



The Commonwealth of Massachusetts Bond Financing Programs

May 17th, 2024
Commonwealth Credit Review





Replay Information

Please note that a replay of the investor broadcast associated with the following slides is available. The replay can be accessed by following the link below and will remain available until May 17th, 2025.

<http://munios.com/live/MACommonwealthMay>

The full slide deck for this call is found in the pages below. These slides as well as those of prior investor calls may also be accessed by visiting the Investor and Rating Agency Presentation Archive on the Commonwealth's investor website at:

www.massbondholder.com

For audio, participants are asked to dial in using the following information:

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Passcode: 159849

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TREASURER

Deborah B. Goldberg



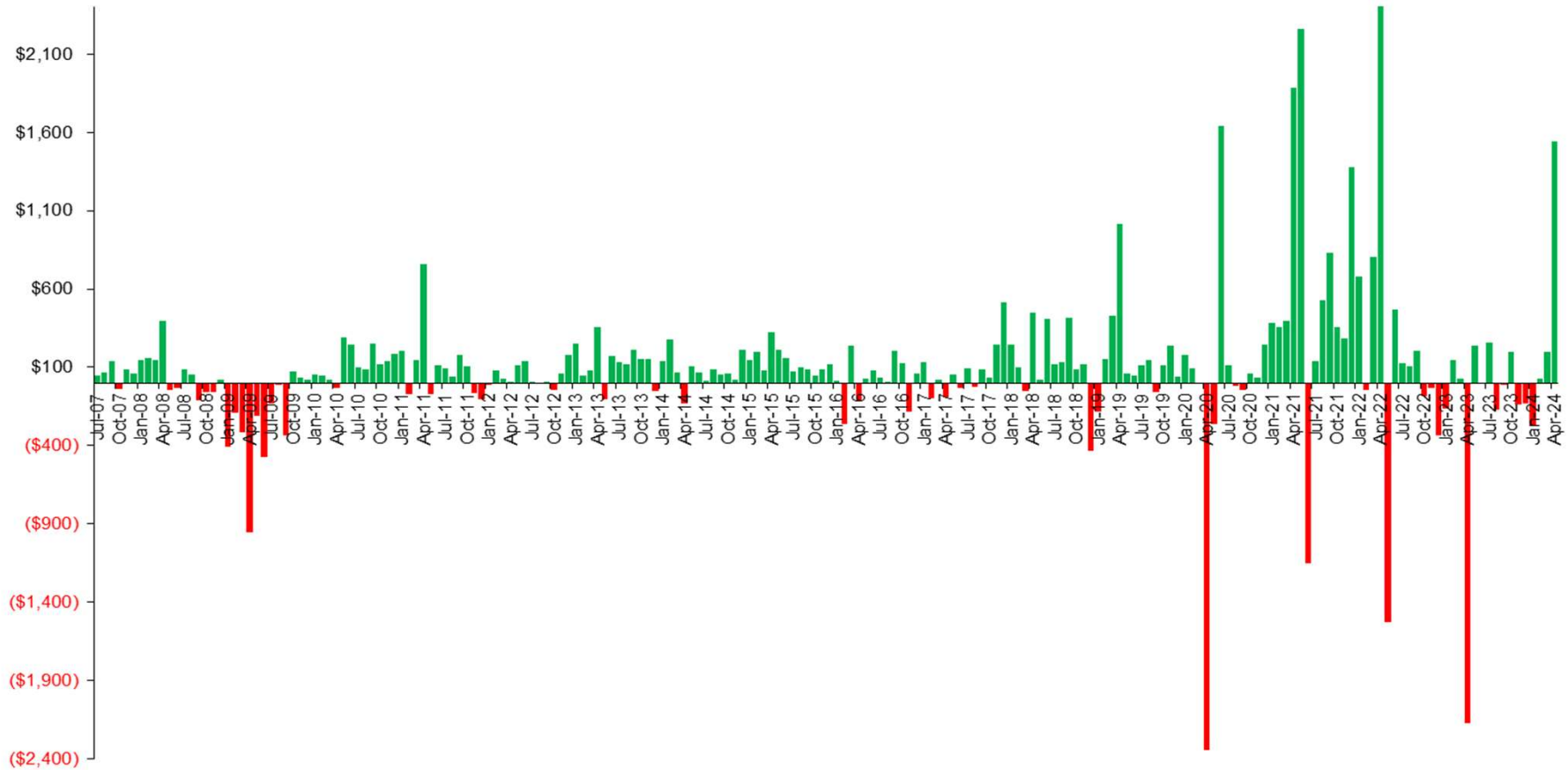
DEPARTMENT OF REVENUE

Dr. Kazim P. Özyurt

Chief Economist, Director

Office of Tax Policy & Analysis

Monthly year-over-year changes in collections - July 2007-April 2024

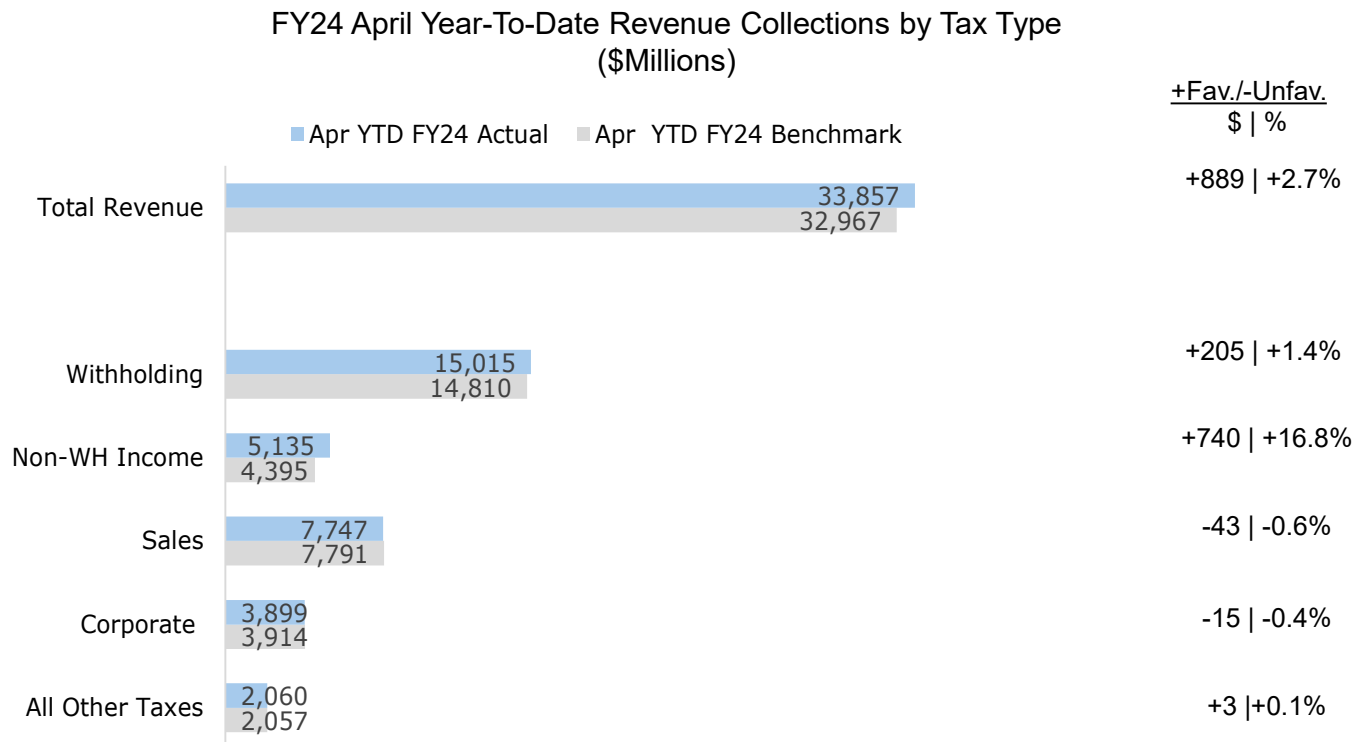


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Fiscal Year 2024 Year-to-Date Collections vs. Fiscal Year 2024 Year-to-Date Benchmark



Year-to-date collections through April 2024 totaled \$33.857 billion, \$889 million above the year-to-date benchmark.

