companies raised only $8.5 billion in initial public offering (IPO) proceeds in the first eleven months of 2022. Similarly, U.S. companies announced mergers and acquisitions (M&As) worth a meager $1.2 trillion in the first three quarters of 2022.

- As interest rates rose, total debt underwriting decreased by 38.6 percent as of November 2022 compared to the same time last year. This downswing in borrowing was partly due to banks' precautionary tightening of lending requirements, as well as businesses' lack of appetite for higher debt-servicing costs. These underwhelming performances hampered earnings by investment banks in 2022.

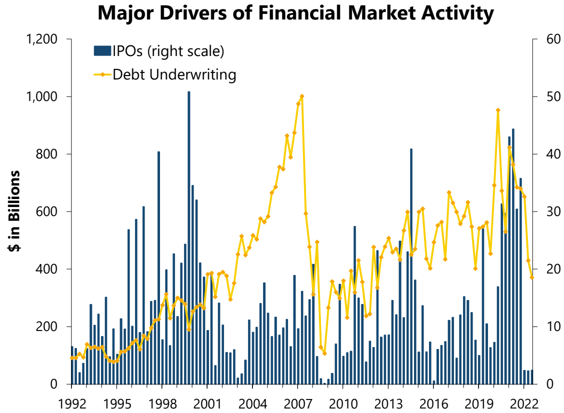
- With the labor market remaining historically tight through the end of 2022, the Federal Reserve will likely continue to pump the brakes, sending the U.S. economy into a recession this year. Consistent with the anticipated downturn in U.S. economic activity and slowing global growth, finance and insurance sector bonuses are projected to decline further by 5.1 percent for FY 2024.

Recent Developments

With the strongest inflation in 40 years, exacerbated by a historically tight labor market and the war in Ukraine, the tailwinds engendered by expansive monetary and fiscal policy in 2021 turned into headwinds in 2022. As a result, an impressive 2021 financial sector performance was turned inside out in the last year. IPO and corporate debt underwriting fees represent a key driver of revenues and profits for the securities industry, as well as a valuable leading indicator for the overall financial sector. Although debt underwriting is closely linked to interest rates and overall economic activity, IPOs tend to rise and fall with the secondary equity market. In the first 11 months of 2022, U.S. companies raised an abysmal $8.5 billion in IPO proceeds. This abrupt pause in financial activity represents a 94.3 percent decline compared to the previous year's record-setting amount of $153.6 billion.

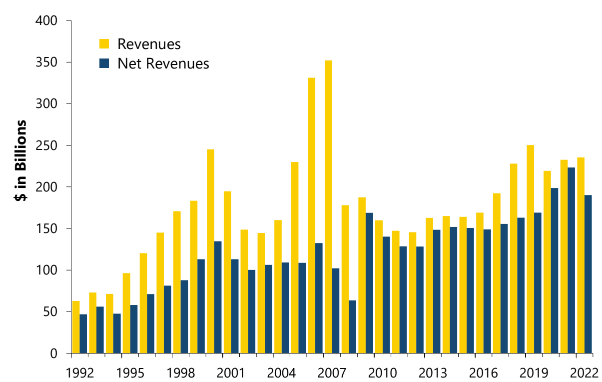
As shown in the below-left graph, IPOs are on track to have their worst performance in 2022 since 2003. The technology sector was one of the busiest IPO markets in 2021, primarily due to the technological needs of workplaces and schools supporting a remote environment. However, this flurry of activity halted, with the sector's IPOs nearly disappearing during the first 11 months of 2022. The biotechnology and pharmaceutical industry was another strong performer in 2021. However, many of the sector's potential offerings were made during that period of rapid development of vaccines and therapeutics to combat the COVID-19 virus. Due to the current economic climate, most remaining potential offerings have been postponed for the foreseeable future.

Major Drivers of Financial Market Activity



Source: Securities Industry and Financial Markets Association (SIFMA).

NYSE Member Firm Revenues



Notes: The estimates for 2022 are based on three-quarters of actual data annualized; net revenues exclude interest expenses.
Source: Securities Industry and Financial Markets Association (SIFMA); Intercontinental Exchange (ICE).

Further undermining the demand for IPOs, central banks worldwide raised key interest rates to tame rampant inflation, resulting in higher financing costs and choking off investor demand. Total debt underwriting decreased by 38.6 percent as of November 2022 compared to the same period last year. This downswing in borrowing was partly due to banks' precautionary tightening of lending requirements, as well as businesses' lack of appetite for higher debt-servicing costs, given the deteriorating economic outlook. Additionally, many companies have already locked in favorable financing terms and set aside ample cash reserves. This pre-emptive defensive positioning alleviated the need for new debt issuances as companies adjusted their balance sheets for the likely recession on the horizon.

M&As experienced a subdued performance during the first three quarters of 2022, with U.S. companies announcing transactions valued at $1.2 trillion, compared to more than $2.0 trillion for the same period last year. The technology sector led overall targeted deals, with notable acquisitions by Microsoft ($75.1 billion acquisition of Activision Blizzard), Broadcom ($71.6 billion acquisition of VMware), and Adobe ($20.0 billion acquisition of Figma). The combined value of all M&As through the first three quarters of 2022 represents the slowest dealmaking pace since the onset of the pandemic. This slowdown is partly due to the exhaustion of demand following the fervent wave of activity in 2021. Additionally, M&As were weighed down by rising financing costs, as well as the projected recession on the horizon. In total, the lack of recent deals has resulted in lower total advisory fees, hampering financial sector earnings.

The downbeat performance by investment banks through the first three quarters of 2022 is also partly due to the unwinding of the impact of loan-loss allowance reversions that occurred in 2021. These reserves reflect banks' estimated credit losses within their loan portfolio. At the onset of the pandemic in 2020, the risk of default soared for many loans, causing U.S. banks to set aside a combined $120 billion in allowances. Fortunately, the U.S. economy proved remarkably resilient throughout the pandemic, largely thanks to unprecedented monetary and fiscal support. As the risk of loan defaults subsided in 2021, investment banks unwound these contra assets. These funds, in turn, provided a significant one-time boost to bank profits and further raised the financial sector's overall performance for the year; but their unwinding left investment banks reliant on their more traditional revenue streams in 2022, which underperformed through the first three quarters of the year.

The initial monetary policy response to the pandemic helped stabilize financial markets and prevent systemic losses, boosting the financial sector's performance in 2021. However, as the highest inflation in 40 years proved not to be transitory, the Federal Reserve reversed course in 2022. The central bank tapered, then ended, its quantitative easing cycle and raised the federal funds target rate from a range of 0.00 – 0.25 at the start of the year to 4.25 – 4.50 by mid-December.

The near-term implications of the central bank's actions are mixed for the financial sector's profitability. Higher interest rates decrease the overall volume of credit demand as borrowers avoid higher financing costs. However, higher rates also increase the net interest income that banks otherwise earn by lending. On balance, rising interest rates tend to have a net positive impact on bank profits in the early phase of a monetary tightening cycle. But as rising rates slow the economy's momentum, financial sector profitability will slip. Indeed, there is early evidence that loan-loss allowances will proliferate going forward in anticipation of the coming downturn, eating into bank profits in 2023.

Equities were in bear market territory as of the end of December 2022, with the S&P 500 stock price index down by 20.0 percent between the beginning and the end of the year and 25.4 percent through the October 12 trough. The equity market's poor performance — along with a Federal Reserve seemingly committed to combating inflation, even at the cost of a recession — appeared to sideline prospective financial market activity, undermining sector profits.

Revenues for New York Stock Exchange (NYSE) member-firms experienced modest growth of 1.4 percent during the first three quarters of 2022, compared to the same period in 2021, following the 6.1 percent annual growth in 2021. The above-right graph shows NYSE member-firm total revenues and net revenues, where net equals total minus interest costs. As a result of higher interest expenses, net revenues experienced a sharp decline of 14.8 percent during the first three quarters of 2022 compared to the same period in 2021. This loss comes after annual growth of 12.4 percent in 2021. In response to this weak financial performance, anecdotal reports of Wall Street layoffs began permeating the news in late 2022. As the Federal Reserve continues to increase interest rates into 2023 and businesses position their balance sheets for a downturn, the financial sector will continue to face difficult days ahead.

Outlook

The State's finance and insurance sector bonuses are estimated to fall by 25.2 percent in FY 2023 due to weaker bank profits in 2022, stemming from the stock market's weak performance, record low dealmaking activity, and the lapse of pandemic-related fiscal stimulus. This estimated decline follows the sector's strong bonus growth of 14.6 percent in FY 2022.

The Federal Reserve is expected to complete its monetary tightening cycle in 2023 as prices stabilize. IPO and debt underwriting are projected to rebound partially from their lackluster performance in 2022. M&As will also likely see a modest recovery in 2023 due to higher financing costs and a weak national and global economic environment. As a result, finance and insurance sector bonuses are projected to decrease by a more modest 5.1 percent in FY 2024.

Risks

There are many risks to the financial sector outlook for 2023. If inflation remains unchecked, the Federal Reserve may, in turn, increase the pace of its already aggressive monetary tightening path beyond what is anticipated in this forecast, further weakening national economic activity and, hence, financial sector revenues and profits. Excessive stock market volatility could adversely affect business and household spending, further weakening the economic environment and bank profits. These events, in turn, could trigger further layoffs and a greater decline in finance and insurance bonuses than anticipated. Alternatively, if the Federal Reserve pivots and starts to reduce its short-term interest rate target sooner than projected, financial sector activity, revenue, and bonuses could be greater than is reflected in this forecast.

Personal Income and Wages

Key Points

- With the expiration of many of the pandemic-related Federal stimulus programs during FY 2022, the drivers of wage and non-wage personal income growth for FY 2023 and FY 2024 revert to more traditional economic trends. State personal income is estimated to grow only 0.8 percent for FY 2023 due to the unwinding of Federal fiscal stimulus spending, a slowing global economy, and the Federal Reserve's aggressive rate hikes to bring inflation under control.[37] Personal income growth of 3.5 percent is projected for FY 2024.

- State wages increased by 12.4 percent in FY 2022 due to the brisk jobs recovery, strong equity market growth, and 40-year high inflation. State wages are estimated to grow 2.4 percent for FY 2023 due to a slowdown in hiring and a substantial decline in bonuses, followed by projected growth of 2.3 percent for FY 2024 as an anticipated slowdown in job growth is mitigated by a smaller decline in bonus income.

- The New York State's non-bonus average wage increased by 4.5 percent in FY 2022, with employment remaining below its pre-pandemic level. This growth was due to a combination of high inflation and a tight labor market pushing up non-bonus wages. The State's non-bonus average wage is projected to increase by 2.8 percent in FY 2023 as slower job growth eases labor supply shortages, putting downward pressure on average wage growth, and remain relatively steady at 3.1 percent for FY 2024.

- Total bonus income is estimated to have increased by 15.7 percent in FY 2022, propelled by the strong equity market and strong IPO and M&A activity in 2021. However, after back-to-back record highs, State total bonus income is estimated to fall by 22.6 percent in FY 2023. The decline reflects a slowing global economy and the effects of monetary tightening. A smaller decline of 6.0 percent is projected for FY 2024 as the outlook for financial markets begins to improve.

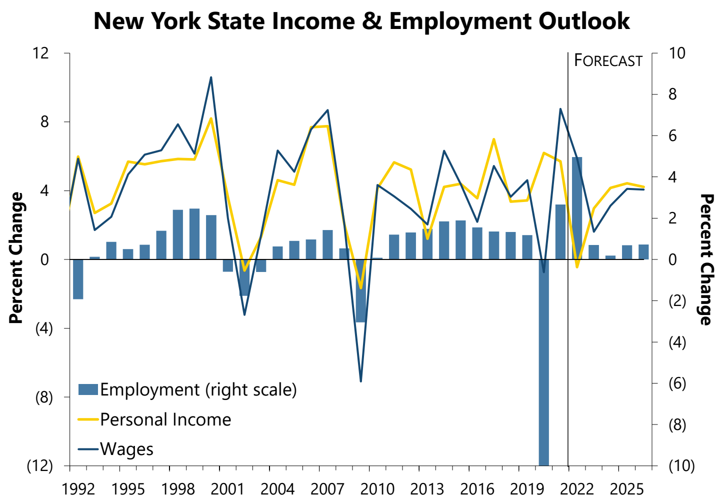
- After falling 8.7 percent in FY 2022, State non-wage income is estimated to fall another 1.0 percent for FY 2023, before growing a projected 5.0 percent for FY 2024. These declines are driven by the lapse of pandemic-related Federal stimulus programs, which caused transfer income to fall by 20.8 percent in FY 2022 and another 6.5 percent as estimated for FY 2023. Transfer income is projected to grow 6.7 percent for FY 2024. Property income grew by 3.6 percent in FY 2022 and is projected to accelerate further to 4.8 percent for FY 2023 and 5.5 percent for FY 2024, resulting largely from higher interest rates. Proprietors' income increased by 11.3 percent in FY 2022, partially aided by the pandemic-related stimulus in the form of PPP loans. However, proprietors' income is estimated to grow more modestly by 1.3 percent in FY 2023, as the stimulus fully fades away, and 1.8 percent for FY 2024, as the economy enters a recession.

[37] The Federal Government passed two significant legislative acts in 2022, which can be considered fiscal stimulus; however, their spending occurs over several years and only indirectly impacts personal income. The Creating Helpful Incentive to Produce Semiconductors and Sciences Act of 2022 includes $280 billion over ten years; and the Infrastructure Investment and Jobs Act includes $550 billion over five years.

Recent Developments

New York State personal income increased by 1.5 percent in FY 2022 as it emerged from the pandemic, significantly lower than the 8.6 percent gain in FY 2021 when pandemic-related Federal stimulus payments were at their peak. With the complete unwinding of these programs, combined with a large decline in bonus income, State personal income growth is estimated to decelerate further to 0.8 percent in FY 2023.

Wages represent the largest component of New York State personal income, comprising 53.7 percent of the latter in FY 2020, when income was as yet largely unaffected by the impact of the pandemic. Several non-wage components of personal income are also highly correlated with general economic trends – namely property income, proprietors' income, contributions for Social Security, and other labor income. Thus, it is not surprising that personal income and wages have historically moved together. The figure below illustrates the relationship between these series and State employment.

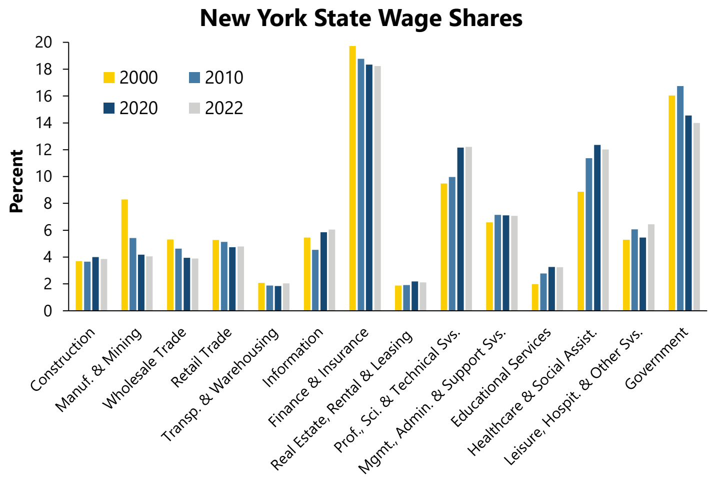


Source: NYS Department of Labor; Bureau of Economic Analysis (BEA), DOB staff estimates.

In contrast with most of the components of personal income, transfer income tends to move countercyclically with general economic trends, as it contains elements such as unemployment insurance income and Medicaid services spending, which tend to rise when the economy turns downward. Transfer income accounted for 17.2 percent of personal income in FY 2020, but by the following year, that share was up to 25.1 percent, while the wage share was down to 48.5 percent. Indeed, the disruptive forces of the pandemic led in FY 2021 to the largest spread on record between personal income growth and wage growth. However, as Federal pandemic-related stimulus programs lapsed, transfer income sharply declined, and the spread narrowed. For FY 2023, transfer income is estimated to have fallen to 18.1 percent of total personal income.

Wages and Variable Income

The pandemic caused a double-digit decline in New York State private sector employment. However, total State wages only dropped modestly in FY 2021. This discrepancy was mainly due to two factors. First was the countervailing impact of strong bonus growth, thanks to a rising equity market, and second was strong growth in non-bonus average wages due to the concentration of job losses in those industries that pay the lowest wages. With the State economy rebounding from pandemic-related shutdowns, employment grew a robust 7.1 percent in FY 2022. But wages rose by an even stronger 12.4 percent, led by high bonus growth due to a continued bull market, and higher non-bonus average wages resulting from a historically tight labor market and high inflation. According to the latest QCEW data, total State wages grew by 10.4 percent in the first half of 2022 on a year-ago basis. Private sector wages increased by 10.9 percent, while public sector wages rose only 7.5 percent over the same period.



Note: Shares for 2022 are based on two-quarters of actual data and two-quarters of forecast; the share of the utilities sector is less than one percent, therefore excluded.
Source: NYS Department of Labor; DOB staff estimates.

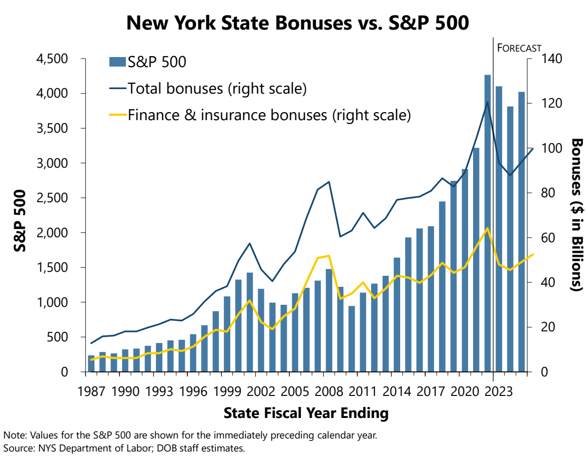
The figure above shows how the share of total State wages has fluctuated over time by sector since 2000. The finance and insurance sector's wage share is the largest, reinforcing its relative importance to the State. The government sector ranks second, although its wage share declined significantly at the onset of the pandemic when many teachers left the labor force. The wage share for the leisure, hospitality, and other services sector is estimated to have increased a full percentage point between 2000 and 2022. This sector experienced the largest share of employment losses at the onset of the pandemic. However, as consumer spending shifted back from goods to services and tourism continued to rebound, this sector started to make up some of the lost ground both in New York City and statewide. Indeed, the economic sectors with the sharpest wage declines at the height of the pandemic were also the same sectors that experienced the most substantial wage gains in the second quarter of 2022. Nevertheless, the wage share for leisure, hospitality, and other services has yet to catch up to its pre-pandemic level.

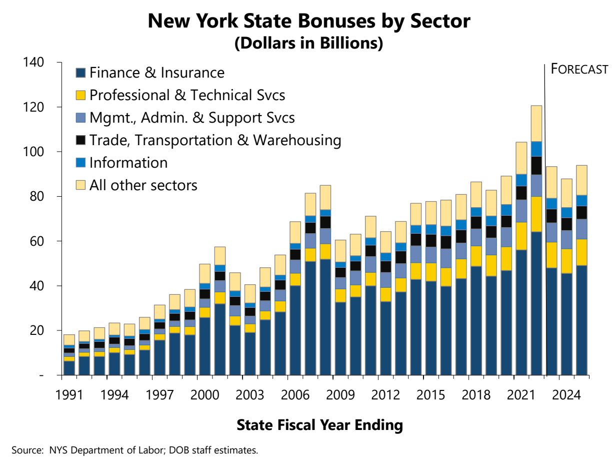
DOB disaggregates total wages into bonus and non-bonus wages using QCEW data.[38] The growth of non-bonus wages provides critical insights into the current health of the State economy, while bonus income, sometimes referred to as variable income, reflects the more recent performance of businesses and signals the direction of the State's economy. The State's non-bonus average wage was estimated to have increased by 4.5 percent in FY 2022, despite employment remaining below

[38] For a more detailed discussion, see FY 2020 Economic and Revenue Outlook, p.93. https://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf.

its pre-pandemic level. This growth was primarily due to a combination of record-high inflation and a tight labor market pushing up non-bonus wages.

The State's total bonuses are estimated to have increased by 15.7 percent in FY 2022, propelled by the strong equity market and fervent IPO and M&A activity in CY 2021. This estimated growth follows the significant gains from the prior fiscal year, resulting in back-to-back record highs. To illustrate this point, the figures below show bonuses by sector from 1991 to 2022, as well as forecasts for the next several years. Total New York State bonus income is estimated to have exceeded $120.6 billion for FY 2022, with the finance and insurance sector accounting for 53.2 percent of the total.





The figure above shows that bonuses for the professional, scientific, and technical services sector accounted for 13.1 percent of the State's total bonuses in FY 2022, while the information sector's bonuses represented 5.5 percent. The substantial size of the bonus payouts for these two industries signifies their high value-added, as well as their role in the continued diversification of the State's economy over the past two decades.

Non-wage Income

State personal income growth was weighed down in FY 2022 by the sharp fall in non-wage income during the aftermath of the pandemic. The decrease in non-wage income was primarily due to the decline in transfer income, which was boosted during the prior fiscal year by Federal pandemic-related stimulus programs. Non-wage income has historically accounted for approximately 46.0 percent of the State's personal income. However, non-wage income surged by 20.9 percent in FY 2021 due to the unprecedented amount of temporary Federal spending, sending non-wage income's share of personal income to 51.5 percent. As these programs expired, the State's non-wage income share declined to 46.3 percent in FY 2022, more in line with pre-pandemic levels.

Property income — the largest component of New York State non-wage income during more normal times — consists of interest income, dividend income, and rental income. The Federal Reserve completed its asset purchases in early 2022 and raised its short-term interest rate target throughout the year, contributing to the rise in long-term interest rates and providing a boost to interest income. Additionally, relatively strong growth in corporate profits led to healthy growth in dividend income in 2022, while rental income was mixed due to higher rental prices offset by elevated vacancy rates, especially in New York City. As a result, State property income is estimated to increase 4.8 percent for FY 2023, following 3.6 percent growth in FY 2022.

Transfer income — an especially critical component of the State's non-wage income throughout the pandemic — experienced a sharp decline of 20.8 percent in FY 2022, followed by a smaller decline of 6.5 percent estimated for FY 2023, as many Federal programs unwound. These programs provided an unprecedented one-time boost of $121.9 billion from the pandemic-related fiscal stimulus in FY 2021, resulting in transfer payments increasing by 57.9 percent that fiscal year; however, these stimulus payments lapsed over the course of FY 2022 and FY 2023.

EFFECTS OF SELECTED FEDERAL PANDEMIC RESPONSE PROGRAMS ON NEW YORK STATE PERSONAL INCOME
($ in millions, annualized)

	2020Q2	2020Q3	2020Q4	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3
Personal Income	176,784	119,173	46,835	191,627	93,868	67,445	20,538	10,065	8,539	6,328
Proprietor's Income	14,258	20,264	7,371	4,902	13,395	10,070	1,459	14	0	0
Farm proprietors' income	752	466	916	52	190	113	13	14	0	0
Coronavirus Food Assistance Program	458	291	786	8	91	51	6	14	0	0
PPP loans to businesses	294	175	130	44	99	62	6	0	0	0
Nonfarm proprietors' income (PPP)	13,506	19,798	6,455	4,851	13,205	9,956	1,446	0	0	0
Transfer Income	162,525	98,909	39,464	186,725	80,473	57,375	19,079	10,051	8,539	6,328
State unemployment insurance	71,059	66,949	29,919	68,054	55,064	36,843	162	37	17	7
Extended Benefits	20	394	1,400	4,066	1,483	91	1	1	0	0
Pandemic Emergency Unemployment Compensation	360	1,088	10,993	10,347	9,895	8,279	97	22	10	5
Pandemic Unemployment Assistance	7,963	17,263	15,165	14,354	10,849	8,665	64	13	7	2
Pandemic Unemployment Compensation Payments	62,716	48,204	2,362	39,287	32,836	19,808	0	0	0	0
Other Transfers	91,466	31,960	9,545	118,671	25,409	20,532	18,918	10,014	8,522	6,321
Child Tax Credit	1,656	1,656	1,656	1,930	1,930	12,045	12,277	5,168	5,168	5,168
Economic impact payments	62,869	908	295	111,042	16,659	2,235	817	0	0	0
Lost wages supplemental payments	0	15,275	1,113	72	15	2	0	0	0	0
PPP loans to NPISH	5,773	8,064	2,329	1,611	3,918	2,581	221	0	0	0
Provider Relief Fund to NPISH	20,551	5,122	3,197	3,044	1,893	2,659	4,582	3,820	2,840	1,153
Increase in Medicare reimbursement rate	618	937	956	973	995	1,011	1,020	1,026	514	0

Source: Bureau of Economic Analysis.

New York State proprietors' income increased by 11.3 percent in FY 2022, propelled by a mix of higher prices, strong demand for goods, and a rebound in noncorporate businesses' core revenue streams. State proprietors' income was also boosted by Federal stimulus payments equaling $6.2 billion in FY 2022. This stimulus was mainly in the form of Payroll Protection Program (PPP) grants, bridging the gap in many businesses' payrolls that otherwise would have been created by the pandemic. However, these PPP payments were significantly below the payments of $11.7 billion received in FY 2021. The complete unwinding of the PPP helped to bring proprietor income growth down to 1.8 percent for FY 2023.

State other labor income — which includes employers' contributions to pensions and insurance — experienced growth of 5.5 percent in FY 2022 due to strong employment and wage growth. This increase follows modest growth of 0.5 percent in FY 2021 when the State was still regaining its economic footing from the pandemic. Growth is estimated to decelerate to 2.4 percent for FY 2023, consistent with slower employment growth.

Lastly, State employee contributions to Social Security increased by 9.1 percent in FY 2022, amounting to $61.2 billion, in line with the State's wage growth. These contributions represent a deduction from State personal income and historically track employment and wage growth closely. State employee contributions to Social Security accounted for 4.1 percent of State personal income in FY 2022, up from 3.8 percent in FY 2021. State employee contributions to Social Security are also estimated to decelerate for FY 2023, to 5.9 percent.

Outlook

The outlook for New York State's personal income remains unfavorable for FY 2024 as the U.S. economy faces the prospect of a recession. The Federal Reserve has fully shifted its focus from employment to price stability, ending its quantitative easing cycle and aggressively raising its federal funds target rate. State's personal income is projected to increase modestly by 0.8 percent for FY 2023, followed by 3.5 percent growth for FY 2024 as the economy enters a new business cycle.

With a recession looming on the horizon, the New York State labor market is expected to lose substantial momentum over the course of FY 2024. As a result, growth in the non-bonus component of total State wages is also expected to decelerate from an estimated 6.9 percent for FY 2023 to 3.3 percent for FY 2024. Growth in the State's non-bonus average wage is projected to remain relatively steady at 3.1 percent in FY 2024, following estimated growth of 2.8 percent for FY 2023. Non-bonus average wages have historically trended with inflation, however, during the pandemic, non-bonus average wage growth became much more volatile due to asymmetric job losses and then later unusually large wage gains in low wage industries as employers had to address severe labor shortages. Combined with declines in bonuses, total State wage growth is projected to remain relatively steady at 2.3 percent for FY 2024, following estimated growth of 2.4 percent for FY 2023.

The State's total bonus income is estimated to decline by 22.6 percent for FY 2023 as monetary tightening takes its intended toll on the financial markets and economic growth more widely, and businesses attempt to conserve cash. This decline represents a reversal of the previous fiscal year's record bonus levels. Total State bonuses are projected to decline further for FY 2024 but by a lesser 6.0 percent as the economy continues to barrel toward a recession, partially mitigated by the anticipated turn in equity market conditions starting in the middle of CY 2023.

With the unwinding of Federal emergency pandemic spending largely complete by the end of FY 2023, State non-wage income is projected to rise by 5.0 percent for FY 2024, following an estimated decline of 1.0 percent in FY 2023. This turnaround is largely due to an estimated 6.5 percent decline in transfer income for FY 2023 turning into 6.7 percent growth projected for FY 2024. Property income growth is also expected to accelerate from 4.8 percent in FY 2023 to 5.5 percent growth for FY 2024 largely due to rising interest rates. Proprietors' income is projected to increase by 1.8 percent for FY 2024 as economic growth softens, following estimated growth of 1.3 percent in FY 2023 that reflects the winding of the Paycheck Protection Program. Growth in employee contributions to Social Security is projected to decelerate along with job growth to 5.4 percent for FY 2024, following estimated growth of 5.9 percent in FY 2023.

Risks

As the economy heads toward a downturn in 2023, there are many risks to the forecast for New York personal income and wages for the upcoming fiscal year. Most notably, continued high inflation could raise the specter of the Federal Reserve pressing more aggressively on the economic brakes with additional unanticipated monetary tightening. This action could cause more volatility in the equity markets, further undermining their performance and leading to weaker bonus payments than projected. Given the importance of the finance and insurance sector to the State, this could further weaken State personal income growth beyond that sector itself through the multiplier effect. The harder the Federal Reserve and other central banks press on the economic brakes, the deeper the ensuing national and global recessions in the upcoming fiscal year, which in turn could put downward pressure on both national and global demand for New York professional and business services. A deeper economic downturn could result in both lower wage growth due to greater layoffs and lower bonuses than forecast. On the positive side, if the Federal Reserve threads the needle and achieves the fabled soft landing with inflation coming under control, State personal income growth could be stronger than anticipated.

Housing Market

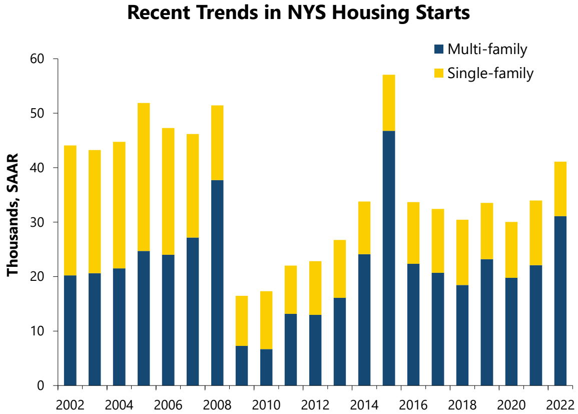
Key Points

- During the first ten months of 2022, New York State housing starts increased by 17.0 percent over the same period in 2021, after rising by 20.1 percent in the same period a year ago. The yearly increase in total starts is attributable to multi-family home construction, which increased 34.5 percent.

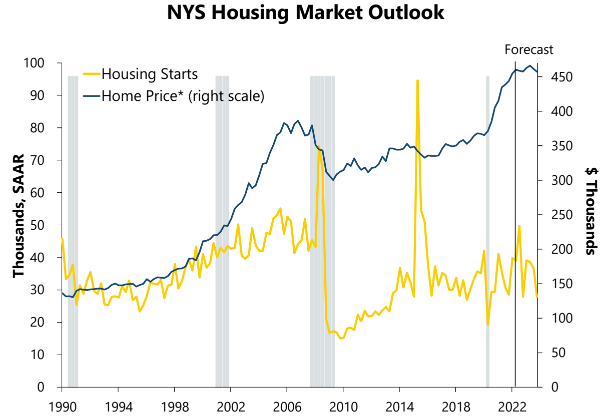
- According to data from the New York City Department of Finance through November 2022, all five New York City boroughs experienced a decline in sales activity from the same period in 2021; Staten Island led the trend with a 17.2 percent drop in units sold.

- Through September 2022, every county in the State experienced existing-home price appreciation compared to the same period a year ago; prices in 12 counties increased by over 10.0 percent.

- New York State's average single-family home price is estimated to have increased by 5.7 percent in 2022, following 13.5 percent and 4.8 percent growth in 2021 and 2020, respectively. The average single-family home price in the State is projected to rise 0.9 percent in 2023.



Note: 2022 data is through October.
Source: Moody's Analytics.



*Average existing single family home price.
Source: Moody's Analytics; DOB staff estimates.

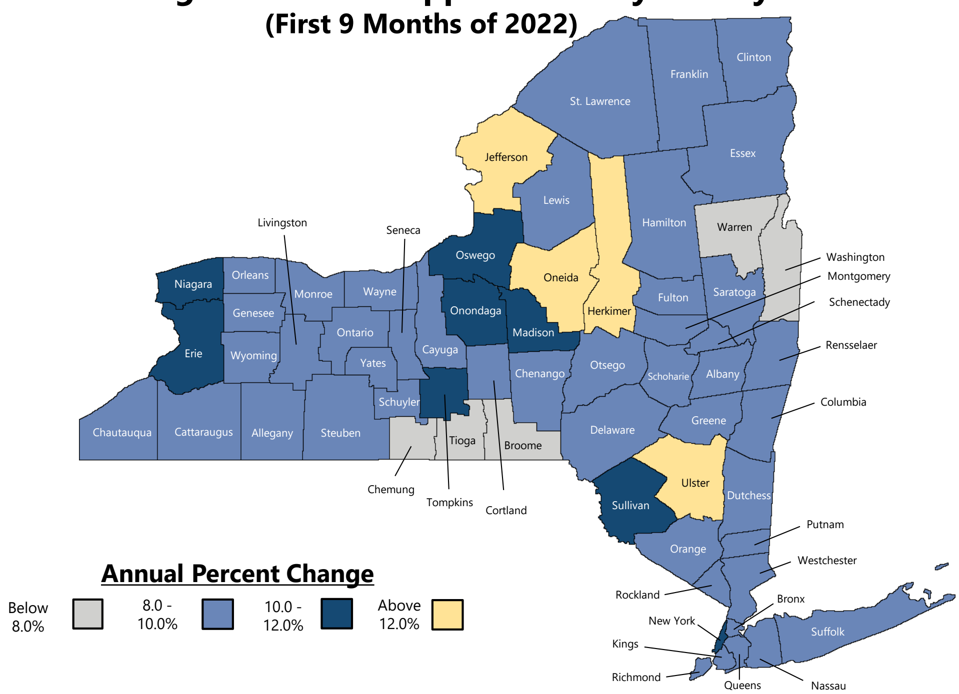
Recent Developments

In 2021, construction activity quickly rebounded due to healthy household savings, stimulus payments, and historically low mortgage rates; housing starts increased by 13.0 percent after declining by 10.3 percent in 2020. Based on data for the first ten months of 2022, housing starts continued this trend, growing by 17.0 percent compared to the same period in 2021 and by 23.5 percent above the pre-pandemic level in 2019. However, the 2022 increase in total starts is more than accounted for by multi-family home construction, which increased by 34.5 percent compared to the same period, while single-family home starts fell by 16.6 percent.

Median sales prices for existing homes have continued to appreciate all across the State. Prices have increased by greater than 5.0 percent in the six counties where the six largest Upstate cities are located — Albany (Albany), Oneida (Utica), Broome (Binghamton), Onondaga (Syracuse), Monroe (Rochester), and Erie (Buffalo) counties. Among these six counties, Erie county's price appreciation was the highest when compared to its pre-pandemic level; the median sales price of existing homes in Erie County for the first nine months of 2022 was 42.5 percent greater than the same period in 2019. The statewide median sales price was up 42.9 percent during the same period. For the first nine months of 2022, Oneida County saw the strongest year-ago price growth of all the counties in the State, at 17.0 percent, compared to the statewide growth of 9.8 percent.

The growth in the median sales price of existing homes for each county in the State is displayed below. Twelve counties saw growth greater than 10.0 percent; the majority of counties (45 of 62 counties) saw prices rise between 8 and 10 percent compared to the first nine months of 2021.

Existing-Home Price Appreciation by County
(First 9 Months of 2022)

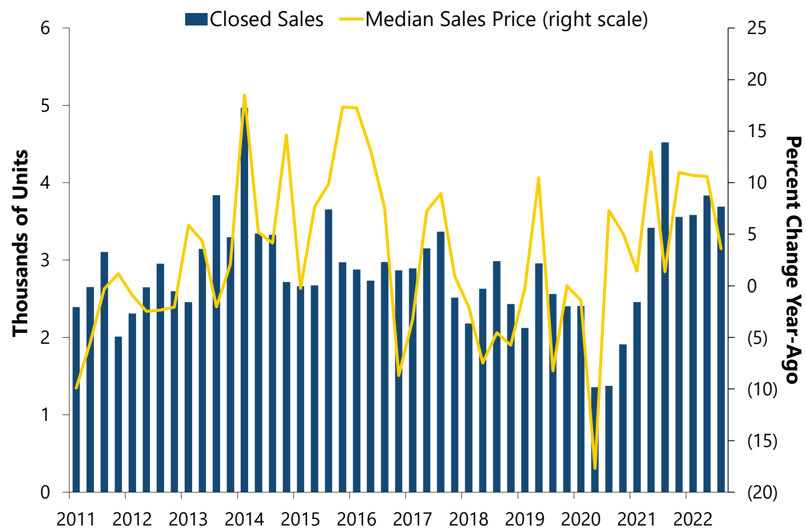


Source: National Association of Realtors; Moody's Analytics.

In contrast, sales activity slowed in New York City compared to last year's surge. For the first 11 months of 2022, all five New York City boroughs experienced a decline in units sold compared to a year ago. Staten Island led the trend with a 17.2 percent drop, followed by Manhattan, Brooklyn, Queens, and the Bronx (-5.2 percent, -4.2 percent, -2.0 percent, and -1.7 percent, respectively). However, the Bronx is the only borough that has not reached its pre-pandemic sales level, with units sold still down by 5.5 percent from the same period in 2019.

After experiencing record-breaking sales activity in 2021, Manhattan's condo and co-op markets began to stabilize in 2022, though at much higher levels than before the pandemic. The number of sales increased in the first two quarters of 2022 but then fell in the third quarter by 3.7 percent from the prior quarter to 3,692 sales, 18.4 percent below the year-ago level. The median listing price for condos and co-ops in Manhattan for the third quarter of 2022 rose by 3.6 percent from the prior year to $1.155 million, the second highest on record for a third quarter and 12.6 percent above the third quarter of 2019. The median sales price within the luxury market — defined as the top 10 percent of all sales in a period — rose 4.5 percent from the prior year to $5.75 million.[39]

Manhattan's Condo and Co-op Market



Source: Miller Samuel Inc. and Douglas Elliman Real Estate.

Activity within the resale market showed signs of cooling as the number of closed sales in the third quarter of 2022 fell for the first time in seven quarters on a year-ago basis, falling 18.1 percent to 3,169 sales. Furthermore, the number of months it would take to sell the entire active listing inventory at the current rate of sales — the months of supply — rose by 19.2 percent from a year ago to 6.2 months. Meanwhile, listing inventory remains nominally higher than pre-pandemic levels at 6,596 units. Price appreciation still exists within the market, but the pace is slowing. The third quarter median sales price fell by 5.2 percent from the second quarter to $995,000, but it was still 2.6 percent above the median price a year ago.

Amid rising borrowing costs, rising home prices, and employers continuing to bring their workforce back on-site, the rental market in New York City has remained hot. In November 2022, the net effective median rent of an apartment in Manhattan was $4,033, the third highest on record and 15.2 percent higher than the same month in 2019, just before the pandemic.[40]

Outlook

Trends in multi-family homes led total starts in the State during the last two decades. Total starts are estimated to have increased by 15.3 percent in 2022. As the economy continues to battle

[39] "The Elliman Report: Manhattan, NY Sales Q3-2022." Miller Samuel Real Estate Appraisers and Consultants, 2022. https://www.elliman.com/resources/siteresources/commonresources/static%20pages/images/corporate-resources/q3_2022/manhattan-q3_2022.pdf.

[40] "The Elliman Report: Manhattan, Brooklyn and Queens Rentals November 2022." Miller Samuel Real Estate Appraisers and Consultants, November 2022. https://millersamuel.com/files/2022/12/Rental-11_2022.pdf.

widespread inflation and rising borrowing costs, housing starts are projected to decline by 9.2 percent in 2023. Prospects for the State's residential housing market also depend on the outlook for home prices. The average existing single-family home price in New York is expected to increase by 5.7 percent in 2022, well below the 13.5 percent rate of price appreciation in 2021. New York State's average single-family home price is projected to rise by only 0.9 percent in 2023.

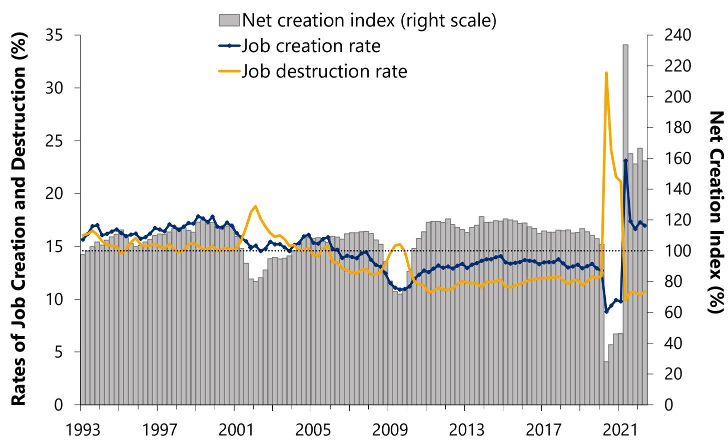
Risks

With interest rates still on the rise, State housing starts are projected to fall, while home prices are expected to eke out a modest gain, but there are many risks to this forecast. If mortgage rates rise more than expected, the demand for housing could fall relative to expectation, possibly translating to fewer housing starts than expected, as well as weaker growth in existing home prices. Further declines in the State's population, as well as a deeper-than-expected recession leading to a rise in unemployment, could also depress the demand for homes. On the other hand, a stronger labor market and, thus, higher-than-expected income growth, could lead to a more robust housing market.

New York State Labor Market Dynamics

Although New York State's labor market continued to recover in 2022, State private sector employment has yet to reach its pre-pandemic level. The State's net job creation index has remained steady at an elevated level following the pandemic-induced recession, posting an average of 126.1 percent from the third quarter of 2020 through the second quarter of 2022.[41] In contrast, the State's net job creation index was much weaker in the two-year period following the Great Recession of 2008, posting an average of only 99.2 percent. The difference between the two post-recession recoveries is primarily due to the unique circumstances surrounding the 2020 recession: a pandemic that led to a lockdown resulting in the almost instantaneous loss of 20 percent of the State workforce, followed by a strong rebound as the lockdown was lifted.

NYS Private Sector Employment Dynamics



Source: NYS Department of Labor; DOB staff estimates.

The speed and magnitude of the current expansion have propelled wages upward as labor demand continued to outpace labor supply. The increased production costs due to the tight labor market are expected to ease along with labor demand as employers reduce their payrolls amidst moderating consumer demand as the nation enters a mild recession.

DOB projects New York State private sector employment to grow by 0.8 percent in 2023 after increasing by 5.9 percent in 2022. Moreover, the State's private sector employment growth is expected to remain muted in 2024, growing by only 0.2 percent.

The State's Employment and Establishment Base

The figure below shows the composition of the State's employment and establishment base for the second quarter of 2022 by establishment type. Existing firms are classified according to whether their employment levels expanded, contracted, or experienced no change in size relative to the same quarter of the prior year. Existing firms represent 88.8 percent of the State's

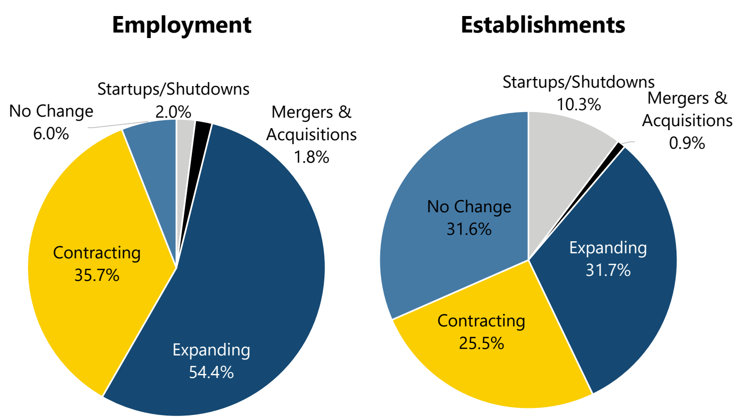
[41] For a detailed description of the net job creation index and other labor dynamics concepts, see FY 2022 Economic and Revenue Outlook, p.74. https://www.budget.ny.gov/pubs/archive/fy22/ex/ero/fy22ero.pdf.

establishment base and 96.1 percent of its job base for this quarter. The State's post-pandemic economic recovery continued in 2022, as 54.4 percent of firms expanded their employment size in the second quarter of 2022 compared to the year prior, whereas 35.7 percent of firms reduced their employment size.

However, New York State's establishment numbers show a different pattern than employment. Firms that contracted in size represented 25.5 percent of establishments in the second quarter of 2022, up from 20.9 percent in the prior year. Firms that expanded represented 31.7 percent of establishments in the second quarter of 2022, down from 38.9 percent in the prior year. Firms with no change in employment increased to 31.6 percent in the second quarter of 2022.

The establishments that expanded, contracted, or experienced no change in size relative to the same quarter of the prior year also depended on the firm's size. Firms that contracted in size had an average of 16.3 employees in the second quarter of 2022, whereas firms that expanded had an average of 20.0 employees. Firms that experienced no change in employment had an average of 2.2 employees — significantly lower than either of the other groups.

Composition of State's Employment and Establishment Base
Second Quarter of 2022



Source: NYS Department of Labor; DOB staff estimates.

Startups and shutdowns accounted for 10.3 percent of the establishment base in the second quarter of 2022. These firms tended to be quite small, averaging 2.3 employees per firm, and accounted for only 2.0 percent of the State's private sector employment base. Firms acquired or absorbed by other firms accounted for 0.9 percent of the establishment base in the second quarter of 2022. The average size of these firms was 23.3 employees, accounting for 1.8 percent of the State's private sector employment.

Manufacturing and Mining

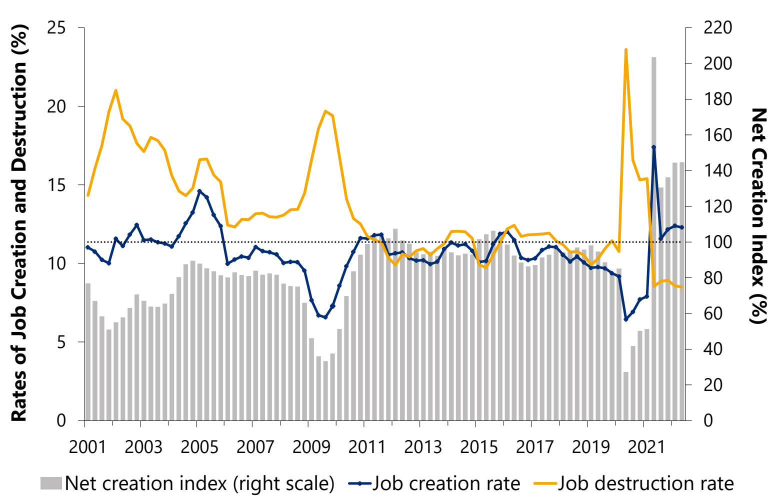
- The net job creation index peaked for the manufacturing and mining combined sector in the second quarter of 2021 and has remained elevated. As of the second quarter of 2022, job gains were highest in food manufacturing, gaining 3,410 jobs on a year-over-year basis. Declines were greatest in transportation equipment manufacturing which lost 369 jobs year-over-year.

