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Economic Currents: The State of the State Economy

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economic CURRENTS



ALAN CLAYTON-MATTHEWS

Business is looking up in Massachusetts: Buoyed by the state's high-technology industry, sales, profits, and exports are all showing growth. Housing starts and consumer spending also grew strongly in the second quarter. Employment rates and the jobs market are another story: Growth of employment in Massachusetts has lagged that of the nation, and only began to pick up early in 2004, whereas the nation's job turnaround began last summer. Nonetheless, consumer confidence remains strong, as the wages and salaries of those who are employed are rising. If this recovery mimics the last cycle of this kind, job growth will accelerate from the second quarter of this year through the second or third quarter of next year.

The recovery in Massachusetts has gained traction and is motoring ahead. However, it has all but left labor by the side of the road. It has been good for business. Sales and profits are up, and exports are booming. Job growth, on the other hand, has been disappointingly meager, and numerically less than recent official payroll surveys suggest.

The lack of significant job growth has not served to slow the consumption patterns of Massachusetts households. Their

sentiments may reflect good news about national job growth (the consumer confidence survey was taken before the disappointing July 2 national report regarding the employment situation) rather than local realities, or it may reflect recent job gains in manufacturing and professional services, and related increases in average wage rates. Households' consumer spending in Massachusetts—with the exception of spending on automobiles—grew rapidly in the second quarter. Housing starts grew strongly in the spring despite rising mortgage rates.

Economic Indexes for Massachusetts

The Massachusetts Benchmarks Current Economic Index for June was 127.6, up 1.3 percent from May (at annual rates), and up 1.6 percent from June of last year. The Massachusetts Benchmarks Leading Economic Index for June was 1.3 percent, and the three-month average for April through June was 1.9 percent.

The leading index is a forecast of growth in the current index over the next six months, expressed at an annual rate. Thus, it indicates that the economy is expected to grow at an annualized rate of 1.3 percent over the next six months. Because of monthly fluctuations in the data on which the index is based, the three-month average of 1.9 percent may be a more reliable indicator of near-term growth.

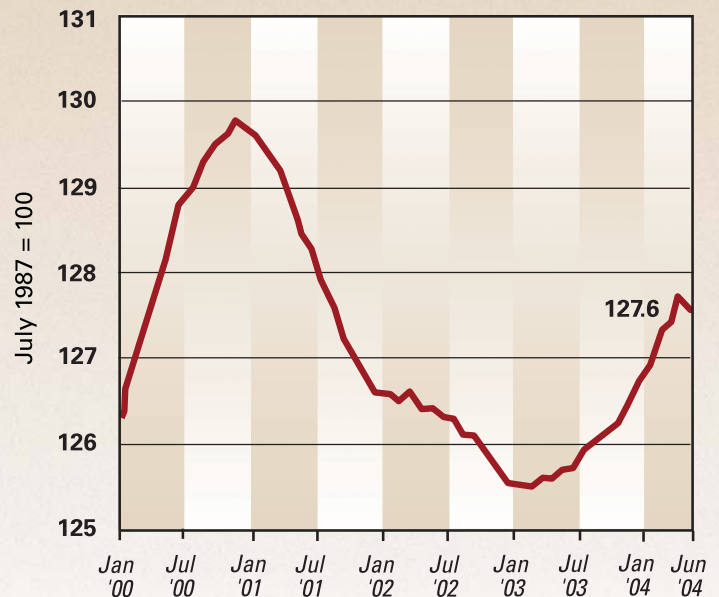
The pace of recovery in Massachusetts failed to accelerate in the second quarter. The rate of growth in the Current Economic Index slowed, from an annual rate of 2.1 percent in the first quarter to 1.8 percent in the second, due to a weak overall labor market and slow income growth. The Leading Index indicates a slow rate of growth for the rest of the year, reflecting the effects of high energy prices, inflation expectations, and rising interest rates on stocks and consumer spending.

The ten indicators that comprise the leading index usually do not all move in tandem. Typically, some may indicate an expectation of faster than average growth, while others may indicate an expectation of slower than average growth. In June, three indicators contributed to a forecast of above-trend growth: sales taxes, consumer confidence for New England, and the interest-rate spread between 10 year and 3 month U.S. Treasury securities. Five indicators contributed to below-trend growth: nonagricultural employment, withholding taxes, the Bloomberg stock index, initial unemployment claims, and motor-vehicle sales taxes. Two indicators contributed to average-trend growth: the unemployment rate and construction employment.