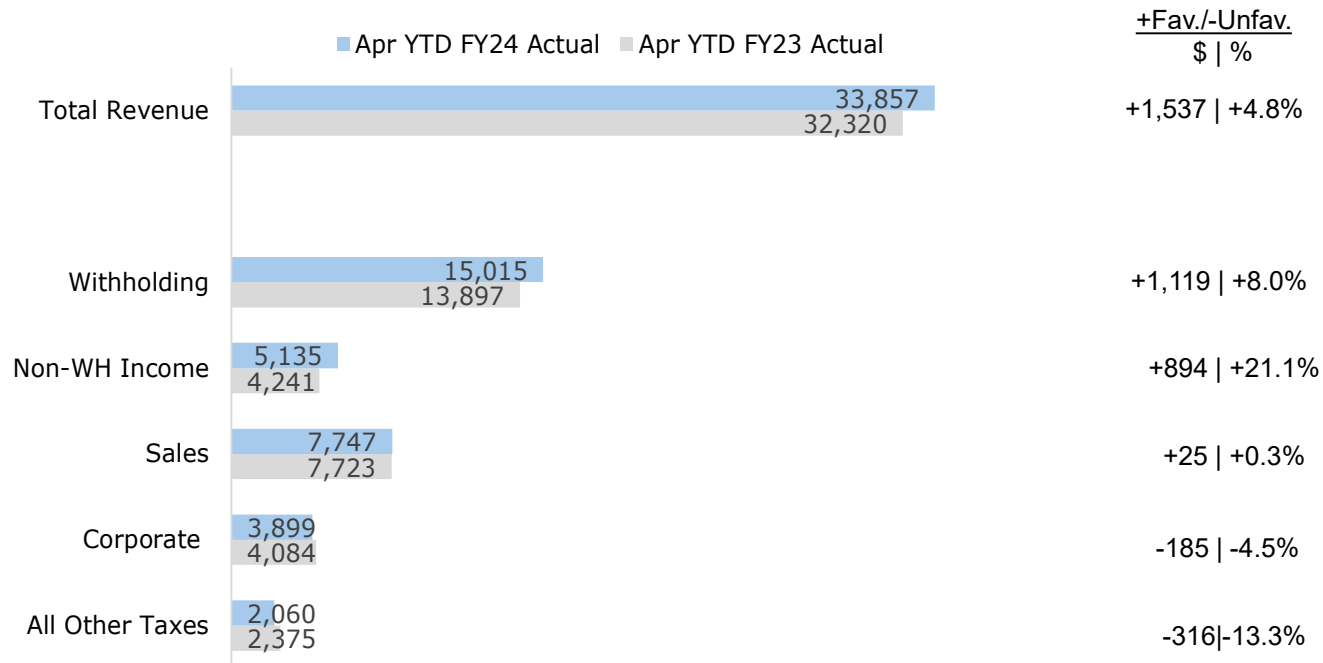


Fiscal Year 2024 Year-to-Date Collections vs. Fiscal Year 2023 Year-to-Date Benchmark



Year-to-date collections through April 2024 totaled \$33.857 billion, \$1.537 billion above year-to-date collections in fiscal year 2023.

FY24 April Year-To-Date Revenue Collections by Tax Type (\$Millions)





PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION

John Boorack
Actuary

Commonwealth Membership



| Number of Members | State | Massachusetts Teachers | Boston Teachers | Total |
|-------------------------------------|--------------------|------------------------|------------------|---------------------|
| Active | 87,554 | 101,286 | 6,618 | 195,458 |
| Vested Terminated | 5,221 | N/A | 494 | 5,715 |
| Non-Vested Terminated | 29,372 | N/A | 3,179 | 32,551 |
| Retired/Beneficiaries | 69,167 | 70,769 | 4,789 | 144,725 |
| Total | 191,314 | 172,055 | 15,080 | 378,449 |
| Total Payroll (in thousands) | \$7,088,063 | \$8,371,450 | \$681,934 | \$16,141,447 |

Funding Schedule



- Prior to 1990, pay as you go
- Original schedule 40 years (to 2028)
- Schedule updated at least every 3 years
- In good times, schedule reduced (to 2018); later extended to 2023 then 2025
- In wake of 2008 loss, schedule extended to 2040
- Latest funding schedule adopted in January 2023 (based on valuation as of January 2022)
 - Appropriation increases 9.63% each year until fiscal 2028, with the remaining UAL thereafter amortized on a 4.0% annual increasing basis until fiscal 2036
- Next schedule to be adopted in early 2026 and based on results of January 2025 valuation

Current Funding Schedule for Pension Obligations (in thousands)

| Fiscal Year | Payments | Fiscal Year | Payments |
|-------------|-------------|-------------|-------------|
| 2024 | \$4,104,583 | 2031 | \$6,742,157 |
| 2025 | 4,499,855 | 2032 | 7,011,843 |
| 2026 | 4,933,191 | 2033 | 7,292,316 |
| 2027 | 5,408,257 | 2034 | 7,584,009 |
| 2028 | 5,929,072 | 2035 | 7,887,369 |
| 2029 | 6,233,503 | 2036 | 8,202,864 |
| 2030 | 6,482,843 | 2037 | 1,656,723 |

Commonwealth Actuarial Valuation Results (in millions)



- January 1, 2023 report
 - Available on the website www.mass.gov/perac

| Dollars in millions | 1/1/2021 | 1/1/2022 | 1/1/2023 |
|--|---------------|---------------|---------------|
| Total Normal Cost | \$2,226 | \$2,244 | \$2,411 |
| Employee Contributions | <u>1,455</u> | <u>1,477</u> | <u>1,594</u> |
| Net Normal Cost | \$771 | \$767 | \$817 |
| Total Expenses & Transfers | <u>118</u> | <u>127</u> | <u>144</u> |
| Net Normal Cost Plus Expenses & Transfers | \$889 | \$894 | \$961 |
| Actuarial Liability | \$108,982 | \$112,195 | \$116,211 |
| Assets (Actuarial Value) | <u>63,407</u> | <u>72,168</u> | <u>73,831</u> |
| Unfunded Actuarial Liability (UAL) | \$45,575 | \$40,027 | \$42,380 |
| Funded Ratio | 58.2% | 64.3% | 63.5% |
| Increase in UAL due to change in Assumptions and Plan Provisions | \$2,087 | \$23 | \$231 |

The January 1, 2021 actuarial valuation reflected a decrease in the investment return assumption from 7.25% to 7.00% which increased the UAL by \$2.85 billion. The base mortality table for the Teachers was updated to the SOA Pub-2010 Teachers (Headcount weighted) mortality table and the mortality improvement scale was updated to Scale MP-2020 for all plans. These changes in the mortality assumptions decreased the UAL by \$760 million.