- As the economy came out of the pandemic, pent-up demand pushed up the job creation index, which held between 11.6 and 12.4 percent after the initial rebound spike in the second quarter of 2021. The job destruction index sank lower from 8.9 percent in the third quarter of 2021 to an all-time low of 8.5 percent in the second quarter of 2022. Although New York State's manufacturing and mining sector posted record high net job creation since the second quarter of 2021, as of the second quarter of 2022, employment remains 4.5 percent below its pre-pandemic level.

- In the second quarter of 2022, New York City remained the farthest from its pre-pandemic level in manufacturing and mining, still 15.6 percent below. The Capital Region was the only region in the State to surpass its pre-pandemic employment level for this sector by the second quarter of 2022.

- Employment growth of 3.5 percent is estimated for this sector for 2022, following an increase of 1.7 percent in 2021. Although the State's manufacturing and mining employment recovery continued throughout 2022, monetary tightening and weakening national and global economic conditions are expected to cause employment to decline by 1.3 percent in 2023, followed by a return to its long-term gradually declining trend — never reaching its 2019 level over the forecast horizon.

Mining and Manufacturing



Source: NYS Department of Labor; DOB staff estimates.

Construction and Real Estate

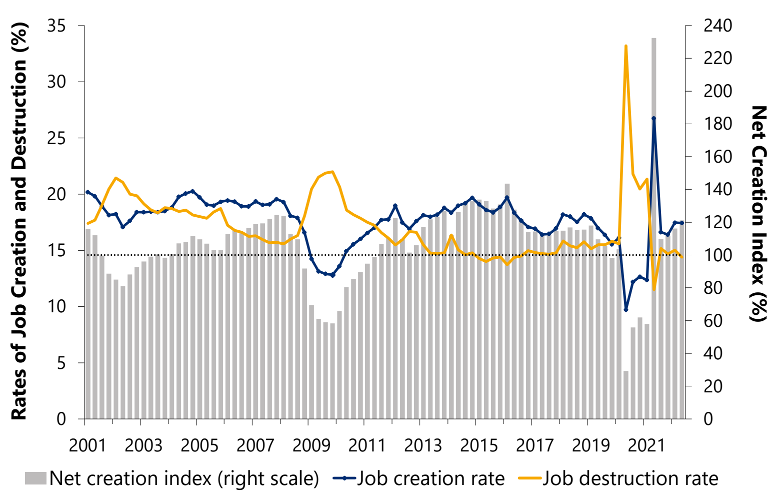
- The construction and real estate combined sector's net job creation index peaked at 232 percent in the second quarter of 2021, before falling back to its pre-pandemic range. This sector's net job creation index was 116.2 percent in the first quarter of 2022, followed by a slight increase to 121.1 percent in the second quarter. The real estate industry had the strongest year-over-year gains of any industry in this sector, adding 5,479 jobs in the second quarter of 2022, followed by the construction of buildings industry, which added 5,203 jobs.

- This sector's job destruction and job creation indexes have stabilized, with the job creation index at 17.4 percent in the second quarter of 2022 and the jobs destruction index at 14.4 percent. Construction industry employment was 5.9 percent below its level from three years ago, lagging behind the real estate and rental leasing industry, which was only 3.7 percent below. Overall, sector employment was 5.1 percent below its pre-pandemic level from three years ago.

- As of the second quarter of 2022, New York City's construction and real estate employment was 9.0 percent below its pre-pandemic level. The Finger Lakes and North Country were the only regions across the State to have higher employment levels in the second quarter of 2022 compared to three years ago.

- New York State construction and real estate employment is estimated to have grown by 2.9 percent in 2022 amidst tightening monetary conditions and higher mortgage rates. Sector employment is projected to decline by 1.0 percent in 2023 and not return to its 2019 pre-pandemic level at any point over the forecast horizon.

Construction and Real Estate



Source: NYS Department of Labor; DOB staff estimates.

Trade, Transportation, and Warehousing

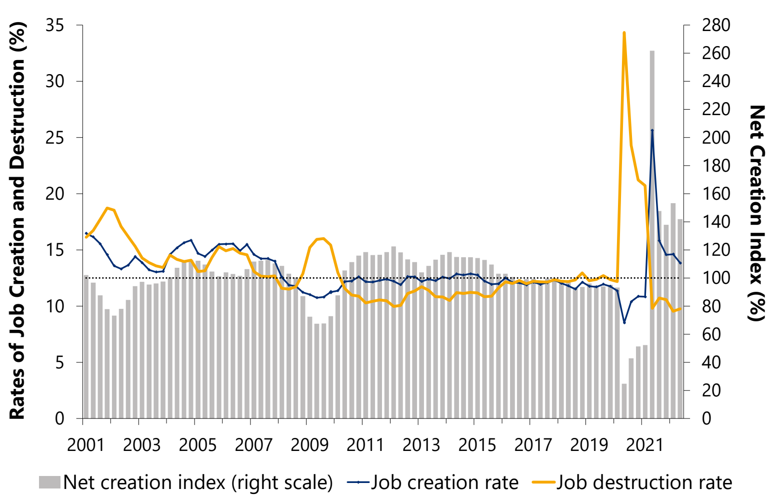
- The trade, transportation, and warehousing combined sector's net job creation index peaked at 261.6 percent in the second quarter of 2021, remaining elevated at 141.9 percent in the second quarter of 2022. The warehousing and storage industry led the sector's employment recovery, posting year-over-year gains of 7,862 jobs in the second quarter of 2022. These gains put the industry 64.3 percent above its pre-pandemic level. Although the transportation and warehousing industry's employment exceeded its pre-pandemic level in the second quarter of 2022, employment in the wholesale and retail trade sectors was 6.3 percent and 8.2 percent below their pre-pandemic levels, respectively.

- Since this sector's job creation index peaked in the second quarter of 2021, it has fallen to 13.8 percent in the second quarter of 2022, near its pre-pandemic range. However, the job destruction index has remained at historic lows, posting at 9.8 percent in the second quarter of 2022. As of the second quarter of 2022, sector employment remained 5.8 percent below its pre-pandemic level from the second quarter of 2019.

- New York City's trade, transportation, and warehousing sector employment was the furthest from its pre-pandemic level, 10.0 percent below as of the second quarter of 2022. Of the ten State regions, only the Capital Region was above its pre-pandemic level.

- With strong employment growth following the pandemic, employment in this sector is estimated to have increased by 4.1 percent in 2022. A small decline of 0.7 percent is projected for 2023, consistent with a mild national recession; sector employment is not projected to return to its 2019 level within the forecast horizon.

Trade, Transportation and Warehousing



Source: NYS Department of Labor; DOB staff estimates.

Information (Media and Communications)

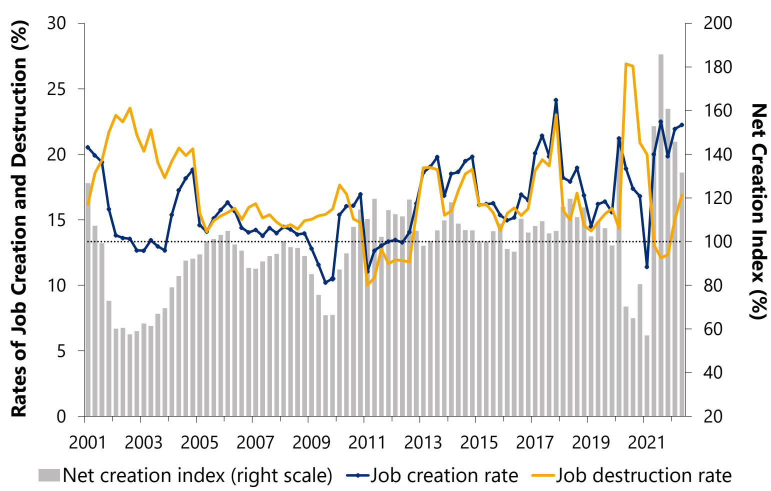
- The information sector's net job creation index peaked at 185.8 percent in the third quarter of 2021 and has slowly trended back toward its pre-pandemic range, posting 131.6 percent in the second quarter of 2022. The information sector had posted a year-over-year increase of 15,100 jobs as of the second quarter of 2022, putting it 4.4 percent above its pre-pandemic level in the second quarter of 2019. However, these gains have recently been overshadowed by news of layoffs in this sector.

- Since peaking at 22.5 percent in the third quarter of 2021, the sector's jobs creation index has remained elevated near 22.2 percent for the second quarter of 2022. The sector's jobs destruction index has crept up from its low of 12.1 percent in the third quarter of 2021 to 16.9 percent as of the second quarter of 2022, representing a return to the sector's dynamic of historically high rates of job creation and destruction.

- New York City's information sector grew 6.0 percent year-over-year in the second quarter of 2022, the strongest growth of any region across the State. As of the second quarter of 2022, the City's information sector employment was 8.2 percent above its pre-pandemic level for the second quarter of 2019. Within the information sector, New York City is the only region in the State to surpass its pre-pandemic employment level.

- The information sector's employment is estimated to have grown by 5.3 percent in 2022, one of the strongest recoveries among all the sectors. However, the sector is expected to experience a moderate decline of 0.5 percent in 2023 while remaining above its 2019 level over the forecast horizon.

Information



Source: NYS Department of Labor; DOB staff estimates.

Finance and Insurance

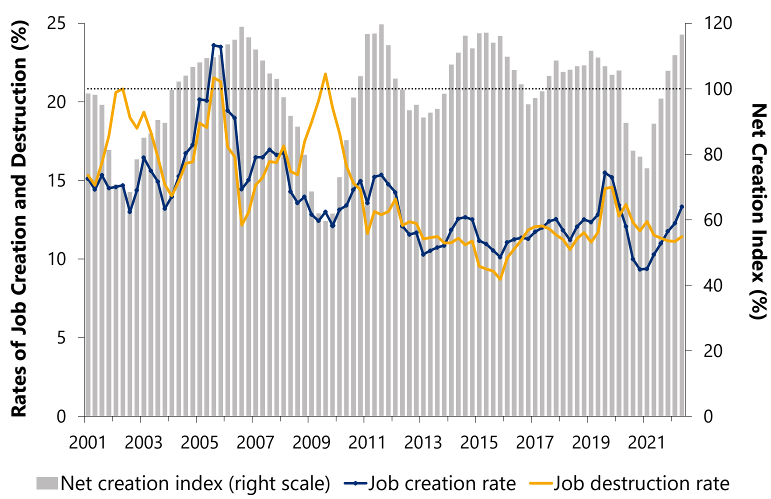
- New York State's finance and insurance sector's net job creation index was 105.5 percent in the fourth quarter of 2021, crossing into expansionary territory. The sector continued to gain momentum, reaching 116.5 percent in the second quarter of 2022. These employment gains were driven by the securities, commodity contracts, and investments industry, which posted a year-over-year increase of 8,268 jobs in the second quarter of 2022, placing the industry 2.6 percent above its pre-pandemic level.

- The net creation index hit its most recent low in the first quarter of 2021. Since then, the job creation index has reversed, rebounding to 13.3 percent in the second quarter of 2022, while the job destruction index has fallen to 11.4 percent.

- During the first two quarters of 2022, finance and insurance sector employment saw declines on a year-over-year basis across all regions in the State except for New York City. City employment grew by 1.1 percent in the first quarter of 2022, followed by growth of 2.1 percent in the second quarter. As of the second quarter of 2022, finance and insurance sector employment had not yet returned to its pre-pandemic level for the second quarter of 2019. Statewide, finance and insurance employment for the second quarter of 2022 was 0.7 percent below its pre-pandemic peak.

- Finance and insurance employment is estimated to have grown 1.9 percent in 2022, representing one of the weakest recoveries among all the State's sectors. Moreover, the sector is expected to experience a moderate decline of 0.4 percent in 2023 and remain below its pre-pandemic level from 2019 over the entire forecast horizon.

Finance and Insurance



Source: NYS Department of Labor; DOB staff estimates.

Professional and Business Services

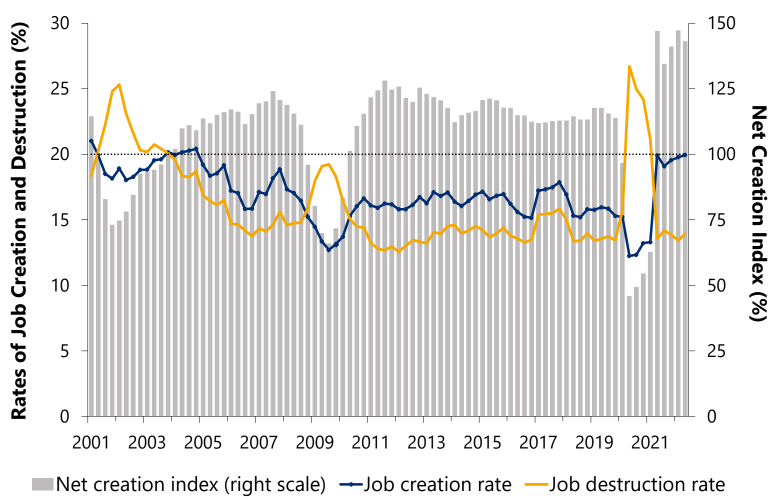
- The net job creation index for the State's professional and business services supersector peaked at 147.3 percent in the first quarter of 2022, remaining exceptionally high since its recovery from the pandemic began in the second quarter of 2021. This supersector's employment gains were largest in the administrative and support services industry, posting a year-over-year increase of 38,673 jobs in the second quarter of 2022. Similarly, the professional and technical services industry posted an increase of 31,982 jobs over the same period.

- After the initial shock from the onset of the pandemic, the supersector's job destruction index quickly returned to its pre-pandemic range, posting 13.9 percent in the second quarter of 2022. In contrast, this supersector's job creation index jumped to 19.9 percent in the second quarter of 2021, well above its pre-pandemic range, and held steady near that level through the second quarter of 2022.

- In 2022, professional and business services employment consistently posted the highest annual growth rates in New York City, the Hudson Valley, and Western New York. As of the second quarter of 2022, the North Country, Hudson Valley, Long Island, and the Capital Region were the only regions across the State to have returned to their respective pre-pandemic levels in the second quarter of 2019. Overall, professional and business services employment stood 2.1 percent below its pre-pandemic level.

- Professional and business services employment is estimated to have increased by 6.7 percent in 2022 and is projected to be followed by muted growth of 0.9 percent for 2023, returning to its pre-pandemic level by 2024.

Professional and Business Services



Source: NYS Department of Labor; DOB staff estimates.

Education and Health Services

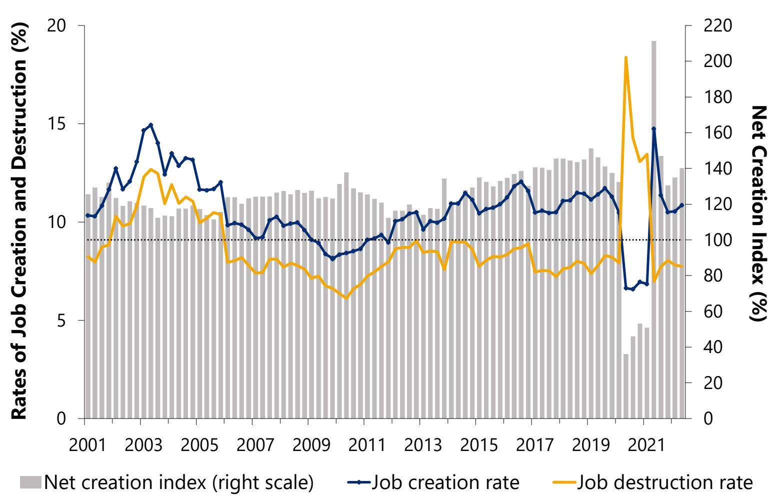
- The education and health services supersector net job creation index peaked at 211.3 percent in the second quarter of 2021 before returning quickly to its pre-pandemic range. Within this supersector, the ambulatory health care services industry posted year-over-year job gains of 33,274 in the second quarter of 2022, placing it 6.7 percent higher than three years prior. Similarly, the social assistance industry posted year-over-year job gains of 24,314 in the same period, putting it 0.6 percent above its pre-pandemic level. On the other hand, employment in nursing and residential care facilities declined by 6,513 in the second quarter of 2022, with this industry's employment remaining 14.9 percent below its pre-pandemic level.

- After peaking in the second quarter of 2021, this supersector's job creation index quickly fell to its pre-pandemic range and remains steady at 10.9 percent as of the second quarter of 2022. The supersector's job destruction index rose slightly from its more recent low of 7.0 percent in the second quarter of 2021 to 7.7 percent in the second quarter of 2022.

- In the second quarter of 2022, education and health care employment posted positive year-over-year growth in New York City, Long Island, Hudson Valley, and the Finger Lakes. As of the second quarter of 2022, New York City was the only region in the State to surpass its pre-pandemic employment level for this supersector, sitting 4.2 percent above its second quarter of 2019 level.

- State education and health services employment is estimated to have grown by 3.5 percent in 2022, with modest growth of 1.6 percent projected for 2023, when it is expected to surpass its 2019 pre-pandemic level.

Education, Health Care, and Social Assistance



Source: NYS Department of Labor; DOB staff estimates.

Leisure and Hospitality, and Other Services

- The pandemic reduced employment in many of the industries within leisure and hospitality, and other services combined sector by a half or more amidst lockdowns. However, the sector's net job creation index skyrocketed, peaking at 507.5 percent in the second quarter of 2021 when vaccines became widely available and most restrictions on indoor activities were lifted.

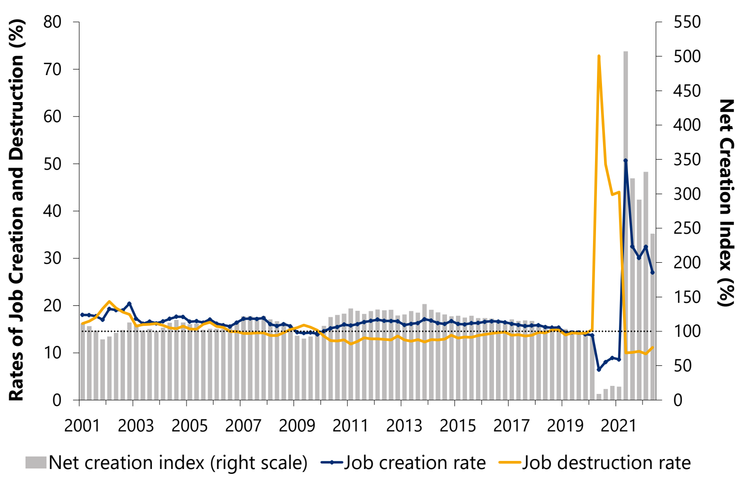
- Job gains were led by accommodations and food services, posting 123,906 in the second quarter of 2022 relative to the prior year. Similarly, the arts, entertainment, and recreation industry posted a gain of 35,213 over the same period. However, these two sectors remain 10.7 percent and 14.6 percent below their pre-pandemic levels, respectively. As a whole, this sector was still 11.2 percent below its pre-pandemic level in the second quarter of 2022.

- This sector's job creation index has trended downward since its most recent peak in the second quarter of 2021. However, the index remained elevated at 27.0 percent in the second quarter of 2022, whereas its job destruction index held steady at record lows of around 10 percent before edging slightly up to 11.2 percent in the second quarter of 2022.

- Strong annual employment growth in leisure and hospitality, and other services was spread across all regions, led by New York City. However, as of the second quarter of 2022, City employment in this sector was 14.8 percent below its pre-pandemic level, the largest gap of any region, followed by the Mohawk Valley with a 12.2 percent gap.

- Leisure and hospitality, and other services employment is estimated to have grown by 15.3 percent in 2022 before moderating to 3.9 percent growth in 2023 and is expected to remain below its 2019 pre-pandemic level throughout the forecast period.

Leisure, Hospitality, and Other Services



Source: NYS Department of Labor; DOB staff estimates.

Risks

The forecast for the State economy faces many of the same risks as the national economic forecast, but as home to the world's financial capital, New York has significantly greater exposure to monetary policy shifts and the volatility of financial markets. A weaker equity market performance could result in a broader wave of layoffs, weaker bonuses and wage growth, and significantly lower taxable capital gains realizations than reflected in the current forecast.

While inflation appears to be on a decelerating path thanks to a historically brisk pace of monetary tightening, the return of widespread supply-chain disruptions or a prolonged war in Ukraine could reignite the inflation flame, resulting in more interest rate hikes and a weaker financial sector than expected. In addition, the Federal Reserve could be overly aggressive in its monetary tightening and tip the U.S. economy into a more severe recession than anticipated in this forecast. A weaker national economy would likely imply weaker financial market activity and lower demand for the State's professional and business services, resulting in a weaker State labor market more generally.

More locally, the ongoing persistence of telework, the relocation of urban-based workers outside of the State, and a decline in the State's population remain long-run downside risks to total wages and employment. If these trends should accelerate over the near-term due to the emergence of a particularly virulent strain of virus, employment and wage growth could be lower than projected. Likewise, if international tourism in New York State continues to remain below its pre-pandemic level, or if the dollar remains at historically strong levels, job growth within those sectors that rely on tourism spending and exports could be weaker than expected. Although the spending patterns that were altered during the pandemic have largely reverted to pre-pandemic norms, a resurgence of COVID-19 could reverse that trend, resulting in weaker growth within the State's service producing sectors than anticipated.

Should the Federal Reserve succeed in engineering a shorter or shallower recession than anticipated — or, in the best case, the fabled soft landing — the outcome for the New York State economy could be more favorable than the outlook reflected in this forecast. A more substantial return to an in-office working environment, particularly in densely populated urban areas like New York City, would likely result in a boost to those industries that serve a substantial commuter customer base, including facilities support services, business support services, office administrative support services, eating and drinking establishments, and other consumer service-based establishments. Additionally, a sooner-than-expected return to normal in China, or stronger global growth more generally, could also bring more tourism spending to the State, resulting in stronger growth in the leisure and hospitality and other tourism-related sectors than is reflected in this forecast.

NEW YORK STATE PRIVATE EMPLOYMENT BY INDUSTRY	Employment in Thousands					Percent Change				
INDUSTRY	**2018**	**2019**	**2020**	**2021**	**2022***	**2018**	**2019**	**2020**	**2021**	**2022***
Mining and Manufacturing	446.3	441.8	404.3	411.2	421.3	(0.5)	(1.0)	(8.5)	1.7	3.9
Construction and Real Estate	601.1	608.1	550.8	562.9	563.7	2.5	1.2	(9.4)	2.2	2.8
Trade, Trans., and Warehousi	1,516.6	1,507.2	1,331.8	1,377.9	1,413.2	(0.5)	(0.6)	(11.6)	3.5	4.7
Information	275.8	277.5	267.9	278.7	288.1	2.4	0.6	(3.4)	4.0	6.3
Finance and Insurance	513.5	518.6	511.6	506.6	510.8	0.7	1.0	(1.4)	(1.0)	1.5
Business and Professional Svs	1,339.4	1,369.0	1,243.8	1,271.7	1,324.9	1.9	2.2	(9.1)	2.3	6.4
Education and Health Care	1,914.0	1,981.6	1,873.0	1,905.0	1,954.5	3.5	3.5	(5.5)	1.7	3.0
Leisure, Hospitality, and Othe	1,327.7	1,329.4	941.7	1,041.1	1,150.3	1.0	0.1	(29.2)	10.6	21.0
Other **	54.4	61.0	60.0	79.8	111.6	(2.0)	12.1	(1.7)	33.0	52.5
Statewide	**7,988.9**	**8,094.2**	**7,184.8**	**7,434.9**	**7,738.4**	**1.5**	**1.3**	**(11.2)**	**3.5**	**6.8**

* Levels for 2022 are based on the first two quarters of the year; 2022 growth rates are relative to the same period in 2021.
** Includes agriculture, utilities, and unclassified firms.

NEW YORK STATE PRIVATE EMPLOYMENT BY REGION	Employment in Thousands					Percent Change				
REGION	**2018**	**2019**	**2020**	**2021**	**2022***	**2018**	**2019**	**2020**	**2021**	**2022***
New York City	3,804.2	3,915.9	3,421.1	3,506.4	3,706.8	2.4	2.9	(12.6)	2.5	8.8
Long Island	1,108.6	1,112.3	989.3	1,041.2	1,066.0	0.4	0.3	(11.1)	5.2	4.9
Hudson Valley	777.8	789.3	704.1	731.7	751.1	1.3	1.5	(10.8)	3.9	5.0
Capital District	413.9	412.9	376.6	387.4	392.1	0.6	(0.2)	(8.8)	2.9	3.6
Mohawk Valley	129.0	128.6	116.6	119.2	119.1	(0.0)	(0.3)	(9.3)	2.2	2.1
North Country	103.8	103.1	93.7	97.9	97.8	0.5	(0.6)	(9.2)	4.5	2.5
Central New York	278.8	280.2	253.8	259.1	262.7	0.6	0.5	(9.4)	2.1	3.4
Southern Tier	227.1	225.2	204.5	208.4	209.4	0.5	(0.8)	(9.2)	1.9	2.3
Western New York	522.8	524.0	467.7	481.1	491.4	0.4	0.2	(10.8)	2.9	4.3
Finger Lakes	466.0	467.4	424.2	434.0	441.2	0.9	0.3	(9.2)	2.3	3.6
Unclassified	157.0	135.1	133.3	168.6	200.7	(0.1)	(13.9)	(1.3)	26.5	25.1

* Levels for 2022 are based on the first two quarters of the year; 2022 growth rates are relative to the same period in 2021.

REGIONAL EMPLOYMENT SHARES BY INDUSTRY

REGION	**Mining & Manuf.**	**Constr. & Real Estate**	**Trade, Trans. & Wareh.**	**Infor-mation**	**Finance & Insurance**	**Business & Prof. Svs.**	**Educ. & Health Care**	**Leisure, Hosp. & Other Svs.**	**Other**
New York City	1.5	7.2	14.7	6.0	9.1	19.2	27.1	14.1	1.0
Long Island	6.4	8.9	22.3	1.3	4.4	15.1	24.1	16.1	1.4
Mid Hudson	5.6	9.2	21.5	1.7	3.6	14.4	25.7	16.3	1.9
Capital Region	8.9	7.1	21.6	2.1	5.3	15.1	22.5	15.9	1.5
Mohawk Valley	13.2	4.5	25.9	1.0	5.6	7.4	26.3	14.7	1.4
North Country	9.7	7.1	25.2	1.4	2.2	7.5	25.1	18.3	3.5
Central New York	11.5	6.8	22.6	1.5	3.7	13.5	21.8	15.7	3.0
Southern Tier	15.6	4.9	20.2	1.5	3.3	9.9	27.1	15.7	1.9
Western New York	13.0	6.2	21.7	1.3	5.4	14.1	20.4	16.8	1.1
Finger Lakes	13.7	6.8	19.2	1.4	3.3	14.1	25.2	14.0	2.1
Statewide	**5.4**	**7.4**	**18.3**	**3.7**	**6.6**	**17.0**	**25.1**	**14.8**	**1.6**

Note: Shares are based on the period from 2021Q3 through 2022Q2.

REGIONAL EMPLOYMENT TRENDS: 2018-2022										
	Employment (000's)					Percent Change				
Region	**2018**	**2019**	**2020**	**2021**	**2022***	**2018**	**2019**	**2020**	**2021**	**2022***
	Manufacturing and Mining									
New York City	70.0	66.7	52.9	54.1	56.3	(4.2)	(4.7)	(20.8)	2.4	7.0
Long Island	70.7	70.5	65.3	67.2	68.5	(0.5)	(0.3)	(7.3)	2.9	2.6
Hudson Valley	43.9	43.9	40.9	41.5	42.2	0.5	(0.1)	(6.7)	1.3	3.4
Capital District	35.7	35.2	34.2	34.7	35.7	1.0	(1.1)	(2.9)	1.6	3.5
Mohawk Valley	16.9	16.9	14.9	15.5	16.2	(0.5)	0.1	(11.8)	3.8	7.5
North Country	10.5	10.4	9.4	9.7	9.8	1.5	(1.2)	(9.9)	3.4	2.9
Central New York	31.1	31.5	29.9	30.2	30.7	1.3	1.4	(4.9)	0.8	2.4
Southern Tier	35.3	34.9	32.5	32.8	33.2	0.5	(1.1)	(6.9)	1.0	2.1
Western New York	65.9	66.0	61.6	62.6	64.8	(0.2)	0.2	(6.7)	1.7	5.2
Finger Lakes	64.2	64.6	61.2	60.9	61.6	(0.2)	0.7	(5.3)	(0.4)	2.1
Unclassified	2.3	1.2	1.5	1.9	2.3	7.3	(49.7)	26.2	32.3	19.8
Statewide	**446.3**	**441.8**	**404.3**	**411.2**	**421.3**	**(0.5)**	**(1.0)**	**(8.5)**	**1.7**	**3.9**
	Construction and Real Estate									
New York City	287.5	291.8	261.3	261.7	262.7	2.9	1.5	(10.4)	0.1	1.4
Long Island	98.9	99.4	89.3	93.3	93.5	2.0	0.5	(10.2)	4.5	3.2
Hudson Valley	70.5	73.2	66.3	68.7	69.2	3.6	3.9	(9.5)	3.6	2.8
Capital District	28.3	28.7	27.2	27.8	27.2	0.6	1.3	(5.0)	2.1	2.2
Mohawk Valley	5.7	5.7	5.4	5.4	5.1	1.6	(0.2)	(4.1)	(0.3)	1.2
North Country	7.4	7.2	6.7	7.1	7.0	8.5	(3.4)	(6.4)	5.4	4.0
Central New York	18.6	18.3	17.2	17.7	17.5	4.8	(1.4)	(6.0)	2.9	4.2
Southern Tier	11.3	11.5	10.1	10.3	9.9	(0.7)	1.8	(12.3)	2.1	2.7
Western New York	30.8	31.1	28.6	29.8	29.4	(0.1)	0.8	(8.2)	4.2	4.4
Finger Lakes	29.6	30.3	28.2	29.4	29.8	1.7	2.7	(7.2)	4.5	7.2
Unclassified	12.5	11.0	10.5	11.7	12.4	(0.3)	(12.4)	(3.9)	11.2	13.8
Statewide	**601.1**	**608.1**	**550.8**	**562.9**	**563.7**	**2.5**	**1.2**	**(9.4)**	**2.2**	**2.8**
	Trade, Transportation, and Warehousing									
New York City	601.6	607.0	510.7	522.3	543.1	(0.0)	0.9	(15.9)	2.3	6.7
Long Island	258.2	256.3	225.6	235.0	238.0	(0.8)	(0.7)	(12.0)	4.2	2.7
Hudson Valley	171.6	170.1	152.5	159.8	162.2	(0.9)	(0.9)	(10.3)	4.8	3.1
Capital District	85.5	85.2	79.9	83.6	85.1	(0.2)	(0.3)	(6.2)	4.6	4.8
Mohawk Valley	31.4	31.3	29.7	31.1	31.2	(1.0)	(0.4)	(5.3)	4.9	2.3
North Country	26.4	25.8	24.4	25.3	25.4	(1.4)	(2.0)	(5.6)	4.0	2.7
Central New York	63.7	62.5	57.8	59.1	59.9	(1.3)	(1.8)	(7.5)	2.3	3.2
Southern Tier	44.9	44.2	41.4	42.6	42.8	(0.6)	(1.6)	(6.4)	2.9	1.6
Western New York	110.4	109.8	101.5	106.2	106.5	(0.4)	(0.6)	(7.5)	4.7	1.7
Finger Lakes	89.4	88.0	82.5	85.3	85.7	0.5	(1.6)	(6.2)	3.4	1.9
Unclassified	33.6	27.0	25.8	27.3	33.2	(7.4)	(19.6)	(4.2)	5.7	27.6
Statewide	**1,516.6**	**1,507.2**	**1,331.8**	**1,377.9**	**1,413.2**	**(0.5)**	**(0.6)**	**(11.6)**	**3.5**	**4.7**
	Information									
New York City	195.7	203.8	201.5	211.8	219.6	5.0	4.2	(1.1)	5.1	7.0
Long Island	16.9	15.1	13.9	13.5	13.7	(6.4)	(10.5)	(7.9)	(3.3)	3.8
Hudson Valley	14.3	14.4	13.2	12.9	12.7	(0.9)	0.7	(8.6)	(2.5)	0.9
Capital District	9.5	9.0	8.6	8.2	8.2	2.0	(5.6)	(4.3)	(4.7)	0.9
Mohawk Valley	2.1	1.5	1.3	1.2	1.1	(7.5)	(29.5)	(14.0)	(7.2)	(1.0)
North Country	1.7	1.7	1.4	1.4	1.4	(0.1)	(1.4)	(15.9)	2.7	(0.3)
Central New York	4.7	4.5	3.8	3.8	3.9	(2.2)	(4.3)	(14.3)	(1.1)	5.8
Southern Tier	3.7	3.6	3.3	3.2	3.2	1.9	(2.7)	(7.9)	(2.2)	(0.0)
Western New York	8.0	7.4	6.4	6.2	6.3	5.0	(7.3)	(13.0)	(3.2)	3.5
Finger Lakes	8.1	7.8	6.6	6.3	6.2	(0.8)	(3.7)	(14.9)	(5.3)	(0.9)
Unclassified	11.3	8.8	7.9	10.4	11.8	(13.0)	(21.8)	(10.2)	31.3	17.5
Statewide	**275.8**	**277.5**	**267.9**	**278.7**	**288.1**	**2.4**	**0.6**	**(3.4)**	**4.0**	**6.3**

(Cont'd on next page)

REGIONAL EMPLOYMENT TRENDS: 2018-2022 (*continued*)										
	Employment (000's)					Percent Change				
Region	**2018**	**2019**	**2020**	**2021**	**2022***	**2018**	**2019**	**2020**	**2021**	**2022***
	Finance and Insurance									
New York City	333.3	339.3	333.8	328.7	331.2	1.5	1.8	(1.6)	(1.5)	1.6
Long Island	49.4	48.7	47.7	47.7	47.4	(3.5)	(1.4)	(2.2)	0.1	(0.9)
Hudson Valley	27.9	28.0	27.3	27.0	27.0	(0.7)	0.3	(2.5)	(0.9)	(0.1)
Capital District	21.6	21.9	21.5	21.3	20.7	0.8	1.5	(2.0)	(1.0)	(2.8)
Mohawk Valley	6.6	7.1	7.0	7.2	6.4	(0.2)	7.8	(1.7)	3.1	(9.6)
North Country	2.4	2.4	2.3	2.4	2.2	2.3	(0.0)	(2.3)	1.6	(6.4)
Central New York	10.7	10.6	10.6	10.0	9.8	(3.7)	(1.3)	(0.3)	(5.2)	(5.5)
Southern Tier	7.6	7.6	7.4	7.2	6.8	(0.1)	(0.2)	(2.0)	(2.9)	(6.2)
Western New York	29.8	29.9	29.3	27.2	26.2	(1.4)	0.4	(1.9)	(7.4)	(5.0)
Finger Lakes	15.2	15.4	15.1	14.9	14.8	3.6	0.8	(1.5)	(1.1)	(0.4)
Unclassified	9.0	7.9	9.7	13.1	18.5	8.8	(12.8)	22.9	35.4	56.5
Statewide	**513.5**	**518.6**	**511.6**	**506.6**	**510.8**	**0.7**	**1.0**	**(1.4)**	**(1.0)**	**1.5**
	Professional and Business Services									
New York City	727.6	760.3	679.3	681.7	710.4	2.8	4.5	(10.7)	0.4	6.4
Long Island	164.5	163.0	150.2	158.2	161.2	(1.2)	(0.9)	(7.9)	5.3	4.8
Hudson Valley	107.4	109.9	102.2	104.6	109.8	2.0	2.4	(7.0)	2.3	6.8
Capital District	60.3	60.6	57.4	59.6	59.9	(0.3)	0.4	(5.3)	3.9	1.7
Mohawk Valley	9.6	9.4	8.8	8.9	8.9	0.6	(2.2)	(6.3)	0.4	2.1
North Country	7.5	7.5	7.0	7.5	7.7	2.1	(0.2)	(6.3)	6.6	4.6
Central New York	37.0	37.1	35.1	35.6	35.7	3.5	0.1	(5.4)	1.5	2.3
Southern Tier	22.2	22.1	20.3	20.7	21.1	0.5	(0.4)	(8.2)	2.0	3.8
Western New York	71.5	72.9	66.3	67.1	71.4	(0.5)	1.9	(9.0)	1.2	7.7
Finger Lakes	68.8	68.6	62.5	62.3	63.7	1.1	(0.2)	(8.9)	(0.3)	3.6
Unclassified	62.9	57.6	54.7	65.6	75.1	4.8	(8.5)	(5.0)	20.0	18.7
Statewide	**1,339.4**	**1,369.0**	**1,243.8**	**1,271.7**	**1,324.9**	**1.9**	**2.2**	**(9.1)**	**2.3**	**6.4**
	Education, Health Care, and Social Assistance									
New York City	929.3	978.6	937.0	965.0	1,010.2	4.9	5.3	(4.3)	3.0	5.4
Long Island	258.8	267.4	248.1	255.1	259.7	2.9	3.3	(7.2)	2.8	2.3
Hudson Valley	199.8	205.7	191.4	193.1	194.0	2.5	3.0	(7.0)	0.9	0.9
Capital District	98.7	98.3	92.5	90.2	89.2	1.6	(0.4)	(5.9)	(2.4)	(1.7)
Mohawk Valley	36.3	36.2	33.4	32.2	31.8	1.4	(0.4)	(7.6)	(3.6)	(2.1)
North Country	27.0	27.5	26.1	25.9	25.3	1.0	1.5	(5.0)	(0.7)	(3.2)
Central New York	62.5	65.1	59.8	58.4	58.0	1.5	4.1	(8.1)	(2.4)	(1.3)
Southern Tier	62.6	62.4	59.9	58.4	57.2	0.9	(0.3)	(4.1)	(2.5)	(2.7)
Western New York	109.8	110.2	102.1	101.4	100.8	2.5	0.3	(7.4)	(0.7)	(1.1)
Finger Lakes	118.2	120.3	112.8	112.8	113.6	2.1	1.8	(6.2)	(0.0)	0.6
Unclassified	11.1	9.9	10.0	12.4	14.6	10.6	(10.5)	1.2	24.0	23.1
Statewide	**1,914.0**	**1,981.6**	**1,873.0**	**1,905.0**	**1,954.5**	**3.5**	**3.5**	**(5.5)**	**1.7**	**3.0**
	Leisure, Hospitality, and Other Services									
New York City	635.8	642.1	420.2	451.9	531.8	1.4	1.0	(34.6)	7.6	32.1
Long Island	183.9	183.4	141.3	161.6	170.2	1.1	(0.3)	(23.0)	14.4	13.5
Hudson Valley	135.2	136.3	102.9	115.7	122.6	1.8	0.8	(24.5)	12.5	13.7
Capital District	72.1	71.6	53.0	59.3	62.5	0.7	(0.7)	(26.0)	11.8	14.1
Mohawk Valley	19.8	20.0	15.6	17.1	17.4	(0.5)	1.1	(22.1)	9.9	8.4
North Country	20.2	20.0	15.7	17.8	17.9	(1.2)	(0.7)	(21.7)	13.6	9.3
Central New York	46.4	46.4	35.2	39.5	41.8	(1.1)	0.0	(24.3)	12.3	13.1
Southern Tier	38.1	37.4	28.1	31.4	33.0	1.6	(1.8)	(24.9)	11.8	13.2
Western New York	94.6	94.6	70.0	78.2	82.6	0.4	0.0	(26.0)	11.8	13.5
Finger Lakes	70.7	70.2	53.1	59.4	62.3	(0.3)	(0.7)	(24.3)	11.9	12.1
Unclassified	10.9	7.2	6.7	9.1	8.3	(6.6)	(33.5)	(7.4)	35.6	(2.0)
Statewide	**1,327.7**	**1,329.4**	**941.7**	**1,041.1**	**1,150.3**	**1.0**	**0.1**	**(29.2)**	**10.6**	**21.0**

* Levels for 2022 are based on the first two quarters of the year; 2022 growth rates are relative to the same period in 2021.

Source: NYS Department of Labor.

New York State Adjusted Gross Income

Personal income tax (PIT) receipts account for almost 60 percent of the State's total tax revenue. Personal income tax liability is based on taxable income, which in turn is derived from New York State adjusted gross income (NYSAGI), in conformity with New York State tax laws.[42] Detailed knowledge of the composition of this personal income tax base and its determinants is critical to accurately projecting New York State's largest revenue source.

The components of NYSAGI, such as dividend income and capital gains income, vary with the State and national economies at the aggregate level. DOB's forecast of the components of aggregate personal income uses these linkages. Anticipated or actual changes in Federal tax law can also generate considerable volatility, which DOB tries to incorporate into its forecast.

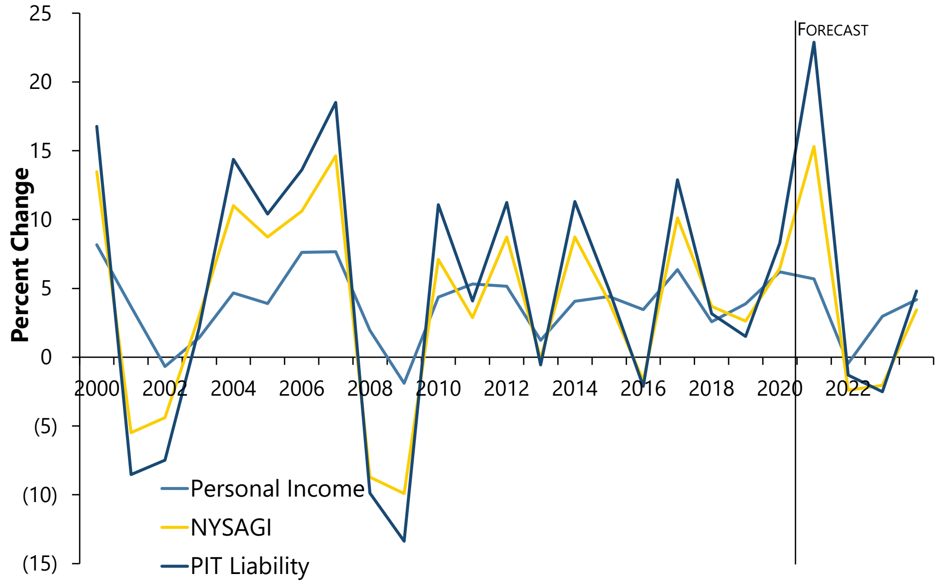
As illustrated below, growth in personal income is less volatile than growth in both NYSAGI and PIT liability, while movements in NYSAGI and PIT liability are closely related. The figure below illustrates the effects of actual and anticipated Federal law changes on NYSAGI, using "frozen" 2002 State tax law to remove the effects of NYS law changes.

At least two recent instances of income shifting can be noted in the figure. Federal tax cuts enacted in 2001 and 2003, originally scheduled to expire in 2010, were extended to year-end 2012. Expecting the tax cuts to end, filers realized capital gains early, and firms paid bonuses and dividends early, leading NYSAGI to grow 8.7 percent in 2012 but to dip 0.1 percent in 2013. Note that growth in 2014 was again 8.7 percent, owing in part to the lowered base in 2013 causing growth to appear exaggerated. A similar effect occurred in 2016-18, when a tax cut was expected to be passed into law following the 2016 presidential election. Expecting lower rates in 2017, NYSAGI fell 1.7 percent in 2016 but jumped 10.1 percent in 2017, though the new tax legislation was not signed into law under December 2017. NYSAGI growth fell to 3.7 percent in 2018, in part because of the outsized growth in the prior year. Also of note: new limitations on itemized deductions, in particular the deduction for state and local taxes paid (SALT), caused taxpayers to try to pay forward their 2018 property taxes in 2017, in order to take advantage of the last year of more generous treatment of the SALT itemized deduction.

NYSAGI growth slowed to 2.6 percent in 2019. In 2020, NYSAGI grew 6.5 percent, as national economic activity rebounded sharply in the second half of the year after an unprecedented decline in the year's first half due to COVID-19. The rebound from the COVID-induced shutdown of the economy was accompanied by massive fiscal and monetary support. Federal support continued into 2021 before fading later that year, while equities markets set several records over the course of the year; consequently, NYSAGI is estimated - based on partial processing information - to have jumped by 15.3 percent. NYSAGI growth is forecast to decrease 2.4 percent in 2022, with another decline of 2.0 percent in 2023 consistent with the Division's economic forecast. Growth of 3.4 percent is anticipated in 2024 as the economy recovers.

[42] A detailed discussion of the relationship between three important indicators of the size of the State's PIT base, PIT liability, NYSAGI, and state personal income, can be found later in this section.

The Indicators of New York State's Tax Base



Note: PIT liability is computed based on 2002 NYS tax law. NYSAGI and liability for 2021 are preliminary.
Source: NYS DTF; Moody's Analytics; DOB staff estimates.

The Major Components of NYSAGI

Prior to tax year 2014, DOB's forecast of NYSAGI was based on samples of detailed historical tax return data. Beginning with tax year 2015, data are based on the entire population of tax returns and are used to construct estimates for all the income components.

Wages

Although the measure of taxable wages derived from State tax returns does not precisely match the dollar amount derived from QCEW data, they tend to follow a similar trend. To be consistent with DOB's New York State macroeconomic forecast, projected growth rates for taxable wages beginning with 2022 and onward are based on the estimated growth of total State wages derived from the macroeconomic forecast, which is based on QCEW data.

CHANGES IN NYSAGI AND ITS MAJOR COMPONENTS	2017	2018	2019	2020	2021*	2022	2023	2024
	Actual				Estimate			
NYSAGI								
Level ($ Billions)	874.6	906.9	930.8	990.8	1,142.6	1,115.2	1,092.4	1,129.9
Change ($ Billions)	80.5	32.3	23.9	60.1	151.7	(27.4)	(22.9)	37.5
% Change	10.1	3.7	2.6	6.5	15.3	(2.4)	(2.0)	3.4
Wages								
Level ($ Billions)	626.4	645.4	673.4	668.4	713.2	755.2	767.3	791.3
Change ($ Billions)	34.2	19.0	28.1	(5.0)	44.8	41.9	12.1	24.1
% Change	5.8	3.0	4.4	(0.7)	6.7	5.9	1.6	3.1
Capital Gains								
Level ($ Billions)	99.9	102.2	93.2	134.5	205.8	188.1	167.4	174.9
Change ($ Billions)	24.6	2.3	(9.0)	41.3	71.3	(17.7)	(20.7)	7.4
% Change	32.7	2.3	(8.8)	44.3	53.0	(8.6)	(11.0)	4.4
Partnership/S Corporation								
Level ($ Billions)	108.4	99.3	98.7	104.0	125.3	110.9	105.0	107.5
Change ($ Billions)	17.1	(9.1)	(0.6)	5.3	21.3	(14.4)	(5.9)	2.5
% Change	18.7	(8.4)	(0.6)	5.3	20.5	(11.5)	(5.3)	2.4

Source: NYS DTF; DOB staff estimates.
*2021 estimates are based on processing data except for wages.

Positive Capital Gains Realizations

Positive capital gains realizations play a large role in determining NYSAGI and its growth, both because they are a large share of income and because of their volatility. DOB's forecasting model attempts to capture the volatility in capital gains income by incorporating those factors that are most likely to influence capital gains realization behavior, such as anticipated and actual tax law changes, financial market activity, and real estate market activity.[43] Realization behavior has been shown in the past to be greatly affected by Federal and State taxes on capital gains income because they are a cost associated with the buying and selling of capital assets. Taxpayers may decide to realize capital gains earlier than planned if they expect taxes on capital gains to increase.

