

MASSACHUSETTS ECONOMIC OUTLOOK

- According to estimates from MassBenchmarks, Massachusetts real gross domestic product declined at a 2.1% annual rate in the first quarter of this year, and grew at a 4.7% rate in the second quarter.
- Both national and Massachusetts job growth has accelerated slightly over the last 12 months ending in August.
- Total nonagricultural employment is projected to grow 5.6% over the forecast period, between the first quarter of this year and the fourth quarter of 2018. This represents an annual rate of growth of 1.1%.
- Growth is expected to accelerate modestly through the beginning of 2016, with payroll employment growing 1.7% in 2015 and 2016; and then slow due to a demographic slowdown in labor force growth, with payroll employment growing only by 0.2% in 2018.
- The unemployment rate, currently at 5.8% in August, is expected to fall modestly to 5.3% by the end of 2018, as the growing economy pulls people back into the labor force and prevents the unemployment rate from falling faster.
- Over the forecast period, jobs in professional and business services are expected to grow 14.2%, over twice the rate of overall employment. The next fastest growing sector will be construction, where employment is projected to expand by 7.7%. Job growth will be slowest in manufacturing and in government, which are expected to grow by only 1.5% and 0.9% respectively.
- The residential housing market is slowly on its way back. Price appreciation will average 2.1% per year, with the pre-crash price peak being reached in mid-2018. The annual rate of sales will grow, but not reach pre-crash levels. Annual housing permits are expected to approach pre-recession levels by mid-2016.
- Massachusetts faces two broad economic development issues in the coming years: 1) the demographic challenge of an aging population and shrinking workforce and 2) poverty and inequality.
- Insufficient public investment in physical and human capital has contributed to the problem. Public investments in transportation infrastructure and in targeted quality early-education programs could boost jobs and reduce inequality and poverty.

Recent Economic Performance

After a weak weather-affected first quarter and the rebound in the second quarter, both the Massachusetts and U.S. economies seem to have returned to moderate growth, with some but inconsistent signs of acceleration in growth. For the second quarter of the year, the revised MassBenchmarks estimate of Massachusetts real gross domestic product growth was 4.7%, versus the Bureau of Economic Analysis' "final" estimate of 4.6%. In the first quarter, the revised MassBenchmarks estimate of state growth was a decline of 2.1%, the same as for the U.S.

The job market has continued to improve in recent months, despite the temporary decline in retail employment in August due to the Market Basket disruption. Payroll employment in August in Massachusetts was 1.6% higher than a year ago. U.S. payroll employment in August was 1.8% higher than a year ago. Both reflect a slight acceleration in the pace of job growth. The household survey for Massachusetts shows even stronger growth. In the first 8 months of this year—through August—the state's labor force has increased at an annual rate of 1.5%, while resident employment has increased at an annual rate of 3.6%.

Labor earnings and spending have kept pace with job growth in Massachusetts. As estimated by withholding tax revenues, wage and salary income was up 6.4% in the last three months (June through August) compared to the same three months in the prior year. Spending on items subject to the regular sales tax and motor vehicle sales tax was up 6.2% for the corresponding period of time.

Other measures of output exhibit moderate growth. Massachusetts merchandise exports for the first six months of this year were up 7.1% over the corresponding period in 2013 (versus a growth of 3.0% for U.S. merchandise exports). National and worldwide measures of information technology demand for semiconductors and semiconductor equipment have exhibited solid growth. For example, semiconductor billings in the Americas (primarily the U.S.) were up 13.4% in the first seven months of this year compared to last year.

The single family housing market has yet to participate fully in this expansion, however. Although prices have risen moderately in the past year – 7% in the year ending in June according to the Case-Shiller index for Boston – permits for new single family homes have been flat this year.

The Outlook: A Modest Acceleration through 2016, Followed by Demographic Constraints

Although employment growth has fluctuated from month to month and quarter to quarter, annual average employment growth has been steady since the recovery began in the summer of 2009, averaging about 1.4% per year. There is some evidence that growth is beginning to accelerate modestly. For 2014 (annual rates of growth in this section are calculated from fourth quarter to fourth quarter) that growth is expected to also come in at 1.4%, but to pick up to 1.7% in 2015 and 2016. In the following years job growth should decelerate, largely driven by demographics as the rate of retirements pick up as baby boomers age, with exits from the labor force eventually equaling entrants into the labor force by the end of the forecast in 2018. Job growth is expected to decline to 0.8% in 2017, and 0.2% in 2018.

Growth in state income and output will roughly follow the same profile as employment. Real gross state product growth will peak in 2015 at 2.9%, and then fall with employment growth to 2.0% in 2018. Real personal income growth will peak in 2015 at 4.1%, and fall to 1.8% in 2018. The slow labor force growth will help workers, however. Real wage and salary income per payroll worker is expected to rise from 1.7% in 2014 to 2.4% in 2015 and to 2.7% in 2016 in response to accelerating economic growth, and to remain solid in 2017 and 2018 at 2.5% and 2.4% respectively.