The January 1, 2022 actuarial valuation maintained the investment return assumption at 7.00%. There was no change in the mortality assumption. A change in the COLA base for Boston Teachers increased the UAL by \$22.5 million.

The January 1, 2023 actuarial valuation maintained the investment return assumption at 7.00%. The mortality improvement scale was update to MP-2021 for all plans which increased the UAL by \$231 million.

Total expenses and transfers reflect amounts to reimburse the trust fund for items paid from the fund. See page 3 of the valuation report for further detail.

Actuarial Assumptions



- Investment Return

- Reduced seven times in recent years:

| | |
|------|--------------------------|
| 2013 | 8.00% (previously 8.25%) |
| 2015 | 7.75% |
| 2016 | 7.50% |
| 2018 | 7.35% |
| 2019 | 7.25% |
| 2020 | 7.15% * |
| 2021 | 7.00% |

- * Recommendation was made to reduce assumption in 2020 prior to the decision to forgo the January 1, 2020 actuarial valuation due to the COVID pandemic.

- Reduced assumption in 2021

- Reduction in results of PRIM long-term expected return (from 7.3% to 6.8%)

- NASRA most recent study of large public plans – 7.18%

- Nationally, plans continue to reduce this assumption

- More reliance on short-term expectation (from 6.2% to 5.8%)

- Assumption is reviewed every year

- Assumption maintained at 7.00% since the 2021 actuarial valuation

Actuarial Assumptions



- Mortality
 - Adopted fully generational assumption in 2015 valuation
 - Reflects future mortality improvement (longer life expectancy)
 - 2-dimensional table (age and calendar year)
 - Updated assumptions in 2023
 - State reflects RP-2014 table (blue collar)
 - Teachers' reflects SOA Pub-2010 Teachers (headcount)
 - Mortality improvement scale updated to MP-2021

Other assumptions determined by experience studies

- State and Teachers' studies released in 2014
- Next study expected to begin this year



EXECUTIVE OFFICE FOR ADMINISTRATION & FINANCE (A&F)

Matthew Gorzkowicz

Secretary

Kaitlyn Connors

Assistant Secretary for Capital

John Caljouw

Finance Director

Fiscal Year 2024 Operating Budget



Fiscal Year 2024 Approved Operating Budget

- The fiscal year 2024 budget was approved by the Governor on August 9, 2023. It provides for approximately **\$55.9 billion** in authorized spending, including projected transfers to the Medical Assistance Trust Fund and accounts for a reduction of approximately **\$580 million** of tax revenue related to subsequently enacted tax relief legislation that was signed into law on October 4, 2023.
- The fiscal 2024 budget was approximately **5.1%** greater than fiscal 2023 estimated spending levels at the time of the Governor's approval.
- The fiscal 2024 budget as approved by the Governor incorporates a **\$41.41 billion** tax revenue forecast, which reflects the consensus tax revenue estimate of **\$40.41 billion** and the **\$1.0 billion** estimate of revenue from the new 4% surtax on personal income above \$1 million.
- The budget includes a new Education and Transportation Fund that will segregate all surtax revenue from the General Fund and ensure that it is only invested in education and transportation, as intended by the ballot initiative.

Fiscal Year 2024 Operating Budget (Continued)



Emergency Assistance

- On August 8, 2023, Governor Healey declared a state of emergency in Massachusetts due to rapidly rising numbers of families, including newly arriving immigrants and refugees, seeking emergency shelter and supportive services in Massachusetts.
- In October 2023, the Governor announced that Massachusetts could not safely expand its shelter capacity beyond 7,500 families.
- To date, the Governor has approved two supplemental appropriations to support the emergency shelter program and associated services.
 - On December 4, 2023, the Governor approved **\$260 million** in supplemental appropriations which included **\$10 million** for resettlement agencies.
 - On April 30, 2024, the Governor approved an additional **\$426 million** in supplemental appropriations to continue ongoing emergency shelter support of which **\$251 million** is intended to support services through the end of fiscal 2024, with the remaining **\$175 million** set aside for fiscal 2025, if needed.
 - The **\$175 million** of fiscal 2025 support would be in addition to funds included in the proposed fiscal 2025 budget and would only be used if the Secretary of Administration and Finance issued a written determination that the supplemental funds are necessary.
- On April 30, 2024, the Governor also approved a new law that limits how long families can live in emergency shelters to nine months, with certain exceptions.