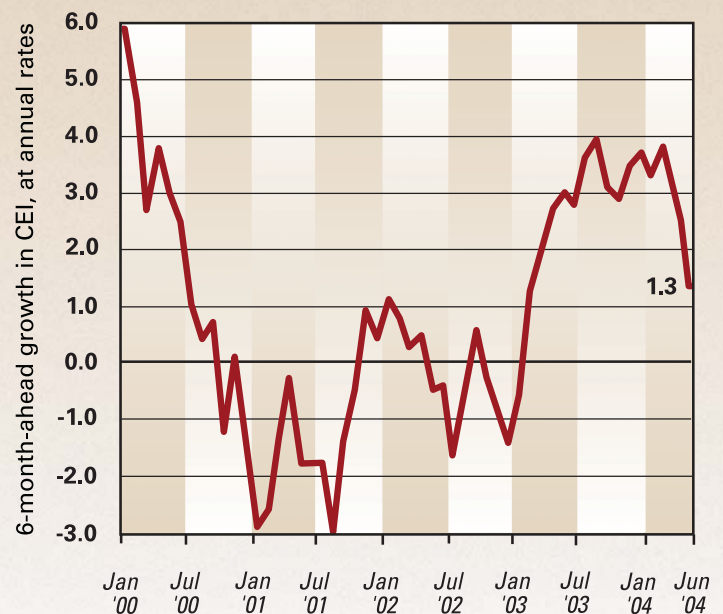
For the three-month period April through June, two indicators contributed to a forecast of above-trend growth: sales taxes and the interest-rate spread between 10 year and 3 month U.S. Treasury securities. Five indicators contributed to below-trend growth: total nonagricultural employment, withholding taxes, the unemployment rate, the Bloomberg stock index, and motor vehicle sales taxes. Three indicators contributed to average-trend growth: consumer confidence for New England, initial unemployment claims, and construction employment.

SUBMITTED JULY 28, 2004

Massachusetts Current Economic Index



Massachusetts Leading Economic Index



Sources: The Conference Board; University of Massachusetts; Federal Reserve Bank of Boston

The Tech Sector Is Climbing Back . . .

National and international measures of information-technology products—demand, sales, and production—are still growing robustly. For the past year, the annualized rates of growth in these measures have ranged from the high single digits to the low triple digits.

Growth has been weakest in domestic production of computers and electronic equipment (important because this is the largest manufacturing industry in Massachusetts in terms of employment), with an annualized quarterly growth rate in sales¹ shipments of “only” 7.6 percent in the three-month period ending in May. Shipments in this industry nationally are still 13 percent below the peak level achieved in September 2000.

Growth has been strongest in semiconductors and semiconductor equipment. In the most recent three-month period ending in May, worldwide billings of semiconductors were up by 48.5 percent, at annual rates, over the prior three-month period, and were 36.7 percent higher than for the three-month period ending in May 2003. Billings are only 5 percent below their September 2000 peak. Semiconductor billings to the Americas have also been strong, at a 57.9 percent annualized growth in the most recent three-month period, and a 26.4 percent growth over the prior year. Note that these represent

sales to American purchasers, and not sales *from* them. Nevertheless, many, if not most, of these semiconductors go into products produced in the United States.

Semiconductor equipment growth has been even stronger. Semiconductor billings from North American producers were up at an annualized rate of 186.0 percent in the three-month period ending in May, and were up 76.6 percent over the prior year. These impressive rates of growth were from very depressed levels, however. In May, billings were still 45 percent below their October 2000 peak.

The turnaround in demand began roughly two years ago, but only recently have inventories and excess capacity been absorbed. Employment conditions in the tech sector have finally begun to improve. The clearest indication of this is employment in the computer and electronics manufacturing industry, where U.S. payroll jobs have expanded in five of the last six months (they declined very slightly, by four hundred jobs nationwide, in June).

