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### 2006 Year in Review: Slow and Steady Does it for 2006

Alan Clayton-Matthews

*University of Massachusetts Boston*

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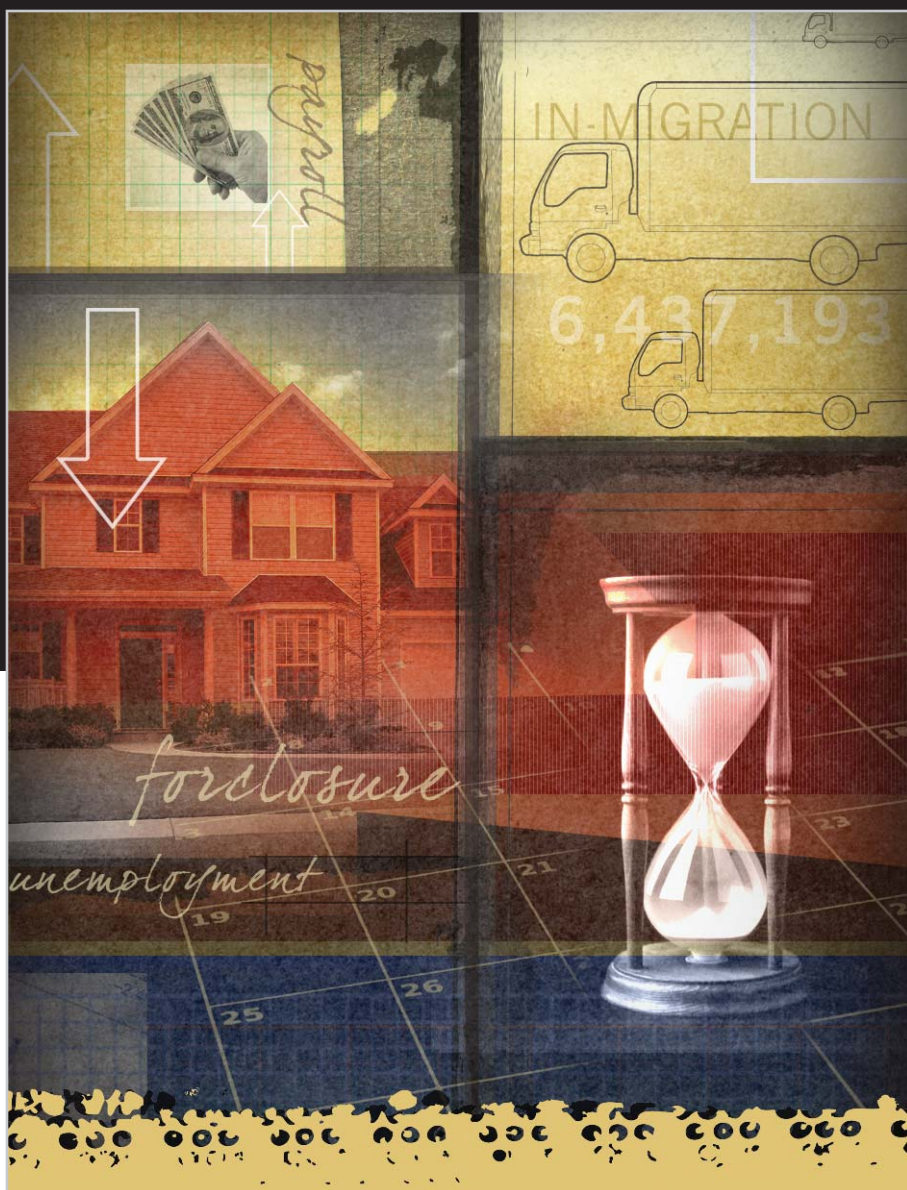
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THE STATE OF THE STATE ECONOMY

# ECONOMIC CURRENTS



## 2006 YEAR IN REVIEW

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*Slow and steady does it for 2006*

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ALAN CLAYTON-MATTHEWS

Getting a little better in 2006

The state’s economy continued to expand in 2006, continuing a path of slow, steady growth that began in 2003<sup>1</sup>. By most measures, such as employment, output, labor force, and population growth, it was the best year so far of the recovery, but not by much; and the pace of expansion has been much slower than that of the two prior ones of the 1990s and 1980s. Weighing on the economic accomplishments of the year was a decline in the housing market and a rise in unemployment of the state’s residents, setting the stage for a likely slowing of growth in 2007.