Fiscal Year 2024 Operating Budget Mid-Year Corrections



Mid-Year Budget Balancing Measures

- Fiscal year 2024 year-to-date collections through December 31, 2023, totaled approximately **\$17.9 billion**, which is **\$60 million** or **0.3%** more than collections in the same period of FY2023, but **\$769 million** or **4.1%** less than the year-to-date benchmark.
- On January 8, 2024, the Administration announced that tax revenue projections for fiscal 2024 are being adjusted down to **\$39.410 billion** (excluding estimated surtax revenues, the projection of which remains unchanged). This revision of the fiscal 2024 tax revenue estimate reflects a decrease of **\$1.0 billion** from the prior estimate of **\$40.410 billion** based on actual below benchmark performance, exclusive of the \$1.0 billion in surtax revenues. This represents a **2.4%** decrease compared with existing 2024 benchmarks.
- On January 8, 2024, consistent with this revised projection, the Governor reduced fiscal year 2024 spending pursuant to Section 9C authority by **\$375 million**. The Governor also identified additional revenue solutions (non-tax) worth **\$625 million**, including higher than projected interest collections and departmental revenues.
- The Administration will continue to monitor actual and forecasted spending and revenues and will undertake budget-balancing measures to achieve fiscal balance as needed.

Fiscal Year 2025 Consensus Revenue



Consensus Revenue Estimates for Fiscal Year 2025

- On January 8, 2024, a fiscal 2025 consensus tax revenue estimate of **\$40.202 billion**, as well as a **\$1.3 billion** estimate of revenue from the 4% surtax on personal income above the surtax threshold of \$1 million (adjusted for inflation annually in each tax year after 2023), were agreed upon by the Secretary of Administration and the chairs of the House and Senate Committees on Ways and Means.
- The fiscal 2025 consensus tax revenue estimate of **\$40.202 billion** (excluding estimated income surtax revenues) represents revenue growth of **2%** above the revised fiscal 2024 estimate of **\$39.410 billion**.
- The estimated **\$1.3 billion** of additional surtax revenue will be available in fiscal 2025 to support additional spending on education and transportation initiatives.
- After accounting for statutorily required transfers for pensions, and to the MBTA, the MSBA and the Workforce Training Fund, the Secretary and Committee chairs agreed that **\$32.904 billion** (exclusive of the expected additional income surtax revenue) would be the maximum amount of tax revenue available for the fiscal 2025 budget.

Fiscal Year 2025 Proposed Operating Budget



Fiscal Year 2025 Proposed Operating Budget

- On January 24, 2024, the Governor filed her fiscal 2025 budget recommendation, providing for a total of **\$56.1 billion** in authorized spending, excluding projected transfers to the Medical Assistance Trust Fund. This represents an increase of 2.9% above the fiscal 2024 budget, excluding new investments supported by income surtax revenue.
- The Governor's budget recommendation has been filed with the Legislature for consideration in accordance with the Commonwealth's annual budgeting process.
- The House of Representatives approved its version of the budget on April 26, 2024, and the Senate Ways & Means Committee released its version on May 7, 2024.
- The differences between the House and Senate versions are generally reconciled by a legislative conference committee during the month of June, so that a final version can be enacted by the Legislature and sent to the Governor for approval prior to the start of the new fiscal year on July 1.
- It is not unusual for the budget process to extend slightly into the next fiscal year, with final enactment of the budget typically occurring in July. Interim budgets are typically enacted to provide funding after the end of the fiscal year until the full budget can be enacted and approved by the Governor.



OFFICE OF THE STATE TREASURER

Debt/Capital Presentation

Sue Perez
Deputy Treasurer

Bond Sale Calendar – 2024*



| Timing | Par Amount | Type | Credit | Method of Sale |
|--|---------------|---------------------|-------------------|----------------|
| Q2 2024 | | | | |
| ▪ June 4 th & 5 th | \$705 million | New Money/Refunding | GO (Tax Exempt) | Negotiated |
| Q3 2024 | | | | |
| ▪ August | \$850 million | New Money | GO (Tax Exempt) | Competitive |
| ▪ August | 100 million | New Money | GO (Taxable) | Competitive |
| ▪ September | 275 million | New Money | CTF (Tax Exempt) | Negotiated |
| ▪ September | 50 million | New Money | GANS (Tax Exempt) | Negotiated |
| Q4 2024 | | | | |
| ▪ Nov/Dec | \$850 million | New Money | GO (Tax Exempt) | TBD |

* Preliminary, subject to change.

Socioeconomic Indicators Report



The latest edition of our Socioeconomic Indicators Report was published in March. The edition includes four sections: **Economy**, **Workforce**, **Environment** and **Residents**. Each section paints a picture on Massachusetts providing a story along with economic data on a multitude of topics.