Massachusetts technology producers are sharing in this turnaround, as is clearly indicated by employment and trade data (sales and production data are not available at the state level). In the computer and electronics products industry, state payroll jobs have been growing since December, at an annualized rate of 4.8 percent. Merchandise exports from

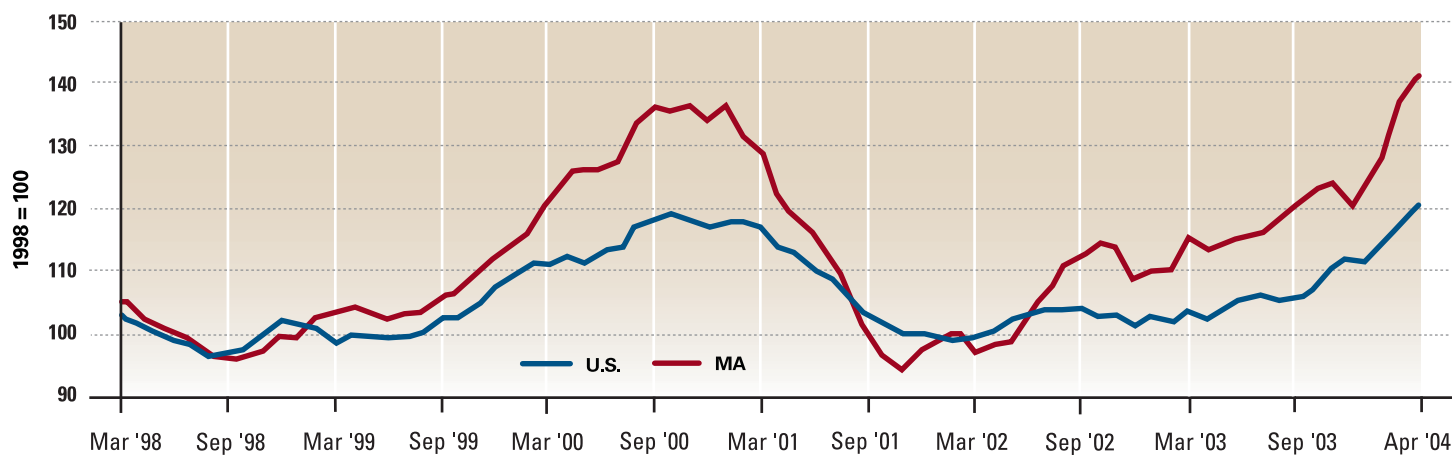
Growth in Measures of Technology Demand and Production

	Most Recent Quarter	From Same Period Prior Year	Date	Source
Investment in Information-Processing Equipment and Software	13.5	16.1	2004:Q1	U.S. Bureau of Economic Analysis
Industrial Production of Information-Processing Equipment	10.3	9.7	May '04	Federal Reserve Board
Computers and Electronic Equipment, Value of Shipments	7.6	14.4	May '04	U.S. Census Bureau
Computers and Electronic Equipment, New Orders	19.6	11.6	May '04	U.S. Census Bureau
Computers and Electronic Equipment, Unfilled Orders	11.5	9.2	May '04	U.S. Census Bureau
Semiconductor Billings, Worldwide	48.5	36.7	May '04	Semiconductor Industry Association
Semiconductor Billings, Americas	57.9	26.4	May '04	Semiconductor Industry Association
Semiconductor Equipment Billings	186.0	76.6	May '04	Semiconductor Equipment and Materials International
Semiconductor Equipment Bookings	120.4	117.9	May '04	Semiconductor Equipment and Materials International
Merchandise Exports, U.S.	32.0	14.6	Apr '04	World Institute for Strategic Economic Research (WISER)
Merchandise Exports, Massachusetts	73.2	30.4	Apr '04	World Institute for Strategic Economic Research (WISER)

Notes: Annualized growth in percent. Quarterly growth rates are the growth in the most recent three-month period relative to the prior three-month period, e.g., for March–May relative to December–February. All measures are seasonally adjusted. Semiconductor billings and merchandise exports are seasonally adjusted by the author.