Capital gains plunged 21.5 percent in 2016 after growth of just 2.6 percent in 2015. While economic growth was weak in 2016, the U.S. economy was not in recession, implying that there were other forces at work. In another instance of income shifting, taxpayers appear to have delayed realizing capital gains from 2016 into 2017, anticipating a capital gains tax rate reduction that never materialized. This shift both depressed capital gains growth in 2016 and elevated 2017 growth to 32.7 percent. Capital gains grew just 2.3 percent in 2018, then fell 8.8 percent in 2019. Strong growth in stock prices and a booming housing market in 2020 and 2021 – in spite of the pandemic

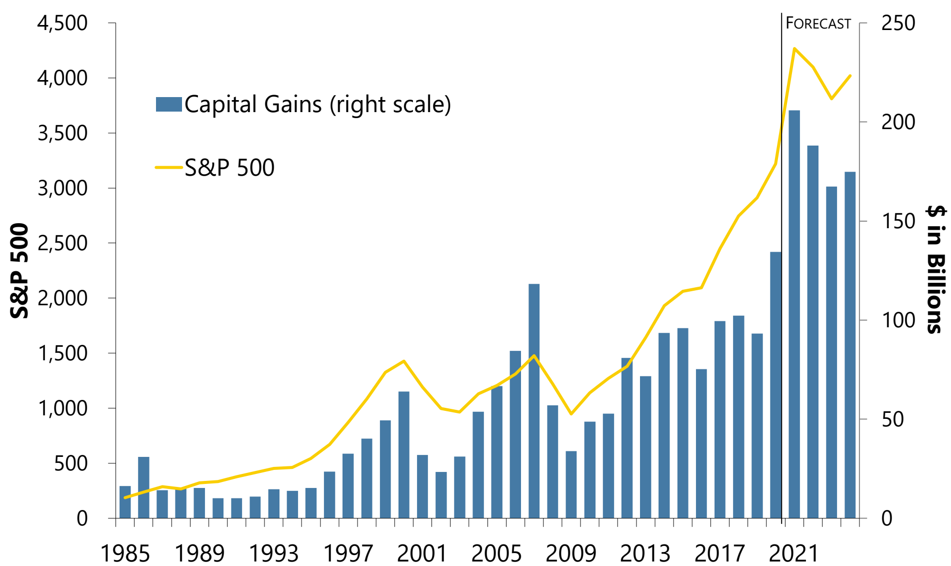
[43] For a discussion of the Division's traditional approach to modeling capital gains realizations, see L. Holland, H. Kayser, R. Megna and Q. Xu "The Volatility of Capital Gains Realizations in New York State: A Monte Carlo Study," *Proceedings, 94th Annual Conference on Taxation*, National Tax Association, Washington, DC, 2002, pages 172-183.

– helped capital gains to increase 44.3 percent in 2020 with even stronger growth of 53.0 percent for 2021. With the Federal Reserve aggressively increasing the federal funds rate throughout 2022 and a bear market in stocks, capital gains are expected to fall 8.6 percent in 2022 and to decline another 11.0 percent in 2023 before rebounding to growth of 4.4 percent in 2024.

The figure below shows how fluctuations in equity markets (measured by the S&P 500 index) help explain the magnitude of fluctuations in capital gains realizations. Note that while capital gains collapsed during both the “dot-com” recession of 2001 (during which 9/11 also took place) and the housing bust/Global Financial Crisis (GFC) of 2007-09, no such collapse accompanied the very brief COVID-19 recession.

In spite of a plunge in the spring of 2020 as COVID-19 pandemic shutdowns surged, the reopening economy and news of advances toward a coronavirus vaccine led the index to rise 10.5 percent for 2020. With relatively few government-mandated shutdowns, the S&P 500 ran up a 32.6 percent gain on an annual average basis in 2021. The Federal Reserve’s monetary tightening in response to high inflation, have led DOB to anticipate that the S&P 500 will fall 3.9 percent in 2022 with a decline of 7.0 percent in 2023, with growth of 5.5 percent returning in 2024.

Capital Gains Realizations and the S&P 500 Index



Note: 2021 CG realizations are estimated.
Source: Moody’s Analytics; NYS DTF; DOB staff estimates.

Fluctuating levels of private equity and hedge fund activity and profitability also contribute to capital gains realizations. Private equity firms own stakes in companies not listed on a public stock exchange, generally receiving a return on their investment in one of three ways: through a sale or merger of the company; a recapitalization; or by selling shares back to the public through an IPO. The returns on private equity investments often are not realized for several years, but the rate of return is generally high relative to returns on publicly held stocks, to compensate for the higher degree of risk and the value added through the extraction of operating efficiencies. Though related to the performance of equity and real estate markets, capital gains from private equity funds have their own dynamics.

While hedge funds (investment partnerships that are limited to very high-income individuals and use aggressive and sometimes risky trading techniques to try to generate high returns) failed to outperform the broader market again in 2021, the same as in the prior two years, they appear to have done better than the market in 2022 with losses that were smaller than those of the market.

> "Hedge fund managers produced aggregate performance of 10.3% in the year ended Dec. 31 {2021], down from 11.8% the previous year, returns of the HFRI Fund Weighted Composite index showed. Despite trailing the index's 2020 return, the index's 2021 return was the third highest since year-end 2009 when the HFRI Fund Weighted Composite returned 19.98%, according to the HFR historical index data." [44]

Hedge funds returns appeared to be holding up better than those of other types of assets in early 2022.

> "Most major asset classes ended the first half of 2022 in negative territory with bond markets recording their worst six-month period since records began in 1900, while the S&P 500 recorded its worst H1 since 1970. Despite this, hedge funds have outperformed the S&P 500 (-5.4% vs -20.6%)" [45]

Despite having suffered smaller losses than other financial investments, investors removed $32 billion from hedge funds in the second quarter of 2022 alone, the largest outflow since the start of the pandemic in the first quarter of 2020. Investors were said to be "spooked by inflation, geopolitical tensions, and the war in Ukraine." [46]

As noted above, despite improved performance by hedge funds in the past three years, returns lagged the overall market, leading some investors to turn to private equity. "Hedge funds have suffered a slow exodus of clients in recent years, with investors more often drawn to the higher returns supposedly on offer in private equity and private debt funds." [47] Strong performance by private equity in the second half of 2020 and during 2021 continued into the first half of 2022, but weakness appeared in 2022's second half. "Private equity dealmaking reached historic heights in 2021. Building on a strong rebound in the second half of 2020, private equity set new annual records in global deal volume and transaction volume." [48] Similarly, a report by Bain & Company said:

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[44] Christine Williamson, "Hedge fund managers return 10.3% in 2021, below 2020's performance," *Pensions & Investments*, January 10, 2022, available at https://www.pionline.com/hedge-funds/hedge-fund-managers-return-103-2021-below-2020s-performance.

[45] "Hedge Fund Report For H1 2022," With Intelligence, available at https://withintelligence.com/hedge-funds-in-h1-2022/.

[46] Nell Mackenzie, "Hedge funds suffer $32 bln of outflows in Q2 – data," Reuters, October 5, 2022, available at https://www.reuters.com/markets/europe/hedge-funds-suffer-32-bln-outflows-q2-data-2022-10-05/.

[47] Laurence Fletcher, "Hedge funds struggle to lure new money as performance lags," *Financial Times*, January 4, 2022, available at https://www.ft.com/content/f80b74b5-eb3c-4778-a67a-9b7ccd90389a.

[48] Stephen A. Cohen, Karessa L. Cain, and Alon B. Harish, "Private Equity: 2021 Year in Review and 2022 Outlook," Harvard Law School Forum on Corporate Governance, February 9, 2022, available at corpgov.law.harvard/2022/02/09/private-equity-2021-year-in-review-and-2022-outlook/.

> Globally, private equity generated $512 billion in buyout deal value during the first half of 2022, putting it on pace to produce the second-highest annual total ever (behind 2021's all-time record). The 18-month total of $1.7 trillion is by far the strongest year and a half in the industry's history. Average deal size remained close to $1 billion in the first half, and deal count was robust.[49]

But in that same report the writers said "…signs suggest that we are approaching the end of the business cycle, and at midyear, we're already seeing a slowdown in private markets." Deal pipelines are "softening," especially in tech, and debt is becoming more expensive. "Facing losses on loans committed before the slowdown, banks are asking a lot more questions about a company's exposure to inflation and rising rates, making it harder to close transactions." As publicly-traded stock values fall, so do private multiples, causing increased uncertainty and, in turn, "…buyers and sellers…have increasing trouble aligning on price as buyers look for slack multiples and sellers wait for a better time to sell."

Reports covering 2022's third quarter indicate that a slowdown in private equity activity has taken place. "Activity in the first half of this year declined by 18% versus 2021, a fairly modest drop considering that last year was by far the busiest year on record for PE firms. In the third quarter, however, activity declined 55% relative to Q2."[50] Cyclical headwinds – including rising interest rates, deteriorating macro sentiment and recession fears, and more challenging financing markets – all limited private equity firms' ability to execute transactions, the analyst noted.[51] The analyst also said:

> PE fundraising activity has remained largely flat through most of 2022, albeit down from last year's active environment. Firms have raised US$386b so far this year, 8% lower than the same period last year. Notably, activity in 3Q22 slowed by 13% to US$125b versus Q2.[52]

Going forward, analysts expect some improvement – "…we expect activity to recover given record-high levels of dry powder (US PE totals $975 billion)."[53] In another article, the writer said that even before inflation, increased interest rates, and fears of a possible recession,

> market participants predicted less activity this year following last year's break-neck PE deal pace, simply due to sheer exhaustion. … Bankers and PE advisers reportedly expect the pace of deals to increase in the new year, with take-privates and secondary transactions being an important source of flow. And PE has already begun to invest in industries, such as health and software, seen as better able to weather economic storms, a trend that will continue into 2023.[54]

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[49] Hugh MacArthur and Brenda Rainey, "Shifting Gears: Private Equity Report Midyear 2022," Bain & Company, July 18, 2022, available at https://www.bain.com/insights/shifting-gears-private-equity-report-midyear-2022/.

[50] Peter Witte, "Private Equity Pulse: Five takeaways from 3Q 2022," EY, November 14, 2022, available at https://www.ey.com/en_us/private-equity/pulse.

[51] Witte, same source as the prior footnote.

[52] Witte, same source as above.

[53] "Private equity: Deals 2022 midyear outlook," PwC, available at https://www.pwc.com/us/en/industries/financial-services/library/private-equity-deals-outlook.html.

[54] Grace Maral Burnett, "ANALYSIS: Private Equity Can Slow Down, But It Can't Stop," *Bloomberg Law*, November 13, 2022, available at https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-private-equity-can-slow-down-but-it-cant-stop.

Private equity fundraising has continued, despite the difficult environment, and "Commitments to investors, unspent capital, new funds launched, and exits that can't be delayed will all propel private equity deal activity well into the new year." Thus, the outlook is for a weaker contribution to capital gains from private equity for 2022 and 2023 after exceptional performance from the second half of 2020 and through 2021.

Risks to the capital gains forecast appear weighted to the downside. The Federal Reserve began shrinking its bloated balance sheet in mid-2022 as well as rapidly raising the target range for the federal funds rate since March, with the result that the withdrawal of "easy money" policies is working to slow key sectors of the economy (such as housing) and so indirectly tamping down equities prices. New variants of the coronavirus may also cause economic growth to slow. On the other hand, capital gains surprised to the upside in tax year 2020 despite the coronavirus and could do so again if the Fed manages to tame inflation without provoking a recession.

Rent, Royalty, Partnership, and S Corporation Gains

Partnership and S corporation income overtook capital gains income to become the second-largest income component (after wages) in three of the four tax years from 2016 to 2019, but with considerably less volatility than capital gains. However, capital gains income is expected to be larger than partnership and S corporation income throughout DOB's forecast period.

While growing at an average 9.2 percent annually over its history, partnership and S corporation income growth has both generally slowed and become more volatile in the period since the Great Recession. Partnership and S corporation income jumped to 18.7 percent growth in 2017 then fell 8.4 percent in 2018 but was essentially flat in 2019, dipping 0.6 percent. The unusual 2020 pandemic year, which saw the economy briefly shut down, only to roar back to life, saw 5.3 percent growth in this income component. DOB anticipates 20.5 percent growth in 2021, based in part on partial processing information, followed by a projected decline of 11.5 percent in 2022. With a slowing economy in 2023, partnership income is expected to fall 5.3 percent before growth returns in 2024, increasing 2.4 percent.

Partnership income is the largest contributor to this NYSAGI component, much of which originates within the finance and real estate industries. Another large contributor is income from S corporation ownership. Prior to the passage of the TCJA and its corporate tax rate cut, opting for S corporation status allowed firms to pass earnings through to a limited number of shareholders, avoiding corporate taxation while still enjoying the limited liability that corporate status affords.

Growth in income from partnerships and S corporations is related to both the economy and financial markets. However, average annual growth of 3.7 percent during the most recent expansion (through 2019, or pre-COVID) is lower, based on the strength of the economy and equity markets, than pre-recession relationships would suggest. Partnership and S corporation income gains and losses tend to rise and fall together, suggesting that the growth rates are linked at least in part to births and deaths of partnerships and S corporations. The severity of the Great Recession forced a large number of entities to exit the market, and tighter credit markets made it difficult for new entities to enter as economic conditions improved.

DOB's partnership and S corporation income forecast contains both upside and downside risks. Like capital gains income, partnership and S corporation income is sensitive to the performance of the private-equity sector and hedge funds, which can be very volatile. In addition, the real estate market is not captured independently in the forecast model. Since there is a high concentration of real estate partnerships in the State, a better-than-predicted real estate market (due to an improved employment situation and a decline in foreclosures) could lead to higher-than-expected partnership and S corporation gains. Conversely, a slowing real estate market could result in smaller than expected gains.

Dividend Income

Taxable dividend income is a highly volatile component of NYSAGI, as illustrated by a growth rate that has ranged from a drop of 28.7 percent in 2009 to a gain of 26.6 percent in 2004. Thanks in part to income shifting, the volatility has continued in the recent past. Growth of 9.8 percent in 2018 was just a bit lower than 2017's growth, but dividend income growth declined again, to 8.6 percent, in 2019. Dividend income fell 16.4 percent in 2020, the first year of the COVID-19 pandemic. Based in part on partial processing data, DOB estimates that dividend income grew 17.1 percent in 2021 but it is expected to weaken to a 5.7 rate of increase in 2022 before falling 8.4 percent in 2023. DOB expects positive growth of 2.7 percent to return in 2024.

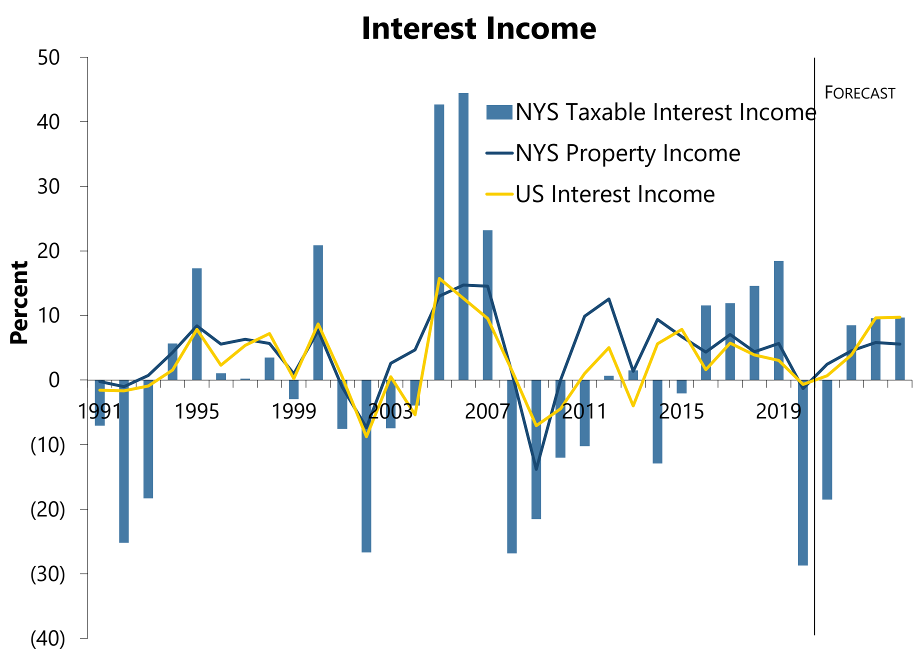
State taxable dividend income moves with dividend income in the national economy, a component of the NIPA definition of U.S. personal income. Other determinants include long-term interest rates, as represented by the 10-year Treasury yield, and the performance of equity markets. Despite the link to the national economy, State taxable dividends grow more slowly but are more variable than U.S. dividend income: they increased 5.9 percent on average between 1976 and 2020 with a standard deviation of 12.6 percentage points, while U.S. dividend income grew an average of 9.3 percent over the same period, with a standard deviation of 10.0 percentage points.

Risks to the dividend income forecast are closely linked to the risks embedded in the U.S. equity markets, corporate profitability, and the performance of publicly traded private equity firms.

Interest Income

Taxable interest income growth jumped to 11.6 percent in tax year 2016 as the Federal Reserve began increasing the target band for the federal funds rate in December 2015. After increasing 14.6 percent in 2018, interest income rose 18.5 percent in 2019, the fastest growth since 2007. But after the Federal Reserve cut the federal funds target range to zero to 0.25 percent – effectively zero – in March 2020 as part of its response to the coronavirus pandemic, taxable interest income fell 28.7 percent in 2020. DOB anticipates an additional decline of 18.5 percent in 2021, based in part on incomplete processing information. Since the Fed began raising the federal funds rate target range in March 2022, DOB anticipates that interest income will grow 8.5 percent that year, with higher growth of 9.6 percent in 2023 as interest rates remain elevated. Growth in this income component is forecast to edge a bit higher, to 9.7 percent, in 2024.

For a given amount of assets, an increase in interest rates will increase interest income. In addition, NYS property income, a component of the NIPA definition of state personal income that includes interest income, is a good indicator of the trend in State taxable interest income, despite being much less volatile (see below). Note that from 1977 to 2020 the standard deviation of the annual growth of NYS property income was 6.6 percentage points, while the standard deviation for the growth rate of U.S. interest income, a part of the NIPA definition of U.S. personal income, was 7.4 percentage points. In contrast, State taxable interest income annual growth had a standard deviation of 17.5 percentage points. The additional volatility in this component of NYSAGI could be related to the behavioral response of State taxpayers to changes in tax law.



Note: 2021 NYS taxable interest income is preliminary.
Source: Moody's Analytics; NYS DTF; DOB staff estimates.

Risks to the interest income forecast are linked to the Federal Reserve's monetary policy. With the Fed indicating that persistent inflation will require it to keep the federal funds rate target higher than expected several months ago, and for a longer period of time, there appears to be little downside risk to the forecast for taxable interest income.

Small Business and Farm Income

This NYSAGI component contains income from operating a business, practicing a profession as a sole proprietor, or operating a farm. It is expected to vary with the overall strength of the national and State economies, with some volatility deriving from income shifting. Growth surged to 7.8 percent in 2017, the fastest in 11 years, but it fell 1.2 percent in tax year 2018 before strengthening to 2.4 percent in 2019. Some income-shifting likely occurred over the 2016-2018 period, as the incoming Trump administration raised expectations in late 2016 and early 2017 for rapid changes in Federal tax law, though the new law was not enacted until December 2017. Thanks in large part to restrictions on business activity due to the onset of COVID-19, small business and farm income fell 16.3 percent in tax year 2020. That is the worst decline in DOB's history of the series. However, based in part on partial processing data, DOB anticipates a recovery of 65.1 percent growth in 2021 before falling 28.8 percent in 2022. A small recovery to growth of just 1.1 percent is forecast for 2023 as the economy slows in response to higher interest rates and a possible recession. Growth of 4.8 percent is expected in 2024.

Small business and farm income growth and volatility have both fallen over the years. This component of taxable income grew at an annual average rate of 11.5 percent from 1980 to 1990 with a standard deviation of 10.8 percentage points. However, between 1991 and 2020 it grew only at an annual average rate of 3.1 percent, with a standard deviation of 5.7 percentage points. Proprietors' income, as defined under NIPA, experienced similar changes in growth, falling from 10.5 percent growth to 4.4 percent annual average growth over the two periods; however, the standard deviation of growth increased, from 8.4 percentage points in the earlier period to 10.1 percentage points from 1991 to 2020.

Risks to the forecast of business income are closely linked to the risks to the overall economic forecast as sole proprietors' income is particularly responsive to the state of the business cycle. With parts of the economy (such as housing) already slowing under the pressure of higher interest rates, more downside than upside risks appear likely to be realized.

Pension Income

Growth in pension income in the near term is expected to remain well below its longer-term average growth (7.4 percent over 1981-2020). Growth was 2.8 percent for tax year 2019 and growth slowed to just 1.7 percent for 2020. Based in part on incomplete processing data for 2021, DOB expects higher growth of 7.8 percent in 2021, followed by increases of 6.5 percent and 5.3 percent in 2022 and 2023, respectively. Currently, a 6.7 percent gain is forecast for 2024.

Pension income, which includes payments from retirement plans, life insurance annuity contracts, profit-sharing plans, military retirement pay, and employee savings plans, is linked to prior-year long-term interest rates, suggesting that firms base the level of pension and life insurance benefits they offer to employees on their expectations of future profitability, which in turn is tied to the future strength of the economy. The average annual growth rate of pension income has declined considerably over time, from 12.6 percent over 1980-1990 to 6.3 percent growth over 1991-2013.

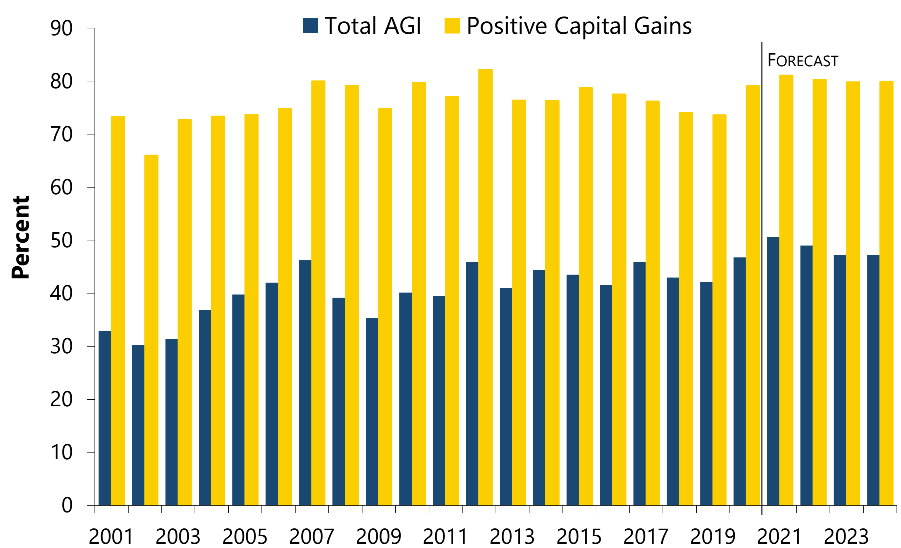
This coincides with the decline in the average 10-year Treasury yield from 10.4 percent in the former period to 4.9 percent in the latter. Both declines are likely the result of lower inflation rates in the later period.

Yields fell to 1.8 percent in 2016. As the Federal Reserve began sustained increases in the target range for the federal funds rate, yields increased to 2.3 percent and 2.9 percent in 2017 and 2018, respectively. With the Federal Reserve reversing course in 2019 then, in 2020, returning to a near-zero federal funds rate target in response to the COVID-19 pandemic, the 10-year rate fell to 0.9 percent in 2020 from 2.1 percent in 2019. It was 1.4 percent in 2021. It rose to 3.0 percent in 2022, with a further increase to 4.0 percent expected in 2023 as the Fed continues to increase its federal funds rate target. DOB anticipates a slightly lower 3.9 percent rate in 2024. Pension income growth should follow in the wake of these increases.

The risks to the forecast for pension income are related mainly to long-term interest rate risks. As the economy recovered more quickly from the COVID-19 shock but with more persistent and higher inflation than was expected, upside risk to the pension income forecast seems dominant, since the Fed has raised interest rates at the fastest pace in about 40 years and is expected to maintain a higher federal funds rate target range, though slowly declining to 3.5 percent by 2026.

Changes in the State Distribution of Income and Revenue Risk

Income Shares of the Top One Percent Taxpayers
AGI and Capital Gains Realizations



Note: For nonresident taxpayers, shares are based on total income.
Source: NYS DTF; DOB staff estimates.

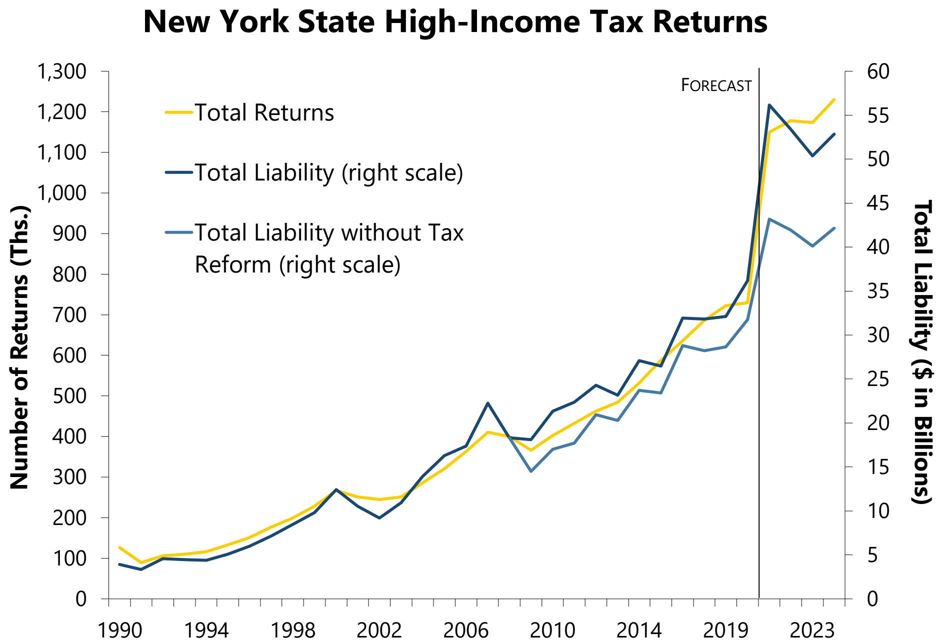
The most volatile components of taxable income, such as bonuses and capital gains realizations, are highly concentrated among the State's highest-income taxpayers. Based in part on partial processing information, it appears that the top one percent of taxpayers, as determined by their NYSAGI, accounted for 50.6 percent of adjusted gross income in 2021, the highest proportion yet, and these filers also accounted for 81.1 percent of capital gains realizations that year (see figure above). Going forward, DOB projects that the share of AGI among the top one percent of filers will dip to 49.0 percent in 2022 and fall to 47.2 percent in both 2023 and 2024, as incomes come under pressure from a mild national recession. If realized, these will still be the highest shares of AGI since 46.8 percent in 2020. Prior to tax year 2020, the largest AGI share of the top one percent of filers was 46.2 percent in 2007.

Meanwhile, the share of positive capital gains accounted for by the top one percent of filers is projected to slip to 80.3 percent in tax year 2021 and to remain nearly flat at 79.8 percent and 79.9 percent in 2023 and 2024, respectively.

Note that these very-high income filers are not immune to economic fluctuations. In 2009 their NYSAGI share fell to 35.4 percent while their share of capital gains was down to 74.7 percent, as the Great Recession officially was ending, from shares of 46.2 percent (NYSAGI) and 80.0 percent (capital gains) in 2007, at the onset of the Great Recession. Similarly, a rebounding economy in 2021 contributed to the high AGI and capital gains shares for tax year 2021 noted above.

A confounding effect is due to the ability of these taxpayers to shift certain components of income between tax years in response to anticipated or actual changes in tax law. For example, in the "fiscal cliff" episode of 2012-13, when it appeared that Federal tax cuts enacted in 2001 and 2003 would expire in 2013, the share of capital gains increased to 82.2 percent in 2012 from 77.1 percent in 2011 while the share of NYSAGI increased to 45.9 percent from 39.5 percent, due to fears of a tax increase in 2013. Similarly, an expectation of lower taxes in 2017 may have contributed to the NYSAGI share rising to 45.9 percent in 2017 from 41.6 percent in 2016.

Between 1985 and 2007 (or prior to the Great Recession), the number of returns generated by high-income taxpayers – those reporting NYSAGI of $200,000 or more – grew at an average annual rate of 12.8 percent. During the same period, the liability generated by these taxpayers grew somewhat more rapidly, at an annual average rate of 14.2 percent (see figure below). As the economy recovered after 2009, returns and tax liability for wealthier taxpayers also rebounded. The number of high-income filers increased 97.2 percent (or nearly doubled) from 2009 to 2019 while liability for these taxpayers increased 77.3 percent. Note that liability during this period was also affected by a temporary tax measure that added two more tax brackets for wealthier taxpayers, raising the State's top income tax rate to 8.97 percent for tax years 2009 to 2011, from 6.85 percent. Prior to tax year 2021, a top rate of 8.82 percent for State taxpayers had been in place since 2012. The figure below indicates at least two instances of income shifting: 1) between 2012 and 2013 and 2) between 2016 and 2017. Finally, the pandemic appears to have had little effect on either the number of high-income filers or their liability in tax year 2020, as the number of filers increased by nearly one percent while the related liability rose 12.7 percent. High-income liability is spurred upward in tax year 2021 and beyond in part due to the enactment of three new tax brackets and rates (9.65 percent, 10.3 percent, and 10.9 percent) in 2021. But note that projected liability also rises in tax year 2021 absent both tax reform and the higher rates, before a slower economy causes high-income liability to decline in 2022 and 2023, with a recovery expected in 2024. Growth in the number of high-income returns also becomes more trend-like in 2022 through 2024, after a spurt in 2021.



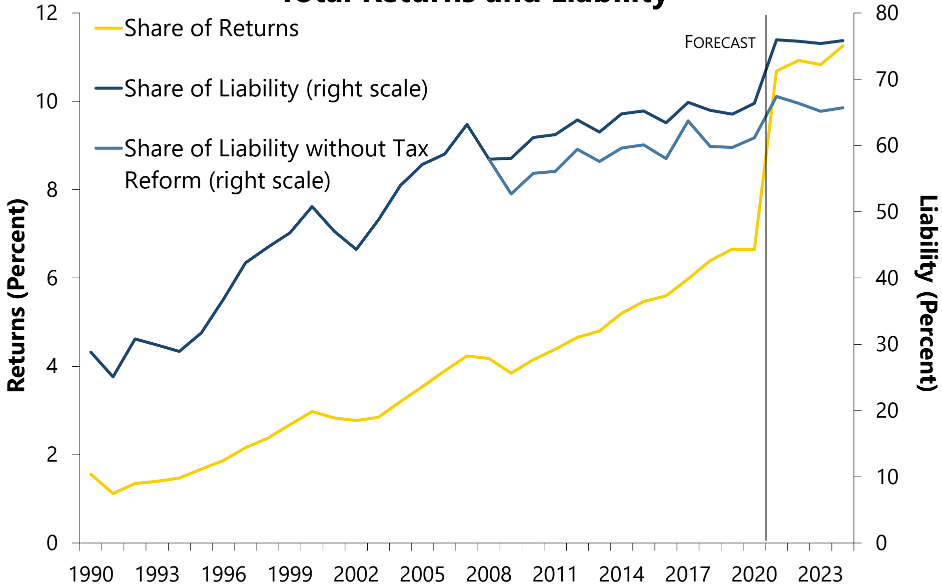
Note: High-income taxpayers are those reporting NYSAGI of $200,000 or more.
Source: NYS DTF; DOB staff estimates.

The large decline in capital gains realizations (and thus NYSAGI) brought about by the Great Recession temporarily unwound some of the concentration of income and the share of high-income filers dropped to 3.8 percent in 2009 from 4.2 percent in 2007, but by 2011 the share of returns was at 4.4 percent and has continued a steady climb since, reaching 6.7 percent by tax year 2019 before slipping to 6.6 percent in 2020, the last year for which complete information is available. The high-income share for tax year 2021 is estimated to be 10.7 percent, based in part on partial processing information. Shares of 10.9 percent, 10.8 percent and 11.3 percent are expected in forecast years 2022, 2023 and 2024, respectively.

Meanwhile, the liability share of high-income filers climbed to 63.2 percent in 2007 (a peak at the time) before falling to 57.9 percent the next year as the Great Recession took hold. While the share remained near that value in 2009, in the absence of the temporary top rates enacted for tax years 2009 through 2011 it would have been at 52.7 percent instead. By 2012 the liability share had exceeded the prior peak, reaching 63.9 percent, aided by economic growth and the 8.82 percent top rate under the reform law passed in December 2011 (see figure below). The 8.82 percent rate was maintained even as a multiyear middle-class tax cut began in tax year 2018. Note that data for tax year 2017 show a new peak of 66.5 percent under the reform law but also that the share slips to 64.8 percent by 2019 (at least in part because some filers in this category are included in the middle-class tax cut). Despite the pandemic, the share of liability increased to 66.4 percent in tax year 2020. Incomplete processing information for tax year 2021, the first under the new brackets and rates for high-income taxpayers, gives estimated 76.0 percent share, while shares of 75.7 percent, 75.4 percent, and 75.8 percent are expected for 2022, 2023 and 2024, respectively.

NYSAGI exhibits more volatility than does State personal income, while tax liability is more volatile than NYSAGI. The chart on the second page of this section on NYSAGI provides a visual illustration.[55]

High-Income Taxpayers as Percentage of Total Returns and Liability



Note: High-income taxpayers are those reporting NYSAGI of $200,000 or more. Source: NYS Department of Taxation and Finance; DOB staff estimates.

The table below shows the changes in the concentration of income and liability from the pre-Great Recession peak in 2007 to the trough in 2009, and in 2020. The table is restricted to full-year resident filers only.

The share of nonwage income accruing to the top 10 percent of taxpayers fell by 10.0 percentage points between 2007 and 2009, a result of the Great Recession; but even in 2020, this group's nonwage income share did not exceed its 2007 share (68.1 percent versus 75.6 percent in 2007). For wage income, which is more evenly distributed across taxpayers, the share of the top 10 percent of taxpayers fell 1.4 percentage points between 2007 and 2009; however, by tax year 2020 the share was 47.8 percent, exceeding 2007's share by 1.8 percentage points. One indication of the severity of the Great Recession can be seen in the fact that even as late as 2020, the shares of NYSAGI, wage income, nonwage income and liability were still generally lower than their counterparts in 2007, even among the most affluent resident tax filers.

[55] For a comparison of three important indicators of the State's PIT base and a discussion of their respective volatilities, see the FY2022 *Economic and Revenue Outlook*, p. 103, located at https://www.budget.ny.gov/pubs/archive/fy22/ex/ero/fy22ero.pdf.

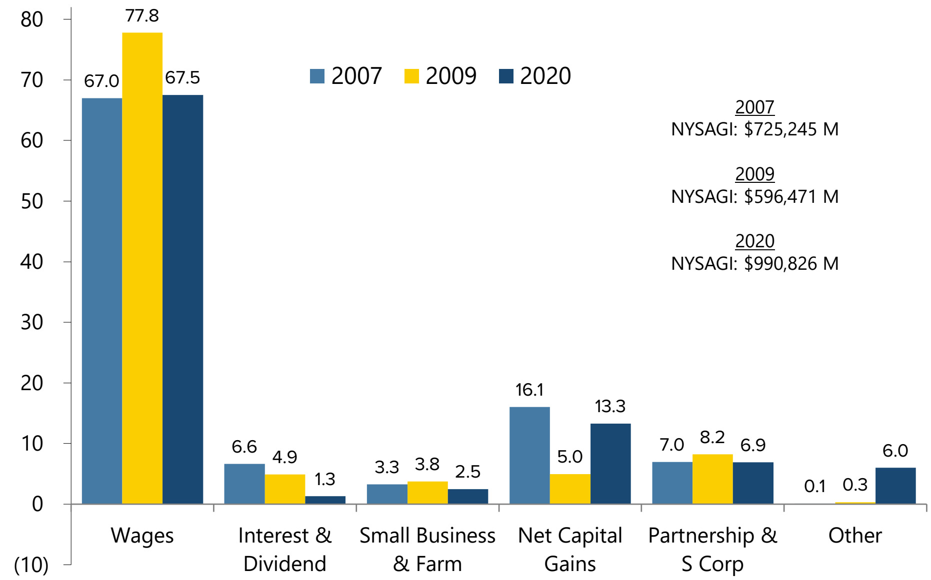
THE CONCENTRATION OF STATE INCOME AND LIABILITY 2007, 2009, and 2020					
	Number of Returns	NYSAGI	Wage Income	Nonwage Income	Liability
2007					
Total ($ in millions)	8,706,284	$631,690	$412,138	$270,354	$29,635
Share: Top 1%	–	36.4	18.0	59.2	47.7
Share: Top 5%	–	51.1	33.9	71.0	65.9
Share: Top 10%	–	60.6	46.0	75.6	76.4
Share: Top 25%	–	77.9	69.3	83.1	92.0
2009					
Total ($ in millions)	8,585,978	$520,154	$401,419	$167,410	$25,908
Share: Top 1%	–	27.1	15.1	49.2	43.1
Share: Top 5%	–	42.9	31.5	60.8	61.8
Share: Top 10%	–	54.1	44.6	65.6	73.5
Share: Top 25%	–	75.1	69.4	74.8	91.5
2020					
Total ($ in millions)	9,655,600	$845,330	$555,740	$335,278	$44,855
Share: Top 1%	–	32.1	16.6	52.6	45.6
Share: Top 5%	–	47.8	34.6	63.2	62.8
Share: Top 10%	–	58.0	47.8	68.1	72.8
Share: Top 25%	–	76.2	71.7	76.2	88.3

Note: Returns are ranked on the basis of NYSAGI. Returns are full-year resident only.
Data for 2007 and 2009 are based on a weighted statistical sample of all State returns.
Source: NYS DTF; DOB staff estimates.

The following figures illustrate the decomposition of NYSAGI into its main components for the 2007 peak year, the 2009 trough year, and for 2020 (the most recent complete year), for all taxpayers and for high-income taxpayers, defined here as those reporting NYSAGI of $200,000 or more.

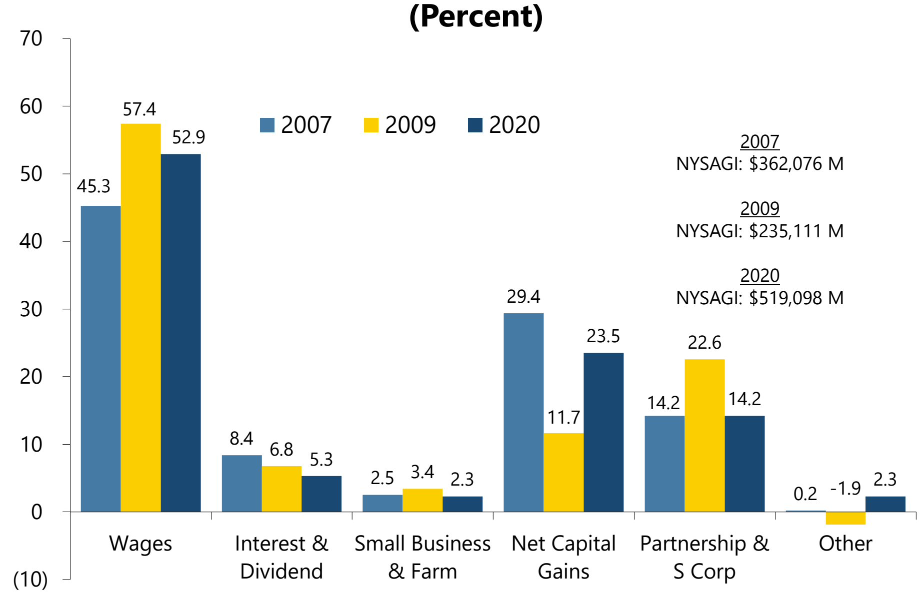
The shares of NYSAGI for 2020 for all filers resemble those of 2007 somewhat more closely, though there are some interesting divergences. At 67.5 percent, the wage income share is just a bit larger than the 2007 share. Partnership income, at 6.9 percent, is just a bit smaller than its 2007 share. Notably, the residual "other" income category, a negligible 0.1 percent in 2007, now accounts for 6.0 percent of NYSAGI. While this reflects in part the increasingly older State population (since the "other" category contains taxable pensions, IRA income, and other such components), it also reflects the runup in unemployment compensation as the Federal and State governments sought to buoy the economy in that first pandemic year. (Taxable unemployment compensation jumped to $43.6 billion in 2020 from $1.4 billion in 2019.) The share from interest and dividends is the lowest of the three tax years, due to both the temporary shutdown of the economy in response to COVID-19 in 2020 and the Federal Reserve's aggressive monetary policy, which drove short-term interest rates to near zero. While net capital gains in 2020 are nearly three times their 2009 share, when the economy began to emerge from the Great Recession, at 13.3 percent they remain below their 2007 share.

Composition of NYSAGI for All Taxpayers (Percent)



Note: Capital gains and partnership/S corporation gains income are net of losses.
Source: NYS DTF; DOB staff estimates.

Composition of NYSAGI for High-Income Taxpayers (Percent)



Note: Both capital gains and partnership/S corporation gains income are net of losses. High-income taxpayers are those reporting NYSAGI of $200,000 or more.
Source: NYS DTF; DOB staff estimates.

What is striking about the chart for the high-income filers is the extent to which they remain more dependent upon wage income rather than capital gains income. Prior to the Great Recession wage income accounted for 45.3 percent of their NYSAGI; in 2020, it made up 52.9 percent of NYSAGI and its share is just 4.5 percentage points lower than the 2009 share. The 2020 share of net capital gains is more similar to what prevailed in 2007 at 23.5 percent, but it is still nearly six percentage points lower. The "other" income category is a much larger share at 2.3 percent than it was in 2007 (0.2 percent). The share of dividend and interest income is almost three percentage points lower than it was in 2009, while the share of partnership and S corporation income in 2020 is the same as that in 2007 and also much lower than the 2009 share.

Some of the large changes in income shares brought about by the Great Recession do not appear to have been unwound yet, despite the passage of more than ten years since it officially ended, testifying to the weak nature of the recovery that followed. In particular, both high-income filers and taxpayers overall remain more dependent on wage income now than in 2007 (and more strikingly so for the high-income taxpayers) while the share of NYSAGI made up of net capital gains income, which in 2007 was more than twice that of the partnership income share, is now much less dominant over the latter. The effects of the "COVID-19 recession" can be seen in the decreased importance of dividend and interest income as shares of NYSAGI, as well as in the sudden importance of the "other" income components.

Risks to the Forecast

As forecasts of the components of NYSAGI are consistent with economic variables from DOB's macroeconomic forecasting models, much of the risks to PIT are the same as the risks to the State and national economies. However, the risks and uncertainties are heightened in the case of taxable income, because of the prominence of bonus income and capital gains realizations, and even more so for PIT revenues, as a consequence of the State's progressive tax system. A noneconomic risk to the forecast is the potential longer-term shrinkage of the tax base as a result of the State's falling population.

Selected Economic Indicators

SELECTED ECONOMIC INDICATORS (Calendar Year)						
	2021 (actual[56])	2022 (estimate)	2023 (forecast)	2024 (forecast)	2025 (forecast)	2026 (forecast)
U.S. Indicators[57]						
Gross Domestic Product (current dollars)	10.7	9.3	4.5	4.5	4.7	4.1
Gross Domestic Product	5.9	2.1	0.5	1.7	2.3	2.1
Consumption	8.3	2.9	1.2	1.6	2.3	2.1
Residential Fixed Investment	10.7	(10.3)	(15.1)	(1.2)	3.0	3.1
Nonresidential Fixed Investment	6.4	3.8	0.3	1.7	3.5	3.5
Change in Inventories (dollars)	(19.4)	113.4	29.0	68.3	74.0	66.2
Exports	6.1	7.2	2.6	1.9	3.5	3.8
Imports	14.1	8.3	(1.6)	0.5	2.9	2.6
Government Spending	0.6	(0.7)	0.9	0.5	0.6	0.4
Corporate Profits[58]	22.6	6.5	(3.7)	4.3	5.4	4.5
Personal Income	7.4	2.0	4.4	4.5	4.5	4.2
Wages	8.8	8.4	4.1	3.5	4.2	3.9
Nonfarm Employment	2.8	4.1	0.9	0.1	0.8	0.8
Unemployment Rate (percent)	5.4	3.6	4.3	5.0	4.9	4.6
S&P 500 Stock Price Index	32.6	(3.9)	(7.0)	5.5	6.0	3.9
Federal Funds Rate	0.1	1.7	4.8	4.6	3.2	2.6
10-year Treasury Yield	1.4	3.0	4.0	3.9	3.6	3.5
Consumer Price Index	4.7	8.0	3.9	2.8	2.5	2.3
New York State Indicators						
Personal Income[59]	5.7	(0.3)	2.9	4.1	4.4	4.3
Wages and Salaries[59]						
Total	8.8	6.2	1.3	3.1	4.1	4.0
Without Bonus[60]	8.0	8.6	3.8	3.3	3.8	3.8
Bonus[60]	13.1	(7.5)	(16.2)	1.9	6.7	6.2
Finance and Insurance Bonuses[60]	19.7	(5.3)	(19.0)	(0.1)	7.6	6.9
Wage Per Employee	6.3	1.2	0.5	2.9	3.4	3.3
Property Income	2.5	4.3	5.6	5.6	4.9	4.6
Proprietors' Income	9.9	3.0	1.4	3.7	5.1	5.4
Transfer Income	3.9	(19.0)	6.1	7.0	5.3	4.7
Nonfarm Employment[59]						
Total	2.7	5.0	0.7	0.2	0.7	0.7
Private	3.5	5.9	0.8	0.2	0.8	0.8
Unemployment Rate (percent)	6.9	4.5	4.8	5.2	5.0	4.9
Composite CPI of New York State[60]	3.7	6.7	4.2	3.0	2.7	2.6
New York State Adjusted Gross Income (NYSAGI)						
Capital Gains	53.0	(8.6)	(11.0)	4.4	(6.3)	8.9
Partnership/ S Corporation Gains	20.5	(11.5)	(5.3)	2.4	(3.0)	9.0
Business and Farm Income	65.1	(28.8)	1.1	4.8	7.5	1.5
Interest Income	(18.5)	8.5	9.6	9.7	5.4	4.3
Dividends	17.1	5.7	(8.4)	2.7	3.5	3.5
Total NYSAGI	**15.3**	**(2.4)**	**(2.0)**	**3.4**	**1.9**	**5.0**

Source: Haver Analytics; Moody's Analytics; NYS DOL; NYS DTF; DOB staff estimates.

56 For NYSAGI variables, 2021 is preliminary.
57 All indicators are percent changes except change in inventories, the unemployment rate, and interest rates; all GDP components refer to chained 2012 dollars, unless otherwise noted.
58 Includes inventory valuation and capital consumption adjustments.
59 Nonfarm employment, wage, and personal income numbers are based on QCEW data.
60 Series created by DOB.