Highlights from this Edition

- **Employment Growth in Scientific Research and Development**
- **GDP Growth by Quarter**
- **Telework**
- **Job Recovery Rates**
- **State Population Trends**
- **Net Migration Trends to Massachusetts**
- **Real Per Capita Personal Income in Massachusetts, US and New England**
- **Environment - Climate Change**
- **Housing Tenure in Massachusetts by Race and Ethnicity**



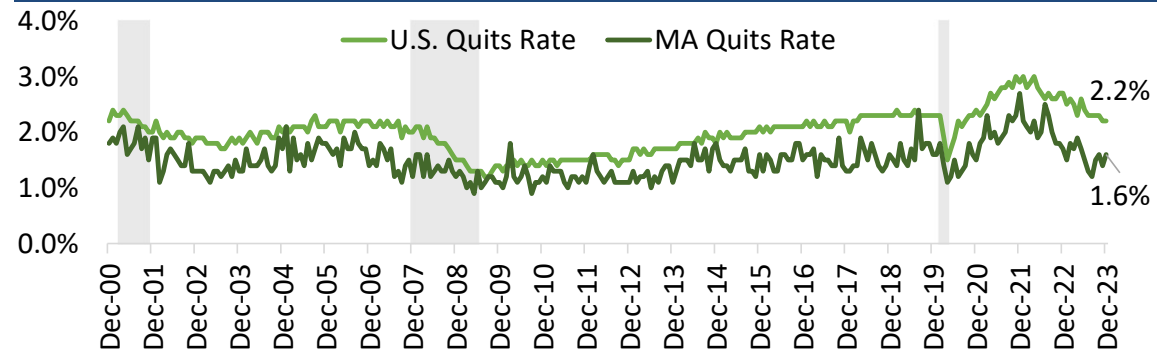
Job Quit Rates and Rate of Telework



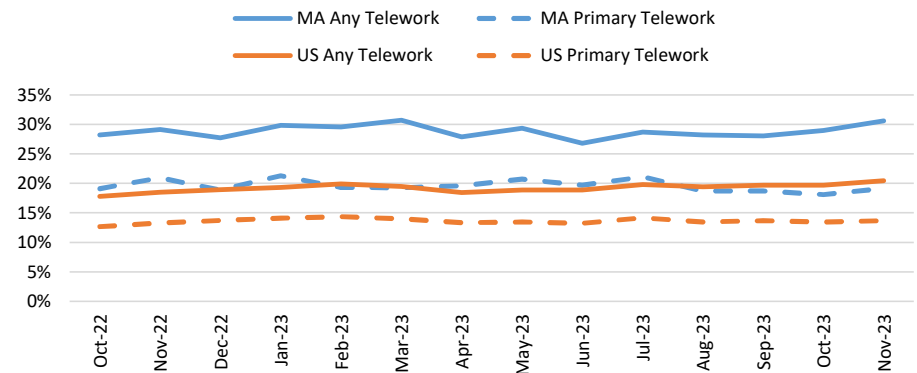
Key Takeaways

- The spike in voluntary job changes has subsided and the monthly quit rate for Massachusetts and the U.S have returned to pre-pandemic rates.
- Massachusetts has higher rates of teleworking than the nation. Over 30 percent of workers in Massachusetts are working remotely at least part of the time and nearly 20 percent are working from home primarily.
- The American Community Survey data estimated in 2019 less than 6 percent of working adults worked from home. Comparing this to current levels, telework, remote work, hybrid work, and flexible schedules are unlikely to return to pre-pandemic levels.