The unemployment rate, currently at 5.8% in August, is expected to fall modestly to 5.3% by the end of the forecast period. The unemployment rate was 4.6% in the first quarter of 2008, just as the great recession hit. Over the next couple of years, the unemployment rate is expected to fall only very slightly because labor force growth will exceed population growth as the growing economy pulls people back into the active labor force. Massachusetts will continue to have higher productivity than the nation as a whole, with wage and salary income per worker about 18% higher than the nation throughout the forecast period.

Employment by Sector

By the end of the forecast period, in 2018, the industrial structure of the state's economy will look significantly different from the one that preceded the recession. This is due to long-term trends in demand in the mix of goods and services, the comparative advantages and disadvantages of the state's economy in supplying the nation and the world with products and services, and technological change. Business cycles often accelerate the timing of these changes.

At one extreme, the number of jobs in education and health services and in professional and business services are expected to be 20% higher in both of these super sectors by the end of 2018 than in the beginning of 2008, while at the other extreme, the number of jobs in manufacturing is expected to be 12% lower. Total nonagricultural employment is projected to be 7.7% higher, with the number of jobs already having reached its pre-recession peak in the first quarter of 2013, and the prior all-time peak of February 2001 in the first quarter of this year.

Leisure and hospitality will also comprise a higher share of the economy in 2018, with employment 18% higher than before the recession. Information and other services will comprise roughly the same share of jobs as before the recession, with the number of jobs in both sectors 7% higher than before the recession. Government; trade transportation and utilities; construction; and financial activities will comprise a slightly lower share. Their respective changes in jobs from pre-recession levels are projected to be 1%, no change, minus 2%, and minus 2% respectively.

Much of the changes in the relative share of super sectors are due to differential rates of job loss during the recession. For example, education and health care continued to grow throughout the recession, while construction lost 22% of its jobs, manufacturing lost 13% of its jobs, and professional and business services lost nearly 8% of its jobs.

Over the nearly five year forecast period (four years and three quarters), overall payroll employment is projected to expand 5.6%. Jobs in professional and business services will grow at over the twice the rate of overall employment, expanding by 14.2%. The next fastest growing sector should be construction, where employment is projected to grow 7.7%. Even so, the sector will have slightly fewer jobs than before the recession began. Leisure and hospitality and education and health services are expected to grow slightly faster than overall employment, expanding by 6.8 and 6.4% respectively. Financial activities employment is projected to expand at just below the average rate, at 4.8%. The slow growing sectors will be other services; trade, transportation, and utilities; manufacturing; and government, which are expected to grow by 2.1, 1.9, 1.5 and 0.9% respectively over the forecast period.

Housing

The residential housing market is slowly on its way back. This has been the worst housing market for Massachusetts since the Great Depression of the 1930s. Although it does not approach the severity of that time, when prices fell in half and the housing slump – the period from the peak before the crash to when the price level attained its former peak – lasted roughly 20 years, this housing slump is significantly worse than the one in the late 1980s and early 1990s. On that occasion, the median price (as measured by the National Association of Realtors) fell 11% between the second quarter of 1988 and the first quarter of 1993, and the slump lasted 9 years¹.

This time, prices fell 25% between the third quarter of 2005 and the first quarter of 2009². Since then sales and prices began to rise in response to the homebuyer credit program, but after that program ended the market weakened. Prices have been rising for over two years now, and by the middle of 2018 – nearly 13 years after the peak in 2005, prices are expected to finally reach their prior peak level.

¹ For the Boston metro area, the Case-Shiller home price index fell 15.9% between March 1989 and January 1992, and the slump lasted eight years.

² For the Boston metro area, the Case-Shiller home price index fell 17.6% between November 2005 and April 2009.

Over the forecast period, home price appreciation rates are expected to be modest, at an annual average of 2.1% per year. Sales are running at an annual rate of about 75,000 a year, in contrast to the pre-bust rate of about 100,000. They are expected to rise to about 80,000 by the end of 2015 and early 2016, before settling down to between 75,000 and 80,000 for the rest of the forecast period. Permits are expected to approach pre-recession levels of 25,000 by mid-2016, and then to taper off to 20,000 by the end of 2018.

There is an upside to the housing slump. It has made houses more affordable for new homeowners, and therefore has lowered the cost of living. One measure of affordability is the median house price to per capita income ratio. At the peak of the housing market, this measure reached 8.5. It is now at about 5.8, and is expected to continue to fall throughout the forecast to 5.2 by the end of 2018. At this level, houses will be as or more affordable than they were in the mid-1990s and early 1980s. Housing will still be relatively more expensive in Massachusetts than in the rest of the country, but not so expensive that it should lead to the same out-migration pressures that households experienced in the prior expansion.