SELECTED ECONOMIC INDICATORS (State Fiscal Year)	FY 2022 (actual)	FY 2023 (estimate)	FY 2024 (forecast)	FY 2025 (forecast)	FY 2026 (forecast)	FY 2027 (forecast)
U.S. Indicators[61]						
Gross Domestic Product (current dollars)	12.5	8.2	3.8	4.8	4.5	4.1
Gross Domestic Product	6.6	1.4	0.5	2.0	2.2	2.0
Consumption	8.8	2.2	0.9	1.9	2.3	2.0
Residential Fixed Investment	5.8	(14.4)	(11.2)	0.6	3.2	3.1
Nonresidential Fixed Investment	7.4	3.0	(0.1)	2.6	3.5	3.5
Change in Inventories (dollars)	55.0	67.4	36.3	72.4	72.0	65.5
Exports	9.2	7.6	1.3	2.4	3.7	3.7
Imports	15.9	4.7	(1.4)	1.3	3.0	2.5
Government Spending	(0.3)	(0.0)	0.7	0.6	0.5	0.4
Corporate Profits[62]	20.9	3.9	(3.3)	5.4	5.2	4.4
Personal Income	2.4	4.2	4.1	4.6	4.4	4.2
Wages	11.0	7.1	3.4	4.0	4.1	4.0
Nonfarm Employment	5.5	3.5	0.2	0.4	0.7	0.8
Unemployment Rate (percent)	4.8	3.6	4.6	5.0	4.8	4.5
S&P 500 Stock Price Index	29.3	(11.1)	(2.1)	6.3	5.5	3.5
Federal Funds Rate	0.1	2.8	4.8	4.3	2.9	2.6
10-year Treasury Yield	1.6	3.4	4.0	3.8	3.6	3.5
Consumer Price Index	6.2	7.4	3.2	2.7	2.4	2.3
New York State Indicators						
Personal Income[63]	1.5	0.8	3.5	4.5	4.4	4.2
Wages and Salaries[63]						
Total	12.4	2.4	2.3	3.8	4.1	4.0
Without Bonus[64]	11.9	6.9	3.3	3.5	3.8	3.8
Bonus[64]	15.7	(22.6)	(6.0)	6.9	6.3	6.2
Finance and Insurance Bonuses[64]	14.6	(25.2)	(5.1)	7.8	7.0	6.9
Wage Per Employee	5.1	(1.3)	2.1	3.4	3.3	3.3
Property Income	3.6	4.8	5.5	5.5	4.8	4.5
Proprietors' Income	11.3	1.3	1.8	4.3	5.2	5.5
Transfer Income	(20.8)	(6.5)	6.7	6.4	5.1	4.7
Nonfarm Employment[63]						
Total	7.1	4.0	0.2	0.4	0.7	0.7
Private	8.5	4.7	0.3	0.4	0.8	0.8
Unemployment Rate (percent)	6.0	4.3	5.1	5.2	5.0	4.9
Composite CPI of New York[64]	4.9	6.6	3.5	2.9	2.7	2.6

Source: Haver Analytics; Moody's Analytics; NYS DOL; DOB staff estimates.

[61] All indicators are percent changes except change in inventories, the unemployment rate, and interest rates; all GDP components refer to chained 2012 dollars, unless otherwise noted.
[62] Includes inventory valuation and capital consumption adjustments.
[63] Nonfarm employment, wage, and personal income numbers are based on QCEW data.
[64] Series created by DOB.

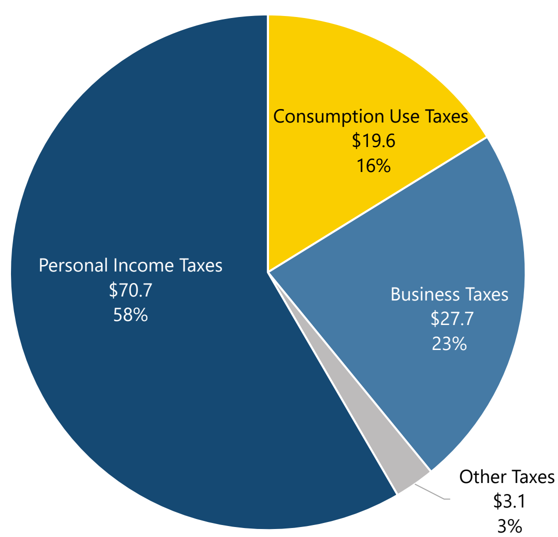
RECEIPTS EXPLANATION

Receipts Overview

The Receipts Explanation part of this volume is presented in smaller sections that group receipts source chapters together by receipts category.

- Personal Income Tax – the largest receipts source.
- Consumption/Use Taxes – includes chapters on the alcoholic beverage taxes, auto rental tax, cigarette and tobacco tax, highway use tax, medical cannabis tax, motor fuel tax, opioid excise tax, sales and use tax, and vapor products tax.
- Business Taxes – includes chapters on corporation franchise taxes, corporation and utilities taxes, insurance taxes, the pass-through entity tax, and the petroleum business tax.
- Gaming and Other Taxes – includes chapters on authorized combative sports tax, employer compensation expense program, estate tax, gaming receipts, pari-mutuel tax and real estate transfer tax.

FY 2022 Tax Receipts Cash Basis
All Funds - $121.1 Billion



Revenue Actions

All receipts forecasts in this volume are inclusive of any associated actions listed in the *Revenue Actions* section of the *Executive Budget Briefing Book.* The accompanying table summarizes those actions organized by receipt category, rather than by type of action. The incremental All Funds revenue gain or loss from the proposed action is included (millions of dollars) and represents gross revenue adds and reductions without any adjustments for associated spending changes, movements across funds, or General Fund spending offsets. For more detailed explanations of these actions, please refer to the *Executive Budget Briefing Book*.

ALL FUNDS LEGISLATION
(millions of dollars)

	FY 2024	FY 2025	FY 2026	FY 2027
Personal Income Tax	**-**	**14**	**14**	**14**
Create the Extended Prosperity and Innovation Campuses ("EPIC") Initiative	-	(1)	(1)	(1)
Require S-Corporation Conformity with Federal Returns	-	15	15	15
Consumption/Use Taxes	**(127)**	**(253)**	**(249)**	**(238)**
Increase the State Excise Tax on Cigarettes from $4.35 to $5.35	(13)	(25)	(24)	(22)
Prohibit the Sale of All Flavored Tobacco Products	(116)	(222)	(214)	(205)
Make Local Sales Tax Rate Authorizations Permanent	-	-	-	-
Extend and Limit the Vending Machine Sales Tax Exemption to Business Enterprise Program Vendors for One Year	-	-	-	-
Amend Motor Fuel Reporting Designation	2	4	4	4
Eliminate the Congestion Surcharge Registration Requirements	-	-	-	-
Revoke Cigarette and Tobacco Taxes Certificate of Registration for Inspection Refusal	-	-	-	-
Extend the Lower Manhattan Sales and Use Tax Exemption	-	(10)	(15)	(15)
Extend Reduced Real Estate Transfer Tax Rates for Qualifying REITs for Three Years	-	-	-	-
Business Taxes	**-**	**778**	**966**	**514**
Extend the Tax Credit for the Phase Out of a Certain Grade of Fuel Oil for Six Months	-	-	-	-
Extend and Enhance the Film Tax Credit	-	-	(115)	(208)
Extend the Empire State Commercial Production Tax Credit for Five Years	-	-	(7)	(7)
Modify the Investment Tax Credit for Farmers	-	(7)	(7)	(7)
Extend the New York City Musical and Theatrical Production Tax Credit for Two Years	-	-	(50)	(50)
Extend the Tax Credit for the Rehabilitation of Historic Properties for Five Years	-	-	-	(94)
Extend the Temporary Article 9-A Tax Rates for Three Years	-	810	1,170	880
Make Technical Changes to Tax Law	-	-	-	-
Abatement of Penalties for Underpayment of Estimated Tax by a Corporation	-	-	-	-
Create a Tax Credit for Child Care Creation and Expansion	-	(25)	(25)	-
Extend the Application Date for COVID-19 Capital Costs Tax Credit	-	-	-	-
Other Actions	**11**	**22**	**22**	**22**
Return Foreclosure Excess to Property Owners	-	-	-	-
Simplify and Modernize the Local Senior Citizens Exemption Income Definition	-	-	-	-
Allow DTF the Right to Appeal DTA Tribunal Decisions	-	-	-	-
Provide Authority to Abate Interest for Taxpayers Impacted by Declared Disasters	-	-	-	-
Clarification of the Wind and Solar Valuation Model	-	-	-	-
Technical Correction to the Deposit Timeframe	-	-	-	-
Authorize a Franchise Corporation's Payment Structure to Fund the Belmont Redevelopment Project	-	-	-	-
Extend Pari-Mutuel Tax Rates and Simulcast Provisions for One Year	-	-	-	-
Enact Procedures For An Off-Track Betting Corporation To Terminate Operations	-	-	-	-
Extend Capital Acquisition Fund Flexibility for Capital OTB for One Year	-	-	-	-
Eliminate Quick Draw Restrictions	11	22	22	22
Extend the Oil and Gas Fee	-	-	-	-
TOTAL ALL FUNDS LEGISLATION	**(116)**	**561**	**753**	**312**

Supplementary Supporting Documentation

In addition to the FY 2024 Executive Budget publications, the following publications provide further detail, history, or context to the various intricacies of the State's tax infrastructure.

- The ***Economic, Revenue, and Spending Methodologies***[65] provide a comprehensive review of the methods used by DOB in determining the economic and tax receipt projections.

- The ***Annual Information Statement and Financial Disclosure***[66] is the State's principal means for disclosing the financial information required to meet its legal obligations under federal securities law. To that end, the Statement provides: the Enacted Budget Financial Plan; actual operating results for the prior three fiscal years; economic and demographic data; debt and other capital financing information; State government organization, workforce, pension systems, and financial procedures; certain public authorities and localities for which the State has a significant oversight or financial role; and material litigation against the State.

- Published in conjunction with DTF, the annual report on ***New York State Tax Expenditures***[67] provides descriptions, cost estimates, and effective dates of State tax expenditures, including those contained within the FY 2024 Executive Budget.

[65] https://www.budget.ny.gov/pubs/supporting/methodology.html
[66] https://www.budget.ny.gov/pubs/archive/fy23/ais/2022-ais-dec.pdf
[67] https://www.budget.ny.gov/pubs/archive/fy23/ex/ter/fy23ter.pdf

Personal Income Tax

PERSONAL INCOME TAX
(millions of dollars)

		FY 2022 Results	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
Withholding		53,328	51,888	(1,440)	(2.7)	52,558	670	1.3
Estimated Payments	Current Year	14,123	7,887	(6,236)	(44.2)	8,007	120	1.5
	Prior Year[1]	7,543	10,258	2,715	36.0	8,307	(1,951)	(19.0)
	Total	21,666	18,145	(3,521)	(16.3)	16,314	(1,831)	(10.1)
Final Returns	Current Year	474	298	(176)	(37.1)	467	169	56.8
	Prior Year[1]	4,045	4,961	916	22.7	4,363	(598)	(12.1)
	Total	4,519	5,259	740	16.4	4,830	(429)	(8.2)
Delinquent		1,609	1,832	223	13.9	1,609	(223)	(12.2)
	Gross Receipts	**81,121**	**77,124**	**(3,997)**	**(4.9)**	**75,311**	**(1,813)**	**(2.4)**
Refunds	Prior Year[1]	5,489	9,684	4,195	76.4	7,405	(2,279)	(23.5)
	Previous Years	729	923	194	26.6	837	(86)	(9.3)
	Current Year[1]	2,380	3,000	620	26.0	3,000	(0)	(0.0)
	Advanced Credit Payment	663	2,822	2,159	325.5	908	(1,914)	(67.8)
	State/City Offset[1]	1,122	2,324	1,202	107.1	1,849	(475)	(20.4)
	Total	10,384	18,753	8,369	80.6	13,999	(4,754)	(25.4)
	Net All Funds Receipts[2]	**70,737**	**58,371**	**(12,366)**	**(17.5)**	**61,312**	**2,941**	**5.0**
Fund Distribution	General Fund	33,464	27,406	(6,059)	(18.1)	28,942	1,537	5.6
	Debt Service Funds (RBTF)	35,369	29,184	(6,185)	(17.5)	30,653	1,469	5.0
	Special Revenue Funds (STAR)	1,904	1,781	(123)	(6.5)	1,717	(64)	(3.6)

[1]These components, collectively, are known as the "settlement" on the prior year's tax liability.
[2]PIT Receipts are defined as gross receipts minus refunds.

All Funds FY 2023 receipts are estimated to decrease from FY 2022 as underlying net PIT growth is overshadowed by the influence of the Pass-Through Entity Tax (PTET), an elective tax paid by NYS partnerships and S-corporations for which a corresponding PIT credit may be received. The enactment of PTET has had a dramatic negative effect on FY 2023 PIT collections, despite being revenue neutral across all fiscal years.

Withholding in FY 2023 is estimated to decrease compared to the prior year, reflecting a strong decline in bonus wages offset by moderate growth in non-bonus wages. The decline in unemployment insurance income - which increased significantly in response to the pandemic and related legislation – has also contributed to the decline in withholding.

Estimated payments for tax year 2022 are expected to decrease significantly due to the influence of PTET credits. Taxpayers were statutorily restricted from adjusting tax year 2021 estimated payments in anticipation of PTET credits, making tax year 2022 estimated payments the first quarterly tax remittances to be negatively affected by PTET. Extension payments (i.e., prior year estimated) for tax year 2021 will increase driven by exceptional growth in nonwage income and

PIT rate increases on high-income taxpayers, partially offset by PTET credit realization. Delinquent collections and final return payments are projected to increase as well. Gross receipts for FY 2023 are projected to decline as underlying growth is eclipsed by the impact of PTET.

Total refunds are projected to increase, driven by a combination of increased advanced credit payments attributable to the Homeowner Tax Rebate Credit and PTET-related current refund payments for tax year 2021. Refunds for tax years prior to 2021 and the state/city offset are both projected to increase, with the latter also being driven by PTET credits.

The primary risks to FY 2023 receipts estimates result from uncertainty surrounding both bonus payments paid by financial services companies and the fourth quarterly estimated tax payment. With respect to financial sector bonuses, a large portion of these payments are typically paid in the last quarter of the fiscal year. Consequently, complete information about such payments is not available when Budget estimates are constructed. Similarly, the fourth quarterly estimated tax payment is consistently the largest payment, and a significant portion of this revenue is not received until after DOB's forecast has been produced.

Gross FY 2024 receipts are projected to decrease, driven by declines in extensions, final returns, and delinquencies. Withholding is projected to increase slightly, with moderate growth in non-bonus wages offset by projected bonus wage declines. Underlying declines in both extensions and estimated payments, for tax years 2022 and 2023 respectively, are offset by the influence of PTET. PTET liability between tax years 2022 and 2023 is expected to decline, causing the negative effect of PTET credits on estimated payments in FY 2024 to be less severe relative to FY 2023. As a result, estimated payments are expected to increase slightly. Far fewer PTET credits are projected to be realized through tax year 2022 extensions in FY 2024 than tax year 2021 extensions in FY 2023 because of the aforementioned statutory restriction on adjusting tax year 2021 estimated payments. This restriction does not apply to tax year 2022 estimated payments and its absence should cause a smaller share of PTET credits to be realized through extensions. However, FY 2024 extension payments are ultimately expected to decrease due to weakness in nonwage income. The decline in final returns is primarily attributable to reduced unemployment insurance income.

FY 2024 total refunds are expected to decline due in part to a combination of decreased advanced credit payments - due to the Homeowner Tax Rebate Credit expiration - and a projected decline in refunds for tax years prior to 2022. The total refund decline is also attributable to a substantial decline in tax year 2022 refunds. The scheduled increase in the FY 2023 administrative refund cap reduces the amount of tax year 2022 refunds to be paid in FY 2024, all else equal. Underlying tax year 2022 refunds are projected to remain flat, but fewer PTET credits are projected to be realized through refunds due to the previously mentioned adjustments to estimated payments, contributing to the decrease in total refunds.

All Funds receipts for FY 2024 are projected to increase, with a significant decline in total refunds offsetting a decline in gross receipts.

Base and Rate

The personal income tax (PIT) is NYS's largest source of tax receipts, accounting for 58 percent of All Funds tax collections in FY 2022. The State's PIT structure adheres closely to the definitions of AGI and itemized deductions used for Federal PIT purposes, with certain modifications, such as: the inclusion of investment income from debt instruments issued by other states and municipalities and the exclusion of income on certain Federal obligations; the exclusion of pension income received by Federal, NYS and local government employees, private pension and annuity income up to $20,000 ($40,000 for married couples filing jointly), and any Social Security Income and refunds otherwise included in Federal AGI; and the subtraction of state and local income taxes from Federal itemized deductions.

NYS allows either a standard deduction or itemized deductions, whichever is greater. Although NYS generally conforms to Federal rules pertaining to itemized deductions, the State imposes some additional limitations. NYS limits itemized deductions for taxpayers with NYSAGI between $525,000 and $1 million to only 50 percent of Federally allowed deductions, and for taxpayers with incomes above $1 million to only 50 percent of charitable contributions. For tax years 2010 to 2024, itemized deductions are limited to only 25 percent of charitable contributions for taxpayers with NYSAGI above $10 million.

Recent and current tax rates and deductions, as well as detailed tax rate schedule for 2022 are enumerated below.

PERSONAL INCOME TOP TAX RATES, STANDARD DEDUCTIONS, AND DEPENDENT EXEMPTIONS
(dollars)

		2013	2014	2015	2016	2017-2020	2021-2022
Top Rate		**8.82%**	**8.82%**	**8.82%**	**8.82%**	**8.82%**	**10.90%**
Thresholds	Married Filing Jointly	2,058,550	2,092,800	2,125,450	2,140,900	2,155,350	25,000,000
	Single	1,029,250	1,046,350	1,062,650	1,070,350	1,077,550	25,000,000
	Head of Household	1,543,900	1,569,550	1,594,050	1,605,650	1,616,450	25,000,000
Standard Deduction	Married Filing Jointly	15,400	15,650	15,850	15,950	16,050	16,050
	Single	7,700	7,800	7,900	7,950	8,000	8,000
	Head of Household	10,800	10,950	11,100	11,150	11,200	11,200
Dependent Exemption		**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**

In 2016, the Middle-Class Tax Cut established permanent tax rate reductions for taxpayers with taxable income between $26,000 and $300,000.[68] The tax years 2013 through 2017 tax brackets with marginal tax rates of 5.9 percent, 6.45 percent, and 6.65 percent were scheduled to be replaced by two tax brackets with marginal tax rates of 5.5 percent and 6 percent. These rate reductions were originally scheduled to phase in over the course of eight years with full

[68]The cited taxable income amounts apply to taxpayers filing joint returns and are shown absent the influence of CPI adjustments. Tax reductions apply at lower taxable income levels for single and head of household returns.

implementation occurring in tax year 2025. This schedule was accelerated by two years by 2022 legislation, with full implementation occurring in tax year 2023, skipping the interim tax brackets for tax years 2023 and 2024.

In 2021, the previous top bracket - and associated marginal tax rate of 8.82 percent - was replaced by three temporary brackets with marginal tax rates between 9.65 percent and 10.9 percent. The top rate is scheduled to revert to 8.82 percent beginning tax year 2028.

TAX SCHEDULES FOR 2022 LIABILITY YEAR* (dollars)			
Taxable Income	Dollar per	Tax Rate Percent	of Amount Over
Married - Filing Jointly			
Up to $17,150	$ -	4.00%	$ -
$17,150 - $23,600	$ 686	4.50%	$ 17,150
$23,600 - $27,900	$ 976	5.25%	$ 23,600
$43,000 - $161,550	$ 1,202	5.85%	$ 27,900
$161,550 - $323,200	$ 9,021	6.25%	$ 161,550
$323,200 - $2,155,350	$ 19,124	6.85%	$ 323,200
$2,155,350 - $5,000,000	$ 144,626	9.65%	$ 2,155,350
$5,000,000 - $25,000,000	$ 419,135	10.30%	$ 5,000,000
$25,000,000 - and over	$ 2,479,135	10.90%	$ 25,000,000
Single			
Up to $8,500	$ -	4.00%	$ -
$8,500 - $11,700	$ 340	4.50%	$ 8,500
$11,700 - $13,900	$ 484	5.25%	$ 11,700
$21,400 - $80,650	$ 600	5.85%	$ 13,900
$80,650 - $215,400	$ 4,504	6.25%	$ 80,650
$215,400 - $1,077,550	$ 12,926	6.85%	$ 215,400
$1,077,550 - $5,000,000	$ 71,984	9.65%	$ 1,077,550
$5,000,000 - $25,000,000	$ 450,500	10.30%	$ 5,000,000
$25,000,000 - and over	$ 2,510,500	10.90%	$ 25,000,000
Head of Household			
Up to $12,800	$ -	4.00%	$ -
$12,800 - $17,650	$ 512	4.50%	$ 12,800
$17,650 - $20,900	$ 730	5.25%	$ 17,650
$32,200 - $107,650	$ 901	5.85%	$ 20,900
$107,650 - $269,300	$ 5,976	6.25%	$ 107,650
$269,300 - $1,616,450	$ 16,079	6.85%	$ 269,300
$1,616,450 - $5,000,000	$ 108,359	9.65%	$ 1,616,450
$5,000,000 - $25,000,000	$ 434,871	10.30%	$ 5,000,000
$25,000,000 - and over	$ 2,494,871	10.90%	$ 25,000,000

* Benefits of graduated tax rates are recaptured for taxpayers with adjusted gross incomes above $107,650.

Liability

PIT liability is derived from the NYSAGI income base. As detailed previously in the *Economic Backdrop – New York State Adjusted Gross Income* section of this volume, NYSAGI growth has been somewhat volatile in the years since the Great Recession. The major components, growth rates, and shares of NYSAGI are enumerated below. Growth rates in recent years also show the impact of taxpayers behaving strategically by shifting income in anticipation of tax law changes, which can enhance or swamp the economic drivers of NYSAGI.

NYSAGI MAJOR COMPONENT DISTRIBUTION
(millions of dollars)

Income	Actual							Estimate			
Component	2014	2015	2016	2017	2018	2019	2020	2021[1]	2022	2023	2024
NYSAGI											
Amount	776,477	807,775	794,105	874,568	906,868	930,755	990,849	1,142,577	1,115,224	1,092,368	1,129,898
Growth	13.1%	4.0%	(1.7%)	10.1%	3.7%	2.6%	6.5%	15.3%	(2.4%)	(2.0%)	3.4%
Wages											
Amount	558,857	584,317	592,135	626,377	645,360	673,440	668,444	713,227	755,153	767,285	791,349
Growth	11.1%	4.6%	1.3%	5.8%	3.0%	4.4%	(0.7%)	(0.7%)	5.9%	1.6%	3.1%
NYSAGI Share	72.0	72.3	74.6	71.6	71.2	72.4	67.5	62.4	67.7	70.2	70.0
Net Capital Gains											
Amount	90,918	93,409	72,465	96,426	99,766	90,855	131,880	202,329	183,845	162,512	169,447
Growth	36.4%	2.7%	(22.4%)	33.1%	3.5%	(8.9%)	45.2%	53.4%	(9.1%)	(11.6%)	4.3%
NYSAGI Share	11.7	11.6	9.1	11.0	11.0	9.8	13.3	17.7	16.5	14.9	15.0
Interest and Dividends											
Amount	34,970	33,591	35,014	38,749	43,175	48,391	38,250	40,238	42,821	41,265	43,248
Growth	3.0%	(3.9%)	4.2%	10.7%	11.4%	12.1%	(21.0%)	5.2%	6.4%	(3.6%)	4.8%
NYSAGI Share	4.5	4.2	4.4	4.4	4.8	5.2	3.9	3.5	3.8	3.8	3.8
Taxable Pension											
Amount	42,461	44,131	44,815	47,175	49,367	50,731	51,608	55,633	59,249	62,389	66,581
Growth	0.0%	3.9%	1.6%	5.3%	4.6%	2.8%	1.7%	7.8%	6.5%	5.3%	6.7%
NYSAGI Share	5.5	5.5	5.6	5.4	5.4	5.5	5.2	4.9	5.3	5.7	5.9
Net Business and Partnership Income											
Amount	89,448	95,745	94,548	111,115	99,519	98,259	93,021	127,945	98,163	89,670	90,722
Growth	6.5%	7.0%	(1.3%)	17.5%	(10.4%)	(1.3%)	(5.3%)	37.5%	(23.3%)	(8.7%)	1.2%
NYSAGI Share	11.5	11.9	11.9	12.7	11.0	10.6	9.4	11.2	8.8	8.2	8.0
All Other Incomes and Adjustments[2]											
Amount	(40,178)	(43,418)	(44,873)	(45,273)	(30,318)	(30,922)	7,646	3,205	(24,007)	(30,753)	(31,449)
Growth	7.5%	8.1%	3.4%	0.9%	(33.0%)	2.0%	(124.7%)	(58.1%)	(849.2%)	28.1%	2.3%
NYSAGI Share	(5.2)	(5.4)	(5.7)	(5.2)	(3.3)	(3.3)	0.8	0.3	(2.2)	(2.8)	(2.8)

[1]Estimates for 2021 are based on processing data.

[2]Includes alimony received, unemployment income, IRA income, and other incomes. This number can be negative due to Federal and NYS adjustments to income, which together reduce final NYSAGI.

Source: NYS DTF; DOB staff estimates.

LIABILITY AND EFFECTIVE TAX RATES[1] (millions of dollars)					
	NYSAGI		Liability		Effective
	Amount	Growth	Amount	Growth	Tax Rate
2013	714,046	(0.1%)	37,331	(1.8%)	5.2%
2014	776,477	8.7%	41,910	12.3%	5.4%
2015	807,775	4.0%	43,503	3.8%	5.4%
2016	794,105	(1.7%)	41,736	(4.1%)	5.3%
2017	874,568	10.1%	48,000	15.0%	5.5%
2018	906,868	3.7%	48,712	1.5%	5.4%
2019	930,755	2.6%	49,567	1.8%	5.3%
2020	990,849	6.5%	54,517	10.0%	5.5%
2021[2]	1,142,577	15.3%	73,940	35.6%	6.5%
2022[2]	1,115,224	(2.4%)	70,532	(4.6%)	6.3%
2023[2]	1,092,368	(2.0%)	66,806	(5.3%)	6.1%

[1]Liability divided by AGI.

[2]Estimates and projections; these do not include the effects of PTET credits.

Source: NYS DTF; DOB staff estimates.

Over time the State has become increasingly reliant on its high-income taxpayers as a source of income tax revenues. Note that the new personal income tax law enacted with the FY 2022 Budget created three new “millionaire” brackets of 9.65 percent, 10.3 percent, and 10.9 percent, replacing the 8.82 percent rate for these filers.

The complex interaction between tax policy and taxpayer behavior is only one example of how changes in the economy, government policy, or the institutional practices of firms (i.e., the timing and types, not to mention the size, of bonus payments) that affect a small number of taxpayers in the high-income groups can have disproportionately large effects on State tax revenues. A particular concern to NYS is the severe limits that 2017’s TCJA imposed on itemized deductions, especially the deduction for state and local taxes, including property taxes. Note the decline in liability growth to 1.5 percent for 2018 after a 15.0 percent growth surge in 2017, as taxpayers sought to take advantage of tax provisions that would be taken away by the TCJA in 2018, the first tax year under the new Federal law. Growth fell to just 1.8 percent for tax year 2019. Unusual amounts of Federal fiscal support to individuals appear to have helped liability grow 10.0 percent in 2020, the first year of the COVID-19 pandemic. Meanwhile, liability is estimated to have accelerated to a 35.6 percent gain for tax year 2021 in the wake of the new, higher brackets and rates enacted that year, with growth forecast to decline 4.6 percent in tax year 2022, followed by a larger decrease of 5.3 percent for tax year 2023. The decline in 2023 can be explained in part by the expectation of a recession brought about by efforts to contain inflation and by the acceleration of the Middle-Class Tax Cut program. The back-to-back declines in tax liability would be the first since decreases in 2008 and 2009, during the Great Recession.

Although significant risks remain in any estimates of income tax liability, estimated tax liability for a particular tax year leads, with a high degree of confidence, to the approximate level of cash receipts that can be expected for such year. Despite this strong relationship, estimation of cash payments is subject to an important complication that pervades forecasts for the Executive Budget and other State Financial Plan updates, namely determining the portions of tax-year liability that will occur in particular SFYs. Income tax prepayments – withholding tax and quarterly estimated tax payments – tend to be received not long after income is earned. For example, most withholding tax payments and quarterly estimated tax payments for tax year 2022 will be received before the end of FY 2023. Settlement payments – those payments received when taxpayers file final returns for a tax year – tend to be received in the next SFY after the end of a tax year. Thus, settlement payments for tax year 2022 will be received largely in FY 2024.

Administration

DTF administers PIT in general conformity with the Federal PIT and IRS administration. Taxpayers have taxes withheld from their wages and employers subsequently remit those withholdings to DTF on various schedules based on their payroll size. Taxpayers may be required to remit estimated tax on a quarterly basis if withholding is insufficient or they receive nonwage income. Tax returns are generally due on April 15, though taxpayers may request an extension until October 15. Taxpayers with tax paid in excess of liability may request refunds or opt to credit overpayments toward future tax liabilities.

The payment of refunds during the final quarter of the State's fiscal year is administratively managed in accordance with cash flow expectations and to minimize potential year-end imbalances in the State's General Fund. The administrative refund cap totaled nearly $2.3 billion in FY 2019 and remained steady through FY 2020. After a slight decline to approximately $2.2 billion in FY 2021, the administrative refund cap increased to just under $2.4 billion in FY 2022 and is scheduled to increase to $3 billion annually beginning in FY 2023.

History

PERSONAL INCOME TAX RECEIPTS HISTORY (millions of dollars)			FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Withholding			31,958	33,368	34,907	36,549	37,524	40,269	41,084	43,118	44,218	53,328
Estimated Payments	Current Year		9,001	9,454	10,367	11,561	10,912	14,329	10,481	10,996	10,930	14,123
	Prior Year[1]		3,192	5,183	3,376	4,550	4,060	3,452	3,529	6,029	5,512	7,543
		Total	12,193	14,637	13,743	16,111	14,972	17,781	14,010	17,025	16,441	21,666
Final Returns	Current Year		203	250	254	269	261	308	344	339	402	474
	Prior Year[1]		1,945	2,145	1,952	2,360	2,328	2,170	2,341	3,114	3,170	4,045
		Total	2,148	2,395	2,206	2,630	2,588	2,478	2,685	3,454	3,572	4,519
Delinquent			1,144	1,175	1,393	1,310	1,434	1,507	1,396	1,388	1,300	1,609
	Gross Receipts		**47,443**	**51,575**	**52,248**	**56,600**	**56,518**	**62,036**	**59,175**	**64,985**	**65,532**	**81,121**
Refunds	Prior Year[1]		4,568	5,367	4,961	5,130	5,199	6,292	6,034	5,927	6,048	5,489
	Previous Years		589	554	458	618	474	527	589	530	545	729
	Current Year[1]		1,750	2,078	1,950	2,550	1,750	2,249	2,250	2,245	2,187	2,380
	Advanced Credit Payment		0	0	579	571	678	610	1,080	1,505	593	663
	State/City Offset[1]		309	615	591	675	851	856	1,135	1,117	1,192	1,122
		Total	7,216	8,614	8,539	9,545	8,952	10,534	11,088	11,326	10,565	10,384
	Net All Funds Receipts		**40,227**	**42,961**	**43,710**	**47,055**	**47,566**	**51,501**	**48,087**	**53,659**	**54,967**	**70,737**
Fund Distribution	General Fund		26,884	28,864	29,485	31,957	32,535	36,037	21,620	24,646	25,456	33,464
	Debt Service Funds (RBTF)		10,057	10,740	10,927	11,764	11,891	12,875	24,044	26,830	27,483	35,369
	Special Revenue Funds (STAR)		3,286	3,357	3,297	3,335	3,139	2,589	2,423	2,184	2,027	1,904

[1]These components, collectively, are known as the "settlement" on the prior year's tax liability.

Significant statutory changes within the past decade include:

- The Empire State Film Production Tax Credit has been expanded and extended nine times since its creation in 2004.
  - $420 million has been the annual authorization for the credit effective in 2010, and the credit is currently authorized through tax year 2029.
  - $7 million of the annual authorization for the credit was dedicated to post production effective in 2010, but this was increased to $25 million in 2015.
  - In 2020, the credit was reduced from 30 percent to 25 percent, a minimum budget requirement of $1 million for films produced in New York City and the counties of Nassau, Suffolk, Rockland and Westchester ($250,000 if filmed elsewhere in the State) was imposed, and new variety shows were excluded from credit eligibility.
- The New York Youth Works Program has been extended twice since its creation in 2011. Effective 2018, $40 million has been the annual authorization for the credit and it is currently authorized through tax year 2027.
- The Rehabilitation of Historic Properties Credit is equal to 20 percent of qualified rehabilitation expenditures made by the taxpayer with respect to a qualified historic

structure in New York State with a cap of $5 million per structure. Since its creation in 2006, the credit has been extended twice and is effective through tax year 2024.

- In 2013, taxpayers with business or farm income not exceeding $250,000 were provided a modification equal to a percentage of business or farm income, reducing Federal AGI by 3 percent in tax year 2014, 3.75 percent in tax year 2015, and 5 percent for tax years 2016 and beyond.

- In 2013, a refundable $350 Middle-Class Family Tax Credit was provided in each of tax years 2014 through 2016 to taxpayers with dependents under the age of 17, zero or positive tax liability, and income between $40,000 and $300,000. The delivery of the credit was modified in 2014 to eliminate the prepayment element for tax years 2015 and 2016.

- In 2014, a refundable Real Property Tax Freeze Credit was established, providing a two-year tax relief program to offset school and municipal property tax increases for NYS homeowners. The credit was limited to properties that have STAR property tax exemption eligibility and are located within a NYS Property Tax Cap-compliant school/municipal district.

- In 2014, a refundable Enhanced Real Property Tax Credit was established for residents of NYC based on qualifying real property taxes paid or the real property tax equivalent. This was subsequently extended in 2015 for an additional four years, through tax year 2019.

- Beginning in tax year 2014, qualified NYS manufacturers were made eligible for a refundable Property Tax Credit equal to 20 percent of the real property taxes paid.

- In 2015, a refundable Property Tax Relief Credit was established and administered as an advanced credit payment, to offset property tax increases for all eligible taxpayers who own and primarily reside in real property located within eligible school districts that are compliant with the two percent annual property tax cap. The credit expired after tax year 2019.

- In 2015, the Brownfield Clean-Up Program was reformed, and tax credits were extended through FY 2026. Reforms included the prioritization of site redevelopment in economically distressed areas, low-income housing, or properties that are upside down or underutilized. The Program also provided for the creation of an expedited remediation program, gave a more detailed description of eligible costs for redevelopment tax credits, and allowed the real property tax and environmental remediation insurance credits to sunset. In 2022, the credit was extended for ten years to December 31, 2036, enhanced to allow additional credits to renewable energy system projects as well as projects located in disadvantaged communities. The benefit period was also increased from five years to seven years for taxpayers receiving certificates of completion within a certain period of time.

- Middle-income tax cuts were enacted in 2016 and scheduled to be phased-in between tax years 2018 and 2025, ultimately eliminating the previous tax brackets with marginal tax rates of 5.9 percent, 6.45 percent, and 6.65 percent in favor of two tax brackets with marginal tax rates of 5.5 percent and 6 percent.

- The refundable Farm Workforce Retention Credit was created in 2016 for farm employers equal to a fixed amount per eligible farm employee, with credit amounts varying between $250 per eligible farm employee in tax year 2017 up to $600 in tax year 2021. In 2021, this credit was extended through tax year 2024.

- In 2016, the STAR PIT credit for eligible NYC resident taxpayers was converted from a credit against NYC tax liability to a credit against NYS tax liability.

- The Middle-Class Tax Cut provided reduced middle-income PIT rates over the course of eight years. The rate cuts began in tax year 2018 and the range of marginal tax rates on middle incomes was scheduled to be reduced from between 5.9 percent and 6.65 percent to between 5.5 percent and 6 percent when fully phased-in beginning tax year 2025.

- In 2017, the STAR-related NYC PIT rate reduction benefit was converted into a NYS PIT credit for NYC taxpayers.

- NYS made several changes in 2018 in an effort to combat the effects of the 2017 TCJA, namely:

    - Maintained the 2017 value of the Empire State Child Tax Credit;

    - Decoupled from the Federal $10,000 state and local tax itemized deduction limit, the temporary medical expense deduction increase, and the repeal and limitation of other federal itemized deductions;

    - Maintained the NYS single filer standard deduction and eliminated the restriction that a NYS filer may only itemize deductions if deductions were itemized on the filer’s federal return; and

    - Established the Charitable Gifts Trust Fund to accept donations to fund health care and education programs. Contributions made to the Fund or qualified contributions made to the Health Research Inc., the SUNY Impact Foundation, or the CUNY Research Foundation were provided an 85 percent tax credit, while school districts and municipalities were authorized to establish charitable funds through local law and provide up to a 95 percent tax credit for donations to such funds.

- In 2021, NYS enacted a surcharge on high-income earners, increasing the prior top marginal rate of 8.82 percent to 9.65 percent, while adding higher marginal rates of 10.3 percent and 10.9 percent beginning at $5 million and $25 million in taxable income, respectively. The rate increases are effective tax years 2021 through 2027. Beginning tax year 2028, the top three rates are scheduled to revert to 8.82 percent on a permanent basis.

- In 2021, the Property Tax Relief Credit was established to provide qualifying homeowners with property tax relief when total property taxes exceed a fixed percentage of income. Qualifying homeowners must be PIT STAR credit-eligible New York residents with incomes no greater than $250,000. This credit is available for tax years 2021 through 2023.

- In 2021, two separate programs were enacted to provide critical assistance to the severely impacted by the pandemic food service and entertainment industries:

  - Restaurant Return-to-Work Tax Credit Program: this refundable tax credit is available to small, independently owned restaurants that are located within New York City, which were subject to a ban on indoor dining for over six months, or outside of New York City in areas that were designated as a red or orange zone for at least 30 days. The credit is only available to restaurants that have experienced year-to-year revenue and/or job losses of 40 percent or more and have increased their employment within certain timeframes. Such restaurants are eligible for a tax credit of $5,000 for each net full-time equivalent position added, up to a maximum cap of $50,000 per business. The total credit under this program is capped at $35 million and may be claimed as an advanced refundable credit. In 2022, the Additional Restaurant Return-to-Work Credit was created and made available to restaurants with net full-time employee increases greater than ten and up to twenty employees. Eligible restaurants may claim the additional credit, in the amount of $5,000 for each net full-time equivalent position added, up to a maximum of $50,000 per business.

  - New York City Musical and Theatrical Production Tax Credit: this refundable tax credit is available to qualified musical and theatrical production companies that produce a musical or theater production in New York City and spend at least $1 million dollars in qualified production expenditures. The program was initially authorized for $100 million for tax years 2021 through 2023. The tax credit is equal to 25 percent of the sum of its production expenditures incurred and not to exceed $3 million per production company. In 2022, the program was extended an additional six months into 2023 and the total program cap was increased to $200 million.

- In 2021, in response to Federal tax law changes, the Pass-through Entity Tax (PTET) was established as an elective tax paid by NYS partnerships and S-corporations for which a corresponding PIT credit may be received.

- In 2022, the Homeowner Tax Rebate Credit was enacted as a one-time advanced credit payment providing relief to low- and middle-income homeowners, as well as senior homeowners to offset property taxes.

- In 2022, Earned Income Tax Credit (EITC) and Empire State Child Credit (ESCC) recipients were provided one-time supplemental payments equal to 25 percent of the EITC and between 25 and 100 percent of the ESCC claimed for tax year 2021, provided the benefit in each case was at least $25.

- Tax credits for farms were expanded in 2022 by:
    - Doubling the Farm Workforce Retention Credit from $600 to $1,200 per eligible farm employee and extending the credit through tax year 2025.
    - Increasing the Investment Tax Credit to 20 percent of the investment credit base, up from 4 percent for businesses filing under PIT and 5 percent for businesses filing under the Corporation Franchise Tax, for farm businesses.
    - Establishing a refundable tax credit for overtime wages paid by farm employers, taking effect when the overtime threshold is reduced below 60 hours per week.
- In 2022, the Middle-Class Tax Cut was accelerated by two years, phasing-in the lower rates of 5.5 percent and 6 percent (originally planned for completion in tax year 2025) in tax year 2023, skipping the interim tax brackets for tax years 2023 and 2024.
- In 2022, the small business subtraction modification was increased from 5 percent to 15 percent of net business or farm income included in Federal AGI. This benefit was also expanded to include qualifying pass-through entities.

Alcoholic Beverage Taxes

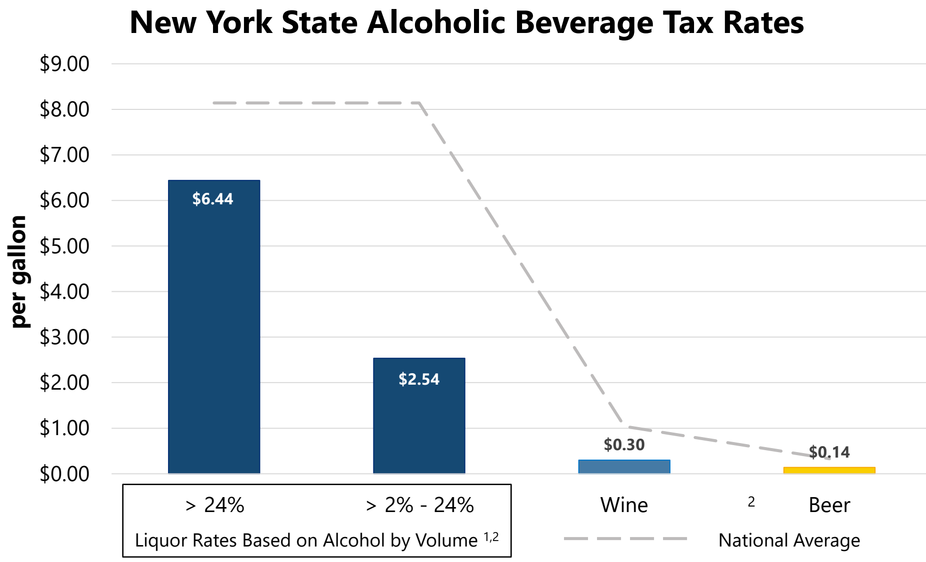
ALCOHOLIC BEVERAGE TAXES (millions of dollars)								
		FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
General Fund	Beer	45.1	45.5	0.4	1.0	46.1	0.6	1.4
	Liquor	214.4	216.5	2.1	1.0	219.6	3.1	1.4
	Wine and Other	17.9	18.1	0.2	1.0	18.3	0.3	1.4
	Total	277.3	280.0	2.7	1.0	284.0	4.0	1.4
All Funds Total		**277.3**	**280.0**	**2.7**	**1.0**	**284.0**	**4.0**	**1.4**

FY 2023 receipts are estimated to increase from FY 2022 results primarily due to liquor's consumption reaching the highest volume sold in a decade. Wine consumption is not estimated to fully recover from the significant decline (11.2 percent) in FY 2022.

FY 2024 receipts are projected to increase due to liquor's volume continuing to trend upwards, wine consumption slowly recovering from pre-COVID levels and beer consumption continuing to move in a positive direction.

Base and Rate

NYS imposes excise taxes at various rates on liquor, beer, wine and cider beverages. As of January 1, 2022, compared to alcoholic beverage tax rates in other states, NYS currently has the 26th lowest liquor tax; is tied for the 11th lowest beer tax; and is tied for the 4th lowest wine tax.



[1]NYS taxes liquor by the liter, while it taxes all other alcoholic beverages by the gallon. For visual comparison purposes, liquor tax rates of $1.70, $0.67, and $0.01 per liter have been converted (One US Gallon = 3.785 liters) into rates of $6.44, $2.54, and $0.04 per gallon.

[2]NYC imposes an additional tax of 26.04 cents per gallon (6.88 cents per liter) on liquor and 12 cents per gallon on beer.

Liability

In general, wine and liquor consumption have experienced marginal to moderate growth over the past decade, while beer consumption has remained relatively flat, with a few exceptions (e.g., craft brewery boom and subsequent leveling off) during the same period.

Administration

Generally, the alcoholic beverage taxes are remitted by licensed distributors (including producers) and non-commercial importers of such beverages in the month following the month of delivery. Registered distributors can apply for annual filing status, and be approved by DTF, if they produce under a certain volume of alcohol, and do not hold another license with SLA that requires them to pay taxes on a monthly basis. This is also the case for individual non-commercial importers of beer or wine; however, it is not an option for liquor importers.

History

DISTRIBUTIONS BY BEVERAGE TYPE BASED ON REPORTED VOLUMES (millions of dollars)					
	General Fund				All Funds
	Beer	Liquor	Wine and Other	Total	Total
FY 2013	48	180	19	246	246
FY 2014	47	184	20	250	250
FY 2015	46	185	20	251	251
FY 2016	47	188	20	255	255
FY 2017	47	190	20	258	258
FY 2018	46	193	20	259	259
FY 2019	46	196	21	262	262
FY 2020	44	196	19	259	259
FY 2021	43	208	20	271	271
FY 2022	45	214	18	277	277

Significant statutory changes within the past decade include:

- In 2016, products used in on-site tastings were exempted from taxation.
- In 2020, liquor under two percent alcohol by volume (ABV) was exempted from taxation.

Auto Rental Tax

AUTO RENTAL TAX (millions of dollars)								
		FY 2022	FY 2023	Change		FY 2024	Change	
		Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
Capital Projects Funds	DHBTF	77.0	94.0	17.0	22.1	75.0	(19.0)	(20.2)
Special Revenue Funds	PTSOA	22.0	28.0	6.0	27.3	25.0	(3.0)	(10.7)
All Funds Total		**99.0**	**122.0**	**23.0**	**23.2**	**100.0**	**(22.0)**	**(18.0)**

FY 2023 receipts are estimated to increase from FY 2022 results, as revenues continue to recover from the significant declines experienced during the COVID-19 economic downturn.

FY 2024 receipts are projected to decline from the current year primarily due to the projected full-year impact of an anticipated shift away from auto rental consumption towards the peer-to-peer car sharing program.

Base and Rate

NYS levies a 12 percent tax (6 percent statewide special tax and 6 percent special supplemental tax) on charges for the rental or use of a passenger car with a gross vehicle weight of 9,000 pounds or less in NYS, regardless of where the vehicle is registered or the residency of the renter. For the special supplemental tax, collections from rentals in the MCTD are directed to the MTA (off-Budget) and collections from rentals outside the MCTD are directed to PTSOA. The tax does not apply to a car lease covering a period of one year or more.

Liability

ART receipts are influenced by overall economic conditions, particularly consumer and business spending on travel. Unusual events that disrupt the flow of travel and tourism within NYS (i.e., catastrophic weather events such as Superstorm Sandy or global pandemics such as COVID-19) can have a significant influence on receipts. The emergence of app-based transportation options has had a predictably adverse effect on the overall demand of rental vehicles.

Administration

Vendors remit ART receipts quarterly to DTF via their sales tax return.

History

AUTO RENTAL TAX RECEIPTS HISTORY (millions of dollars)					
	Capital Projects Funds (DHBTF)	Special Revenue Funds			All Funds Total
		MTAFAF	PTSOA	Total	
FY 2013	68	41	0	41	109
FY 2014	71	43	0	43	114
FY 2015	74	45	0	45	119
FY 2016	79	47	0	47	126
FY 2017	78	49	0	49	127
FY 2018	78	45	0	45	123
FY 2019	81	49	0	49	130
FY 2020	87	0	20	20	107
FY 2021	52	0	12	12	64
FY 2022	77	0	22	22	99

Significant statutory changes within the past decade include:

- In 2019, the tax rate within the MCTD increased from 11 to 12 percent and outside the MCTD the tax rate increased from 6 to 12 percent. In addition, the revenues from the MCTD supplemental tax rate (6 percent) were moved off-Budget and are no longer included in ART collections.