Job quits rate in Massachusetts and United States, December 2000-December 2023



Rate of Telework in Massachusetts and United States 2022-2023



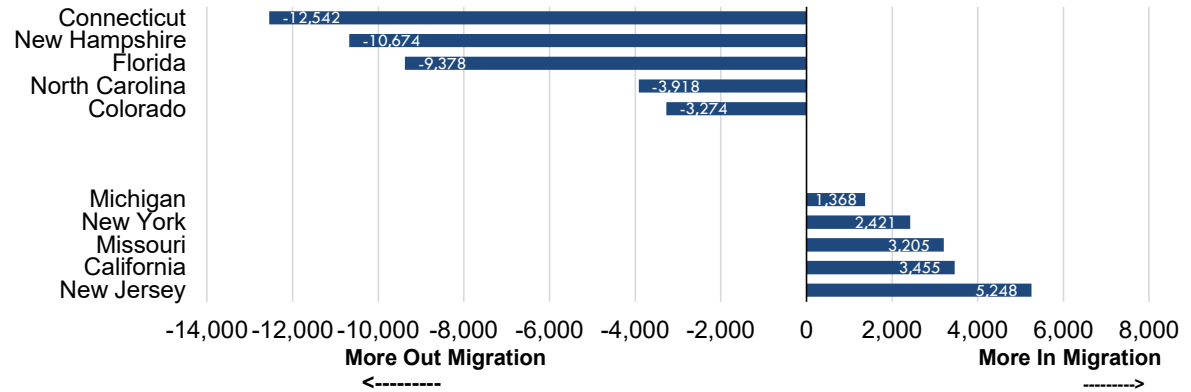
Economic Update – Residents



Key Takeaways

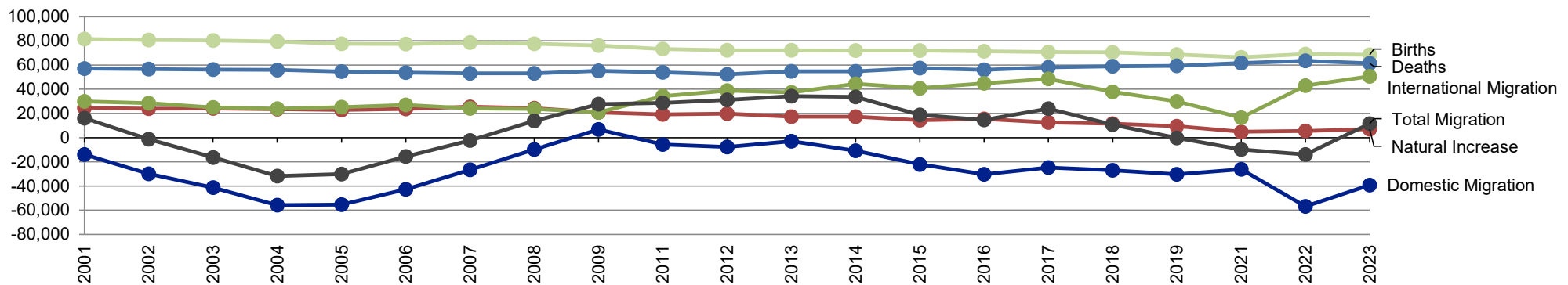
- The United States experienced a 0.6 percent increase in population between 2020-2022, and in contrast Massachusetts' population declined by -0.7 percent placing the Commonwealth below the national average of population growth.
- The age group experiencing the largest number of out migration is 25-34 year olds. This group largely consists of post graduate professionals and as in-person work became more common again as the pandemic progressed, many workers in this age category may still need to be located close enough to commute in to work on a semi-regular basis. This may explain why Connecticut and New Hampshire were the two most popular designations for Massachusetts movers.
- We have already seen some trends from the Internal Revenue Service, U.S. Population Migration Data (2020-2021) that indicate certain areas within the state have already returned to their similar pre-pandemic migration trends

Net Migration to Massachusetts, 2021-2022



Source: U.S. Census Bureau, American Community Survey Microdata, 1-Year Estimates 2021.

Massachusetts Estimated Components of Population Change, 2000-2023



Source: UMass Donahue Institute. Source Data: ST-2000-7; CO-EST2010-ALLDATA; and NST-EST2022-ALLDATA, U.S. Census Bureau Population Division.

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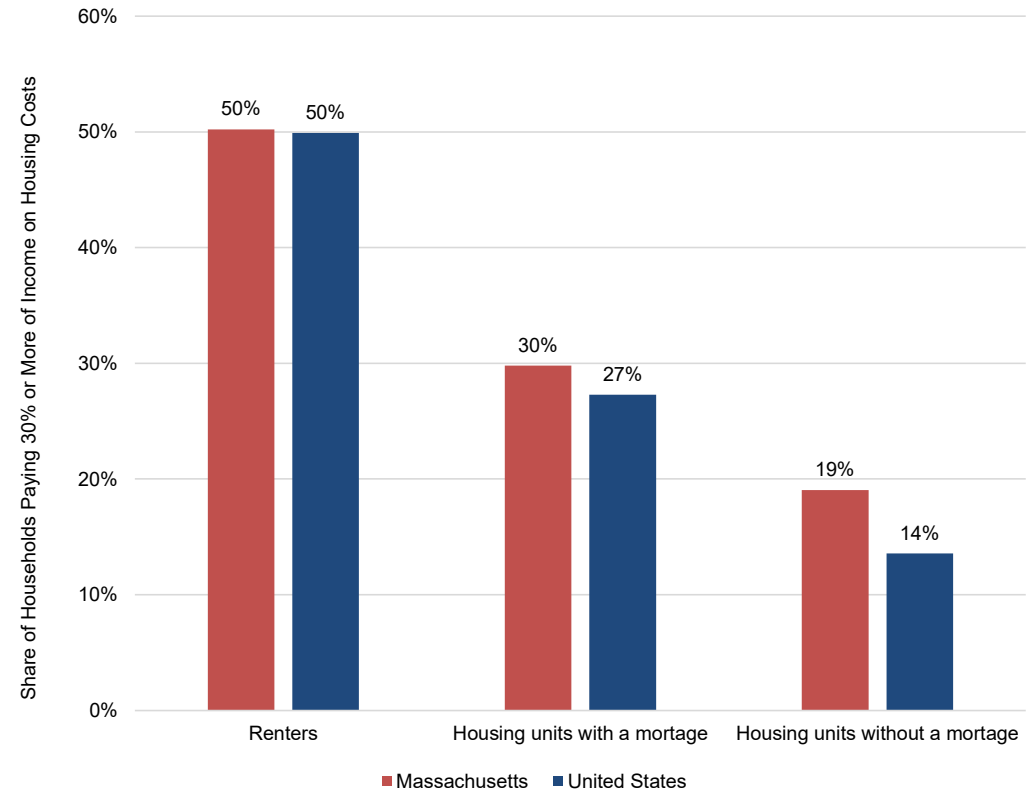
Housing