The Road Ahead: Economic Development Issues

Looking ahead to the remainder of this decade and the next, Massachusetts faces two broad economic development issues:

1. The demographic challenge of an aging population and shrinking workforce.
2. Poverty and inequality.

The challenge of the first issue is about the workforce. As baby boomers age into age cohorts with lower labor force participation rates, labor force growth will slow and eventually decline even though the population is increasing. This future is near. The state's labor force stops growing in 2017 and 2018 in this forecast, and according to population projections of the Census Bureau and labor force participation rate projections of the Bureau of Labor Statistics, the labor force will begin to decline before 2020. The problem is that the vitality of the Massachusetts economy depends on having a large and highly-skilled workforce to attract businesses in the technology, science, and knowledge-based sectors. Employers are attracted to this region because with a large labor force, they know that they can successfully obtain the talented labor they need by bidding workers from other firms. Size matters. If the labor force shrinks below a critical level and employers cannot find the talent they want, businesses could move to other regions, starting a downward spiral of investment and jobs (Fujita, Krugman, and Venables, 1999).

Poverty and inequality, which have been on the rise, are symptomatic of an under-developed economy. Despite a vibrant technology sector, the highest educational attainment in the country, and earnings per worker that are nearly 20% higher than the nation as a whole, poverty and inequality have been rising. Economic progress should manifest itself in *falling* poverty, but over the past ten years, the trend in poverty rates has been *up*. Poverty is arguably a bigger problem now than it has been in decades. Associated with the increase in poverty is an increase in inequality. This has manifested itself not only in inequality of incomes, but also in geographic inequality, as economic growth has been more concentrated in parts of the Boston metropolitan area. One indicator of rising geographic inequality is the increase in the disparity of unemployment rates across municipalities. The dispersion of unemployment rates, as measured in the standard deviation across the Commonwealth's 351 municipalities, has nearly doubled since 2000.

Regardless of the reasons for rising poverty and inequality – globalization certainly plays a role, and the problem is common across the country's metropolitan areas – the response to the problem has not been adequate. Insufficient public investment in physical and human capital is part of the

problem. At the state level, real per capita own-state revenues have been stagnant since the late 1990s, and have not kept pace with private spending and in-comes. In a world where mobile capital flows to where it can efficiently be used and where incomes flow to regions that can provide scarce inputs such as skilled labor, public investments that complement private investment can be an effective development strategy.

In this regard, increased public investments in both infrastructure and education provide an opportunity to meet both the demographic and poverty challenges. The Commonwealth is experiencing a threat to future economic growth and competitiveness because of under-maintained transportation systems, including highways, bridges, and mass transit. An efficient and modern transportation system is critical to attracting and keeping businesses, tying communities throughout the state to job markets, and providing businesses the capacity to supply its inputs and export its goods and services. Such infrastructure investments may have substantial benefits. For example, a \$10 billion investment in infrastructure could raise employment growth by as much as 0.5% per year, according to empirical estimates of Munnell (1990)³. The time to make these repairs and improvements is now. We are entering a period of potential rapid expansion in business activity and in-migration of young workers and families, at a rate of growth that we have not experienced since the 1990s. If we do not have the infrastructure to accommodate this expansion, or a well-functioning rapid transit system to attract young, high-skilled workers to our cities, we may miss out on this opportunity. Inaction may lead to a repeat of the same slow growth rates the state experienced in the decade of the 2000s.

In this global economy, the Commonwealth's comparative advantage is its skilled and educated workforce. This has been the key to our economic success in Massachusetts. Public investments in the 1990s helped solidify the reputation of Massachusetts as a state that offered high-quality public K-12 education. That helped to educate, attract, and retain the households that support our large, highly-skilled labor force. But in this global economy, we need to do more to remain competitive. One way to ameliorate the lost potential to our skilled labor force that results from low graduation rates from both urban and rural high schools are investments in targeted quality early-education programs. The returns to well-designed pre-school programs are well established. Experimental studies have demonstrated that disadvantaged children who receive pre-school education have better academic achievement, have less need for special education services, are more likely to graduate from high school, are more likely to go on to higher education, to have a job, are less likely to have teen pregnancies, and are less likely to engage in criminal activity. Spending on such education and workforce programs is highly cost-effective, yielding a sizeable rate of return on every dollar spent. The Brookings Institution has estimated that such investments could raise real gross domestic product by 3.5% in the long term (Dickens, Sawhill, and Tebbs, 2006)⁴.

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³ This estimate is derived from the fixed-effect model estimate in Table 12, p. 91 (Munnell, 1990). Note the coefficient reported in that table is actually .0003, not .03 as reported in the table. (See the discussion on the first paragraph on p. 93.)

⁴ See p. 11 and Figure 2, p. 23 (Dickens, Sawhill, and Tebbs, 2006).

References

Dickens, William T., Sawhill, Isabel, and Tebbs, Jeffrey. 2006. The effects of investing in early education on economic growth. The Brookings Institution Policy Brief 153. Washington, DC: Brookings Institution.

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