Cigarette and Tobacco Tax

CIGARETTE AND TOBACCO TAXES (millions of dollars)								
		FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
General Fund	Cigarette Tax	210.0	191.0	(19.0)	(9.0)	158.7	(32.3)	(16.9)
	Tobacco Tax	78.0	85.0	7.0	9.0	54.0	(31.0)	(36.5)
	Registration Fees	5.0	5.0	0.0	0.0	5.0	0.0	0.0
	Total	293.0	281.0	(12.0)	(4.1)	217.7	(63.3)	(22.5)
HCRA	Cigarette Tax	665.0	605.0	(60.0)	(9.0)	503.3	(101.7)	(16.8)
All Funds Total		**958.0**	**886.0**	**(72.0)**	**(7.5)**	**721.0**	**(165.0)**	**(18.6)**

FY 2023 receipts are estimated to decrease from FY 2022 results primarily due a historical year-over-year decline in taxable cigarette consumption. Tobacco products tax receipts are estimated to increase as refunds return to historical levels in FY 2023.

FY 2024 receipts are projected to significantly decrease from the current year due to Executive Budget proposals combined with the continued decline in taxable cigarette consumption. These proposals would increase the State cigarette tax rate by $1.00 and ban the sale of all flavored cigarette and tobacco products.

Base and Rate

The cigarette and tobacco product taxes consist of the following:

- The NYS cigarette excise tax is $4.35 per pack (20 cigarettes) or $43.50 per carton (200 cigarettes). In NYC, there is an additional tax of $1.50 per pack or $15 per carton. In total, in NYC, the combined State and City tax is $5.85 per pack or $58.50 per carton. An Executive Budget proposal would raise the State tax on cigarettes from $4.35 to $5.35.

- The tax on tobacco products tax is on cigars, little cigars, snuff, and all other tobacco products. The tax per 20 little cigars is $4.35, while the tax on snuff is $2.00 per ounce or fraction thereof. For all other tobacco products (large cigars, chewing tobacco), the tax is 75 percent of the wholesale price.

- The registration fee for each retail location is $300, and $100 for each vending machine. The license application fee for either a wholesaler cigarette dealer or cigarette agent is $1,500.

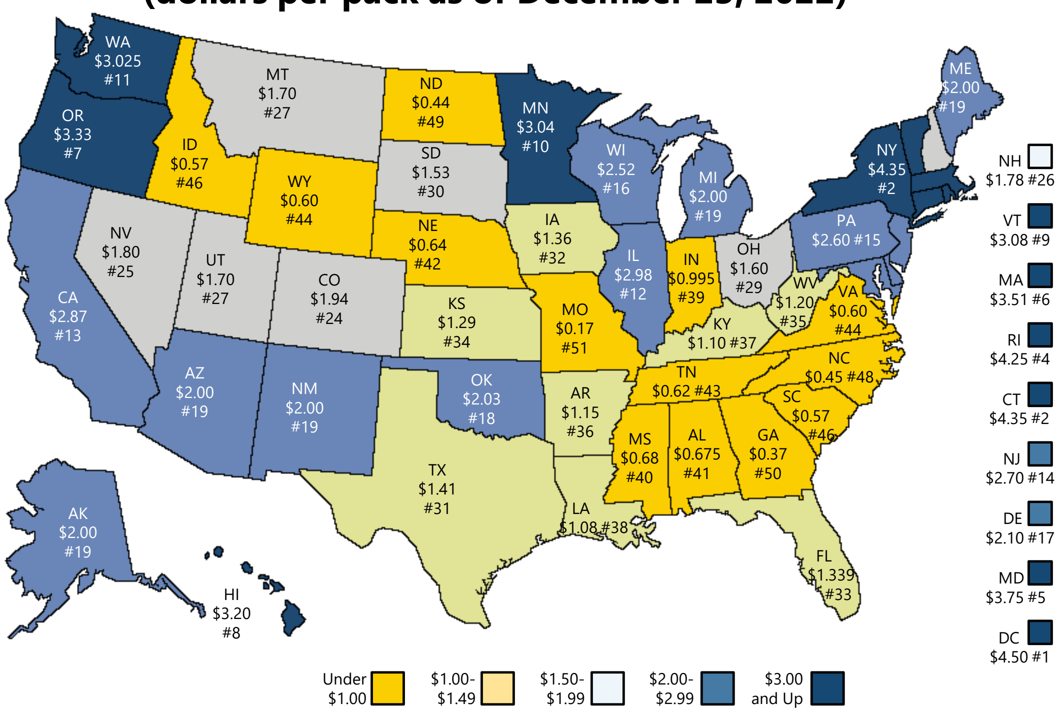
An Executive Budget proposal would prohibit all flavored tobacco products (including menthol cigarettes).

Liability

Taxable cigarette consumption is a function of retail cigarette prices and a long-term downward trend in consumption. The decline in consumption reflects the impact of increased public awareness of the adverse health effects of smoking, smoking restrictions imposed by governments, anti-smoking education programs, and changes in consumer preferences toward other types of tobacco.

At a state tax rate of $4.35 per pack, NYS currently is tied for the second-highest cigarette tax (excluding NYC's additional tax) in the nation, behind only the District of Columbia (taxing at a rate of $4.50 per pack). Based on the Executive Budget proposal, NYS state tax rate would increase to $5.35 and be the highest rate in the nation. With a national median tax of $1.78 per pack, cigarette tax evasion is a serious issue in NYS and throughout the Northeast. The most significant area of concern is the importation of cigarettes from low-tax states. Widespread evasion not only reduces State and local revenues, but also reduces the income of legitimate wholesalers and retailers. DTF continues to vigorously pursue cigarette bootlegging through investigatory and enforcement efforts.

State and DC Cigarette Tax Rates
(dollars per pack as of December 23, 2022)



Administration

Retail establishments that sell cigarettes are required to register with DTF and vending machine owners are required to purchase registration stickers from DTF.

State-registered stamping agents, who are mostly wholesalers, purchase tax stamps from NYS and affix the stamps to cigarette packages to be sold by registered retailers. The tax is paid by the stamping agent and is passed on. Purchasers of non-State stamped cigarettes, such as cigarettes sold out-of-State or on Native American lands, must remit the cigarette excise tax directly to DTF. An individual may bring two cartons into NYS without being subject to the excise tax.

History

CIGARETTE AND TOBACCO TAXES RECEIPTS HISTORY
(millions of dollars)

	General Fund				HCRA	All Funds
	Cigarette Tax	Tobacco Tax	Registration Fees	Total	Cigarette Tax	Total
FY 2012	367	103	2	472	1,162	1,634
FY 2013	348	91	3	443	1,108	1,551
FY 2014	324	95	7	426	1,027	1,453
FY 2015	303	46	7	355	959	1,314
FY 2016	293	22	7	322	928	1,251
FY 2017	277	76	7	360	876	1,235
FY 2018	262	73	7	342	829	1,171
FY 2019	246	75	6	328	780	1,108
FY 2020	228	79	6	313	722	1,035
FY 2021	220	85	5	310	696	1,006
FY 2022	210	78	5	293	665	958

Significant statutory changes within the past decade include:

- In 2013, the penalty for possession of unstamped or unlawfully stamped cigarettes was increased from $150 to $600 per carton to reflect increases in the excise tax on cigarettes and to strengthen the deterrent effect in the current environment.

- In 2014, a multi-agency task force was formed to reduce illegal tobacco trafficking and sales. The multi-agency Cigarette Strike Force is composed of State and local agencies that work with Federal agents to stop the influx of counterfeit and untaxed tobacco products into NYS. The Strike Force also focuses on tracing any illicit financial earnings from criminal activity.

- In 2020, the definition of “wholesale price” of tobacco products was reformed to clarify that it means the price for which the tobacco products are sold to a distributor and cigarette enforcement was enhanced via the following amendments:

- Authorized DTF to revoke a retailer's CoR for one year (increased from six months) for its first violation for selling untaxed cigarettes;

- Required that a retail dealer who is caught selling untaxed cigarettes have the CoR revoked at all retail locations. For a second violation within five years, this punishment also applies to any affiliated person of the retail dealer;

- Authorized the automatic start to the Certificate of Authority (CoA) (the required license to collect sales tax and operate a business) revocation process after the third revocation of a retail dealer's registration in five years, effectively shutting down the business' operations; and

- Authorized DTF to deny a retail dealer registration to any applicant with outstanding tax debts.

- In 2021, it was established that retail dealers who had their licenses suspended or revoked were allowed ten days to transfer their lawful products to another retail dealer. Additionally, DTF's ability to revoke or suspend a retailer's CoA if they sell unlawfully stamped cigarettes three or more times in five years was clarified.

Highway Use Tax

HIGHWAY USE TAX (millions of dollars)		FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
Capital Projects Funds (DHBTF)	TMT	117.0	114.8	(2.1)	(1.8)	116.3	1.5	1.3
	Fuel Use	22.7	22.9	0.2	0.9	23.7	0.8	3.5
	IFTA Decal	0.6	0.5	(0.0)	(6.3)	0.5	0.0	0.0
	Total	140.3	138.3	(2.0)	(1.4)	140.6	2.3	1.7
Special Revenue Funds (HUTAA)	Registrations	1.8	0.7	(1.1)	(61.5)	0.4	(0.3)	(42.9)
All Funds Total		**142.1**	**139.0**	**(3.1)**	**(2.2)**	**141.0**	**2.0**	**1.4**

FY 2023 receipts are estimated to decrease from FY 2022 results due to a moderate decline in truck mileage tax (TMT) receipts. Additionally, registrations are estimated to decrease due to FY 2023 being a non-triennial year in the triennial registration cycle.

FY 2024 receipts are projected to increase from the current year due to some minor growth in TMT and FUT receipts.

Base and Rate

There are four components of the highway use tax (HUT): [69]

- The TMT is levied on motor carriers who operate certain motor vehicles on NYS public highways.

- The FUT ensures that motor carriers who purchase fuel out-of-State, but operate a vehicle on NYS public highways, are subject to the same taxes as fuel purchased in-State. The current fuel use tax rate is $0.24 per gallon.

- Pursuant to IFTA, motor carriers who designate NYS as their base jurisdiction for IFTA licensing purposes must apply and receive one IFTA license per fleet of vehicles and a set of two decals for each qualified vehicle operated under said license. There is no fee for the annual license, but there is an $8 fee for each set of decals ordered.

- As part of the HUT or AFC registration process, an issued HUT or AFC decal is required to be affixed to each vehicle. The cost of the certification and decal fee is $1.50.

[69] Please refer to https://www.tax.ny.gov/pubs_and_bulls/tg_bulletins/hut/introduction.htm and https://www.tax.ny.gov/bus/ifta/fuel.htm for a detailed description of these components.

Liability

HUT receipts are generally a function of the demand for trucking, which fluctuates with national and State economic conditions.

Administration

Most taxpayers remit the TMT on a monthly basis, on or before the last day of each month for the preceding month. Fuel use taxpayers file quarterly with their home state under the rules of IFTA. The home state subsequently distributes the funds to the state where the liability occurred. The registration process generally occurs on a triennial basis.

History

HIGHWAY USE TAX RECEIPTS HISTORY (millions of dollars)							
	Capital Projects Funds (DHBTF)					Special Revenue Funds (HUTAA)	All Funds
	TMT	Fuel Use	IFTA Decal	Registrations	Total	Registrations	Total
FY 2013	98	31	0	15	145	0	145
FY 2014	99	31	0	6	136	0	136
FY 2015	103	31	1	6	140	0	140
FY 2016	108	30	0	20	159	0	159
FY 2017	109	27	0	0	136	2	139
FY 2018	110	25	1	0	136	(43)	93
FY 2019	121	25	1	0	147	(2)	145
FY 2020	113	28	1	0	141	1	141
FY 2021	111	23	0	0	134	0	135
FY 2022	117	23	1	0	140	2	142

Significant statutory changes within the past decade include:

- Enacted in 2006, the exemption on alternative fuels (E85, B20, CNG, and hydrogen) has been extended several times for various durations.
- In 2016, the $15 HUT registration fee and $4 decal fees directed to the DHBTF were replaced with a combined HUT registration and decal fee of $1.50, directed to the HUTAA.
- In 2021, certain monthly and quarterly TMT filers had their filing frequency and reporting requirements reduced.

Medical Cannabis Tax

MEDICAL CANNABIS TAX (millions of dollars)			FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
Special Revenue Funds (MCTF)	Counties	Manufacturer	2.9	2.7	(0.2)	(7.0)	2.7	0.0	0.0
		Distributor	2.9	2.7	(0.2)	(7.0)	2.7	0.0	0.0
	Agency Operations	OASAS	0.6	0.6	(0.0)	(7.0)	0.6	0.0	0.0
		DCJS	0.6	0.6	(0.0)	(7.0)	0.6	0.0	0.0
	Cannabis Revenue Fund		5.8	5.4	(0.4)	(7.0)	5.4	0.0	0.0
	Total		12.9	12.0	(0.9)	(7.0)	12.0	0.0	0.0
All Funds Total			**12.9**	**12.0**	**(0.9)**	**(7.0)**	**12.0**	**0.0**	**0.0**

FY 2023 receipts are estimated to slightly decrease from FY 2022 results.

FY 2024 receipts are projected to remain flat.

Base and Rate

An excise tax of seven percent is imposed on the gross receipts from medical cannabis sold or furnished by a registered organization to a certified patient or designated caregiver.

Administration

The medical cannabis program is administered by the NYS Department of Health (DOH), which determines the number of registered manufacturing and distribution organizations permitted within NYS. Registered organizations are responsible for manufacturing and dispensing medical cannabis in NYS, and each is permitted by statute to have up to four dispensing facilities.[70]

The tax is imposed on the registered organization, which must remit the excise tax collections monthly to DTF. The tax return must include the gross receipts by the county where the medical cannabis was manufactured and the county where the dispensing facility is located. Returns must be filed, and the tax paid no later than the 20th of each month following the month in which the product was sold.

[70] Please refer to NYS DOH's Medical Cannabis Program Guide for a complete list of qualified conditions, registered organizations, and laws and regulations.

History

The medical use of cannabis was authorized in 2014 and dispensing of medical cannabis began in 2016.

MEDICAL CANNABIS TAX RECEIPTS HISTORY (thousands of dollars)							
	Special Revenue Funds (MCTF)						All Funds
	Medical Cannabis Counties		Agency Operations		MCTF		
	Manufactured	Distributed	OASAS	DCJS	Cannabis Revenue Fund[1]	Total	Total
FY 2016	2.5	2.5	0.6	0.6	5.0	11.0	11.0
FY 2017	130.7	130.7	28.8	28.8	265.6	584.6	584.6
FY 2018	423.1	423.1	94.0	94.0	846.2	1,880.5	1,880.5
FY 2019	870.6	870.6	193.5	193.5	1,739.1	3,867.3	3,867.3
FY 2020	1,290.1	1,290.1	283.4	283.4	2,550.6	5,697.6	5,697.6
FY 2021	1,884.3	1,884.3	422.0	422.0	3,798.3	8,411.0	8,411.0
FY 2022	2,904.5	2,904.5	645.4	645.4	5,808.9	12,908.7	12,908.7

[1]Monies were not directed to the Fund until FY 2022.

Significant statutory changes within the past decade include:

- In 2021, the Marihuana Regulation and Taxation Act (MRTA) authorized the transfer of the remaining and previously undistributed 45 percent of the balance of receipts to the New York State Cannabis Revenue Fund.

Motor Fuel Tax

MOTOR FUEL TAX RECEIPTS (millions of dollars)								
		FY 2022	FY 2023	Change		FY 2024	Change	
		Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
Special Revenue Funds (DMTTF)	Gasoline	77.6	29.0	(48.6)	(62.7)	77.4	48.4	167.2
	Diesel	28.0	10.2	(17.8)	(63.6)	28.6	18.4	181.2
	Total	105.6	39.1	(66.4)	(62.9)	106.0	66.8	170.8
Capital Projects Funds (DHBTF)	Gasoline	341.9	127.6	(214.3)	(62.7)	340.4	212.8	166.8
	Diesel	47.6	17.3	(30.3)	(63.6)	48.7	31.4	181.2
	Total	389.5	144.9	(244.6)	(62.8)	389.0	244.2	168.5
All Funds	**Gasoline**	**419.5**	**156.5**	**(262.9)**	**(62.7)**	**417.8**	**261.2**	**166.9**
	Diesel	**75.6**	**27.5**	**(48.1)**	**(63.6)**	**77.2**	**49.8**	**181.2**
	Total	**495.0**	**184.0**	**(311.0)**	**(62.8)**	**495.0**	**311.0**	**169.0**

FY 2023 receipts are estimated to significantly decrease from FY 2022 results due to the temporary suspension of the State motor fuel excise tax on the sale and use of motor fuel and diesel motor fuel from June 1, 2022 to December 31, 2022. There was a General Fund transfer of $297 million to the Dedicated Funds to cover the estimated revenue loss from the suspension; this is not shown under MFT receipts.

FY 2024 receipts are projected to significantly increase from the current year largely due to the expiration of the temporary suspension of the State motor fuel excise tax on the sale and use of motor fuel and diesel motor fuel on December 31, 2022. Excluding the impact of the suspension, a moderate increase in receipts is expected due to a small increase in gasoline and diesel consumption. FY 2024 receipts are also positively impacted by the Executive Budget proposal to Amend Motor Fuel Reporting Designation.

Base and Rate

Gasoline motor fuel and diesel motor fuel taxes of $0.08 per gallon are imposed upon the sale, generally for highway use, of motor fuel and diesel motor fuel, respectively. However, the State motor fuel excise tax on the sale and use of motor fuel and diesel motor fuel was suspended from June 1, 2022 through December 31, 2022. The motor fuel tax is levied primarily on fuel used in motor vehicles operating on the public highways of NYS or on fuel used in recreational motorboats operating on the waterways of NYS. Exemptions, credits, and refunds are allowed for certain other uses of gasoline and diesel motor fuel.

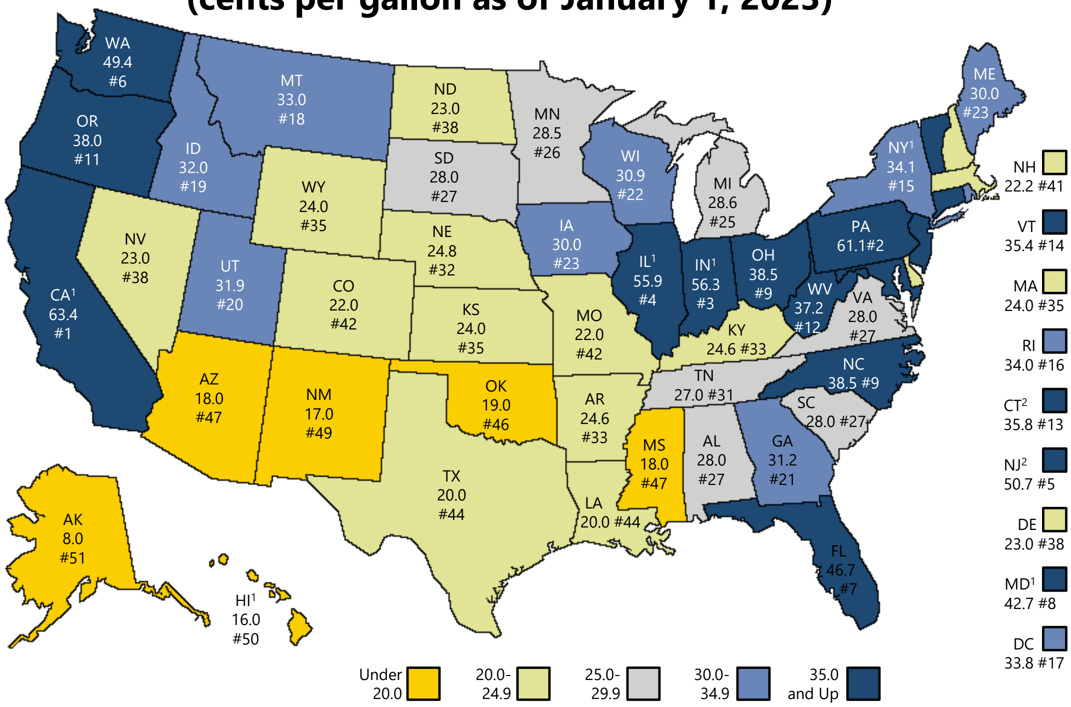
Liability

Although the motor fuel tax is imposed on the consumer, the tax is remitted upon importation into NYS. This tax-on-first-import system is designed to reduce gasoline tax evasion, which previously involved bootlegging from other states and successions of tax-free sales among “dummy” corporations masked by erroneous record keeping and reporting.

Prior to 1988, the diesel motor fuel tax was collected at the time of retail sale or use by a bulk user. Since 1988, taxes on diesel motor fuel have been collected upon the first non-exempt sale in NYS. Interdistributor sales of highway diesel motor fuel sold below the rack are considered tax-exempt.

Compared to other states, NYS is ranked 15th in overall state taxes per gallon imposed on motor fuel.[71]

Total State Tax Rates* on Motor Fuel
(cents per gallon as of January 1, 2023)



*Includes all applicable State taxes (local taxes not included) levied on motor fuel, including:
¹State sales tax (NYS's rate is capped at 8 cents per gallon); and
²other taxes based on the price of fuel.

Prior to the pandemic, gasoline taxable consumption was heavily influenced by prices which in turn are influenced by domestic and international economic conditions. The pandemic-induced reductions in vehicle miles traveled and, therefore, gasoline consumption, disrupted the typical relationship between fuel prices and demand, leading to record-low tax collections along with declining prices in FY 2021. The typical, pre-COVID-19, relationship between fuel prices and demand gradually returned in FY 2022. In the spring of 2022, following Russia's invasion of Ukraine, global energy prices, including NYS fuel prices increased to levels not seen in recent years. One week before Russia invaded Ukraine, the weekly average price for a gallon of regular grade gasoline in New York was \$3.63.[72] After the invasion, the average weekly price continued to climb to a high of \$4.94 during the week of June 13, 2022. Average weekly prices gradually

[71] Rankings do not include the temporary suspensions of state taxes on motor and diesel motor fuel in all 50 states and Washington, D.C.
[72] https://www.nyserda.ny.gov/researchers-and-policymakers/energy-prices/motor-gasoline/weekly-average-motor-gasoline-prices#NY-Statewide

stabilized after the temporary fuel tax (State and MCTD sales tax, and State motor fuel excise tax) suspension went into effect on June 1, 2022 (the suspension expired on December 31, 2022). The average weekly price has continued to fall to $3.30 during the week of January 2, 2023, which represents a 3.5 percent decline from the prior year. The price decline could also be due in part to seasonality as fuel prices are typically the lowest in January and begin to increase during the summer months. A further discussion of energy prices can be found in the *Economic Backdrop* section of this volume.

Diesel consumption is also heavily correlated with economic activity. After taking a nose-dive during the Great Recession, diesel receipts began to recover slightly, but then began to decline again due to the amount of refunds processed to multiple Wall Street firms that sold off large quantities of tax-paid gallons of highway diesel fuel. These large refunds were paid out for highway diesel motor fuel gallons that were sold outside of NYS up to two years after the tax was originally collected. More recently, the FY 2021 diesel receipts decline is more attributable to the pandemic's adverse impact on travel activities. Nonetheless, the FY 2022 diesel receipts have fully recovered to pre-pandemic levels.

Administration

The tax is generally remitted monthly, although vendors whose average monthly tax is less than $200 may remit quarterly. Taxpayers with annual liability of more than $5 million for motor fuel and petroleum business tax (PBT) combined are required to remit taxes electronically, or by certified check on an accelerated timeline, by the 3rd business day following the first 22 days of each month. Taxpayers must make either a minimum payment of 75 percent of the comparable month's tax liability for the preceding year, or 90 percent of actual liability for the first 22 days of the month. Taxes for the balance of the month are remitted by the 20th of the following month.

History

MOTOR FUEL TAX RECEIPTS HISTORY (millions of dollars)									
	Special Revenue Funds (DMTTF)			Capital Projects Funds (DHBTF)			All Funds		
	Gasoline	Diesel	Total	Gasoline	Diesel	Total	Gasoline	Diesel	Total
FY 2013	79	24	103	348	41	389	427	65	492
FY 2014	76	22	99	337	38	374	413	60	473
FY 2015	79	22	101	349	37	386	429	58	487
FY 2016	81	24	105	357	41	398	439	64	503
FY 2017	83	27	109	364	46	410	447	72	519
FY 2018	80	29	109	354	50	403	434	79	513
FY 2019	84	27	111	372	45	417	456	72	528
FY 2020	81	27	108	358	46	404	439	73	512
FY 2021	67	24	91	293	41	334	360	66	425
FY 2022	78	28	106	342	48	389	419	76	495

Significant statutory changes within the past decade include:

- Beginning August 1, 2013, all interdistributor sales of highway diesel motor fuel sold below the rack (i.e., not delivered by truck) are exempt from the tax.
- Originally enacted in 2006, the exemption on alternative fuels (E85, B20, CNG, and hydrogen) has been extended several times for various durations.
- In 2022, New York State temporarily suspended the motor fuel excise tax on motor fuel and diesel motor from June 1, 2022 through December 31, 2022.

Opioid Excise Tax

OPIOID EXCISE TAX (millions of dollars)							
	FY 2022	FY 2023	Change		FY 20234	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	28.6	29.0	0.4	1.6	29.0	0.0	0.0
All Funds Total	**28.6**	**29.0**	0.4	1.6	**29.0**	**0.0**	**0.0**

FY 2023 receipts are estimated to remain flat from FY 2022 results.

FY 2024 receipts are also projected to remain flat.

Base and Rate

There is an excise tax on the first sale of an opioid unit in NYS at the following rates:[73]

- $0.0025 on each morphine milligram equivalent (MME) with a wholesale acquisition cost of less than $0.50 per unit; or

- $0.015 on each MME with a wholesale acquisition cost of $0.50 or more per unit.

Liability

Opioid excise tax receipts are primarily a function of the demand for drugs subject to the tax. Overall demand is impacted by the current trend in prescriptions levels.

Administration

All first sales of an opioid unit by a registrant in NYS must be reported.[74] Registrants must e-file their calendar quarterly excise tax returns on the 20th of the month following the quarter in which the opioid was sold. The first return was not due until January 21, 2020 covering the period of July 1, 2019 through December 31, 2019. Subsequently, all returns are currently due on the 20th of the following months; January, April, July, and October.

[73] See https://health.ny.gov/professionals/narcotic/docs/opioid_drug_listing.pdf. for a complete list of drugs that are subject to the opioid excise tax.
[74] See https://www.tax.ny.gov/bus/oet/oetidx.htm for more information on those who qualify as a registrant, reporting periods and due dates, and frequently asked questions.

History

OPIOID EXCISE TAX RECEIPTS HISTORY (millions of dollars)		
	General Fund	All Funds Total
FY 2020	19	19
FY 2021	30	30
FY 2022	29	29

There have been no significant statutory changes within the past decade.

Sales and Use Tax

SALES AND USE TAX (millions of dollars)								
		FY 2022	FY 2023	Change		FY 2024	Change	
		Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund		4,122.2	6,621.3	2,499.1	60.6	9,266.3	2,645.0	39.9
Debt Service Funds	LGAC	4,121.2	2,198.2	(1,923.0)	(46.7)	0.0	(2,198.2)	(100.0)
	STRB	8,247.7	8,815.1	567.4	6.9	9,266.3	451.2	5.1
	Total	12,368.9	11,013.3	(1,355.6)	(11.0)	9,266.3	(1,747.1)	(15.9)
Special Revenue Funds	MTOA	1,089.0	1,217.0	128.0	11.8	1,269.0	52.0	4.3
All Funds Total		**17,580.1**	**18,851.6**	**1,271.5**	**7.2**	**19,801.5**	**949.9**	**5.0**

FY 2023 receipts are estimated to increase from FY 2022 results due to an increase in taxable consumption, partially offset by the temporary suspension of the State and MCTD sales tax on the sale and use of motor fuel and diesel motor fuel from June 1, 2022 to December 31, 2022. The sales tax base has increased 13.3 percent, 12.9 percent, and 9 percent, respectively through the first three quarters of the fiscal year. The base increase for the last quarter is estimated to be 7.5 percent. This equates to an estimated base growth of 10.6 percent for FY 2023. General Fund receipts are estimated to significantly increase, largely due to the statutory elimination of the Local Government Assistance Tax Fund distribution for part (half) of the fiscal year. Please see the significant statutory changes section below for further details.

FY 2024 receipts are projected to increase from the current year due to moderate growth in taxable consumption (this includes the scheduled expiration of the temporary suspension of the State and MCTD sales tax on the sale and use of motor fuel and diesel motor on December 31, 2022). The sales tax base is projected to grow 2.9 percent. FY 2024 receipts are also impacted by several Executive Budget proposals. One proposal (Amend Motor Fuel Reporting Designation) is projected to have a positive Financial Plan Impact, while two other proposals (Prohibit the Sale of Flavored Tobacco Products and Increase the State Cigarette Tax Rate) are projected to have a negative Financial Plan impact. General Fund receipts are projected to significantly increase, mainly due to the statutory elimination of the Local Government Assistance Tax Fund distribution for the entire fiscal year. Please see the significant statutory changes section below for further details.

Base and Rate

Generally, all retail sales of tangible personal property are taxed under Article 28 of the Tax Law unless specifically exempt, but services are taxable only if they are enumerated in Tax Law.[75]

The sales tax base has significantly expanded in the last decade to capture the growing online market. From the 2009 law to expand the vendor definition to include out-of-State sellers with related businesses ("affiliates") in NYS, to the implementation of "Wayfair" regulations, to the most recent marketplace law, these measures have created tax fairness between brick-and-mortar main street businesses and online companies. In addition, effective with the 2003 PIT filing year, the NYS PIT return contains a line on which taxpayers may enter the amount of use tax owed for the preceding calendar year. This line has captured certain online sales made out-of-State (in which use tax was owed) and large use tax purchases made out-of-State that are used in-State. NYS collected $32 million in FY 2021 and $27.4 million in FY 2022 from this line.

NYS imposes three separate sales and use tax rates.

- Since 1971, the State rate has been 4 percent (with a temporary increase to 4.25 percent from June 1, 2003 to June 1, 2005). The State tax rate on motor fuel and diesel motor fuel is capped at $0.08 per gallon. However, the State and MCTD sales tax on the sale and use of motor fuel and diesel motor fuel was suspended from June 1, 2022 through December 31, 2022.

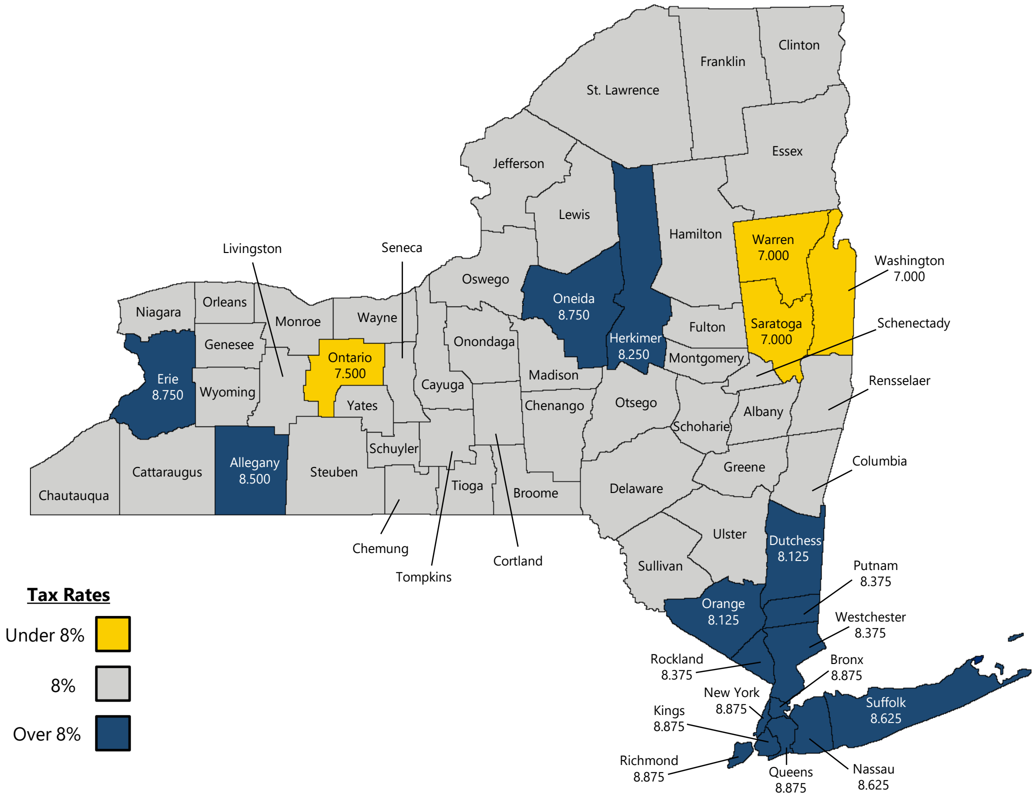
- Local county rates range from 3 percent to 4.75 percent. Only Seneca County has elected the sales tax cap on motor fuel and diesel motor fuel at $0.08 per gallon. However, several counties opted to cap their local sales tax rate on motor fuel and diesel motor fuel from June 1, 2022 through either December 31, 2022 or February 28, 2023.

- An additional 0.375 percent sales and use tax is imposed in the MCTD.

In addition to these rates, there is a five percent State sales tax imposed on the receipts from the sale of telephone entertainment services that are exclusively delivered aurally.

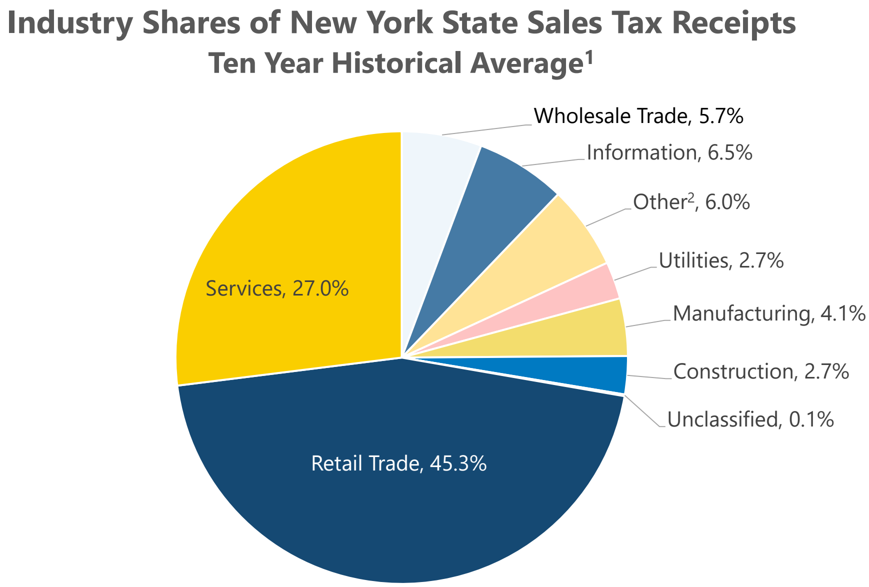
[75] See https://www.tax.ny.gov/pdf/publications/sales/pub750.pdf for a complete description of the sales tax base.

Combined State and Local Sales Tax Rate
Effective January 1, 2023



Liability

The sales and compensating use tax, which accounted for 14.5 percent of FY 2022 All Funds tax receipts, is the second largest NYS tax revenue source. Approximately 72 percent of sales and use tax receipts are derived from retail trade and services industries.



[1] Covers March-February fiscal years ending 2013-2022, with 2022 preliminary results.
[2] Includes Agriculture, Mining, Transportation, FIRE (Finance, Insurance and Real Estate), Education, and Government.
Source: New York State Department of Taxation and Finance.

Administration

- Monthly PrompTax: Vendors with annual sales and use tax liability exceeding $500,000 or with an annual liability for prepaid sales tax on motor fuel and diesel motor fuel exceeding $5 million. The payment schedule requires tax for the first 22 days of a month to be paid within 3 business days thereafter.

- Monthly Other: Vendors with more than $300,000 of taxable sales and purchases in any of the immediately preceding four quarters must remit the tax monthly by the 20th of the month following the month of collection.

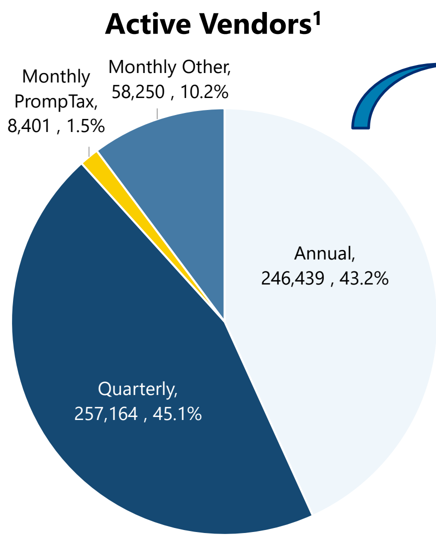
- Annual: Vendors collecting less than $3,000 yearly may elect to file annually, in March.

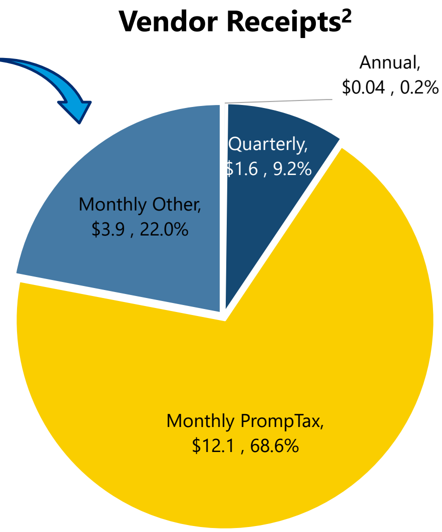
- Quarterly: All other vendors are quarterly filers.

All filers are subject to a $50 penalty for each failure to e-file, unless the taxpayer can show that the failure was due to reasonable cause.

Quarterly and annual sales tax filers receive a vendor allowance of 5 percent of tax liability, up to a maximum of $200 per quarter for returns filed on time.

Sales Tax Vendors and Taxable Sales – Selling Period March 1, 2021 through February 28, 2022





[1]Number of vendors identified as of December 7, 2022.
[2]Vendor receipts in billions of dollars.

History

SALES AND USE TAX RECEIPTS HISTORY (millions of dollars)

	General Fund	Special Revenue Funds (MTOA)	Debt Service Funds			All Funds Total
			LGAC	STRB	Total	
FY 2013	8,423	758	2,809	0	2,809	11,989
FY 2014	5,885	802	2,951	2,951	5,901	12,588
FY 2015	6,084	854	3,027	3,027	6,053	12,992
FY 2016	6,243	874	3,121	3,121	6,243	13,359
FY 2017	6,483	903	3,242	3,242	6,483	13,870
FY 2018	6,777	942	3,388	3,388	6,777	14,495
FY 2019	7,091	963	3,537	3,537	7,074	15,127
FY 2020	7,446	1,049	3,718	3,718	7,437	15,932
FY 2021	6,639	873	3,317	3,317	6,634	14,146
FY 2022	4,122	1,089	4,121	8,248	12,369	17,580

Significant statutory changes within the past decade include:

- In 2014, an additional one percentage point of the four percent State sales tax was shifted from the General Fund to the sales tax revenue bond fund (STRBF).

- In 2019, NYS required marketplace providers to collect sales tax on sales of tangible personal property that they facilitate for marketplace sellers. Additionally, the outdated exemption for the transportation, transmission or distribution of gas or electricity when purchased from ESCOs was eliminated.

- In 2020, the sales tax incentives for businesses to locate or relocate in the Murray Street area and lower Manhattan were extended. The lease must begin by September 1, 2023, for the Murray Street exemption and September 1, 2025, for the lower Manhattan exemption. The exemptions expire in December of the following year. These incentives have been in place since 2005.

- On April 1, 2021, all LGAC obligations were paid or otherwise discharged. As a result:

    - in FY 2022 and for the first half of FY 2023, the deposit to STBF increased to 50 percent (from 25 percent), the deposit to LGAC remained unchanged at 25 percent, while the deposit to the General Fund decreased to 25 percent (from 50 percent); and

    - for the second half of FY 2023 and annually thereafter, the portion deposited into STBF will remain unchanged at 50 percent, and the portion deposited to the General Fund will revert back to 50 percent.

- In 2021, NYS clarified when sales tax is due on the full (not discounted) retail price if a rebate, discount, or similar price reduction is used, and the vendor is fully reimbursed by a third-party; modified the sales tax treatment of vehicle leases with terminal rental adjustment clauses (TRACs) to provide lessors with more options to collect and remit sales tax; and eliminated the State racing admissions tax to impose the State sales tax on racing admissions.

- In 2022, New York State temporarily suspended the sales and use tax on motor fuel and diesel motor fuel, while certain localities opted to temporarily cap their local sales and use tax rate on motor fuel and diesel motor fuel.

Vapor Products Tax

VAPOR PRODUCTS TAX (millions of dollars)								
		FY 2022	FY 2023	Change		FY 2024	Change	
		Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
Special Revenue Funds	HCRA	29.0	27.0	(2.0)	(6.8)	27.0	0.0	0.0
All Funds Total		**29.0**	**27.0**	**(2.0)**	**(6.8)**	**27.0**	**0.0**	**0.0**

FY 2023 receipts are estimated to decrease slightly from FY 2022 results due to a decline in sales.

FY 2024 receipts are projected to remain flat compared to the current year.

Base and Rate

A 20 percent tax is imposed on receipts from the retail sale of vapor products sold in NYS. It is collected by the vapor products dealer and remitted monthly, quarterly, or annually with applicable sales tax returns to DTF. Vapor products include any noncombustible liquid or gel, regardless of the presence of nicotine, that is used in an electronic cigar, cigarillo, pipe, as well as vaping or hookah pens or other similar devices. Vapor products do not include any FDA approved drug or medical device.

Liability

Taxable vapor products consumption is a function of retail vapor product prices and trends in vapor products consumption.

Administration

Vapor products dealers are licensed by the DTF commissioner to sell vapor products in NYS. Dealers apply and register each location or each vending machine in which vapor products are sold. Registered dealers must reapply for the following calendar year annually on or before September 20th.

History

VAPOR PRODUCTS TAX RECEIPTS HISTORY (millions of dollars)		
	Health Care Reform Act (HCRA)	All Funds Total
FY 2020	10	10
FY 2021	32	32
FY 2022	29	29

Significant statutory changes within the past decade include:

- In 2020, all flavored vapor products other than tobacco flavored products were banned.

Corporation Franchise Tax

CORPORATION FRANCHISE TAX RECEIPTS (millions of dollars)								
		FY 2022	FY 2023	Change		FY 2024	Change	
		Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	Non-Audits	5,539.4	6,448.0	908.6	16.4	5,641.0	(807.0)	(12.5)
	Audits	278.5	730.0	451.5	162.2	430.0	(300.0)	(41.1)
	Total	5,817.9	7,178.0	1,360.1	23.4	6,071.0	(1,107.0)	(15.4)
Special Revenue Funds (MMTOA)	Non-Audits	1,348.7	1,517.0	168.3	12.5	1,499.0	(18.0)	(1.2)
	Audits	68.4	160.0	91.6	133.9	80.0	(80.0)	(50.0)
	Total	1,417.1	1,677.0	259.9	18.3	1,579.0	(98.0)	(5.8)
All Funds	**Non-Audits**	**6,888.2**	**7,965.0**	**1,076.8**	**15.6**	**7,140.0**	**(825.0)**	**(10.4)**
	Audits	**346.9**	**890.0**	**543.1**	**156.6**	**510.0**	**(380.0)**	**(42.7)**
	Total	**7,235.0**	**8,855.0**	**1,620.0**	**22.4**	**7,650.0**	**(1,205.0)**	**(13.6)**

FY 2023 receipts are estimated to increase from FY 2022 results due to growth in gross receipts attributable to year-over-year increase in liability. Audit receipts are estimated to strongly increase as more large case payments are expected to materialize as compared to FY 2022 results. Slightly offsetting these increases is an expected increase in refunds in FY 2023.

FY 2024 receipts are projected to decrease from FY 2023 as gross receipts are expected to decline from the current fiscal year. Audits are expected to decrease significantly from the anticipated growth in FY 2023 while refunds are projected to increase over the current fiscal year.

Base and Rate

The corporation franchise tax is levied by Articles 9-A and 13 of the Tax Law on a variety of different corporation types, namely: C corporations, S corporations, manufacturers, real estate investment trusts (REITs), and regulated invest companies (RICs).

For C corporations under Article 9-A, corporation franchise tax liability is the highest tax calculated under three alternative bases which are:

- A tax measured by the business income base subject to either a tax rate of 7.25 percent for taxpayers with business incomes above $5 million or 6.5 percent for taxpayers with business incomes of $5 million or less. These rates are reflective of a temporary increase in these rates applicable for Tax Year 2021 through Tax Year 2023, after which, the tax rate reverts to 6.5 percent. The Executive Budget proposes to extend this rate an additional three years through Tax Year 2026. For qualified emerging technology companies (QETC), the tax rate is 4.875 percent regardless of business income, and manufacturers are exempt from this base. For Tax Year 2019, this tax base represents approximately 94 percent of C corporations' tax liability;

- A tax measured by the capital base subject to the rates below, representing approximately four percent of C corporations' liability for Tax Year 2019; and

C CORPORATIONS CAPITAL BASE RATES*		
	TY 2021 through TY 2026	TY 2027 & Thereafter
Corporate Small Business Taxpayers	0.000%	0.000%
Qualified New York Manufacturers and QETCs	0.000%	0.000%
Cooperative Housing Corporations	0.000%	0.000%
All Other Taxpayers	0.1875%	0.000%

* The Executive Budget proposes to extend the capital base rates an additional three years through Tax Year 2026.

- A tax measured by the fixed dollar minimum, which represents the remaining two percent of tax liability for Tax Year 2019.

C-Corps conducting business in the MCTD are subject to an additional surcharge of 30.0 percent in TY 2023.

Under Article 9-A, REITs, RICs and S-corps pay the fixed dollar minimum amount.

Under Article 13, a 9 percent tax is imposed on certain not-for-profit entities on business income earned from activities not related to their exempt purpose.

Liability

The link between underlying corporate tax liability and cash receipts in any given SFY is often obscured by the timing of payments, the carry forward of prior year losses or credits and the reconciliation of prior year liabilities. Tax collections are the net payments and adjustments made by taxpayers on returns and extensions over the course of the SFY.

Tax liability in the current year is based on estimated economic performance for the same year. It is generally calculated by using tax bases, tax rates, special deductions and additions, losses, and tax credits. Since taxpayers must pay estimated taxes months in advance of knowing actual liability, it is difficult for taxpayers to determine the proper level of payments needed over the course of a year. This is especially true when business or economic conditions change. Volatility in the underlying relationship between payments and liability is often compounded by the difference between a taxpayer's tax year and the SFY.