Merchandise Exports

Seasonally Adjusted 3-Month Moving Average



Sources: U.S. Department of Commerce and World Institute for Strategic Economic Research, seasonally adjusted by author

Massachusetts, which are dominated by technology products, are soaring. In the most recent three-month period ending April, they grew at an annualized rate of 73.2 percent. They were 30.4 percent greater than for the three-month period ending April 2003, and 6 percent higher than their peak in January 2001. These rates of growth are double those for U.S. merchandise exports, no doubt due to the higher concentration of technology production in the Massachusetts economy.

... But Employment Is Limping around the Corner.

By the official count, payroll employment in Massachusetts took off in the last few months, growing by 19,400 between February and May, an annualized rate of growth of 2.5 percent. The actual payroll growth, however, was probably much more subdued, as the official month-to-month changes are erroneously affected by problems with the Bureau of Labor Statistics' seasonal adjustment procedures. When a widely used, alternative seasonal-adjustment procedure, called X12 ARIMA, is used on the official payroll data, which is not seasonally adjusted, the gain between February and May was only 6,000 jobs, an annualized rate of growth of only 0.8 percent. Over many months, differences due to the seasonal-adjustment procedures cancel out. Both the official and alternative series agree that, over the last year ending in May, Massachusetts payroll employment declined by 0.7 percent. Both series indicate that the employment turnaround began early this year.

The state has exhibited much weaker payroll job growth than the nation. In the year ending in June, U.S. payroll employment grew by 1.1 percent. The job turnaround in the U.S. began in the summer of last year.

In the last recession, the "real time" payroll survey (also known as the "790" series) missed the turning point in

employment by over a year. At the time, it showed declining employment even when actual employment was rising. This occurred because the survey tends to miss new business formation. One might expect a similar bias this time around, especially in light of the strong business indicators. Unfortunately, however, this does not appear to be the case. The last "reliable" payroll survey month, benchmarked with the full census of employers in the unemployment-insurance system (also known as the "202" series), which covers nearly all payroll workers, was in June 2003. The reliable unemployment-insurance payroll data for the second half of 2003 are now available, and they are in reasonably close agreement with the payroll survey. The payroll survey indicates an annualized rate of job loss between June and December 2003 of 1.5 percent, while the more reliable unemployment-insurance series shows a slightly lower rate of job loss of 1.3 percent over the same period.

Withholding tax revenues are also consistent with weak job performance. In the same May 2003–May 2004 period when state payroll employment fell by 0.7 percent, the (current dollar) withholding tax base rose by 3.7 percent. These numbers are consistent if average wages rose by 4.4 percent. Nationally, average payroll wages per worker rose by 4.1 percent over the same period. The conclusion is that the payroll survey is accurately reflecting overall job-market conditions.

According to the payroll survey, recent employment growth (the most recent three-month period ending in May versus the prior three-month period ending in February) was strongest in technology production, finance related to residential real estate, scientific research and development professional services, private education services, and health-care services. Employment also grew in a few business and work-related services: management of companies and enterprises, services to buildings and dwellings, and child day-

care services. Most other sectors displayed little change in employment or lost jobs. Especially notable were losses in construction, financial securities and commodities, and information (which includes telecommunications and software). The level of employment in the large retail and professional and other services sectors, except for those services mentioned above, was essentially flat.

Households Are Confident and Spending . . .

Households in Massachusetts seem to have declared that the recession is over. Consumer confidence for New England jumped almost 20 points, to 100.4, from May to June, according to the Conference Board. Both the current and future components of the index rose at the same rate as the overall index. This rise in confidence is apparent in consumer spending in the state. As implied by the sales-tax base, constructed from sales taxes on tangible goods and services (these exclude taxes on automobiles and food services, and by law exclude most food and clothing), consumer spending fell from mid-2000 to early this year. Since February, the sales-tax base has risen strongly each month, and in June it was 6.4 percent higher than a year earlier. This rise is still weaker than the growth in national retail sales (excluding automobiles and food services), which rose a strong 10.1 percent in the twelve-month period ending in May, but nevertheless, this is the strongest performance for consumer spending in Massachusetts since the recession began.