Key Takeaways

- Housing costs remain high across the Commonwealth, driven in part by population and economic growth and inadequate housing production over the last couple of decades. The increase in sale prices and the low supply of homes for sale has translated into high rental costs as well.
- Nearly half of renters are cost burdened, meaning they spend over 30 percent of their income on housing costs, and nearly a quarter (23%) of Massachusetts renters are severely cost burdened, meaning they spend 50 percent or more of their income on housing
- The rates of cost burden are highest among low-income residents, as well as Black and Hispanic households.
- With the goal of increasing housing production, particularly near transit hubs, the Commonwealth passed legislation to amend the state Zoning Act. The Massachusetts Bay Transportation Authority (MBTA) communities law includes several provisions to remove zoning-related barriers to housing production.
- Governor Healey has also introduced the Affordable Homes Act, legislation which would authorize \$4 billion in spending and numerous policy changes to support the construction of housing and address the housing crisis in the state.

Housing-Cost-Burdened Households by Housing Tenure in MA & US



Source: ACS 2017-2022 5-Year Estimates, Table DP04.

Transaction Summary*



General Obligation Bonds Consolidated Loan of 2024, Series B and General Obligation Refunding Bonds 2024 Series C

| | | |
|-----------------------------------|---|--|
| Issuer | The Commonwealth of Massachusetts (the "Commonwealth") | |
| Series | General Obligation Bonds Consolidated Loan of 2024, Series B | General Obligation Refunding Bonds 2024 Series C |
| Par Amount* | \$650,000,000 | \$55,715,000 |
| Optional Redemption* | May 1, 2034 | N/A |
| Ratings (F/M/S) | AA+ / Aa1 / AA+, all with stable outlook | |
| Tax Status | Federal and Commonwealth of Massachusetts Tax-Exempt | |
| Pricing Dates* | Retail Order Period: Tuesday, June 4, 2024 Institutional Order Period: Wednesday, June 5, 2024 | |
| Delivery Date* | Thursday, June 13, 2024 | |
| Bookrunning Senior Manager | Morgan Stanley | |
| Additional Information | www.massbondholder.com | |

General Obligation Bonds Consolidated Loan of 2024, Series B

| Maturity (5/1)* | Par * |
|------------------------|--------------|
| 2026 | 25,000,000 |
| 2027 | 25,000,000 |
| 2028 | 25,000,000 |
| 2029 | 25,000,000 |
| 2030 | 25,000,000 |
| 2031 | - |
| 2032 | - |
| 2033 | - |
| 2034 | 25,000,000 |
| 2035 | 25,000,000 |
| 2036 | 25,000,000 |
| 2037 | 25,000,000 |
| 2038 | 25,000,000 |
| 2039 | 25,000,000 |
| 2040 | 25,000,000 |
| 2041 | 25,000,000 |
| 2042 | 25,000,000 |
| 2043 | 25,000,000 |
| 2044 | 25,000,000 |
| 2049 ⁽¹⁾ | 125,000,000 |
| 2054 ⁽¹⁾ | 125,000,000 |

General Obligation Refunding Bonds 2024 Series C

| Maturity (9/1)* | Par * |
|------------------------|--------------|
| 2031 | 17,690,000 |
| 2032 | 20,575,000 |
| 2033 | 17,450,000 |

*Preliminary, subject to change
(1) Represents Term Bond

Transaction Timeline and Contacts



| June 2024 | | | | | | |
|-----------|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | | | | | | |

| Financing Schedule* | |
|---------------------------------|----------------------------|
| Date | Event |
| Monday, June 3 rd | Preliminary Marketing |
| Tuesday, June 4 th | Retail Order Period |
| Wednesday, June 5 th | Institutional Order Period |
| Thursday, June 13 th | Closing |

Representatives from the Commonwealth are available for one-on-one discussions.

For additional information or to schedule a one-on-one call, please contact:

| The Commonwealth of Massachusetts | |
|---|--|
| <p>Sue Perez <i>Deputy Treasurer</i> Tel.: 617-367-9333 x816 sperez@tre.state.ma.us</p> | <p>Kathy Bramlage <i>Senior Debt Analyst / Portfolio Manager</i> Tel.: 617-367-9333 x494 kbramlage@tre.state.ma.us</p> |

For more info, please visit: www.buymassbonds.com

*Preliminary, subject to change

Additional Resources – massbondholder.com



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Massachusetts Investor Program

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Questions