Administration

Corporation franchise taxpayers make quarterly tax payments after their fiscal year ends (FYEs) based on their estimated tax liability, making periodic adjustments to these payments as their actual liability for a given tax year becomes more definite. A final settlement payment is due 106 days from the end date of a taxpayer's fiscal year to reconcile that year's tax liability.

The overwhelming majority of corporation franchise taxpayers have a December 31st FYE, but all taxpayers follow the same quarterly schedule based on their own FYE.

Fiscal Year End – December 31 → Mandatory First Installment – March 15 → Second Quarterly Installment – June 15 → Third Quarterly Installment – September 15 → Fourth Quarterly Installment – December 15 → Final Settlement Installment – April 15

Corporations that reasonably expect their tax liability to exceed $1,000 for the current tax year are required to make a mandatory first installment payment based on their tax liability from two years prior. For corporations expecting a liability of $100,000 or more, the mandatory first installment payment is 40 percent of the corporation's tax liability. The remainder of corporations are required to pay 25 percent of their tax liability.

History

CORPORATION FRANCHISE TAX RECEIPTS HISTORY
(millions of dollars)

	General Fund			Special Revenue Funds (MMTOA)			All Funds		
	Non-Audit	Audits	Total	Non-Audit	Audits	Total	Non-Audit	Audits	Total
FY 2013	1,964	659	2,624	292	93	385	2,257	752	3,009
FY 2014	2,261	984	3,245	394	173	567	2,654	1,158	3,812
FY 2015	2,470	520	2,990	463	95	558	2,933	615	3,548
FY 2016[1]	3,225	538	3,763	651	114	764	3,587	940	4,527
FY 2017	2,036	439	2,476	602	88	690	2,452	713	3,166
FY 2018	1,764	562	2,326	637	116	754	2,328	752	3,080
FY 2019	2,985	425	3,410	789	98	887	3,773	523	4,297
FY 2020	3,389	403	3,791	931	102	1,033	4,319	505	4,824
FY 2021	3,340	550	3,890	943	121	1,064	4,284	671	4,954
FY 2022	5,539	278	5,818	1,349	68	1,417	6,888	347	7,235

[1]Corporate tax reform merged the bank tax into the corporation franchise tax.

Significant statutory changes within the past decade are:

- The Excelsior Jobs Program is New York State's primary economic development program—making fully refundable tax credits for tax years beginning in 2011, over a benefit period of up to five years, available to qualifying businesses engaged in biotechnology, pharmaceuticals, high tech, green tech, financial services, agriculture, and manufacturing.

Since its creation, the Program has: added an energy incentive; lengthened the benefit period from five to ten years; made tax credits more flexible; expanded eligibility to include qualifying business engaged in entertainment, music production, and video game software development; extended the claims period through Tax Year 2039; and increased incentives for a number of targeted industries. In addition to the larger Excelsior Jobs Program, four sub-programs have been created under both its heading and funding:

- Empire State Jobs Retention Program Tax Credit: Beginning in 2012, qualifying businesses at risk of leaving the State due to a natural disaster were offered a tax credit equal to 6.85 percent of gross wages of jobs retained in New York State.

- Employee Training Incentive Program Tax Credit: Beginning in Tax Year 2015, qualifying businesses were offered a tax credit equal to 50 percent of employee training or internship costs with a maximum credit allowance of $10,000 per employee and $3,000 per intern, and a $5 million annual allocation cap.

- Life Sciences Research and Development Tax Credit: Beginning in 2018, existing life science companies were eligible to participate in the Excelsior Jobs Program and new life sciences companies were eligible for a 15 or 20 percent refundable tax credit on new research and development expenditures based on company size.

- Child Care Services Tax Credit: Beginning in 2021, qualifying businesses with expenditures in relation to facilitating a child care services program for their employees were offered a tax credit equal to the amount of five percent for the provision of child care, and a tax credit equal to six percent for ongoing net new child care expenditures provided by the participant.

- In 2022, the Excelsior Jobs Program was expanded to include the Green CHIPS Tax Credit Program, which makes use of additional funds. Beginning in 2022, qualifying businesses that engage in semiconductor manufacturing and related material supplier projects and commit to significant job creation and investment, were offered a tax credit equal to the amount of five percent of qualifying costs, and a tax credit equal to 7.5 percent of gross wages, up to a maximum of $250,000 per employee. Eligible taxpayers may file credit claims through Tax Year 2049.

- The Empire State Film Production Tax Credit has been expanded and extended nine times since its creation in 2004.

  - $420 million has been the annual authorization for the credit effective in 2010, and the credit is currently authorized through Tax Year 2029.

  - $7 million of the annual authorization for the credit was dedicated to post production effective in 2010, but this was increased to $25 million in 2015.

  - In 2020, the credit was reduced from 30 percent to 25 percent, a minimum budget requirement of $1 million for films produced in New York City and the counties of

Nassau, Suffolk, Rockland and Westchester ($250,000 if filmed elsewhere in the State) was imposed, and new variety shows were excluded from credit eligibility.

- The New York Youth Works Program has been extended twice since its creation in 2011. Effective 2018, $40 million has been the annual authorization for the credit and it is currently authorized through Tax Year 2027.

- The Rehabilitation of Historic Properties Credit is equal to 20 percent of qualified rehabilitation expenditures made by the taxpayer with respect to a qualified historic structure in New York State with a cap of $5 million per structure. Since its creation in 2006, the credit has been extended twice and is effective through Tax Year 2024.

- In 2014, Corporate Tax Reform established a single modern system of taxation for general business corporations and banking corporations by repealing the separate provisions of the Tax Law for banking corporations (Article 32) and amending the business corporation tax under Article 9-A to accommodate changes in the financial services industry and make other modernization changes. This was accomplished by replacing the entire net income base with a similar business income base at a tax rate of 6.5 percent, phasing out the capital base over a six-year period, and making the MTA surcharge permanent.

- Beginning in 2014, the entire net income tax rate for qualified NYS manufacturers, which was 6.5 percent, was eliminated. Those manufacturers are eligible for a non-refundable Property Tax Credit equal to 20 percent of the real property taxes paid.

- In 2015, the Brownfield Clean-Up Program was reformed, and tax credits were extended through FY 2026. Reforms included the prioritization of site redevelopment in economically distressed areas, low-income housing, or properties that are upside down or underutilized. The Program also provided for the creation of an expedited remediation program, gave a more detailed description of eligible costs for redevelopment tax credits, and allowed the real property tax and environmental remediation insurance credits to sunset. In 2022, the credit was extended for ten years to December 31, 2036, enhanced to allow additional credits to renewable energy system projects as well as projects located in disadvantaged communities. The benefit period was also increased from five years to seven years for taxpayers receiving certificates of completion within a certain period of time.

- In 2021, a surcharge on the corporate tax rate was imposed, which temporarily increased the business income tax rate from 6.5 percent to 7.25 percent through Tax Year 2023 for taxpayers with business income greater than $5 million. In addition, the capital base method of liability estimation was temporarily increased through Tax Year 2023 to 0.1875 percent from the prior year 0.025 percent rate. The capital base method temporary increase continues to exempt qualified manufacturers, qualified emerging technology companies, and cooperative housing corporations and additionally exempts corporate small businesses.

- In 2021, two separate programs were enacted to provide critical assistance to the severely impacted by the pandemic food service and entertainment industries:

- Restaurant Return-to-Work Tax Credit Program: this refundable tax credit is available to small, independently owned restaurants that are located within New York City, which were subject to a ban on indoor dining for over six months, or outside of New York City in areas that were designated as a red or orange zone for at least 30 days. The credit is only available to restaurants that have experienced year-to-year revenue and/or job losses of 40 percent or more and have increased their employment within certain timeframes. Such restaurants are eligible for a tax credit of $5,000 for each net full-time equivalent position added, up to a maximum cap of $50,000 per business. The total credit under this program is capped at $35 million and may be claimed as an advanced refundable credit. In 2022, the Additional Restaurant Return-to-Work Credit was created and made available to restaurants with net full-time employee increases greater than ten and up to twenty employees. Eligible restaurants may claim the additional credit, in the amount of $5,000 for each net full-time equivalent position added, up to a maximum of $50,000 per business.

- New York City Musical and Theatrical Production Tax Credit: this refundable tax credit is available to qualified musical and theatrical production companies that produce a musical or theater production in New York City and spend at least $1 million dollars in qualified production expenditures. The program was initially authorized for $100 million for Tax Years 2021 through 2023. The tax credit is equal to 25 percent of the sum of its production expenditures incurred and not to exceed $3 million per production company. In 2022, the program was extended an additional six months into 2023 and the total program cap was increased to $200 million.

- In 2022, the COVID-19 Capital Costs Tax Credit Program was created with a $250 million cap. This credit is available to small businesses with up to $2.5 million in gross receipts in Tax Year 2021 that incurred at least $2,000 in qualifying COVID-19 costs from January 1, 2021, through December 31, 2022. Credit is in the amount of 50 percent of qualifying costs, with a maximum benefit of $25,000.

Corporation and Utilities Tax

CORPORATION AND UTILITIES TAXES (millions of dollars)		FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
General Fund		434.5	410.0	(24.5)	(5.6)	361.0	(49.0)	(12.0)
Special Revenue Funds (MTOAF)	Transmission Tax	37.5	48.0	10.5	28.1	48.0	0.0	0.0
	MCTD Surcharge	73.9	70.0	(3.9)	(5.3)	58.0	(12.0)	(17.1)
	Total	111.4	118.0	6.6	6.0	106.0	(12.0)	(10.2)
Capital Projects Funds	DHBTF	9.4	12.0	2.6	28.1	12.0	0.0	0.0
All Funds Total		**555.2**	**540.0**	**(15.2)**	**(2.7)**	**479.0**	**(61.0)**	**(11.3)**

FY 2023 receipts are estimated to decrease from FY 2022 receipts due to a continued decline in telecommunications receipts and smaller growth in utilities receipts.

FY 2024 receipts are projected to decrease from FY 2023 due to the continuing decline in telecommunications receipts. In addition, claims for the Utility COVID-19 Debt Relief Credit are expected to occur in FY 2024, which reduces utilities receipts.

Base and Rate

The corporation and utilities tax is an accumulation of several smaller taxes levied on the telecommunications industry, utilities, and transportation and transmission companies.

A gross receipts tax on telecommunications services is levied at a rate of 2.5 percent on non-mobile telecommunication services, and at 2.9 percent on mobile telecommunication services.

A 2 percent gross receipts tax is imposed on charges for the transportation, transmission, distribution, or delivery of electric and gas utility services for residential customers.

Transportation and transmission companies are taxed both on their gross earnings and their capital stock. A franchise tax of 0.375 percent is levied on the gross earnings of transportation and transmission companies excluding international, interstate, and inter-Local Access Transport Areas (LATAs) services, and 30 percent of intra-LATA gross receipts. In addition, a franchise tax on the capital stock of transportation and transmission companies is imposed at the highest of the following three alternatives:

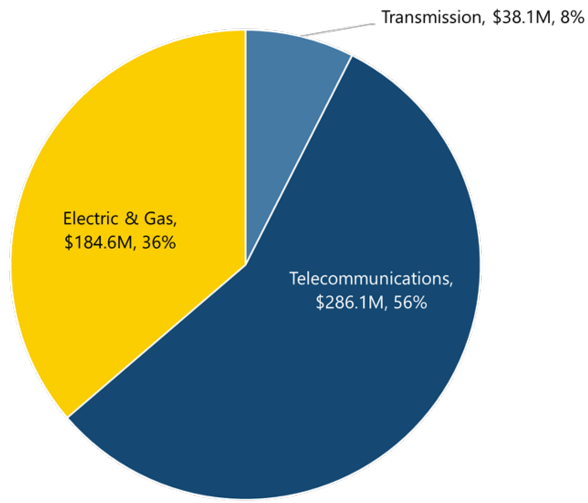
- 1.5 mills per dollar of the net value of capital stock allocated to NYS;
- 0.375 mills per dollar of par value for each one percent of dividends paid on capital stock if dividends amount to six percent or more; or
- A minimum tax of $75.

Railroad and trucking companies subject to the corporation and utilities tax are taxed at a rate of 0.375 percent of gross earnings, including an allocated portion of receipts from interstate transportation-related transactions.

Corporation and utilities taxpayers conducting business within the MCTD are subject to a 17 percent surcharge on their MCTD-associated liability, collections from which are directed to the Mass Transportation Operating Assistance Fund.

Liability

2019 Corporation and Utilities Tax Liability by Industry



Administration

Corporation and utilities taxpayers make quarterly tax payments after their fiscal year end (FYE) based on their estimated tax liability, making periodic adjustments to these payments as their actual liability for a given tax year becomes more definite. A final settlement payment is due 106 days from the end date of a taxpayer's fiscal year to reconcile that year's tax liability. Additionally, in March of every year, taxpayers are required to make a mandatory first installment equal to 40 percent of their tax from two tax years prior.

Fiscal Year End – December 31 → Mandatory First Installment – March 15 → Second Quarterly Installment – June 15 → Third Quarterly Installment – September 15 → Fourth Quarterly Installment – December 15 → Final Settlement Installment – April 15

The vast majority of corporation and utilities taxpayers have a December 31st FYE, but all taxpayers follow the same quarterly schedule based on their own FYE.

History

CORPORATION AND UTILITIES TAXES RECEIPTS HISTORY (millions of dollars)						
		Special Revenue Funds (MTOAF)			Capital	All
	General Fund	Transmission Tax	MCTD Surcharge	SRF Total	Projects Fund (DHBTF)	Funds Total
FY 2013	686	59	135	194	15	895
FY 2014	615	54	115	169	14	797
FY 2015	576	38	103	141	10	727
FY 2016	594	58	107	165	15	774
FY 2017	538	61	106	167	15	720
FY 2018	570	55	109	164	14	748
FY 2019	495	61	101	162	15	673
FY 2020	518	58	114	172	15	705
FY 2021	417	41	82	123	10	550
FY 2022	435	37	74	111	9	555

Significant statutory changes within the past decade are:

- In 2014, corporate tax reform repealed the organization tax on in-State corporations and the license and maintenance fees on out-of-state corporations.

- In 2015, a State excise tax rate of 2.9 percent and a 0.721 percent MCTD rate was imposed on the sale of mobile telecommunications services.

In 2021, the State authorized a refundable tax credit in the amount of debt that the taxpayer waived that was owed to the taxpayer by customers who received utility arrears assistance pursuant to a State COVID-19 assistance program.

Insurance Taxes

INSURANCE TAXES (millions of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	2,213.5	2,355.0	141.5	6.4	2,384.0	29.0	1.2
Special Revenue Funds (MMTOA)	238.9	272.0	33.1	13.9	276.0	4.0	1.5
All Funds Total	**2452.4**	**2,627.0**	**174.6**	**7.1**	**2,660.0**	**33.0**	**1.3**

FY 2023 receipts are estimated to increase over FY 2022 due to an increase in base liability, supported by projected growth in taxable premiums. These factors are slightly offset by an increase in refunds over FY 2022 while audit receipts remain mostly flat.

FY 2024 receipts are projected to increase over FY 2023 due to growth in base tax liability as well as a reduction in refunds as compared to FY 2023 levels, partially offset by lower audit receipts.

Base and Rate

The State imposes taxes on insurance corporations, insurance brokers, and certain insureds for the privilege of conducting business or otherwise exercising a corporate franchise in NYS. These are grouped into two categories for tax purposes: non-life insurers and life insurers.

Non-life insurers are subject to a premiums-based tax with a $250 minimum tax:

- Accident and health premiums received by non-life insurers are taxed at 1.75 percent; and

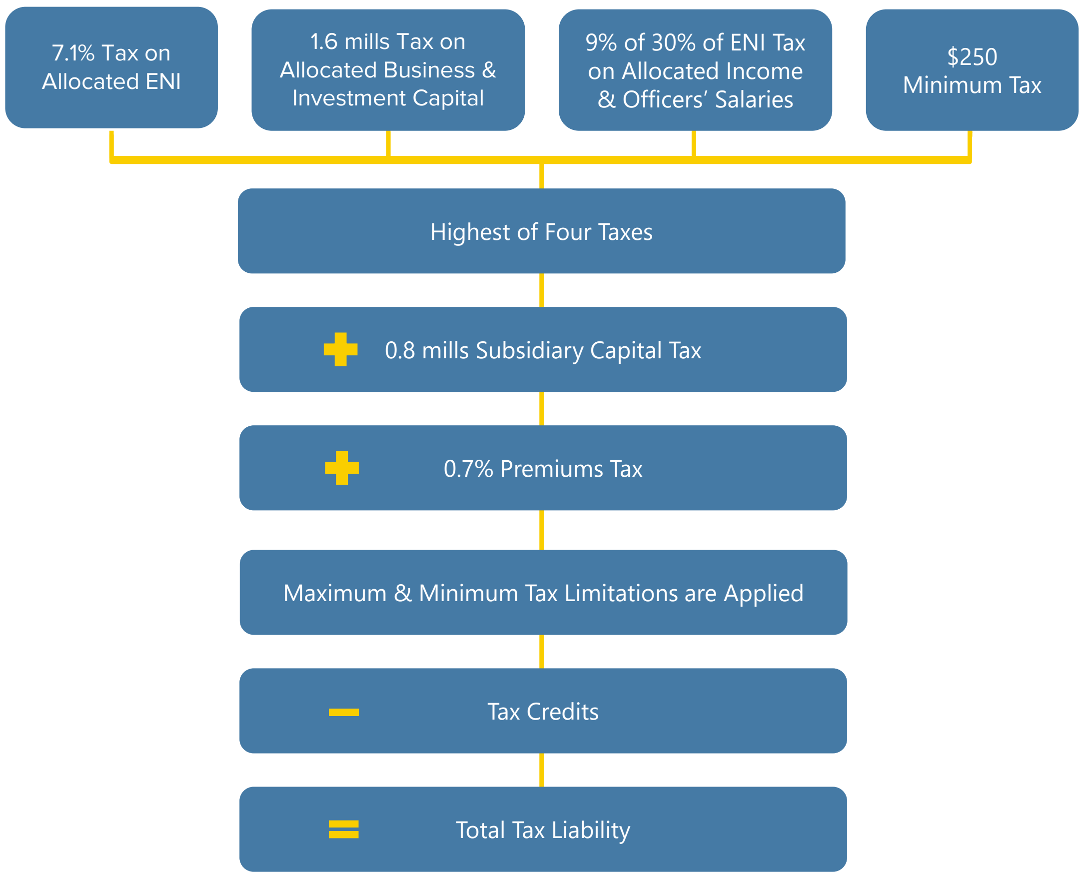
- All other premiums received by non-life insurers are taxed at the rate of 2 percent.

The franchise tax on life insurers has two components:

- One component is the highest amount of liability computed under four alternative bases. In addition, this component includes a 0.8 of one mill tax rate, which applies to each dollar of subsidiary capital allocated to NYS. Tax is allocated to NYS under the entire net income (ENI) base by a formula that apportions ENI based on weighted ratios of premiums (with a weight of nine) and wages (with a weight of one) earned or paid in NYS, to total premiums and total wages for all employees for the tax year.

- An additional component is a 0.7 percent tax on gross premiums, less returned premiums, that applies to premiums written on risks located or resident in NYS. This tax is added to the sum of the tax due on the highest of the alternatives from the income base plus the tax imposed on subsidiary capital. Maximum and minimum tax limitations are computed based on net premiums. Life insurers determine their maximum limitation by multiplying net premiums by 2 percent and their minimum limitation by multiplying net premiums by 1.5 percent, with their total tax calculated within these limits.

The computation of tax on life insurance companies is illustrated below.



Taxpayers conducting business in the MCTD are subject to a 17 percent surcharge on the portion of their tax liability which is attributable to the MCTD area. The collections from the surcharge are deposited into the MTOAF.

There is also a premiums tax imposed on captive insurance companies (i.e., affiliates that insure the risks of the other corporate members) licensed by the Superintendent of the Department of Financial Services (DFS) for the privilege of conducting business or otherwise exercising a corporate franchise in NYS. The tax is imposed on net premiums and net reinsurance premiums (gross premiums less return premiums) written on risks located or residing in NYS at rates which vary based on the amount of net premiums. The top rate is 0.4 percent on direct premiums and 0.225 percent on reinsurance premiums. Captive insurers are subject to a minimum tax of $5,000. Tax credits are not allowed against the tax imposed on captive insurance companies, and these companies are not subject to the MCTD business tax surcharge.

Other Taxes Imposed on Insurers

Article 33-A of the Tax Law imposes a tax at the rate of 3.6 percent of premiums on independently procured insurance. This tax is imposed on any insured purchase or renewal of an insurance contract covering certain property and casualty risks from an unauthorized insurer where the home state of the insured is NYS. An unauthorized insurer is an insurer not authorized to transact business in NYS under a certificate of authority from the Superintendent of DFS.

The Insurance Law imposes a premiums tax on a licensed excess line insurance broker (i.e., covering unique or very large risks) when a policy covering a risk, where the home state of the insured is NYS, is procured through such broker from an unauthorized insurer. Transactions involving a licensed excess lines broker and an insurer not authorized to do business in NYS, are permissible under limited circumstances delineated in Article 21 of the Insurance Law. The tax is imposed at a rate of 3.6 percent of premiums covering risks located in NYS.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 gave the home state of the insured the sole authority to regulate and collect taxes on these transactions. Generally, the insured's home state is the state where it is headquartered, or in the case of individuals, their place of residence.

The Insurance Law authorizes the Superintendent of DFS to assess and collect retaliatory taxes from a foreign insurance corporation when the overall tax rate imposed by its home jurisdiction on NYS companies exceeds the comparable tax rate imposed by NYS on such foreign insurance companies.

Retaliatory taxes have been employed by the states since the 19th century to ensure a measure of fairness in the interstate taxation of insurance corporations. Retaliatory taxes deter other states from discriminating against foreign corporations and effectively require states with a domestic insurance industry to maintain an overall tax rate on insurance corporations that is generally consistent with other states.

Nevertheless, there are a variety of mechanisms for taxing insurance corporations, and differences in overall tax rates among states are inevitable. NYS provides an additional measure of protection for its domestic insurance industry by allowing domestic corporations to claim a credit under Article 33 of the Tax Law for 90 percent of the retaliatory taxes legally required to be paid to other states.

Liability

The link between underlying insurance tax liability and cash receipts in any given SFY is often obscured by the timing of payments and the reconciliation of prior year liabilities. Tax collections are the net payments and adjustments made by taxpayers on returns and extensions over the course of the SFY.

Tax liability in the current year is based on estimated performance for the same year. It is generally calculated by using premiums, tax bases, tax rates, special deductions and additions, losses, and tax credits. Since taxpayers must pay estimated taxes months in advance of knowing actual liability, it is difficult for taxpayers to determine the proper level of payments needed over the course of a year. This is especially true if business or economic conditions change. Volatility in the underlying relationship between payments and liability is often compounded by the difference between a taxpayer's tax year and the SFY.

NYS property and casualty sector premiums history and growth from 2014 through 2021 are listed below.

NEW YORK STATE CALENDAR YEAR PROPERTY AND CASUALTY INSURANCE PREMIUMS (millions of dollars)								
Insurance Lines	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Automobile								
Premiums	13,584	14,145	15,004	15,876	16,635	17,045	16,802	17,967
Growth	3.9%	4.1%	6.1%	5.8%	4.8%	2.5%	(1.4%)	6.9%
Workers' Compensation								
Premiums	5,261	5,524	5,894	5,943	5,918	5,621	4,750	4,869
Growth	1.3%	5.0%	6.7%	0.8%	(0.4%)	(5.0%)	(15.5%)	2.5%
Commercial Multi-Peril								
Premiums	3,614	3,592	3,659	3,863	3,958	4,097	4,119	4,380
Growth	3.6%	(0.6%)	1.9%	5.6%	2.5%	3.5%	0.5%	6.3%
General Liability								
Premiums	5,314	5,710	5,830	5,647	6,093	6,760	7,259	8,440
Growth	6.8%	7.5%	2.1%	(3.1%)	7.9%	10.9%	7.4%	16.3%
Homeowner's Multi-Peril								
Premiums	5,086	5,196	5,224	5,286	5,397	5,593	5,816	6,196
Growth	3.8%	2.2%	0.5%	1.2%	2.1%	3.6%	4.0%	6.5%
Other								
Premiums	6,436	6,392	6,381	6,295	6,628	6,751	6,809	7,277
Growth	1.0%	(0.7%)	(0.2%)	(1.4%)	5.3%	1.9%	0.9%	6.9%
Total Property and Casualty Premiums								
Premiums	**39,294**	**40,558**	**41,993**	**42,908**	**44,629**	**45,867**	**45,555**	**49,127**
Growth	**3.4%**	**3.2%**	**3.5%**	**2.2%**	**4.0%**	**2.8%**	**(0.7%)**	**7.8%**

Source: New York State Department of Financial Services and the NAIC's I-site after 2012.

Administration

Insurance taxpayers make quarterly estimated payments after their fiscal year-end based on their estimated tax liability, making periodic adjustments to these payments as their actual liability for a given tax year becomes more definite. A final settlement payment is due 106 days from the end date of a taxpayer's fiscal year to reconcile that year's tax liability.

The overwhelming majority of insurance taxpayers have a December 31st FYE, but all taxpayers follow the same quarterly schedule based on their own FYE.

Fiscal Year End – December 31 → Mandatory First Installment – March 15 → Second Quarterly Installment – June 15 → Third Quarterly Installment – September 15 → Fourth Quarterly Installment – December 15 → Final Settlement Installment – April 15

Insurers that reasonably expect their tax liability to exceed $1,000 for the current tax year are required to make a mandatory first installment payment based on their tax liability from two years prior. For corporations expecting a liability of $100,000 or more, the mandatory first installment payment is 40 percent of the insurer's tax liability, with the remainder paying 25 percent of their tax liability.

History

INSURANCE TAXES RECEIPTS HISTORY (millions of dollars)			
	General Fund	Special Revenue Funds (MMTOA)	All Funds Total
FY 2013	1,346	163	1,509
FY 2014	1,298	146	1,444
FY 2015	1,375	158	1,533
FY 2016	1,419	161	1,580
FY 2017	1,410	170	1,580
FY 2018	1,609	168	1,777
FY 2019	1,638	199	1,837
FY 2020	2,053	253	2,306
FY 2021	1,976	214	2,190
FY 2022	2,214	239	2,452

Significant statutory changes within the past decade are:

- The Rehabilitation of Historic Properties Credit is equal to 20 percent of qualified rehabilitation expenditures made by the taxpayer with respect to a qualified historic structure in New York State with a cap of $5 million per structure. Since its creation in 2006, the credit has been extended twice and is effective through Tax Year 2024.

- The NYS Low Income Housing Credit (LIHC) is based on the existing Federal program and requires an agreement between the taxpayer and the Division of Housing and Community Renewal (DHCR) for a long-term commitment to low-income housing. The credit amount allocated is allowed as a credit against tax for ten years. Since its creation in 2000, the allocation pool has been increased and extended numerous times and expanded to allow transferability to third parties.

Pass-Through Entity Tax

PASS-THROUGH ENTITY TAX (millions of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	8,215.2	6,474.0	(1,741.2)	(21.2)	5,730.0	(744.0)	(11.5)
Debt Service Funds (RBTF)	8,215.2	6,474.0	(1,741.2)	(21.2)	5,730.0	(744.0)	(11.5)
All Funds	**16,430.3**	**12,948.0**	**(3,482.3)**	**(21.2)**	**11,460.0**	**(1,488.0)**	**(11.5)**

All Funds FY 2023 receipts are estimated to decrease from FY 2022 actuals because FY 2022 receipts contained the entirety of Tax Year 2021 collections and the first estimated payment for Tax Year 2022. In addition, FY 2023 reflects the first year of refunds, which are only slightly offset by minor audit collections.

All Funds FY 2024 receipts are projected to decrease significantly due to a projected decline in net partnership income resulting in lower Tax Year 2022 estimated payments and a projected increase in refunds.

Base and Rate

Pass-through entity tax (PTET) is imposed on an electing entity's pass-through entity (PTE) taxable income. Generally, PTE taxable income includes all income, gain, loss, or deduction that flows through to a direct partner, member, or shareholder for New York personal income tax purposes.

The calculation of PTE taxable income differs between electing New York S corporations and electing partnerships:

S Corporations

An electing New York S corporation, which can be either a "resident" (i.e., one in which all shareholders are residents of New York) or a "standard" S corporation, calculates its PTE taxable income by aggregating amounts of income, gain, loss, or deduction that flow through for New York income tax purposes to direct members or shareholders who are taxable under Article 22. Aggregated income and gain is reduced by any losses or deductions without regard to any limitations that would be imposed on the member's or shareholder's federal and New York State personal income tax returns. The electing S corporation must then apportion this net amount of taxable income to New York based on the apportionment rules of Article 9-A included in Tax Law Section 210-A.

Electing Partnerships

Before computing its taxable income, an electing partnership is required to classify all direct members or partners that are taxable under Article 22 as a resident or nonresident of New York. Members or partners may not be classified as part-year residents for PTET purposes. An electing partnership's calculation of its PTE taxable income must include all items of income, gain, loss or deduction, to the extent they would flow through and be included in the taxable income of direct members or partners that are taxable under Article 22, including guaranteed payments. To compute its PTE taxable income, an electing partnership must calculate both their resident PTE taxable income pool and their nonresident PTE taxable income pool together. The electing partnership must then aggregate any amounts of income and gain that flow through to the resident individual members or partners and the nonresident individual members or partners without regard for any limitations that would be imposed on the member's or partner's federal and New York State income tax returns.

Calculating the PTET

For each tax year beginning on or after January 1, 2021, PTET is imposed on each electing entity's PTE taxable income. This tax is in addition to any other taxes imposed on the entity under the Tax Law and is determined as follows:

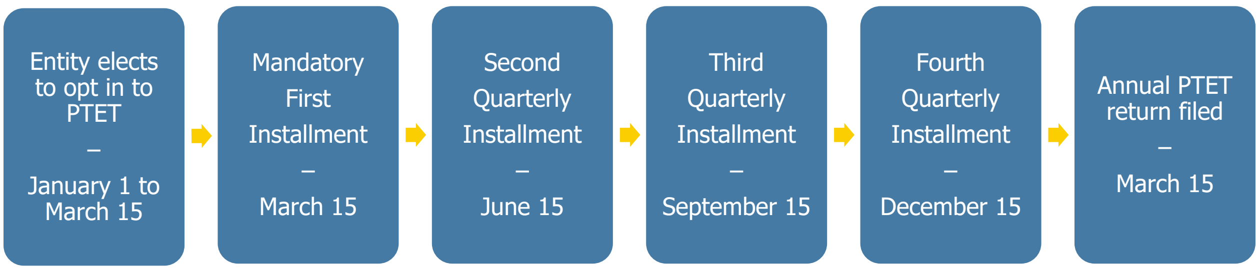
PASS-THROUGH ENTITY TAX RATES	
If the PTE taxable income is:	**then the PTET due is:**
$2 million or less	6.85% of PTE taxable income
greater than $2 million but less than or equal to $5 million	$137,000 plus 9.65% of the excess of PTE taxable income greater than $2 million.
greater than $5 million but less than or equal to $25 million	$426,500 plus 10.30% of the excess of PTE taxable income greater than $5 million
Greater than $25 million	$2,486,500 plus 10.90% of the excess of PTE taxable income greater than $25 million

Liability

Beginning January 1, 2021, qualifying entities, such as partnerships and S corporations, may opt into the PTET and elect to pay a tax of up to 10.9 percent on the New York-sourced taxable income at the partnership or corporate level. If a partnership or New York S corporation elects to pay PTET, partners, members, or shareholders of an electing partnership or New York S corporation who are subject to tax under Article 22 may be eligible for a PTET credit on their New York State income tax returns.

The program also includes a resident tax credit that allows for reciprocity with other states that have implemented substantially similar taxes, which currently include Connecticut and New Jersey.

Administration



The PTET under Article 24-A is an optional tax that partnerships or New York S corporations may annually elect to pay on certain income for tax years beginning on or after January 1, 2021.

Beginning January 1, 2022, eligible entities may opt into the PTET on or after January 1 but not later than March 15 for each tax year. The election to opt in to the PTET must be made online on an annual basis and is irrevocable. For Tax Year 2022 only, the opt in date was extended from March 15, 2022 to September 15, 2022.

For PTET tax years beginning on or after January 1, 2022, electing entities must make quarterly tax payments in an amount equal to at least 25 percent of the required annual payment for the taxable year. The required annual payment is the lesser of:

- 90 percent of the PTET required to be shown on the return of the electing entity for the taxable year; or
- 100 percent of the PTET shown on the return of the electing entity for the preceding PTET taxable year.

PTET estimated payments will only be applied to the PTET liability and cannot be applied to any other taxes. In addition, payments may not be transferred between related entities or individuals. Penalties and interest will apply to underpayments or late payments based on the rules in Article 22.

The PTET annual return is generally due on March 15 after the close of the PTET taxable year. However, the electing entity can request a six-month extension of time to file. The extension is an extension of time to file the annual return; it is not an extension to pay any tax due. The electing entity must pay all of the PTET by the original due date of the return, or penalties for failure to pay taxes due are applicable.

History

PASS-THROUGH ENTITY TAX RECEIPTS HISTORY (millions of dollars)			
	General Fund	Debt Service Funds (RBTF)	All Funds
FY 2022	8,215	8,215	16,430

A significant statutory change since PTET's inception is:

- In 2022, the PTET was amended to allow a resident S corporation to utilize both New York source and non-New York source income in computing their PTET.

Petroleum Business Taxes

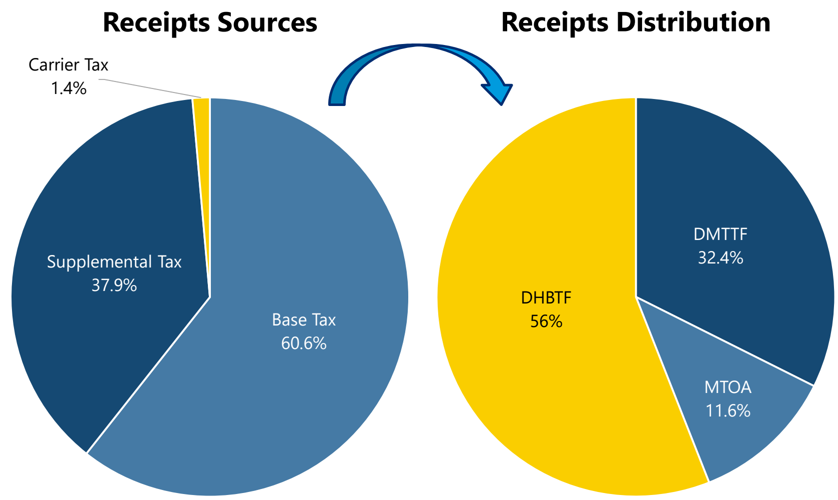
PETROLEUM BUSINESS TAXES (millions of dollars)			FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
Receipts Sources		Base Tax	625.7	647.7	22.0	3.5	678.3	30.6	4.7
		Supplemental Tax	391.5	408.8	17.3	4.4	426.8	18.0	4.4
		Carrier Tax	14.5	14.5	(0.0)	(0.1)	14.7	0.2	1.3
		Total Taxes	**1,031.7**	**1,071.0**	**39.3**	**3.8**	**1,119.8**	**48.8**	**4.6**
Fund Distribution	Capital Projects Funds (DHBTF)		577.6	600.2	22.6	3.9	626.8	26.5	4.4
	Special Revenue Funds	DMTTF	334.0	346.6	12.6	3.8	363.0	16.4	4.7
		MTOA	120.0	124.1	4.1	3.4	130.0	5.9	4.7
		Total	454.0	470.8	16.8	3.7	493.0	22.3	4.7
	All Funds Total		**1,031.7**	**1,071.0**	**39.3**	**3.8**	**1,119.8**	**48.8**	**4.6**

FY 2023 receipts are estimated to increase from FY 2022 results due to the five percent increase in the PBT rate index effective January 1, 2022, paired with a five percent increase in the PBT rate index effective January 1, 2023.

FY 2024 receipts are projected to increase from the current year due to: 1) a minor increase in gasoline and diesel consumption; 2) a five percent increase in the PBT rate index effective January 1, 2023, coupled with an estimated 1.4 percent decline in the PBT rate index effective January 1, 2024; and 3) the Executive Budget proposal to Amend Motor Fuel Reporting Designation.

Petroleum business tax receipts derived from motor fuel and diesel motor fuel are assumed to follow the same consumption trends as fuel subject to the motor fuel excise tax (refer to *Motor Fuel Tax* section of this volume). In terms of the share of PBT base and supplemental receipts in FY 2022, gasoline and diesel receipts based on reported gallonage constituted 84 and 14 percent of the total, respectively.

FY 2022 Actual PBT Resources



Base and Rate

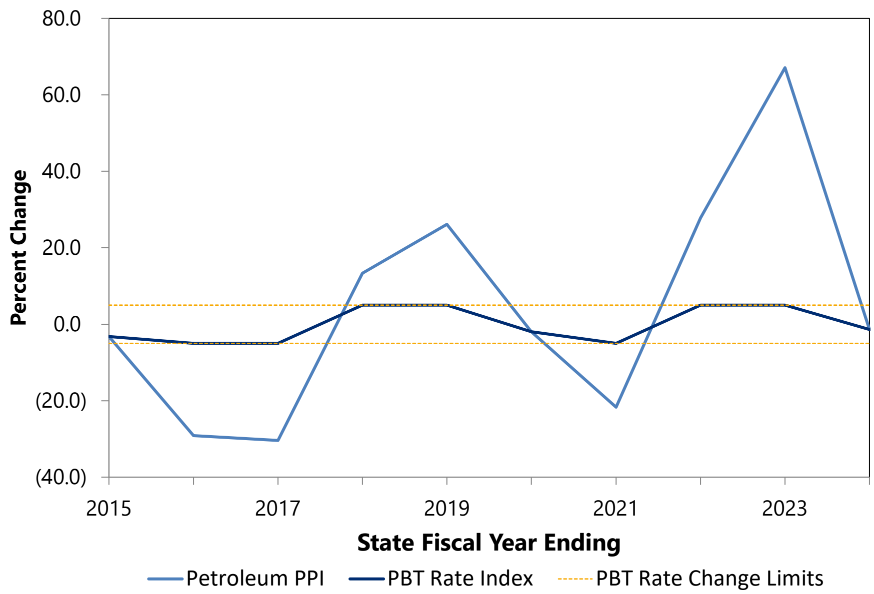
Article 13-A of the Tax Law imposes a tax on petroleum businesses for the privilege of operating in NYS, based upon the quantity of various petroleum products imported for sale or use in NYS. PBT rates have two components: the base tax, whose rates vary by product type; and the supplemental tax, which, in general, is imposed at a uniform rate. The following product types are subject to the petroleum business tax:

- automotive fuel;
- aviation gasoline or kerosene-jet fuel;
- non-highway use diesel fuels;
- railroad diesel fuel; and
- residual petroleum products.

Tax rates are indexed with annual adjustments made on January 1st of each year to the base and supplemental tax rates to reflect the percent change in the producer price index (PPI) for refined petroleum products for the 12 months ending August 31st of the preceding year. To prevent significant changes in tax rates resulting from large changes in the petroleum PPI, tax rates cannot increase or decrease by more than five percent per year. In addition to the five percent cap on tax rate changes, the statute requires, in general (i.e., excluding diesel), that the base and supplemental tax rates each be rounded to the nearest tenth of one cent. As a result, the percentage change in tax rates is usually less than the five percent limit. Refer to DTF Publication 908 for specific tax indexes.

Based on changes in the petroleum PPI, the PBT rate index increased by five percent effective January 1, 2022, and increased by five percent effective January 1, 2023. The petroleum PPI is estimated to decrease by 1.4 percent from September 2022 through August 2023, resulting in an estimated 1.4 percent decline in the PBT rates effective January 1, 2024.

Petroleum Producer Price and PBT Rate Indexes



The *Motor Fuel Tax* section of this volume contains a map that ranks New York State 15th in combined fuel taxes imposed among the 50 states and the District of Columbia.

Liability

PBT receipts are primarily a function of the number of gallons of fuel imported into NYS by distributors. Taxable gallonage is largely determined by overall fuel prices, the number of gallons held in inventories, the fuel efficiency of motor vehicles and overall State economic performance.

Administration

The tax is collected monthly in conjunction with NYS motor fuel tax (Article 12-A). Article 13-A also imposes the petroleum business carrier tax on fuel purchased outside NYS and consumed within NYS. The carrier tax is collected quarterly along with the fuel use tax portion of the highway use tax (refer to *Highway Use Tax* section of this volume).

Businesses with annual motor fuel and petroleum business tax liability of more than $5 million are required to electronically remit their tax liability for the first 22 days of the month, within 3 business days after that date. Taxpayers may make either a minimum payment of 75 percent of the comparable month's tax liability for the preceding year, or 90 percent of actual liability for the first 22 days. The tax for the balance of the month is paid with the monthly returns filed by the 20th of the following month.

History

PETROLEUM BUSINESS TAX RECEIPTS HISTORY (millions of dollars)								
	Receipts Sources				Fund Distribution			
	Base Tax	Supplemental Tax	Carrier Tax	Total Taxes	Capital Projects Funds (DHBTF)	Special Revenue Funds DMTTF	Special Revenue Funds MTOA	All Funds Total
FY 2013	688	430	21	1,140	634	372	134	1,140
FY 2014	704	429	22	1,155	641	376	137	1,155
FY 2015	700	436	22	1,158	644	378	136	1,158
FY 2016	677	426	20	1,124	625	367	132	1,124
FY 2017	682	423	18	1,124	624	367	133	1,124
FY 2018	664	413	15	1,092	608	355	129	1,092
FY 2019	705	444	16	1,165	654	376	135	1,165
FY 2020	705	437	18	1,161	652	374	135	1,161
FY 2021	569	358	15	942	526	306	110	942
FY 2022	626	392	15	1,032	578	334	120	1,032

Significant statutory changes within the past decade include:

- Beginning August 1, 2013, all interdistributor sales of highway diesel motor fuel sold below the rack (i.e., not delivered by truck) are exempt from tax.
- Originally enacted in 2006, the exemption on alternative fuels (E85, B20, CNG, & hydrogen) has been extended several times for various durations.
- Effective in 2016, all revenues collected from the PBT on aviation fuel are set aside for airport use in accordance with Federal regulations.
- In 2022, tugboats and towboats were exempted from the PBT.

Authorized Combative Sports Tax

AUTHORIZED COMBATIVE SPORTS TAX (millions of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	1.2	2.0	0.8	65.7	2.0	0.0	0.0
All Funds Total	**1.2**	**2.0**	**0.8**	**65.7**	**2.0**	**0.0**	**0.0**

FY 2023 receipts are estimated to increase from FY 2022 results due to the impact of COVID-19 limiting the number of premier events held in the State during the prior year.

FY 2024 receipts are projected to remain flat.

Base and Rate

Authorized combative sports fall into one of two categories for NYS tax purposes.

- The following is levied on boxing, sparring, and wrestling events:
  - A 3 percent tax on gross receipts from ticket sales (with a maximum of $50,000 in taxes due per event); plus
  - A 3 percent tax on gross receipts from broadcasting rights (with a maximum of $50,000 in taxes due per event).
- The following is levied on kick boxing, single discipline martial arts, and mixed martial arts events:
  - An 8.5 percent tax on gross receipts from ticket sales (no maximum amount of taxes due per event); plus

A 3 percent tax on gross receipts from broadcasting rights and digital internet streaming (with a maximum of $50,000 in taxes due per event).

Liability

Authorized combative sports tax liability is largely affected by participant popularity and the number of high-profile events held in a given State Fiscal Year.

Administration

Taxes on gross receipts from ticket sales are remitted to DTF no later than ten days after the event. Taxpayers remit combative sports taxes on gross receipts from broadcasting rights and digital internet streaming (kick boxing, single discipline martial arts, or mixed martial arts events, only) to DTF by the end of the month in which the event occurred (or within the first five days of the following month if the event occurred in the last five days in a month).

History

AUTHORIZED COMBATIVE SPORTS TAX RECEIPTS HISTORY (thousands of dollars)	General Fund	All Funds Total
FY 2013	658	658
FY 2014	645	645
FY 2015	627	627
FY 2016	871	871
FY 2017	2,378	2,378
FY 2018	2,033	2,033
FY 2019	1,959	1,959
FY 2020	1,661	1,661
FY 2021	72	72
FY 2022	1,207	1,207

Significant statutory change within the past decade is:

- In 2016, the tax base was expanded to include kick boxing, single discipline martial arts, and mixed martial arts events.

Employer Compensation Expense Program

EMPLOYER COMPENSATION EXPENSE PROGRAM TAXES (thousands of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	6.4	6.5	0.1	0.8	7.0	0.5	8.4
Debt Service Funds (RBTF)	6.4	6.5	0.1	0.8	7.0	0.5	8.4
All Funds	**12.8**	**12.9**	**0.1**	**0.8**	**14.0**	**1.1**	**8.4**

All Funds FY 2023 receipts are estimated to remain relatively flat with FY 2022 results, primarily reflecting wage growth offset by a drop in employer participation between tax years 2021 and 2022.

All Funds FY 2024 receipts are projected to increase driven by wage growth coupled with an increase in participation.

Base and Rate

Employers electing to participate in the program are subject to a State tax on all annual payroll expenses in excess of $40,000 per employee. The tax rate was 1.5 percent in 2019 and 3 percent in 2020. The tax rate is 5 percent for all years after 2020.

Liability

ECEP liability is a function of salaries earned by employees of participating employers and the applicable tax rate. Since liability is generated on a calendar year basis, collections in any given SFY will be a combination of liability from two distinct calendar years.

Administration

Employers wishing to participate in the ECEP during a given year must enroll with the DTF by December 1st of the preceding year. Employers may not deduct from an employee's wages an amount representing all or any portion of ECEP taxes.

Participating employers remit ECEP tax payments electronically with withholding tax payments, within three days of the respective payroll date. Taxpayers making quarterly withholding payments also make quarterly ECEP tax payments, due the last business day of the month following the end of the calendar quarter in which the taxpayer made the payroll (e.g., January 31st for the calendar quarter ending December 31st).

History

EMPLOYER COMPENSATION EXPENSE PROGRAM RECEIPTS HISTORY (thousands of dollars)			
	General Fund	RBTF	All Funds Total
FY 2019[1]	26	26	53
FY 2020	997	997	1,994
FY 2021	1,613	1,613	3,227
FY 2022	6,402	6,402	12,804

1. ECEP receipts were first received in January 2019, in the last quarter of FY 2019.

The ECEP was established in 2018, with tax year 2019 as the first year of participation eligibility. Participating employers pay an optional tax intended to mitigate the tax burden for employees affected by the SALT deduction limit. While the TCJA limits deductibility for individuals, it does not cap deductibility for ordinary and necessary business expenses paid or incurred by employers in carrying on a trade or business.