Housing construction has remained strong throughout this recession, and has not let up in recent months, despite rising mortgage rates and the expectations of many economists that the housing market will weaken. In fact, since the fall of last year through the present (through May), as many or more housing permits have been taken out as at any time during the recession. Housing prices are still growing too. The Department of Housing and Urban Development's housing-price indexes for the United States, states, and

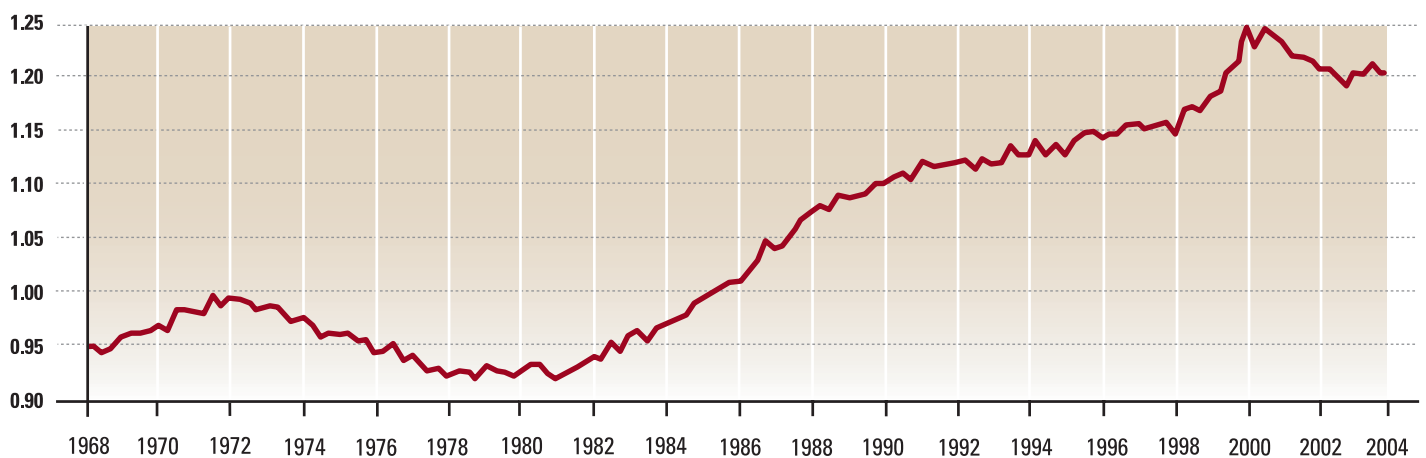
metropolitan regions shows that, in the first quarter of this year, housing prices in Massachusetts rose at an annual rate of 4.7 percent, less than the torrid pace of recent quarters, but still higher than the national average appreciation rate of 3.9 percent. The Massachusetts Association of Realtors data through May also shows continued strength relative to a year ago, with the average price of detached single-family homes up 16.6 percent, and the average price of condominiums up 14.8 percent. The number of transactions was also strong, particularly for condominiums, which were up by 26.4 percent from May of 2003.

. . . Because Wages Are Growing Once Again.

Wage rates are rising once again for workers in Massachusetts, and moreover, are now rising faster than the national average.² In the last business cycle, both U.S. and Massachusetts wage-rate growth was procyclical, that is, the rate of growth rose during the expansion, fell during the recession, and is now rising once again. This cyclicity of wage rates has been more pronounced in Massachusetts than in the nation. While year-over-year, quarterly average U.S. wage rates were growing at about a 6 percent annualized rate at the peak of the boom in 2000, state average wage rates were growing at greater than 10 percent. In the recession, U.S. wage-rate growth slowed to almost a 1 percent annual rate, but Massachusetts average wages actually fell during the second half of 2001 and the beginning of 2002. Now, wage-rate growth in Massachusetts has begun to surpass that of the United States. In the year ending in May, average wages grew by 4.4 percent over the prior year in Massachusetts, versus 4.1 percent in the nation as a whole.

The rise in the growth of the average wage rate in Massachusetts appears to be due primarily to recent increases in employment in highly paid jobs like manufacturing and scientific research and development, just as the fall in wage rates in the recession was due primarily to the loss of highly paid jobs.

Ratio of Massachusetts to U.S. Wage and Salary Disbursements per Payroll Job



Sources: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics

The changes in average wages are comprised of changes in three components: the mix of jobs, the wages paid for a given job, and weekly hours of work on the job. All three components are procyclical, but the largest contribution to changes during the boom, bust, and recovery has been the mix of jobs. Employment in high-paying jobs in manufacturing and professional services grew much more rapidly than the rest of the economy in the boom, and dropped much more precipitously in the crash, pulling the growth in average wages up and then dragging it down. These high-paying jobs are now coming back in greater numbers than low-paying jobs, pulling average wages up.