Estate Tax

ESTATE TAXES (millions of dollars)											
		FY 2022 Actual		FY 2023 Estimated		Receipts Change		FY 2024 Projected		Receipts Change	
		Number	Receipts	Number	Receipts	Dollar	Percent	Number	Receipts	Dollar	Percent
General Fund	Large	592	773.3	600	800.1	26.8	3.5	596	690.7	(109.4)	(13.7)
	Extra-Large	49	377.9	61	510.5	132.7	35.1	50	432.0	(78.5)	(15.4)
	Super-Large	7	235.0	7	714.3	479.3	204.0	4	134.3	(580.1)	(81.2)
	Total	648	1,386.2	668	2,025.0	638.8	46.1	650	1,257.0	(768.0)	(37.9)
All Funds		**648**	**1,386.2**	**668**	**2,025.0**	**638.8**	**46.1**	**650**	**1,257.0**	**(768.0)**	**(37.9)**

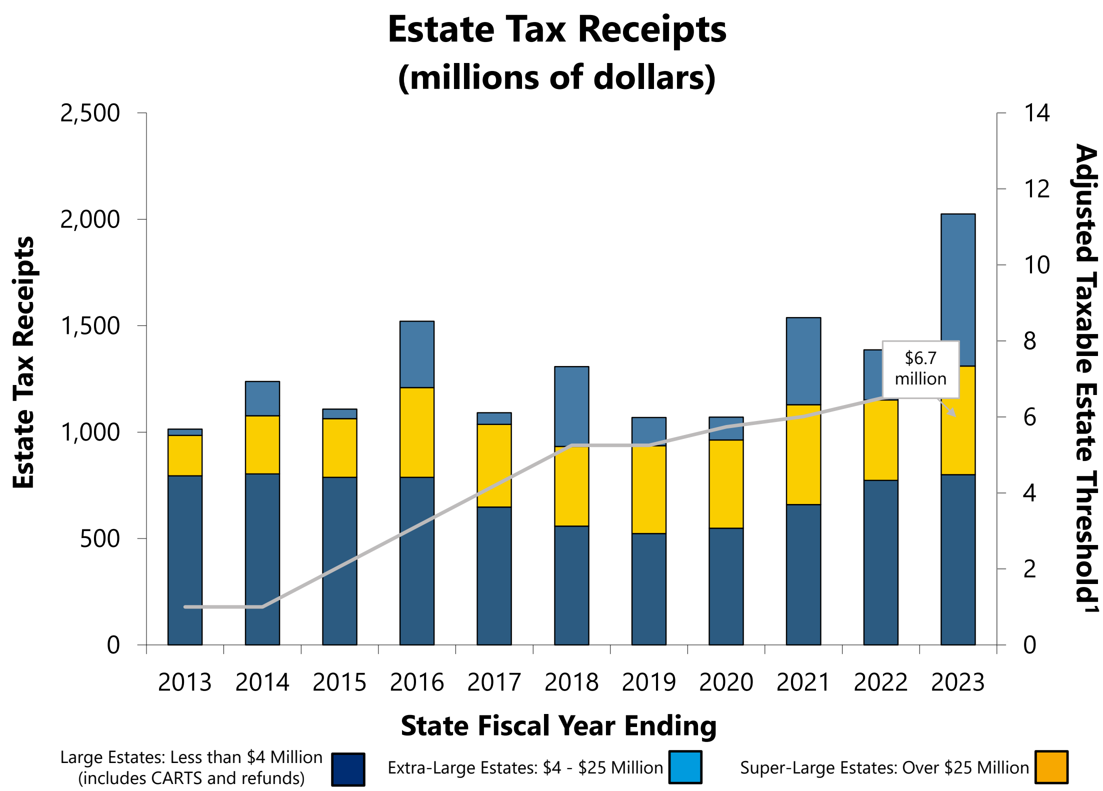
FY 2023 receipts are estimated to increase substantially from FY 2022 results primarily due to the receipt of seven super-large payments of $714.3 million, which is $479.3 million higher than the seven super-large payments received in the prior year.

FY 2024 receipts are projected to decrease substantially compared to the current year as super-large payments are expected to return to historic levels.

Base and Rate

NYS imposes a tax on the estates of deceased NYS residents and on the part of a non-resident's estate made up of real and tangible personal property located within NYS, less applicable deductions.[76] Based on the Federal Internal Revenue Code estate tax provisions, with minor modifications, NYS estate taxes are levied on a graduated scale with rates ranging from 3.06 to 16 percent of adjusted taxable estates.[77]

[76] NYS follows Federal Guidelines for applicable estate tax deductions. See https://www.irs.gov/pub/irs-pdf/i706.pdf.
[77] See https://www.tax.ny.gov/pit/estate/etidx.htm for specific metrics on these provisions and rates.



[1]The adjusted taxable estate threshold had been $1 million for decedents prior to January 1, 2015, converting to a basic "stand alone" tax with inflation indexing to a $6.11 million threshold for decedents dying on or after January 1, 2022.

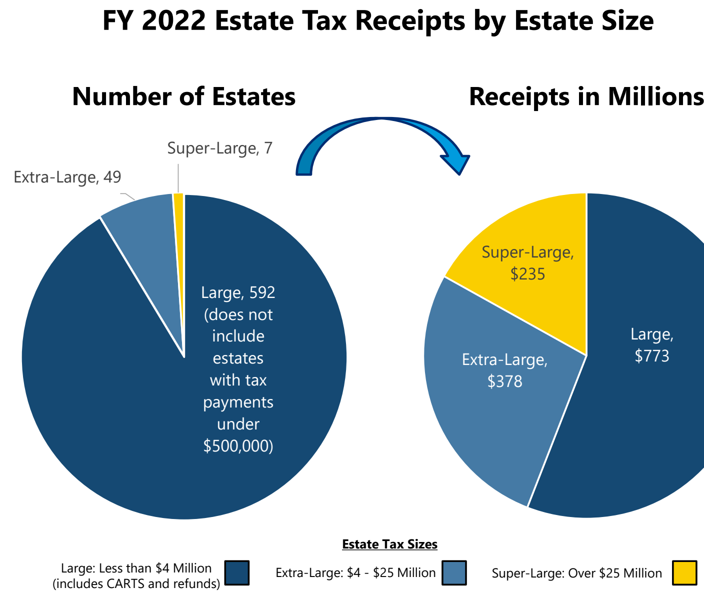
Liability

Estate tax receipts are historically volatile, as receipts are heavily influenced by both annual variations in the relatively small number of extra-large and super-large estates and the value of the equity market, given the large component of corporate stock in large taxable estates.

Administration

In general, estate tax is due to DTF nine months following the decedent's death, with daily compounding interest charged on late payments. The DTF Commissioner may authorize a 12-month extension, or up to a 4-year extension in cases of undue hardship. The Surrogate Court has jurisdiction of the probate of the estate and the authority to finalize the amount of the estate tax owed.

The executor and beneficiaries who have received property are personally liable for the payment of the estate tax. In cases lacking a will, the Federal, NYS, and foreign death taxes are apportioned among the beneficiaries. Reciprocity with other states for the collection of inheritance and estate taxes aids NYS in the collection of non-resident estates.



History

ESTATE TAX RECEIPTS HISTORY (millions of dollars)							
	Super-Large Estates (Over $25 Million)		Extra-Large Estates ($4 - $25 Million)		Large Estates* (Less than $4 Million)		Total Estate Taxes
	Number	Taxes	Number	Taxes	Number*	Taxes	
FY 2013	1	30	24	190	273	794	1,014
FY 2014	4	161	32	273	285	804	1,238
FY 2015	1	45	37	276	285	787	1,108
FY 2016	6	312	49	421	358	788	1,521
FY 2017	2	54	42	389	385	647	1,091
FY 2018	6	375	50	375	409	558	1,308
FY 2019	3	132	50	413	466	523	1,068
FY 2020	3	107	46	414	446	549	1,070
FY 2021	7	409	57	469	525	660	1,537
FY 2022	7	235	49	378	592	773	1,386

*Large Estates include CARTS and refunds; number of payments excludes estates with tax payments under $500,000.

Significant statutory changes within the past decade include:

- In 2014, a "stand alone" NYS estate tax was created. With a basic threshold amount that increased over four years, it equaled what would have been the Federal basic exemption amount (pursuant to Federal law as it existed on December 1, 2017) beginning January 1, 2019. The basic threshold amount, which is indexed to inflation on an annual basis, is $6.11 million for decedents dying on or after January 1, 2022.

Gaming Receipts

GAMING RECEIPTS
(millions of dollars)

			FY 2022 Actual	FY 2023 Estimated	Change Dollar	Change Percent	FY 2024 Projected	Change Dollar	Change Percent
Special Revenue Funds	Lottery	Education	2,601.0	2,513.0	(88.0)	(3.4)	2,343.0	(170.0)	(6.8)
	VLTs	Education	1,002.0	1,000.0	(2.0)	(0.2)	1,023.0	23.0	2.3
	Casinos	Education	137.7	134.4	(3.3)	(2.4)	136.0	1.6	1.2
		Localities	34.4	33.6	(0.8)	(2.4)	34.0	0.4	1.2
		Total	172.2	168.0	(4.2)	(2.4)	170.0	2.0	1.2
	Mobile Sports Wagering	Education	357.5	616.0	258.5	72.3	635.0	19.0	3.1
		Youth Sports	1.6	5.0	3.4	211.1	5.0	0.0	0.0
		Problem Gambling	1.6	6.0	4.4	273.4	6.0	0.0	0.0
		Total	360.7	627.0	266.3	73.8	646.0	19.0	3.0
	IFS	Education	6.8	6.0	(0.8)	(11.1)	6.0	0.0	0.0
	TSC	State	467.6	137.9	(329.7)	(70.5)	128.8	(9.1)	(6.6)
		Localities	182.2	82.1	(100.1)	(54.9)	77.2	(4.9)	(6.0)
		Total	649.8	220.0	(429.8)	(66.1)	206.0	(14.0)	(6.4)
All Funds		**Education**	**4,105.0**	**4,269.4**	**164.4**	**4.0**	**4,143.0**	**(126.4)**	**(3.0)**
		State	**467.6**	**137.9**	**(329.7)**	**(70.5)**	**128.8**	**(9.1)**	**(6.6)**
		Localities	**216.7**	**115.7**	**(100.9)**	**(46.6)**	**111.2**	**(4.5)**	**(3.9)**
		Total	**4,792.4**	**4,534.0**	**(258.4)**	**(5.4)**	**4,394.0**	**(140.0)**	**(3.1)**

FY 2023 receipts compared to FY 2022 results:

- Traditional lottery receipts are estimated to decrease primarily due to lower sales nationwide, coupled with less available administrative surplus for education. This is slightly offset by an above average amount of jackpot rollups between Mega Millions and Powerball.

- VLT receipts are estimated to remain relatively flat. Legislation passed in 2019 allowed the VLT at Monticello to relocate; this new facility opened in Newburgh on December 28, 2022.

- Commercial gaming (casino) tax receipts are estimated to decrease slightly, primarily due to Tioga receiving a retroactive slot tax reduction for FY 2022.

- Mobile Sports Wagering receipts are estimated to increase substantially due to the first full-year impact. FY 2022 receipts include $200 million in license fees.

- IFS receipts are estimated to decease slightly due to the negative impact from mobile sports wagering.

- TSC receipts are estimated to decrease substantially primarily due to the receipt in FY 2022 of outstanding payments owed by the Seneca Nation since the onset of FY 2018.

FY 2024 receipts compared to FY 2023 estimates:

- Lottery receipts are projected to decrease primarily due to a significantly lower amount of lapsed prize surplus fund anticipated. Additionally, Mega Millions and Powerball jackpots are expected to return to typical levels. This is slightly offset by an Executive Budget proposal to remove certain size and age restrictions for Quick Draw locations.

- VLT receipts are projected to increase slightly primarily due to the full-year impact of the new facility in Newburgh.

- Casino receipts are projected to increase slightly due to Tioga receiving a retroactive slot tax reduction for FY 2022 in FY 2023.

- Mobile Sports Wagering receipts are projected to increase slightly due to expected growth as the market matures.

- IFS receipts are projected to remain flat.

- TSC receipts are projected to decrease slightly due to the expected receipt in FY 2023 of outstanding payments owed by the Mohawk Tribe since the end of FY 2020.

Base and Rate

Gaming revenue includes receipts from lottery games, VLTs, casinos, mobile sports wagering, IFS, and TSCs.

Traditional Lottery

There are two types of lottery games:

- Draw games include Cash4Life, Lotto, Mega Millions, Numbers, Powerball, Quick Draw, Pick 10, Take 5 and Win 4. In FY 2022 these games constituted approximately 66 percent of the education contribution from traditional lottery games.

- Instant scratch-off games have either a 64.25 or 74.25 percent prize-payout. In FY 2022, these games constituted approximately 34 percent of the education contribution from traditional lottery games.

The statutory distribution of lottery sales among prizes, education funding, and the remaining allowance for expenses related to game administration is shown below.

LOTTERY RECEIPTS DISTRIBUTION AND DRAWING FREQUENCY					
Lottery Game	Prize Payouts	Education Funding	Administrative Allowance	Inception Date	Drawing Frequency
Mega Millions*	50%	35%	15%	2002	Tuesday and Friday at 11:00 PM
Powerball*	50%	35%	15%	2010	Monday, Wednesday, and Saturday at 10:59 PM
Cash4Life	55%	35%	10%	2014	Once Daily
Lotto	40%	45%	15%	1976	Wednesday and Saturday at 8:15 PM
Numbers	50%	45%	5%	1980	Twice Daily
Win 4	50%	45%	5%	1981	Twice Daily
Pick 10	50%	45%	5%	1988	Once Daily
Take 5	50%	45%	5%	1992	Twice Daily
Quick Draw	60%	25%	15%	1995	Every four minutes
Instant (65%)	65%	20%	15%	1999	N/A
Instant (75%)	75%	10%	15%	2002	N/A

*Mega Millions and Powerball can offer a prize payout up to 55 percent.

Video Lottery Gaming

VLTs are in use at Batavia Downs Gaming, Empire City Casino by MGM Resorts, Finger Lakes Gaming & Racetrack, Hamburg Gaming, Jake's 58 (Suffolk OTB facility), Resorts World New York City Casino (which also hosts the Nassau OTB machines), Saratoga Casino Hotel, Vernon Downs Casino Hotel, and Resorts World Hudson Valley Casino. In FY 2022, approximately 58 percent of the education funding contribution from VLT facilities was derived from Resorts World and Empire City.

The statutory distribution of VLT NMI (after prize payouts) is among education funding, agent commission, and the remaining allowance for administration expenses.

VLT RECEIPTS DISTRIBUTION BY LOCATION (After Prize Payouts)	Education Funding	Agent Commission	Administrative Allowance
Hamburg Gaming at the Fairgrounds Vernon Downs Casino Hotel	34.0%	56.0%	10.0%
Batavia Downs Gaming	39.0%	51.0%	10.0%
Resorts World Casino New York City	40.0%	50.0%	10.0%
Resorts World Hudson Valley	41.0%	49.0%	10.0%
Nassau Downs OTB at Resorts World Casino New York City Suffolk OTB (Jake's 58 Hotel & Casino)	45.0%	45.0%	10.0%
Saratoga Casino Hotel Finger Lakes Gaming & Racetrack	46.5%	43.5%	10.0%
Empire City Casino by MGM Resorts	50.5%	39.5%	10.0%

Not shown in the chart above, Saratoga, Finger Lakes, and Resorts World Hudson Valley currently receive an additional commission (capped at 10 percent) to offset the reduction in revenues due to competition from a nearby casino. Vernon Downs can receive a 6.4 percent additional commission and retain up to an additional 7.5 percent out of the 10 percent administrative allowance, provided such financial relief does not cause it to more than break even (specific to the administrative allowance only) and it maintains certain employment requirements.

Commercial Gaming

Four casinos are licensed and operating in NYS:

- Tioga Downs Casino Resort opened in December 2016;
- del Lago Resort & Casino and Rivers Casino & Resort both opened in February 2017; and
- Resorts World Catskills opened in February 2018.

COMMERCIAL GAMING TAXES LEVIED (Percent of Gross Gaming Revenue Generated)	Table Games[1]	Slot Machines
del Lago Resort & Casino	10.0%	37.0%[2]
Tioga Downs Casino Resort	10.0%	37.0%[3]
Resorts World Catskills	10.0%	39.0%[2]
Rivers Casino & Resort	10.0%	45.0%[2]

[1]Table game revenue includes retail sports wagering.
[2]These rates are temporarily lowered to 30% from April 1, 2021 to March 31, 2026.
[3]Tioga received a lower tax rate of 34.5% for FY 2022 only.

For the three additional casino licenses, the tax rates will be determined through a competitive bidding process in which the tax on gross gaming revenue from slot machines shall be no less than 25 percent and the tax on gross gaming revenue from all other sources (e.g. table games) shall be no less than 10 percent.

Mobile Sports Wagering

Nine mobile sports wagering operators and eight platform providers are operating in NYS. Operators are taxed at 51 percent of gross gaming revenue. Of the tax collected, $6 million is dedicated to problem gambling support, $5 million is dedicated to a Youth Sports Program, and the remaining amount helps fund education.

Tribal State Compact

NYS has TSC agreements with three Nations:

- Seneca Nation operates three Class III casinos in the Western region including Seneca Niagara Casino (2002), Seneca Allegany Casino (2004), and Seneca Buffalo Casino (2007);
- Mohawk Nation operates the Class III Akwesasne Mohawk Casino (1999); and
- Oneida Nation operates four Class III casinos, Turning Stone (1993), Yellow Brick Road (2015), Point Place (2018) and Lake House Casino (2020).

Pursuant to these TSCs, each Nation directs 25 percent of the casino's net drop from slots to NYS. The distribution is:

- 25 percent to the host county or counties;

- 10 percent to regional counties on a per capita basis;
- Madison County receives an annual payment of $3.5 million and Oneida County receives $2.5 million; and
- The remainder (plus interest) is directed to NYS.

Interactive Fantasy Sports

IFS operators offer fee-based contests in which participants assemble a fantasy roster of players using their skills and knowledge, then compete against other participants. NYS levies a 15 percent tax on IFS gross revenue generated in NYS and an additional tax rate of 0.5 percent (capped at $50,000 per taxpayer annually).

In October 2018, the NYS Supreme Court rendered a split decision that IFS is in violation of the State Constitution as a form of unlawful gambling, but it does not constitute gambling under NYS Penal Law. The State Attorney General appealed the decision in November 2018, which stayed the lower court ruling. The Gaming Commission will continue with the regulation and taxation of IFS during the appeals process. In October 2021, the New York Court of Appeals heard arguments on whether IFS is in violation of the State Constitution as a form of unlawful gambling and ultimately ordered re-argument of the case for a future Court decision. On March 22, 2022, the NYS Court of Appeals rendered a decision deeming IFS contests are not gambling thereby such contests are not in violation of the State Constitution.

Administration

Gaming components noted herein are administered by the NYS Gaming Commission.

Lottery

The Gaming Commission develops new lottery games, markets and advertises existing games, distributes games, provides terminals and computer programming for betting, and regulates and performs all other functions necessary to operate an effective NYS lottery.

The Lottery game vendor notifies sales agents of the State's share of sales proceeds by the Monday following the liability week. The sales agent makes necessary deposits and the operations vendor then tenders them to the Gaming Commission.

Video Lottery Gaming

The Gaming Commission collects revenue from VLT licensees daily and holds these funds in its sole custody account. On a weekly basis, revenues collected are transferred to the State Treasury and allocated to the Video Gaming Education Account, Video Gaming Administration Account, and the Video Gaming Prize Pending Account based on statutory requirements.

Commercial Gaming

The Gaming Commission regulates casinos and administers the tax on commercial gaming revenues. Casinos file tax returns and remit payment to the State Treasury on a weekly basis based on statutory rates for slot and table games. Funds from such payments are then allocated to the Commercial Gaming Revenue Fund. For zone 2 facilities, the Commission also collected license fees totaling $171 million as established by the New York Gaming Facility Location Board. For the additional licenses, the Board has set the minimum license fee amount at $500 million for each casino.

Mobile Sports Wagering

The Gaming Commission regulates mobile sports wagering operators and platform providers and administers the tax on gross gaming revenue. Tax returns are filed, and payments are remitted to the State Treasury on a weekly basis. Additionally, the Commission collected a $25 million license fee from each platform provider.

Interactive Fantasy Sports

The Gaming Commission administers and regulates IFS entities. 18 IFS entities are registered in NYS, with 13 actively operating and filing tax returns with the Gaming Commission on a monthly basis. Funds underlying each registrant's tax obligation are also remitted monthly to a commission account and are then transferred to the State Treasury to be allocated to the IFS Education Account.

Tribal State Compact

Per the TSC agreements, NYS collects exclusivity payments from the Oneida Nation, Saint Regis Mohawk Tribe, and the Seneca Nation on a quarterly basis. Exclusivity payments are remitted directly by the Tribe or Nation to the State Treasury and allocated to the Tribal State Compact Fund. Each Seneca Nation casino is accounted for separately, while the Oneida Nation casinos are aggregated.

History

GAMING RECEIPTS BY COMPONENT (millions of dollars)									
	Special Revenue Funds								All Funds
	Lottery	VLTs	Casinos			MSW	IFS	TSC	
	Education	Education	Education	Localities*	Total	Total**	Education	Total*	Total
FY 2013	2,217	857	N/A	N/A	N/A	N/A	N/A	0	3,074
FY 2014	2,235	938	N/A	N/A	N/A	N/A	N/A	482	3,655
FY 2015	2,191	907	N/A	N/A	N/A	N/A	N/A	161	3,258
FY 2016	2,351	961	121	30	151	N/A	N/A	233	3,696
FY 2017	2,322	958	31	8	38	N/A	3	207	3,528
FY 2018	2,301	958	88	22	110	N/A	5	81	3,455
FY 2019	2,533	939	136	34	170	N/A	5	90	3,737
FY 2020	2,473	944	151	38	188	N/A	6	88	3,699
FY 2021	2,426	382	63	16	79	N/A	6	60	2,952
FY 2022	2,601	1,002	138	34	172	361	7	220	4,002

*A portion of commercial gaming casino (20 percent) and Tribal State Compact (various) receipts are directed to localities.
**A portion of Mobile Sports Wagering receipts are directed to problem gambling and youth sports.

Significant statutory changes within the past decade include:

- In 2014, Suffolk and Nassau OTBs were authorized to have up to 1,000 VLT terminals, and the VLT free play allowance was increased from 10 to 15 percent. In 2022, Suffolk OTB was authorized to have 2,000 VLT terminals.
- In 2015, VLTs were authorized to offer certain electronic table games (ETGs).
- In 2016, the operation of IFS was legalized in NYS.
- In 2017, NYRA was reprivatized, and regulations were modified to require horsemen and racetracks to contribute to equine drug testing.
- In 2018, the VLT hold harmless transfer provision was eliminated. Previously, the VLT amount for education could not be lower than $958.2 million and an annual transfer would be made from the commercial gaming education to VLT education to make up the difference if the amount was lower than $958.2 million.
- In 2019, the distribution structure of VLT NMI was simplified by reducing the number of VLG commission rates from over 20 to just 6. Marketing allowance and capital awards were made part of the operators' commission and the operators now have more flexibility in marketing spending.
- In 2019, the Gaming Commission adopted regulations to allow sports wagering at the four commercial casinos. All four casinos are now operating a sports book at their facility.

- In 2021, mobile sports wagering was authorized. Eight platform providers and nine operators were selected through a competitive bidding process to operate mobile sports wagering in the State. Additionally, a process was established for casinos to petition for a slot tax rate no lower than 30 percent, and the requirement that lottery draw games be offered no more than once daily was amended to no more than twice daily.

- In 2022, the State authorized the Facility Location Board to select up to three additional applicants for commercial casino licensure.

Pari-Mutuel Tax

PARI-MUTUEL TAX (millions of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
General Fund	12.9	13.0	0.1	0.4	13.0	0.0	0.0
All Funds Total	**12.9**	**13.0**	**0.1**	**0.4**	**13.0**	**0.0**	**0.0**

FY 2023 and FY 2024 receipts are estimated to remain flat compared to FY 2022 results.

An Executive proposal would authorize a NYRA payment structure in order to make necessary improvements at Belmont. Upon completion, Aqueduct racing would be moved to Belmont. The land at Aqueduct would revert to the State.

Base and Rate

There are numerous tax rates imposed, which vary depending upon the type of racing, the type of wager (regular, multiple, or exotic), and location at which it is placed. This tax includes a portion of commissions withheld from handle (wagering pools) and a remittance of the breakage (the difference between a wager pool for a given bet and the total payout to bettors) and is collected from:

- The four thoroughbred flat track facilities including Finger Lakes and the three NYRA tracks (Aqueduct, Belmont, and Saratoga);
- The seven harness tracks located in Batavia, Buffalo, Monticello, Saratoga, Tioga, Vernon, and Yonkers; and
- The OTB facilities located in five NYS regions including the Capital District, Catskill, Nassau, Suffolk and Western.

The base of the tax has shifted with the emergence of simulcast and the closure of NYC OTB in 2010. With the ability of a bettor to place a wager using an app or other simulcast means, there is no longer a need to place bets in-person at a track or Off-Track Betting (OTB) facility. The vast majority of simulcast wagers made are on NYRA races.

Liability

The PMT is levied on wagers on pari-mutuel wagering activity that occurs in-state. These bets are placed at NYS racetracks, OTB facilities or through a racetrack or OTB facility's app.

If a NYS resident places a simulcast wager using an out-of-state ADW website, a market origin fee equal to five percent of wagers is imposed. Five percent of the market origin fee is directed to PMT. If a bettor places a wager on a NYS race outside of the State, PMT is not levied.

Administration

The Gaming Commission regulates all horse racing and pari-mutuel wagering in NYS. Racetracks and OTBs calculate the PMT owed to NYS from the portion of the commission (the "takeout") withheld from wagering pools and then remit the taxes on a monthly basis to DTF.

History

In 2008, NYS awarded a 25-year license to the NYRA to operate Aqueduct, Belmont, and Saratoga Racetracks.

PARI-MUTUEL TAX RECEIPTS HISTORY
(thousands of dollars)

	General Fund				All Funds
	Flat	Harness	OTB	Total	Total
FY 2013	11,407	593	5,416	17,416	17,416
FY 2014	11,039	538	5,244	16,821	16,821
FY 2015	12,428	482	5,128	18,038	18,038
FY 2016	11,423	466	5,293	17,182	17,182
FY 2017	10,604	426	4,726	15,756	15,756
FY 2018	10,318	378	4,676	15,373	15,373
FY 2019	10,510	353	4,504	15,367	15,367
FY 2020	9,299	332	4,286	13,917	13,917
FY 2021	5,650	19	3,983	9,652	9,652
FY 2022	8,298	249	4,401	12,948	12,948

Significant statutory changes within the past decade include:

- In 2013, a market origin fee equal to five percent of wagers taken by out-of-State advanced deposit wagering providers from NYS residents was imposed.
- In 2022, the State continued to extend for one year reduced on-track rates by as much as 90 percent at thoroughbred and harness tracks and certain simulcasting provisions.

Real Estate Transfer Tax

REAL ESTATE TRANSFER TAX (millions of dollars)							
	FY 2022	FY 2023	Change		FY 2024	Change	
	Actual	Estimated	Dollar	Percent	Projected	Dollar	Percent
Capital Projects Funds (EPF)	119.0	257.4	138.4	116.3	257.4	0.0	0.0
Debt Service Funds (CWCA)	1,520.5	1,233.7	(286.9)	(18.9)	1,108.7	(125.0)	(10.1)
All Funds Total	**1,639.5**	**1,491.0**	**(148.5)**	**(9.1)**	**1,366.0**	**(125.0)**	**(8.4)**

FY 2023 receipts are estimated to decrease from FY 2022 results due to reduced real estate market activity as a result of higher interest rates and increasing housing inventory. This has materialized more in the second half of the current year as receipts have been noticeably weaker than the first half. Additionally, FY 2022 receipts significantly benefitted from pent up demand due to initial COVID-19 restrictions that significantly reduced both overall real estate activity and housing inventory.

FY 2024 receipts are projected to decrease from the current year as the impact of pent-up demand, low mortgage rates, and low inventory, which had resulted in elevated price and transaction levels across various regions of the State in the first half of FY 2023, is expected to level off and stabilize.

Base and Rate

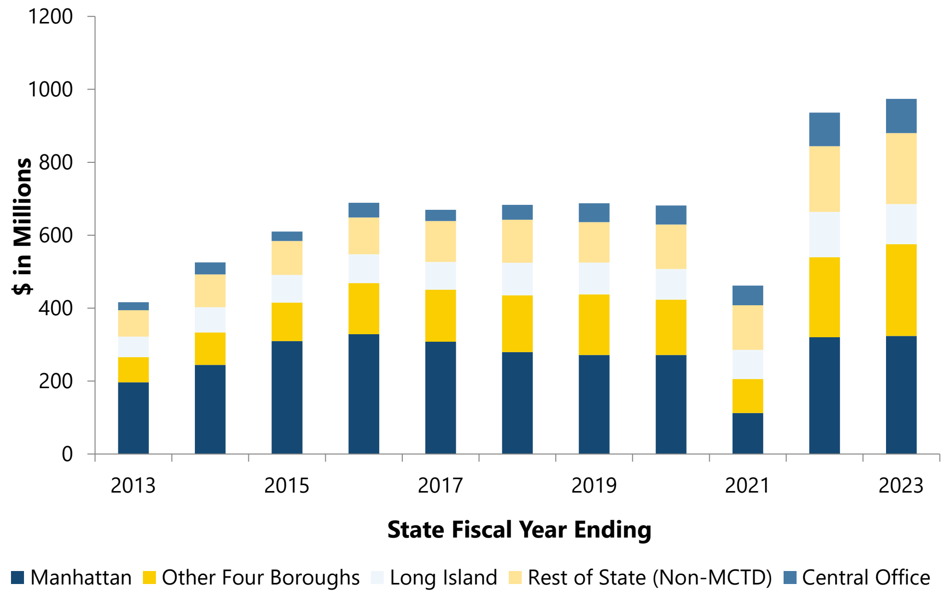
The real estate transfer tax is imposed on each conveyance of real property or interest therein, when the consideration (price) exceeds $500, at a rate of 0.4 percent. An additional one percent tax is imposed on conveyances of residential real property only when the consideration is $1 million and above. The tax rate for conveyances of real property to existing real estate investment trusts (REIT) is 0.2 percent.

Federal and State entities, as well as the United Nations, are exempt from the tax. If an exempt entity is the grantor in a transfer, the tax burden falls upon the grantee. Other significant exemptions from the tax are conveyances pursuant to the Federal Bankruptcy Act and mere change of identity conveyances.

Liability

Real estate transfer tax receipts are a function of the number and type of conveyances and the consideration per conveyance. Conveyances and prices are largely determined by mortgage rates, vacancy rates and inflation. The Manhattan commercial real estate market, which has historically been subject to large swings in demand and capacity, can have a significant impact on receipts. The Manhattan luxury residential market also has an outsized impact on receipts. Overall, NYC tax liability was 47 percent of total liability in FY 2021, which is much lower than normal due to NYC being the epicenter of the initial COVID-19 outbreak in the U.S.

Real Estate Transfer Tax Liability



Administration

Typically, the party conveying the property (grantor) is responsible for payment of the tax to DTF.

For deeded transfers, the tax is paid to a recording agent (generally the county clerk) within 15 days of the transfer. For non-deeded transactions (cooperative housing or stock transfers), payments are made directly to DTF's central office. Counties remit collections to DTF once or twice per month.

- Counties with more than $1.2 million in liability during the previous calendar year remit payments received by the recording agent between the 1st and 15th day of the month to DTF by the 25th day of the same month. Payments received by the recording agent in such counties between the 16th and the final day of the month are due to DTF by the 10th day of the following month;

- All other county recording agents remit collections to DTF by the 10th day of the month following their receipt.

History

REAL ESTATE TRANSFER TAX RECEIPTS HISTORY (millions of dollars)			
	Capital Projects Funds (EPF)	Debt Service Funds (CWCA)	All Funds Total
FY 2013	119	637	756
FY 2014	119	792	911
FY 2015	119	919	1,038
FY 2016	119	1,044	1,163
FY 2017	119	1,007	1,126
FY 2018	119	1,006	1,125
FY 2019	119	1,016	1,135
FY 2020	119	1,005	1,124
FY 2021	119	830	949
FY 2022	119	1,521	1,640

Significant statutory changes within the past decade include:

- In 2019, a 0.25 percent real estate transfer tax was imposed on commercial properties $2 million and above and residential properties $3 million and above in NYC. Also, a progressive mansion tax was imposed on residential properties in NYC ranging from 0.25 percent on properties that are $2 million to $3 million, up to 2.9 percent on properties that are $25 million and above.

- In 2021, responsible persons billing language was added and it was clarified that only the seller is responsible for paying the basic RETT and cannot pass through the cost to the buyer.

Comparison with Other States

An important consideration in State tax policy decisions, and by extension in setting Budget priorities, is the relative position of the State in terms of state and local tax rates and tax bases relative to other states.

An emphasis on tax reduction in NYS over the past four decades has resulted in the majority of years with the NYS tax burden, as measured by tax-to-personal income ratio, below the average of the U.S., as well as an improved ranking nationally. However, local taxes in NYS remain very high relative to other states, leaving the State with the highest ranked State and local combined tax burden.

The data presented here suggest there is pressure on states to remain competitive with respect to tax policy. This is evidenced by the gradual clustering over time of states around the national average tax-to-income ratio. However, there is also a strong tendency for a state tax position to be highly persistent over time; this means movements towards the average have been slow. The persistence most likely reflects a combination of localized spending pressures and priorities and different state and regional attitudes towards tax policy.

Several important points on comparative tax structures can be seen by examining the accompanying tables that show the tax-to-personal income ratios for personal income, corporate income, sales and gross receipts[78], all other state, and local property taxes.

Total State and Local Taxes

- Overall, state and local tax structures are broadly similar in both the taxes imposed and the rates applied. Average rates measured by the tax-to-income ratios are also roughly equivalent across states, especially when aggregating both state and local taxes.

- The variability across states within each category of tax (e.g., income, sales, or property taxes examined in isolation) is greater than the dispersion for taxes when examined in the aggregate (all state and local taxes added together). For example, a fairly large number of states have excluded the personal income tax from their fiscal policy mix; a smaller subset has excluded corporate taxes, and a few impose no sales tax.

- In general, it appears that the spread of state and local tax burdens across states has been narrowing over time. This may reflect both competitive pressures to keep taxes in line with other states, and the more widespread use of income taxes nationwide.

- The national average state and local tax-to-income ratio has remained relatively stable over time and significantly below that of New York.

[78] The sales and gross receipts taxes category includes general sales and gross receipts taxes. Additionally, it includes selective sales and gross receipts taxes on sales of certain commodities, or services, or gross receipts of certain businesses apart from the application of any general sales or gross receipts taxes. Selective sales and gross receipts taxes include the following categories: alcoholic beverages, amusements, insurance, motor fuels, pari-mutuels, public utilities, tobacco products, and other.

- The state and local tax-to-income ratio for New York exceeded the national average by $4.72 per $100 of personal income, or 41.4 percent in 1977. In 2010, the gap was down to $3.88, or 36.8 percent, with New York ranking second nationally. In 2020, the gap was $3.88 (39 percent) above the national average, ranking New York first nationally.

State Taxes

- Prior to the FY 2016 Executive Budget Comparison, New York's tax-to-personal income ratio had been inherently overstated. The numerator included all personal income tax receipts, whether from residents or non-residents. The denominator, as calculated by the U.S. Bureau of Economic Analysis, excluded the personal income of non-N.Y. residents. Beginning with the FY 2016 Executive Budget Comparison, an adjustment was made to add the personal income of non-New York residents that pay New York personal income tax to the denominator.

- New York is a slightly above average tax state when looking only at state taxes as of 2020.

- New York's tax burden, as measured by taxes per $100 of personal income, was $0.32 (5.3 percent) above the national average of $6.08 in 2020.

- New York taxes per $100 of personal income declined from $6.70 in 2010 to $6.40 in 2020.

- New York's state tax rank was fifteenth highest in 2010 and improved to twentieth in 2020.

Local Taxes

- At least a portion of New York's significant local tax burden is due to the large portion of sales tax retained by New York localities. This contrasts sharply with other states and reflects, at least in part, the need at the local level in New York for receipts to pay for the local share of Medicaid.

- NYC uniquely imposes taxes that comprise a large portion of New York's total local burden. In 2020, $1.69 of New York's local burden of $7.43 per $100 of state personal income was due to NYC personal and corporate income taxes. This accounted for approximately 23 percent of the total local tax burden.

Property Taxes in New York State

- Higher than average property taxes as a share of income (48.6 percent above the 2020 national average) in New York are tied, for the most part, to the rapid escalation in local Medicaid costs and uncapped growth in school property taxes until 2011. The property tax cap went into effect for local fiscal years beginning in 2012 for local governments and school districts (excluding NYC).

- New York's national rank of fifth highest in 2010 improved to sixth highest in 2020, with its local property taxes per $100 of personal income dropping from $4.69 to $4.34.

Table Construction

This section compares the state and local tax structure in NYS with other states. Table 1 reports tax rates for the major tax sources utilized by state and local governments. The first and second data columns of the table show the top personal income tax rate by state, and the income level at which the top rate takes effect; the third column lists top corporate tax rates (most state corporate tax structures have relatively flat rate structures, so the rate reported often applies to all corporate income subject to tax); the fourth column reports state sales tax rates; and the final column reports the average combined state and local sales tax rates imposed by the various jurisdictions within such state. The rates are those in effect as of 2022. The income and corporate tax rates reported exclude local rates. This exclusion is important since New York is one of only a handful of states where significant local personal income and corporate taxes are imposed, as in PIT for NYC.

Tables 2 and 3 report state taxes collected by source divided by state personal income for 2010 and for 2020, respectively, with 2020 being the latest year for which complete state and local tax and personal income data are available. New York's rank in terms of state taxes fell from fifteenth highest to twentieth highest over this period.

Tables 4 and 5 report local taxes as a share of state personal income by state in 2010 and in 2020. In 2020, New York had the highest local tax burden using this measure, the same ranking it held in 2010. New York moderately increased from $3.50 above the mean local tax burden in 2010 to $3.56 in 2020. The above-average local tax burden is caused by relatively high property taxes, the large sales tax burden imposed at the local level, and the high ratio in the other category that picks up the income and corporate taxes imposed by NYC.

Tables 6a, 6b and 7 report state and locally imposed taxes as a percentage of state personal income. The data used in the calculations are for fiscal years ending in 2010 and 2020. The tax-to-income ratios included on table 7 are: state and local income taxes, state and local corporate taxes, state and local sales taxes, local property taxes, all other state and local taxes, and finally combined state and local taxes.

Table 8a reports changes in the state tax-to-income ratio over the 1977-2020 period. During this time, New York's state tax burden fell relative to the mean, and has been below the mean for 27 of the 44 recorded years. The last instance was in 2019. These results appear to reflect the impact of the State's high-income Personal Income Tax (PIT) bracket first imposed in 2009. Table 8b reports changes in the state and local tax-to-income ratio over the 1977-2020 period. In 1977, New York's state and local taxes as a percent of personal income were 41.4 percent above the national average. In 2020, New York was 39 percent above the national average. The average state and local tax-to-income ratio in 2020 has declined by 12.6 percent compared to 1977, while the New York ratio has declined 14.1 percent over the same period. In every year since 1977, New York has been at least $2.06 in state and local taxes per $100 of personal income above the mean.

The bottom of tables 1-7 report the mean for each tax category, as well as the standard deviation and the Coefficient of Variation (CV). Additionally, the difference between the national average and New York values is reported. While the standard deviation provides a sense of how the data are dispersed around the average value for all states, the CV allows comparisons of spread for data with different averages and is defined simply as the standard deviation divided by the average and is reported as a percentage. It essentially provides a normalized, unit-free measure of dispersion.

The Tax-to-Income Percentage

The tax-to-personal-income percentage offers one simple and commonly used way of comparing states with respect to relative tax burdens. It must be noted that the real effort of tax burden analysis should be to determine who actually faces the economic consequences of a tax, not who is legally required to pay the tax. All simple measures of tax burden across states are inadequate from this perspective. In general, any single indicator of burden will necessarily be limited in value. The following three additional issues should be taken into consideration when relying on this measure:

Tax Exportation

In using taxes per dollar of personal income as a measure of tax burden it must be noted that for many states a significant portion of the tax base is “exported” or paid by out-of-state taxpayers.

For example, in New York, a large number of workers from New Jersey and Connecticut pay tax on New York source income and on taxable sales while in New York. This means that, unless a portion of Connecticut’s and New Jersey’s personal income is also shifted to NYS, the actual burden on New Jersey residents will appear to be a burden on New York residents. Beginning with the FY 2016 Executive Budget Comparison, a residence adjustment has been made to the personal income calculation for each state. The denominator now includes New York source income earned by non-New York residents. The same adjustment has been made for all 50 states.

One example of tax exportation can be seen in states with a large tourism economy. These states will realize increases in their sales tax collections and other excise taxes that may overstate the tax burden actually paid by their citizens.

Another example is that methods used to apportion corporate taxable income are neither consistent across states, nor are they necessarily representative of actual activity. For example, some states use a three-factor allocation formula that takes into account the percentage of a taxpayer’s property, payroll and receipts amounts in the state compared to those amounts everywhere. Other states use different formulas. These differences in allocation formulas could result in either tax importation or exportation, again distorting this measure as a method of comparison of true tax burden imposed on each state’s residents.

Overall, it would seem likely that NYS is a net exporter of tax burdens relative to other states. This serves to bias the tax-to-income percentage for New York upward – making burdens in New York appear too high using this measure. The inclusion of the residence adjustment has helped rectify one of the tax exportation issues facing New York.

Income Adjustments

Given two states with identical marginal tax rate structures, differences in the incomes of individuals could yield different tax-to-income percentage results. For example, if NYS and

Alabama had identical progressive income brackets built into their respective tax codes, the higher average personal incomes of NYS residents would tend to lead to higher taxes per dollar of personal income due to the nature of the income tax.

Particularly important is the distinction between the National Income and Product Account (NIPA) measure of personal income as defined by the Bureau of Economic Analysis (BEA), and taxable personal income as defined by each state's respective tax code. For example, the NIPA personal income measure does not include capital gains (by the definition of personal income). However, capital gains are a component of New York Adjusted Gross Income (NYAGI) that contributes significantly to personal income tax receipts in NYS. States with high income individuals, like New York, would be more likely to have the tax-to-income percentage distorted upward. In the gains example, the percentage of personal income used in Table 2 will be influenced because the numerator will include taxes on capital gains income that is not included in the denominator, effectively overstating the tax burden relative to other states since New York has a disproportionate share of taxpayers with large capital gains incomes.

Federal Offsets

The Federal tax structure allows for the deductibility of certain state and local taxes. Following the 2017 Federal Tax Cuts and Job Act, taxpayers can deduct only up to $10,000 of their state and local taxes. Residents of states with relatively higher state income, property and corporate tax burdens, such as NYS, receive a larger deduction, thereby offsetting a portion of the individual's total tax burden. Again, this is not reflected in the tax-to-income percentage reported here. Therefore, this serves to bias the measure in a way that makes New York look like a relatively higher tax state than is actually the case.

Overall, the tax-to-income percentage calculation likely biases the tax burden in New York upward.

Table 1 - Comparison of 2022 State Top Rates					
State	Top PIT Rate	Highest Tax Bracket (Married Filing Joint)	Top Corp. Rate	State Sales Rate	Combined State and Local Sales Tax Rate[1]
Alabama	5	$6,000	6.5	4	9.24
Alaska	-	NA	9.4	-	1.76
Arizona	4.5	$333,684	4.9	5.6	8.37
Arkansas	5.5	$8,500	5.9	6.5	9.5
California	13.3	$1,250,738	8.84	7.25	8.82
Colorado	4.55	Flat Rate	4.55	2.9	7.8
Connecticut	6.99	$1,000,000	7.5	6.35	6.35
Delaware	6.6	$60,000	8.7	-	-
Florida	-	NA	5.5	6	7.0
Georgia	5.75	$10,000	5.75	4	7.37
Hawaii	11	$400,000	6.4	4	4.44
Idaho	6	$15,878	6	6	6.02
Illinois	4.95	Flat Rate	9.5	6.25	8.73
Indiana	3.23	Flat Rate	4.9	7	7
Iowa	8.53	$78,435	9.8	6	6.9
Kansas	5.7	$60,000	7	6.5	8.70
Kentucky	5	Flat Rate	5	6	6
Louisiana	4.25	$100,000	7.5	4.45	9.55
Maine	7.15	$108,900	8.93	5.5	5.5
Maryland	5.75	$300,000	8.25	6	6
Massachusetts[2]	5	Flat Rate	8	6.25	6.25
Michigan	4.25	Flat Rate	6	6	6
Minnesota	9.85	$284,810	9.8	6.875	7.5
Mississippi	5	$10,000	5	7	7.07
Missouri	5.4	$8,704	4	4.225	8.30
Montana	6.75	$18,800	6.75	-	-
Nebraska	6.84	$66,360	7.5	5.5	6.94
Nevada	-	NA	-	6.85	8.23
New Hampshire[2]	-	NA	7.6	-	-
New Jersey	10.75	$1,000,000	11.5	6.625	6.60
New Mexico	5.9	$315,000	5.9	5	7.72
New York	**10.9**	**$25,000,000**	**7.25**	**4**	**8.52**
North Carolina	4.99	Flat Rate	2.5	4.75	7.0
North Dakota	2.9	$445,000	4.31	5	6.96
Ohio	3.99	$110,650	-	5.75	7.24
Oklahoma	4.75	$12,200	4	4.5	8.99
Oregon	9.9	$250,000	7.6	-	-
Pennsylvania	3.07	Flat Rate	9.99	6	6.34
Rhode Island	5.99	$155,050	7	7	7
South Carolina	7	$16,040	5	6	7.44
South Dakota	-	NA	-	4.5	6.40
Tennessee	-	NA	6.5	7	9.55
Texas	-	NA	-	6.25	8.20
Utah	4.95	Flat Rate	4.85	6.1	7.19
Vermont	8.75	$251,950	8.5	6	6.24
Virginia	5.75	$17,000	6	5.3	5.75
Washington[2]	-	NA	-	6.5	9.29
West Virginia	6.5	$60,000	6.5	6	6.55
Wisconsin	7.65	$374,600	7.9	5	5.43
Wyoming	-	NA	-	4	5.4
Mean Values	**5.22**		**6.26**	**5.11**	**6.53**
Standard Deviation	**3.26**		**2.66**	**1.97**	**2.40**
Coefficient of Variation	**62.44**		**42.41**	**38.65**	**36.81**

"-" indicates either no tax or a tax that is not strictly comparable is imposed.

[1]**Source**: Tax Foundation as of July 1, 2022. Reflects combined state and average local rate for each state.

[2]**PIT**: Indicates states with distinct treatment of certain types of income. New Hampshire only taxes interest and dividends (at a rate of 5 percent), Washington only taxes capital gains (at a rate of 7 percent), and Massachusetts taxes short-term capital gains at a higher rate (12 percent) than other income (5 percent).

Table 2 - 2010 Components and Percentage of Total State Tax Burden per $100 Personal Income

State	Total State Taxes	Rank	PIT	Rank	Percent of Total	Sales and Use	Rank	Percent of Total	Corporate	Rank	Percent of Total	Other	Rank	Percent of Total
Alabama	5.46	34	1.70	34	31.1	2.88	27	52.8	0.28	24	5.1	0.60	29	11.0
Alaska	13.62	1	0.00	44	0.0	0.79	49	5.8	1.94	1	14.2	10.89	1	80.0
Arizona	5.07	40	1.14	40	22.5	3.18	21	62.7	0.20	36	3.9	0.55	32	10.9
Arkansas	8.28	7	2.29	18	27.7	4.06	6	49.0	0.42	7	5.1	1.51	8	18.2
California	6.95	12	2.96	5	42.6	2.65	35	38.2	0.59	3	8.5	0.75	20	10.7
Colorado	4.31	47	2.06	26	47.7	1.76	44	40.9	0.18	39	4.2	0.31	48	7.2
Connecticut	6.06	25	2.83	6	46.7	2.64	36	43.5	0.25	30	4.1	0.34	42	5.7
Delaware	7.28	9	2.25	19	30.9	1.22	48	16.8	0.38	13	5.2	3.44	5	47.2
Florida	4.46	45	0.00	44	0.0	3.69	8	82.8	0.26	28	5.9	0.50	35	11.3
Georgia	4.47	44	2.12	23	47.5	1.97	43	44.1	0.21	34	4.6	0.17	50	3.8
Hawaii	8.74	4	2.76	7	31.6	5.50	1	62.9	0.14	42	1.7	0.34	43	3.8
Idaho	6.15	23	2.23	20	36.2	3.15	22	51.1	0.20	35	3.3	0.57	30	9.3
Illinois	5.25	39	1.78	33	33.9	2.44	38	46.5	0.51	5	9.7	0.52	34	9.9
Indiana	6.36	19	1.78	32	28.0	3.92	7	61.5	0.28	25	4.3	0.39	41	6.1
Iowa	6.08	24	2.37	17	38.9	2.85	28	46.8	0.17	40	2.8	0.70	25	11.5
Kansas	5.90	31	2.44	14	41.4	2.69	33	45.6	0.32	21	5.4	0.45	38	7.6
Kentucky	6.73	14	2.23	21	33.1	3.31	20	49.2	0.27	27	4.0	0.92	16	13.7
Louisiana	5.26	38	1.37	39	26.1	2.91	26	55.3	0.24	31	4.5	0.74	21	14.1
Maine	7.16	11	2.68	10	37.3	3.42	15	47.8	0.36	15	5.0	0.71	24	9.9
Maryland	5.99	27	2.44	15	40.7	2.46	37	41.1	0.35	16	5.8	0.74	22	12.4
Massachusetts	5.97	29	3.01	3	50.4	2.03	42	33.9	0.55	4	9.1	0.39	40	6.5
Michigan	6.57	16	1.64	36	24.9	3.68	10	56.0	0.19	37	2.8	1.07	14	16.3
Minnesota	7.89	8	2.96	4	37.5	3.61	12	45.8	0.33	18	4.2	0.98	15	12.5
Mississippi	7.22	10	1.56	37	21.6	4.69	2	65.0	0.36	14	5.0	0.60	28	8.4
Missouri	4.37	46	1.95	28	44.6	2.04	41	46.7	0.09	45	2.1	0.29	49	6.6
Montana	6.28	21	2.10	24	33.4	1.56	47	24.8	0.27	26	4.4	2.35	6	37.5
Nebraska	5.32	37	2.09	25	39.2	2.69	34	50.5	0.21	33	4.0	0.33	44	6.3
Nevada	5.98	28	0.00	44	0.0	4.38	4	73.3	0.00	47	0.0	1.60	7	26.7
New Hampshire	4.12	50	0.15	42	3.6	1.63	46	39.6	0.91	2	22.0	1.43	9	34.8
New Jersey	6.40	18	2.55	13	39.8	2.79	29	43.6	0.51	6	7.9	0.56	31	8.7
New Mexico	6.41	17	1.43	38	22.3	3.44	14	53.7	0.19	38	2.9	1.36	10	21.2
New York	**6.70**	**15**	**3.65**	**1**	**54.5**	**2.22**	**40**	**33.1**	**0.41**	**10**	**6.1**	**0.43**	**39**	**6.4**
North Carolina	6.32	20	2.68	9	42.5	2.77	31	43.8	0.38	12	6.0	0.49	37	7.7
North Dakota	9.61	3	1.10	41	11.5	3.44	13	35.9	0.32	20	3.3	4.74	3	49.3
Ohio	5.70	33	1.90	29	33.4	2.96	25	51.9	0.03	46	0.6	0.80	19	14.0
Oklahoma	5.33	36	1.67	35	31.4	2.24	39	42.0	0.16	41	3.1	1.25	11	23.5
Oregon	5.42	35	3.58	2	66.2	0.72	50	13.4	0.26	29	4.7	0.85	18	15.7
Pennsylvania	5.96	30	1.85	31	31.0	3.06	24	51.3	0.33	19	5.5	0.73	23	12.3
Rhode Island	6.18	22	2.19	22	35.4	3.38	18	54.7	0.29	22	4.7	0.32	46	5.2
South Carolina	5.02	41	1.85	30	36.9	2.75	32	54.8	0.10	43	2.1	0.31	47	6.2
South Dakota	4.13	49	0.00	44	0.0	3.38	17	81.8	0.10	44	2.4	0.65	26	15.8
Tennessee	4.82	43	0.08	43	1.6	3.68	9	76.4	0.41	9	8.6	0.65	27	13.4
Texas	4.27	48	0.00	44	0.0	3.37	19	79.0	0.00	47	0.0	0.90	17	21.0
Utah	6.04	26	2.43	16	40.2	2.78	30	46.0	0.28	23	4.7	0.55	33	9.1
Vermont	10.06	2	1.96	27	19.5	3.39	16	33.7	0.34	17	3.4	4.37	4	43.5
Virginia	4.88	42	2.57	12	52.8	1.75	45	35.8	0.23	32	4.8	0.32	45	6.6
Washington	5.88	32	0.00	44	0.0	4.69	3	79.8	0.00	47	0.0	1.19	13	20.2
West Virginia	8.39	6	2.66	11	31.7	4.09	5	48.7	0.41	8	4.9	1.23	12	14.6
Wisconsin	6.74	13	2.72	8	40.3	3.14	23	46.5	0.40	11	5.9	0.49	36	7.2
Wyoming	8.58	5	0.00	44	0.0	3.64	11	42.4	0.00	47	0.0	4.94	2	57.6
Mean	**6.32**		**1.84**		**29.8**	**2.95**		**48.6**	**0.31**		**4.9**	**1.23**		**16.8**
Standard Deviation	**1.71**		**1.00**			**0.96**			**0.29**			**1.75**		
Coefficient of Variation	**27.06**		**54.27**			**32.56**			**91.29**			**142.92**		
NYS Diff. from Mean	**0.38**		**1.82**		**24.7**	**(0.73)**		**(15.5)**	**0.10**		**1.3**	**(0.80)**		**(10.4)**

Source: Moody's Economy.com, U.S. Census Bureau

Table 3 - 2020 Components and Percentage of Total State Tax Burden per $100 Personal Income														
State	Total State Taxes	Rank	PIT	Rank	Percent of Total	Sales and Use	Rank	Percent of Total	Corporate	Rank	Percent of Total	Other	Rank	Percent of Total
Alabama	5.80	29	2.00	31	34.4	2.93	26	50.5	0.35	19	6.1	0.52	28	9.0
Alaska	3.01	50	0.00	44	0.0	0.56	50	18.7	0.43	10	14.3	2.01	6	67.0
Arizona	5.21	38	1.34	39	25.7	3.18	20	60.9	0.15	40	3.0	0.54	26	10.4
Arkansas	7.68	7	2.18	27	28.4	3.85	8	50.1	0.35	20	4.6	1.30	9	16.9
California	6.73	13	3.29	4	48.8	2.47	37	36.7	0.38	14	5.7	0.59	23	8.8
Colorado	4.34	44	2.12	30	48.9	1.69	45	39.0	0.20	35	4.5	0.33	44	7.6
Connecticut	7.29	8	3.24	6	44.4	2.96	24	40.6	0.82	2	11.2	0.27	46	3.8
Delaware	8.16	4	3.02	8	37.0	1.05	48	12.9	0.44	9	5.4	3.65	3	44.8
Florida	3.73	48	0.00	44	0.0	3.03	22	81.2	0.21	32	5.7	0.49	30	13.1
Georgia	4.54	43	2.23	24	49.3	1.82	42	40.1	0.19	36	4.1	0.29	45	6.5
Hawaii	9.67	2	2.96	10	30.6	6.18	1	63.9	0.05	45	0.6	0.48	32	4.9
Idaho	6.53	19	2.35	22	36.0	3.33	16	51.1	0.30	26	4.6	0.54	27	8.3
Illinois	6.00	25	2.38	20	39.7	2.74	30	45.6	0.46	7	7.7	0.42	37	7.0
Indiana	6.94	12	2.58	15	37.1	3.88	6	55.9	0.23	29	3.4	0.25	48	3.6
Iowa	6.71	14	2.49	17	37.1	3.12	21	46.5	0.39	13	5.8	0.71	17	10.6
Kansas	6.29	21	2.20	25	35.0	3.00	23	47.6	0.28	27	4.5	0.81	15	12.9
Kentucky	6.67	16	2.41	19	36.2	3.27	19	49.0	0.32	24	4.8	0.67	19	10.0
Louisiana	5.15	40	1.76	35	34.1	2.77	29	53.7	0.20	33	3.9	0.43	36	8.3
Maine	7.16	10	2.72	12	38.0	3.55	10	49.5	0.32	25	4.5	0.58	25	8.0
Maryland	6.68	15	2.99	9	44.8	2.66	33	39.8	0.37	16	5.5	0.66	20	9.8
Massachusetts	6.02	24	3.31	3	55.1	1.81	43	30.0	0.48	5	8.0	0.42	38	6.9
Michigan	5.68	31	1.83	33	32.3	2.70	31	47.6	0.17	38	2.9	0.98	13	17.3
Minnesota	8.06	5	3.27	5	40.5	3.39	14	42.1	0.48	6	6.0	0.92	14	11.4
Mississippi	7.15	11	1.64	37	23.0	4.64	3	65.0	0.37	15	5.2	0.49	31	6.8
Missouri	4.04	46	1.92	32	47.6	1.78	44	44.0	0.12	42	2.9	0.22	49	5.5
Montana	5.90	26	2.49	16	42.3	1.26	46	21.4	0.35	21	5.9	1.80	7	30.4
Nebraska	5.47	35	2.28	23	41.8	2.63	34	48.0	0.37	18	6.7	0.19	50	3.5
Nevada	5.85	27	0.00	44	0.0	4.70	2	80.3	0.00	47	0.0	1.15	11	19.7
New Hampshire	3.44	49	0.15	42	4.4	1.13	47	32.8	0.96	1	27.8	1.20	10	35.0
New Jersey	6.63	17	2.70	13	40.6	2.85	27	42.9	0.62	3	9.4	0.47	34	7.1
New Mexico	7.79	6	1.34	40	17.2	4.29	5	55.0	0.10	43	1.3	2.06	5	26.5
New York	**6.40**	**20**	**3.70**	**2**	**57.9**	**1.96**	**41**	**30.6**	**0.33**	**23**	**5.2**	**0.40**	**39**	**6.3**
North Carolina	5.58	33	2.47	18	44.2	2.53	36	45.4	0.13	41	2.3	0.45	35	8.1
North Dakota	9.28	3	0.81	41	8.7	3.35	15	36.1	0.17	37	1.9	4.95	1	53.3
Ohio	5.17	39	1.40	38	27.1	3.43	11	66.4	0.00	46	0.0	0.34	42	6.5
Oklahoma	5.37	36	1.76	34	32.7	2.42	38	45.0	0.16	39	2.9	1.04	12	19.3
Oregon	5.81	28	3.79	1	65.3	0.85	49	14.6	0.39	12	6.7	0.78	16	13.3
Pennsylvania	5.59	32	1.70	36	30.4	2.94	25	52.7	0.34	22	6.2	0.60	22	10.7
Rhode Island	6.12	22	2.14	29	35.0	3.27	18	53.5	0.37	17	6.0	0.34	41	5.6
South Carolina	5.07	41	2.19	26	43.2	2.31	39	45.6	0.22	31	4.3	0.35	40	6.9
South Dakota	4.12	45	0.00	44	0.0	3.43	12	83.2	0.08	44	1.9	0.62	21	15.0
Tennessee	4.92	42	0.02	43	0.3	3.88	7	78.8	0.44	8	9.0	0.58	24	11.9
Texas	3.90	47	0.00	44	0.0	3.41	13	87.4	0.00	47	0.0	0.49	29	12.6
Utah	5.56	34	2.38	21	42.8	2.69	32	48.5	0.23	30	4.1	0.26	47	4.6
Vermont	9.80	1	2.17	28	22.2	3.32	17	33.8	0.40	11	4.1	3.91	2	39.9
Virginia	5.75	30	3.07	7	53.4	2.06	40	35.9	0.28	28	4.9	0.34	43	5.8
Washington	6.07	23	0.00	44	0.0	4.48	4	73.8	0.00	47	0.0	1.59	8	26.2
West Virginia	7.19	9	2.58	14	35.8	3.73	9	51.9	0.20	34	2.8	0.68	18	9.5
Wisconsin	6.57	18	2.77	11	42.1	2.82	28	42.9	0.52	4	7.9	0.47	33	7.1
Wyoming	5.29	37	0.00	44	0.0	2.56	35	48.5	0.00	47	0.0	2.72	4	51.5
Mean	**6.08**		**1.96**		**31.4**	**2.89**		**48.3**	**0.29**		**5.1**	**0.93**		**15.1**
Standard Deviation	**1.46**		**1.09**			**1.04**			**0.19**			**0.98**		
Coefficient of Variation	**24.02**		**55.29**			**36.00**			**65.50**			**105.63**		
NYS Diff. from Mean	**0.32**		**1.74**		**26.4**	**(0.93)**		**(17.7)**	**0.04**		**0.1**	**(0.52)**		**(8.8)**

Source: Moody's Economy.com, U.S. Census Bureau

Table 4 - 2010 Components and Percentage of Total Local Taxes Per $100 of Personal Income											
State	Total	Rank	Property	Rank	Percent of Total	Sales	Rank	Percent of Total	Other	Rank	Percent of Total
Alabama	3.34	41	1.46	49	43.8	1.39	6	41.6	0.49	8	14.6
Alaska	4.83	14	3.48	19	72.1	1.24	9	25.7	0.10	30	2.1
Arizona	4.44	22	3.03	31	68.2	1.24	10	27.9	0.17	23	3.8
Arkansas	2.12	49	0.89	50	42.1	1.19	12	56.3	0.03	49	1.6
California	4.40	26	3.27	24	74.3	0.88	17	19.9	0.25	19	5.8
Colorado	5.48	3	3.46	20	63.0	1.76	2	32.2	0.26	17	4.8
Connecticut	4.57	18	4.51	7	98.7	0.00	49	0.0	0.06	46	1.3
Delaware	2.25	48	1.86	45	82.6	0.03	46	1.2	0.36	14	16.1
Florida	5.03	10	4.11	11	81.8	0.70	23	14.0	0.21	20	4.2
Georgia	4.66	16	3.17	28	68.0	1.38	7	29.7	0.11	29	2.3
Hawaii	3.47	37	2.52	40	72.6	0.64	26	18.6	0.31	16	8.8
Idaho	2.99	47	2.82	35	94.5	0.05	44	1.7	0.11	27	3.8
Illinois	5.36	6	4.46	8	83.2	0.77	21	14.4	0.13	26	2.4
Indiana	4.41	25	3.53	17	80.0	0.07	40	1.6	0.81	6	18.4
Iowa	4.65	17	3.78	14	81.2	0.73	22	15.7	0.15	25	3.1
Kansas	4.46	21	3.49	18	78.3	0.88	16	19.8	0.09	33	2.0
Kentucky	3.03	46	1.75	47	57.8	0.39	31	13.0	0.88	5	29.2
Louisiana	4.50	20	2.03	43	45.2	2.36	1	52.4	0.11	28	2.4
Maine	4.79	15	4.75	4	99.1	0.01	48	0.3	0.03	50	0.6
Maryland	5.04	9	3.04	30	60.3	0.23	33	4.5	1.77	1	35.2
Massachusetts	3.95	32	3.83	13	96.9	0.06	42	1.4	0.06	45	1.6
Michigan	3.86	34	3.61	16	93.4	0.08	39	2.0	0.18	22	4.6
Minnesota	3.40	39	3.19	26	94.0	0.13	37	3.7	0.08	39	2.3
Mississippi	3.07	45	2.85	33	92.9	0.12	38	4.0	0.10	32	3.1
Missouri	4.15	29	2.53	38	61.0	1.20	11	28.9	0.42	10	10.1
Montana	3.47	38	3.37	22	97.2	0.02	47	0.6	0.07	41	2.2
Nebraska	4.99	11	3.94	12	79.1	0.51	27	10.3	0.53	7	10.6
Nevada	4.44	24	3.23	25	72.8	0.87	18	19.7	0.33	15	7.5
New Hampshire	5.31	7	5.22	3	98.4	0.00	49	0.0	0.08	36	1.6
New Jersey	6.21	2	6.10	1	98.3	0.03	45	0.5	0.07	42	1.2
New Mexico	3.48	36	1.91	44	54.9	1.50	3	43.2	0.07	43	1.9
New York	**7.72**	**1**	**4.69**	**5**	**60.7**	**1.46**	**5**	**18.8**	**1.58**	**2**	**20.4**
North Carolina	3.35	40	2.59	37	77.1	0.68	25	20.4	0.08	35	2.5
North Dakota	3.29	43	2.76	36	83.8	0.47	28	14.2	0.06	44	2.0
Ohio	4.84	13	3.16	29	65.3	0.46	29	9.5	1.22	3	25.2
Oklahoma	3.33	42	1.79	46	53.7	1.50	4	45.0	0.04	48	1.3
Oregon	4.35	27	3.68	15	84.7	0.26	32	6.0	0.41	11	9.3
Pennsylvania	4.50	19	3.17	27	70.5	0.21	34	4.8	1.11	4	24.7
Rhode Island	5.43	4	5.30	2	97.6	0.05	43	1.0	0.08	38	1.5
South Carolina	4.16	28	3.34	23	80.1	0.40	30	9.7	0.42	9	10.1
South Dakota	3.94	33	2.89	32	73.3	0.97	15	24.6	0.08	37	2.1
Tennessee	3.57	35	2.33	42	65.2	1.08	13	30.2	0.16	24	4.5
Texas	5.17	8	4.29	10	83.0	0.79	20	15.4	0.08	34	1.6
Utah	3.95	31	2.83	34	71.8	1.02	14	25.7	0.10	31	2.5
Vermont	1.77	50	1.65	48	93.1	0.07	41	4.0	0.05	47	2.9
Virginia	4.44	23	3.38	21	76.0	0.70	24	15.7	0.37	12	8.4
Washington	4.00	30	2.49	41	62.3	1.25	8	31.2	0.26	18	6.5
West Virginia	3.09	44	2.52	39	81.6	0.20	35	6.5	0.37	13	11.9
Wisconsin	4.90	12	4.64	6	94.7	0.19	36	3.8	0.08	40	1.5
Wyoming	5.41	5	4.38	9	81.0	0.84	19	15.5	0.19	21	3.5
Mean	**4.23**		**3.26**		**76.8**	**0.66**		**16.1**	**0.30**		**7.0**
Standard Deviation	**1.05**		**1.06**			**0.56**			**0.38**		
CV	**24.75**		**32.36**			**85.03**			**126.61**		
NYS Diff. from Mean	**3.50**		**1.43**		**(16.1)**	**0.79**		**2.7**	**1.27**		**13.4**
Source: Moody's Economy.com, U.S. Census Bureau											
Note: "Other" includes NYC imposed taxes and other categories.											

Table 5 - 2020 Components and Percentage of Total Local Taxes Per $100 of Personal Income											
State	Total	Rank	Property	Rank	Percent of Total	Sales	Rank	Percent of Total	Other	Rank	Percent of Total
Alabama	3.19	37	1.28	49	40.0	1.55	4	48.5	0.37	11	11.5
Alaska	4.41	13	3.41	12	77.3	0.91	14	20.7	0.09	36	2.0
Arizona	3.56	32	2.23	37	62.8	1.18	9	33.3	0.14	24	3.9
Arkansas	2.10	49	0.90	50	42.7	1.17	10	55.5	0.04	49	1.8
California	4.07	19	2.89	22	70.9	0.85	17	20.8	0.34	15	8.3
Colorado	4.99	6	3.19	16	63.9	1.64	3	32.8	0.16	23	3.3
Connecticut	4.76	10	4.70	4	98.7	0.00	50	0.0	0.06	47	1.3
Delaware	2.25	48	1.86	45	82.9	0.04	45	1.6	0.35	13	15.5
Florida	3.80	26	2.86	24	75.2	0.70	23	18.5	0.24	19	6.3
Georgia	3.84	24	2.61	30	68.0	1.11	12	28.9	0.12	26	3.1
Hawaii	3.96	21	2.83	25	71.6	0.77	20	19.5	0.35	12	8.9
Idaho	2.76	46	2.57	31	92.9	0.10	39	3.7	0.09	35	3.4
Illinois	4.84	9	3.84	8	79.2	0.89	15	18.4	0.12	28	2.4
Indiana	2.97	44	2.41	35	81.1	0.07	42	2.5	0.49	8	16.4
Iowa	4.19	15	3.62	10	86.4	0.44	29	10.4	0.13	25	3.2
Kansas	3.67	30	2.77	29	75.3	0.80	19	21.7	0.11	30	3.0
Kentucky	3.06	41	1.72	47	56.1	0.40	30	13.1	0.94	5	30.8
Louisiana	4.09	17	1.87	44	45.6	2.14	1	52.3	0.08	38	2.1
Maine	5.75	2	5.69	1	99.0	0.01	48	0.2	0.05	48	0.8
Maryland	5.08	5	2.77	28	54.5	0.24	33	4.8	2.06	1	40.6
Massachusetts	3.69	29	3.52	11	95.5	0.08	40	2.3	0.08	40	2.2
Michigan	3.02	43	2.78	27	92.0	0.04	44	1.5	0.20	20	6.5
Minnesota	3.09	40	2.80	26	90.7	0.18	37	5.9	0.11	33	3.4
Mississippi	3.21	36	3.02	18	94.1	0.11	38	3.3	0.08	39	2.6
Missouri	3.91	22	2.22	39	56.8	1.29	8	32.9	0.40	9	10.3
Montana	3.14	38	3.03	17	96.5	0.03	46	1.0	0.08	42	2.5
Nebraska	4.88	8	3.82	9	78.3	0.47	27	9.7	0.59	6	12.0
Nevada	3.40	33	2.01	40	59.0	1.10	13	32.3	0.30	17	8.7
New Hampshire	5.17	4	5.05	3	97.7	0.01	49	0.2	0.11	31	2.1
New Jersey	5.66	3	5.57	2	98.3	0.02	47	0.4	0.07	44	1.3
New Mexico	3.74	28	1.98	41	52.9	1.69	2	45.2	0.07	45	1.9
New York	**7.43**	**1**	**4.34**	**6**	58.3	**1.41**	**6**	18.9	**1.69**	**2**	**22.8**
North Carolina	3.10	39	2.23	38	72.0	0.75	21	24.4	0.11	29	3.6
North Dakota	3.30	35	2.55	33	77.4	0.68	24	20.5	0.07	46	2.1
Ohio	4.51	12	2.90	21	64.4	0.45	28	10.1	1.15	4	25.5
Oklahoma	3.31	34	1.83	46	55.3	1.39	7	42.1	0.09	37	2.6
Oregon	4.08	18	3.21	15	78.8	0.31	31	7.7	0.55	7	13.5
Pennsylvania	4.32	14	2.93	19	67.8	0.21	34	4.9	1.18	3	27.3
Rhode Island	4.75	11	4.62	5	97.3	0.05	43	1.1	0.08	41	1.7
South Carolina	3.88	23	2.88	23	74.2	0.62	25	16.0	0.38	10	9.8
South Dakota	3.97	20	2.91	20	73.3	0.89	16	22.4	0.17	21	4.3
Tennessee	2.63	47	1.72	48	65.3	0.81	18	30.7	0.11	32	4.1
Texas	4.97	7	4.14	7	83.4	0.74	22	15.0	0.08	43	1.6
Utah	3.77	27	2.53	34	66.9	1.13	11	29.9	0.12	27	3.2
Vermont	2.06	50	1.96	43	94.9	0.07	41	3.6	0.03	50	1.5
Virginia	4.14	16	3.23	14	77.9	0.60	26	14.4	0.32	16	7.8
Washington	3.81	25	1.98	42	51.9	1.54	5	40.4	0.29	18	7.7
West Virginia	2.90	45	2.36	36	81.4	0.20	36	6.8	0.34	14	11.8
Wisconsin	3.56	31	3.27	13	91.6	0.20	35	5.7	0.10	34	2.7
Wyoming	3.03	42	2.56	32	84.6	0.30	32	10.0	0.17	22	5.5
Mean	**3.88**		**2.92**		**75.1**	**0.65**		**17.3**	**0.31**		**7.6**
Std. Dev.	**0.99**		**1.01**			**0.55**			**0.41**		
CV	**25.60**		**34.71**			**84.54**			**133.12**		
NYS Diff.	**3.56**		**1.42**		**(16.7)**	**0.76**		**1.6**	**1.38**		**15.1**

Source: Moody's Economy.com, U.S. Census Bureau

Note: "Other" includes NYC imposed taxes and all other categories.

Table 6a - State/Local Split of 2010 Tax-to-Income Ratio				
State	**State Taxes**	**Local Taxes**	**State/Local Total**	**Total Rank**
Alabama	5.46	3.34	8.80	46
Alaska	13.62	4.83	18.45	1
Arizona	5.07	4.44	9.51	38
Arkansas	8.28	2.12	10.40	23
California	6.95	4.40	11.35	12
Colorado	4.31	5.48	9.80	31
Connecticut	6.06	4.57	10.63	17
Delaware	7.28	2.25	9.53	37
Florida	4.46	5.03	9.48	39
Georgia	4.47	4.66	9.13	45
Hawaii	8.74	3.47	12.21	6
Idaho	6.15	2.99	9.14	44
Illinois	5.25	5.36	10.61	18
Indiana	6.36	4.41	10.77	15
Iowa	6.08	4.65	10.74	16
Kansas	5.90	4.46	10.37	24
Kentucky	6.73	3.03	9.75	34
Louisiana	5.26	4.50	9.76	33
Maine	7.16	4.79	11.96	7
Maryland	5.99	5.04	11.03	14
Massachusetts	5.97	3.95	9.92	28
Michigan	6.57	3.86	10.43	21
Minnesota	7.89	3.40	11.29	13
Mississippi	7.22	3.07	10.28	26
Missouri	4.37	4.15	8.53	48
Montana	6.28	3.47	9.75	35
Nebraska	5.32	4.99	10.31	25
Nevada	5.98	4.44	10.42	22
New Hampshire	4.12	5.31	9.42	41
New Jersey	6.40	6.21	12.60	5
New Mexico	6.41	3.48	9.89	29
New York	**6.70**	**7.72**	**14.43**	**2**
North Carolina	6.32	3.35	9.67	36
North Dakota	9.61	3.29	12.90	4
Ohio	5.70	4.84	10.54	19
Oklahoma	5.33	3.33	8.66	47
Oregon	5.42	4.35	9.77	32
Pennsylvania	5.96	4.50	10.46	20
Rhode Island	6.18	5.43	11.61	10
South Carolina	5.02	4.16	9.18	43
South Dakota	4.13	3.94	8.07	50
Tennessee	4.82	3.57	8.39	49
Texas	4.27	5.17	9.44	40
Utah	6.04	3.95	9.98	27
Vermont	10.06	1.77	11.83	8
Virginia	4.88	4.44	9.32	42
Washington	5.88	4.00	9.88	30
West Virginia	8.39	3.09	11.47	11
Wisconsin	6.74	4.90	11.64	9
Wyoming	8.58	5.41	13.99	3
Mean Values	**6.32**	**4.23**	**10.55**	
Standard Deviation	**1.71**	**1.05**	**1.73**	
Coefficient of Variation	**27.06**	**24.75**	**16.44**	
NYS Diff. from Avg.	**0.38**	**3.50**	**3.88**	
Source: Moody's Economy.com, U.S. Census Bureau				

Table 6b - State/Local Split of 2020 Tax-to-Income Ratio				
State	**State Taxes**	**Local Taxes**	**State/Local Total**	**Total Rank**
Alabama	5.80	3.19	8.99	36
Alaska	3.01	4.41	7.42	50
Arizona	5.21	3.56	8.77	39
Arkansas	7.68	2.10	9.78	26
California	6.73	4.07	10.80	14
Colorado	4.34	4.99	9.33	30
Connecticut	7.29	4.76	12.06	6
Delaware	8.16	2.25	10.41	15
Florida	3.73	3.80	7.53	49
Georgia	4.54	3.84	8.37	44
Hawaii	9.67	3.96	13.63	2
Idaho	6.53	2.76	9.29	32
Illinois	6.00	4.84	10.85	13
Indiana	6.94	2.97	9.91	22
Iowa	6.71	4.19	10.90	11
Kansas	6.29	3.67	9.97	20
Kentucky	6.67	3.06	9.73	27
Louisiana	5.15	4.09	9.25	33
Maine	7.16	5.75	12.91	3
Maryland	6.68	5.08	11.76	8
Massachusetts	6.02	3.69	9.71	28
Michigan	5.68	3.02	8.69	40
Minnesota	8.06	3.09	11.15	10
Mississippi	7.15	3.21	10.36	16
Missouri	4.04	3.91	7.95	47
Montana	5.90	3.14	9.05	35
Nebraska	5.47	4.88	10.36	17
Nevada	5.85	3.40	9.24	34
New Hampshire	3.44	5.17	8.61	43
New Jersey	6.63	5.66	12.30	5
New Mexico	7.79	3.74	11.52	9
New York	**6.40**	**7.43**	**13.83**	**1**
North Carolina	5.58	3.10	8.68	41
North Dakota	9.28	3.30	12.58	4
Ohio	5.17	4.51	9.68	29
Oklahoma	5.37	3.31	8.68	42
Oregon	5.81	4.08	9.89	24
Pennsylvania	5.59	4.32	9.91	21
Rhode Island	6.12	4.75	10.86	12
South Carolina	5.07	3.88	8.95	37
South Dakota	4.12	3.97	8.10	46
Tennessee	4.92	2.63	7.55	48
Texas	3.90	4.97	8.87	38
Utah	5.56	3.77	9.33	31
Vermont	9.80	2.06	11.87	7
Virginia	5.75	4.14	9.89	23
Washington	6.07	3.81	9.88	25
West Virginia	7.19	2.90	10.09	19
Wisconsin	6.57	3.56	10.14	18
Wyoming	5.29	3.03	8.32	45
Mean Values	**6.08**	**3.88**	**9.95**	
Standard Deviation	**1.46**	**0.99**	**1.51**	
Coefficient of Variation	**24.02**	**25.60**	**15.16**	
NYS Diff. from Avg.	**0.32**	**3.56**	**3.88**	
Source: Moody's Economy.com, U.S. Census Bureau				

State	State PIT	Local PIT	State Corporate	Local Corporate	State Sales	Local Sales	Local Property	All Other	Total State/Local
Table 7 - 2020 Ratios of Tax Collections to Personal Income by Category									
Alabama	2.00	0.07	0.35	0.00	2.93	1.55	1.28	0.82	8.99
Alaska	0.00	0.00	0.43	0.00	0.56	0.91	3.41	2.10	7.42
Arizona	1.34	0.00	0.15	0.00	3.18	1.18	2.23	0.68	8.77
Arkansas	2.18	0.00	0.35	0.00	3.85	1.17	0.90	1.34	9.78
California	3.29	0.00	0.38	0.00	2.47	0.85	2.89	0.93	10.80
Colorado	2.12	0.00	0.20	0.00	1.69	1.64	3.19	0.50	9.33
Connecticut	3.24	0.00	0.82	0.00	2.96	0.00	4.70	0.34	12.06
Delaware	3.02	0.11	0.44	0.01	1.05	0.04	1.86	3.88	10.41
Florida	0.00	0.00	0.21	0.00	3.03	0.70	2.86	0.73	7.53
Georgia	2.23	0.00	0.19	0.00	1.82	1.11	2.61	0.41	8.37
Hawaii	2.96	0.00	0.05	0.00	6.18	0.77	2.83	0.83	13.63
Idaho	2.35	0.00	0.30	0.00	3.33	0.10	2.57	0.64	9.29
Illinois	2.38	0.00	0.46	0.00	2.74	0.89	3.84	0.54	10.85
Indiana	2.58	0.40	0.23	0.00	3.88	0.07	2.41	0.34	9.91
Iowa	2.49	0.07	0.39	0.00	3.12	0.44	3.62	0.77	10.90
Kansas	2.20	0.00	0.28	0.00	3.00	0.80	2.77	0.92	9.97
Kentucky	2.41	0.80	0.32	0.08	3.27	0.40	1.72	0.73	9.73
Louisiana	1.76	0.00	0.20	0.00	2.77	2.14	1.87	0.51	9.25
Maine	2.72	0.00	0.32	0.00	3.55	0.01	5.69	0.62	12.91
Maryland	2.99	1.77	0.37	0.00	2.66	0.24	2.77	0.95	11.76
Massachusetts	3.31	0.00	0.48	0.00	1.81	0.08	3.52	0.50	9.71
Michigan	1.83	0.12	0.17	0.00	2.70	0.04	2.78	1.06	8.69
Minnesota	3.27	0.00	0.48	0.00	3.39	0.18	2.80	1.03	11.15
Mississippi	1.64	0.00	0.37	0.00	4.64	0.11	3.02	0.57	10.36
Missouri	1.92	0.14	0.12	0.03	1.78	1.29	2.22	0.46	7.95
Montana	2.49	0.00	0.35	0.00	1.26	0.03	3.03	1.88	9.05
Nebraska	2.28	0.00	0.37	0.00	2.63	0.47	3.82	0.78	10.36
Nevada	0.00	0.00	0.00	0.00	4.70	1.10	2.01	1.44	9.24
New Hampshire	0.15	0.00	0.96	0.00	1.13	0.01	5.05	1.31	8.61
New Jersey	2.70	0.00	0.62	0.00	2.85	0.02	5.57	0.54	12.30
New Mexico	1.34	0.00	0.10	0.00	4.29	1.69	1.98	2.13	11.52
New York	**3.70**	**0.99**	**0.33**	**0.45**	**1.96**	**1.41**	**4.34**	**0.66**	**13.83**
North Carolina	2.47	0.00	0.13	0.00	2.53	0.75	2.23	0.57	8.68
North Dakota	0.81	0.00	0.17	0.00	3.35	0.68	2.55	5.02	12.58
Ohio	1.40	1.01	0.00	0.05	3.43	0.45	2.90	0.42	9.68
Oklahoma	1.76	0.00	0.16	0.00	2.42	1.39	1.83	1.12	8.68
Oregon	3.79	0.00	0.39	0.05	0.85	0.31	3.21	1.28	9.89
Pennsylvania	1.70	0.81	0.34	0.08	2.94	0.21	2.93	0.88	9.91
Rhode Island	2.14	0.00	0.37	0.00	3.27	0.05	4.62	0.42	10.86
South Carolina	2.19	0.00	0.22	0.00	2.31	0.62	2.88	0.73	8.95
South Dakota	0.00	0.00	0.08	0.00	3.43	0.89	2.91	0.79	8.10
Tennessee	0.02	0.00	0.44	0.00	3.88	0.81	1.72	0.69	7.55
Texas	0.00	0.00	0.00	0.00	3.41	0.74	4.14	0.57	8.87
Utah	2.38	0.00	0.23	0.00	2.69	1.13	2.53	0.38	9.33
Vermont	2.17	0.00	0.40	0.00	3.32	0.07	1.96	3.94	11.87
Virginia	3.07	0.00	0.28	0.00	2.06	0.60	3.23	0.66	9.89
Washington	0.00	0.00	0.00	0.00	4.48	1.54	1.98	1.88	9.88
West Virginia	2.58	0.00	0.20	0.00	3.73	0.20	2.36	1.03	10.09
Wisconsin	2.77	0.00	0.52	0.00	2.82	0.20	3.27	0.56	10.14
Wyoming	0.00	0.00	0.00	0.00	2.56	0.30	2.56	2.89	8.32
Mean Values	**1.96**	**0.13**	**0.29**	**0.01**	**2.89**	**0.65**	**2.92**	**1.10**	**9.95**
Standard Deviation	**1.09**	**0.34**	**0.19**	**0.06**	**1.04**	**0.55**	**1.01**	**0.96**	**1.51**
Coefficient of Variation	**55.29**	**272.55**	**65.50**	**431.79**	**36.00**	**84.54**	**34.71**	**88.00**	**15.16**
NYS Diff. from Avg.	**1.74**	**0.86**	**0.04**	**0.43**	**(0.93)**	**0.76**	**1.42**	**(0.44)**	**3.88**

Source: Moody's Economy.com, U.S. Census Bureau

Table 8a - State Tax Burdens as a Percent of Personal Inome, 1977 - 2020					
Year	Mean	NYS	Standard Deviation	Coefficient of Variation	NY Difference from U.S. National Average
1977	7.07	7.69	1.47	20.81	0.62
1978	7.14	7.25	1.29	18.06	0.11
1979	7.12	7.07	1.66	23.28	(0.05)
1980	7.09	7.06	2.81	39.67	(0.03)
1981	7.20	6.92	4.22	58.62	(0.28)
1982	7.06	6.89	4.06	57.44	(0.18)
1983	6.75	6.64	2.57	38.04	(0.11)
1984	7.19	7.17	2.29	31.82	(0.02)
1985	7.06	7.14	2.06	29.14	0.08
1986	6.91	7.33	1.85	26.84	0.42
77-86 avg.	**7.06**	**7.11**	**2.43**	**34.37**	**0.06**
1987	6.86	7.44	1.28	18.69	0.59
1988	7.05	7.41	1.39	19.72	0.35
1989	7.05	6.86	1.46	20.69	(0.19)
1990	6.89	6.85	1.45	20.99	(0.04)
1991	6.80	6.35	1.58	23.25	(0.45)
1992	6.93	6.75	1.32	19.03	(0.17)
1993	7.03	6.60	1.58	22.48	(0.43)
1994	6.98	6.84	1.19	17.10	(0.14)
1995	7.09	6.84	1.37	19.31	(0.25)
1996	6.99	6.45	1.29	18.49	(0.54)
87-96 avg.	**6.97**	**6.84**	**1.39**	**19.97**	**(0.13)**
1997	7.01	6.23	1.31	18.64	(0.78)
1998	7.00	6.11	1.28	18.24	(0.89)
1999	6.87	6.16	1.32	19.19	(0.71)
2000	7.08	6.27	1.23	17.33	(0.81)
2001	6.80	6.25	1.20	17.59	(0.55)
2002	6.30	5.81	1.10	17.44	(0.49)
2003	6.35	5.70	1.09	17.09	(0.65)
2004	6.60	6.09	1.14	17.32	(0.51)
2005	6.90	6.50	1.34	19.45	(0.40)
2006	7.19	6.98	1.47	20.50	(0.21)
97-06 avg.	**6.81**	**6.21**	**1.25**	**18.28**	**(0.60)**
2007	7.16	7.10	1.61	22.53	(0.07)
2008	7.29	6.77	3.43	47.01	(0.51)
2009	6.33	6.59	1.87	29.59	0.27
2010	6.32	6.70	1.73	27.34	0.38
2011	6.55	6.81	1.93	29.39	0.26
2012	6.62	6.80	2.30	34.68	0.18
2013	6.54	6.66	1.86	28.42	0.12
2014	6.54	6.88	1.81	27.68	0.35
2015	6.40	6.71	1.69	26.35	0.30
2016	6.11	6.69	1.48	24.26	0.58
07-16 avg.	**6.59**	**6.77**	**1.97**	**29.72**	**0.19**
2017	6.14	6.33	1.41	22.90	0.19
2018	6.41	6.48	1.48	23.04	0.07
2019	6.54	6.15	1.61	24.56	(0.39)
2020	6.08	6.40	1.47	24.26	0.32

Source: Moody's Economy.com, U.S. Census Bureau

Table 8b - State/Local Tax Burdens as a Pct. of Personal Income, 1977 - 2020					
Year	Mean	NYS	Standard Deviation	Coefficient of Variation	NY Difference from U.S. National Average
1977	11.39	16.10	1.63	14.32	4.72
1978	11.37	15.39	1.46	12.87	4.02
1979	11.15	14.70	1.73	15.56	3.55
1980	10.95	14.57	2.89	26.39	3.62
1981	11.01	14.23	4.23	38.45	3.22
1982	10.76	14.02	4.15	38.57	3.27
1983	10.49	13.69	2.72	25.90	3.20
1984	11.01	14.39	2.48	22.55	3.38
1985	10.84	14.31	2.34	21.61	3.46
1986	10.71	14.53	2.15	20.08	3.82
77-86 avg.	**10.11**	**13.88**	**2.59**	**25.68**	**3.77**
1987	10.79	14.91	1.47	13.59	4.12
1988	11.04	14.87	1.52	13.73	3.82
1989	11.04	14.14	1.49	13.48	3.10
1990	10.87	14.07	1.46	13.47	3.20
1991	10.78	13.52	1.56	14.51	2.74
1992	10.95	14.35	1.34	12.20	3.40
1993	11.07	14.17	1.64	14.79	3.10
1994	11.07	14.40	1.10	9.91	3.32
1995	11.17	14.23	1.27	11.40	3.07
1996	10.98	13.69	1.08	9.88	2.72
87-96 avg.	**10.48**	**14.13**	**1.48**	**14.13**	**3.65**
1997	10.97	13.49	1.14	10.38	2.52
1998	10.95	13.26	1.11	10.10	2.30
1999	10.67	13.08	1.03	9.66	2.41
2000	10.86	13.05	1.04	9.55	2.19
2001	10.51	12.57	1.04	9.87	2.06
2002	10.05	11.94	0.94	9.35	1.89
2003	10.26	12.54	0.97	9.45	2.28
2004	10.58	13.49	1.06	10.05	2.91
2005	10.90	14.16	1.22	11.23	3.26
2006	11.26	14.97	1.38	12.29	3.71
97-06 avg.	**10.43**	**13.53**	**1.10**	**10.49**	**3.10**
2007	11.20	15.06	1.57	14.05	3.86
2008	11.30	14.34	3.44	30.46	3.04
2009	10.38	13.91	1.90	18.34	3.53
2010	10.55	14.43	1.75	16.61	3.88
2011	10.67	14.56	1.92	17.99	3.89
2012	10.54	14.48	2.28	21.59	3.94
2013	10.37	14.41	1.81	17.42	4.04
2014	10.45	14.98	1.76	16.80	4.54
2015	10.27	14.78	1.63	15.86	4.52
2016	9.95	14.61	1.48	14.91	4.66
07-16 avg.	**10.57**	**14.56**	**1.95**	**18.40**	**3.99**
2017	10.07	14.14	1.39	13.82	4.06
2018	10.33	14.18	1.48	14.32	3.85
2019	10.47	13.83	1.57	15.04	3.36
2020	9.95	13.83	1.52	15.32	3.88

Source: Moody's Economy.com, U.S. Census Bureau

GLOSSARY OF ACRONYMS

ABT	Alcoholic Beverage Taxes
AFC	Automotive Fuel Carrier
AGI	Adjusted Gross Income
ART	Auto Rental Tax
BCP	Brownfield Cleanup Program
BCP-EZ	Expedited Brownfield Cleanup Program
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
CARES	Coronavirus Aid, Relief, and Economic Security
CBO	Congressional Budget Office
CDC	Centers for Disease Control and Prevention
CES	Current Employment Statistics
CFT	Corporation Franchise Tax
CPFF	Commercial Paper Funding Facility
CPI	Consumer Price Index
CPI-U	Consumer Price Index for All Urban Consumers
CUNY	City University of New York
CUT	Corporation and Utilities Tax
CV	Coefficient of Variation
CWCA	Clean Water/Clean Air
CY	Calendar Year
DCJS	Division of Criminal Justice Services
DFS	Department of Financial Services
DHBTF	Dedicated Highway Bridge and Trust Fund
DHCR	Division of Housing and Community Renewal
DOB	Division of the Budget
DOH	Department of Health
DOL	Department of Labor
DTF	Department of Taxation and Finance
EB	Extended Benefits
ECEP	Employer Compensation Expense Program
ENI	Entire Net Income
EPF	Environmental Protection Fund
EPU	Economic Policy Uncertainty
ESCO	Energy Service Companies
ETIP	Employee Training Incentive Program
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FFY	Federal Fiscal Year (October 1 to September 30)
FOMC	Federal Open Market Committee
FY	Fiscal Year
FYE	Fiscal Year Ending
GDP	Gross Domestic Product
HCRA	Health Care Reform Act
HUT	Highway Use Tax
HUTAA	Highway Use Tax Administration Account
IFS	Interactive Fantasy Sports
IFTA	International Fuel Tax Agreement
IMF	International Monetary Fund
IPO	Initial Public Offering
IPP	Intellectual Property Products
IRS	Internal Revenue Service
LATAs	Local Access Transport Areas
LGAC	Local Government Assistance Corporation
LIHC	Low Income Housing Credit
M&A	Mergers & Acquisitions
MBS	Mortgage Backed Security
MCTD	Metropolitan Commuter Transportation District
MCTF	Medical Cannabis Trust Fund
MLF	Municipal Liquidity Facility
MME	Morphine Milligram Equivalent
MMMFLF	Money Market Mutual Fund Liquidity Facility
MSA	Metropolitan Statistical Area
MSLP	Main Street Lending Program
MTA	Metropolitan Transportation Authority
MTOAF	Metropolitan Transit Operating Assistance Fund
NAFTA	North American Free Trade Agreement
NAICS	North American Industry Classification System
NBER	National Bureau of Economic Research
NIPA	National Income and Product Accounts
NMI	Net Machine Income
NYC	New York City
NYS	New York State
NYSE	New York Stock Exchange
OASAS	Office of Addiction Services and Supports
OPEC+	The Organization of the Petroleum Exporting Countries
OTB	Off-Track Betting
P/E	Price-to-Earnings
PBT	Petroleum Business Tax
PCE	Personal Consumption Expenditures
PDCF	Primary Dealer Credit Facility
PEUC	Pandemic Emergency Unemployment Compensation
PIT	Personal Income Tax
PMCCF	Primary Market Corporate Credit Facility
PMI	Purchasing Managers Index
PMT	Pari-Mutuel Tax
PPI	Producer Price Index
PPPLF	Paycheck Protection Program Liquidity Facility
PST	Professional, Scientific, and Technical Services
PTSOA	Public Transportation Systems Operating Assistance Fund

PUA	Pandemic Unemployment Assistance
PUC	Pandemic Unemployment Compensation
QCEW	Quarterly Census of Employment and Wages
QETC	Qualified Emerging Technology Companies
RBTF	Revenue Bond Tax Fund
REIT	Real Estate Investment Trust
RETT	Real Estate Transfer Taxes
RIC	Regulated Investment Company
SALT	State and Local Tax
SFY	State Fiscal Year (April 1 through March 31)
SLA	State Liquor Authority
SMCCF	Secondary Market Corporate Credit Facilities
STAR	School Tax Relief
STBF	Sales Tax Bond Fund
SUNY	State University of New York
TALF	Term Asset-Backed Securities Loan Facility
TCJA	Tax Cuts and Jobs Act of 2017
TMT	Truck Mileage Tax
TSC	Tribal State Compact
TY	Tax Year (January 1 through December 31)
U.S.	United States
U-3	Headline Unemployment Rate
U-6	Underemployment Rate
UI	Unemployment Insurance
UII	Unemployment Insurance Income
USD	United States Dollar
USMCA	United States-Mexico-Canada Agreement
VIX	Volatility Index
VLG	Video Lottery Gaming
VLT	Video Lottery Terminal