Some Future Short- and Long-Run Trends

If this recovery mimics the last in the timing of job growth, expect job growth to accelerate from the second quarter of this year through the second or third quarter of next year.

The last time around, the trough in real gross state product was in June 1991, according to the Current Index for Massachusetts. Employment began to expand steadily in the third quarter of 1992, or about five quarters after output. Quarterly employment growth accelerated from an annual rate of 0.1 percent in the first quarter of 1992 to 3.1 percent in the second quarter of 1993, and then settled in the range of 2 to 2.5 percent over the next five years. So it took about six quarters to “get up to speed” once employment turned the corner.


This time around, the trough in real gross state product was in March 2003, and quarterly employment growth should turn positive in the second quarter of this year, about five quarters after output, or just as it did last time. Both recoveries have earned the title “jobless” in their first phase. By early to mid-2005, it is likely that the rate of output growth in Massachusetts will approach and even catch up to that of the United States. At the same time, employment growth may continue to be somewhat less than that in the United States, given the state’s slower rate of growth in its population and labor force.

In the short run, the return of demand for the state’s high-tech information-processing products is the key development that will enable Massachusetts to catch up to the nation in terms of growth. Demand in that sector is growing faster than overall gross domestic product, and Massachusetts is more concentrated in that sector than the nation as a whole. If the U.S. recovery slows, say, because of a slowdown in automobile purchases or an energy-inflation tax, while worldwide demand for technology and medical products continues to be strong, economic growth in Massachusetts could surpass that of the United States next year.

In the longer run, the state’s advantage in the educational attainment of its workforce may enable gross state product to grow at about the pace of U.S. gross domestic product, even if the state’s population, labor force, and

employment all grow more slowly. This scenario, of course, would require that productivity rise faster in Massachusetts than in the nation as a whole. And in fact, this has been the experience of the state since the early 1980s. Along with rising educational attainment, average wage rates in the state rose from 7 percent below the national average in 1980 to 20 percent above the national average today.³ The only aberration in this trend occurred in the bubble at the end of the 1990s, when relative wages in the state rose rapidly above the trend, and then returned to it when the bubble burst.

The growth in relative average wages proceeded steadily even as Massachusetts lost half its manufacturing jobs during this period of time. These lost jobs were replaced by jobs in consulting, engineering, science, asset management, medical services, and education; and by an upgrading of the remaining manufacturing jobs. These jobs paid more than the ones they replaced, and these sectors added more jobs than low-paying ones.

Will this trend continue? Probably so, especially if the world economy continues to expand. The globalization trend is also favorable for the state. Economic theory suggests that as developing countries add masses of relatively unskilled labor to the world’s productive capacity, the marginal product—and therefore the pay—of relatively scarce, highly skilled labor will rise. This is the resource that Massachusetts has in relative abundance, and so the state should do well in the future. 

¹The measures of sales for the technology sectors mentioned in this section use slightly different definitions and terminology. The Census Bureau uses “shipments,” whereas the Semiconductor Industry Association and the Semiconductor Equipment and Materials International use “billings.” For purposes of clarity and consistency, we use the term “sales” to refer to all these measures.

²Average wage rates are defined here as wage and salary disbursements per worker divided by payroll employment. The source for payroll employment is, for the United States, the U.S. Bureau of Labor Statistics, and for Massachusetts, the Massachusetts Division of Unemployment Assistance. Both are seasonally adjusted, the latter by the author. The source for wage and salary disbursements is, for the United States, the Bureau of Economic Analysis, and for Massachusetts, withholding taxes from the Massachusetts Department of Revenue, which the author uses to form an estimate of wage and salary disbursements comparable to the national concept. Both wage and salary measures are seasonally adjusted.

³After adjusting for differences in inflation since 1980, the growth in the relative real wage rates during this period was about 17 percent, versus the growth of 28 percent in the relative nominal wage rate. The consumer price index rose 11 percent faster in Massachusetts than in the nation during this period of time.

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