In terms of employment and output, both workers and businesses did well last year compared to the past several years. Payroll employment grew by 1.1 percent during 2006 (December 2005 through December 2006), the best year-over-year growth since the end of the boom in 2000. During last year 34,700 jobs were added, bringing the total of jobs regained to 79,100 of the 205,100 lost in the last recession. Resident employment and labor force also had their best years of the expansion. In fact, the labor force briefly surpassed its prior peak of August 2002 as 2007 began<sup>2</sup>. Employment gains were strongest in health care and professional business services. The large Health Care and Social Assistance super sector grew by 2.5 percent, a result of the inexorable rise in the demand for health services — this sector did not even decline in the recession — from a relatively wealthy and aging population. The 2.2 percent increase in the Professional and Business Services sector was particularly strong in technology, science, and knowledge-related services. Professional, scientific, and technical service jobs, comprising over half of this super sector, grew by 3.2 percent.

Manufacturing continued to shed jobs at a slow rate, reflecting the net effect of robust output and productivity growth, and the underlying trend of relocation of manufacturing activity offshore. Job losses in construction and retail trade of 1.1 percent and 0.3 percent respectively were related to the downturn in the housing market.

Incomes expanded at a healthy rate in 2006, roughly on par with the U.S. on a per capita basis. Average per capita income in the state was 5.5 percent higher than in 2005. Wages and salaries expanded faster than employment and

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the cost of living, so that per capita real wages and salaries averaged 1.1 percent higher in 2006 than in 2005.

Two years of population losses finally ended in 2006<sup>3</sup>, although with an increase of only 3,800 — a growth rate of only six one-hundredths of one percent — one can’t really characterize the population as growing. Growth in the working-age population — those 15 and older — fared better, growing by 20,800 or 0.4 percent. Population losses due to net out-migration improved, from a loss of 31,000 in 2005 to 19,000 in 2006. During the 1990s

Figure 1. Massachusetts Employment , Labor Force, and Population Indicators  
Percent change from prior year

	2000	2001	2002	2003	2004	2005	2006	Reference Period
Employment and Labor Force								
Payroll Employment	2.9	-2.6	-1.6	-1.7	0.7	0.7	1.1	December
Payroll Employment, U.S.	1.5	-1.3	-0.4	0.1	1.6	1.5	2.1	December
Manufacturing	1.6	-9.8	-7.6	-7.1	-1.7	-2.5	-1.8	December
Construction	9.3	4.2	-0.5	-2.5	2.5	1.6	-1.1	December
Retail Trade	1.1	-2.4	-0.5	-0.6	1.1	-1.4	-0.3	December
Financial Activities	1.8	-0.7	-1.7	-2.1	-1.3	2.7	0.4	December
Professional and Business Services	6.6	-8.2	-3.6	-1.0	3.2	1.9	2.2	December
Health Care and Social Assistance	1.2	2.0	2.5	0.5	2.0	1.9	2.5	December
Resident Employment	0.9	-0.9	-0.9	-0.8	0.0	0.5	0.7	December
Labor Force	0.5	1.1	0.1	-0.7	-0.8	0.4	1.1	December
Unemployment Rate*	2.7	4.7	5.6	5.7	4.9	4.8	5.2	December
Unemployment Rate, U.S.*	3.9	5.7	6.0	5.7	5.4	4.9	4.5	December
Population and Migration								
Population	0.72	0.69	0.38	0.13	-0.06	-0.04	0.06	July
Population, U.S.	1.14	1.07	1.02	0.93	0.98	0.98	0.98	July
Net Migration*		12,685	-5,304	-20,385	-31,777	-31,394	-19,243	July

\* Level (not percent change).

**Figure 2. Massachusetts Income, Inflation, and Consumer Indicators**  
Percent change from prior year

	2000	2001	2002	2003	2004	2005	2006	Reference Period
<b>Incomes and Wage Rates</b>								
Per Capita Personal Income	10.3	3.0	0.0	1.5	5.6	4.5	5.5	Annual Average
Per Capita Personal Income, U.S.	6.8	2.4	0.8	2.2	5.2	4.2	5.2	Annual Average
Real Annual Wages per Worker	6.1	-1.6	-1.1	0.8	2.8	-0.9	1.1	Annual Average
Real Annual Wages per Worker, U.S.	2.4	-0.5	0.2	0.6	1.6	0.1	1.4	Annual Average
<b>Inflation</b>								
CPIU-Boston	4.6	2.8	4.0	3.0	2.5	3.3	2.1	November
CPIU-U.S.	3.4	1.6	2.4	1.9	3.3	3.4	2.6	December
Consumer Expenditures	2.2	1.5	2.0	2.0	3.0	2.9	2.3	December
<b>Consumer Spending</b>								
Real Sales Tax Base	3.1	-5.8	-2.3	-1.5	2.3	0.9	0.3	Annual Average
Real Motor Vehicle Sales Taxes	-0.9	18.4	-13.5	3.8	-8.5	-11.9	0.5	Annual Average
<b>Confidence</b>								
Consumer Confidence (MassInsight)	8.3	-30.0	-14.3	5.1	9.8	-2.2	14.8	October
AIM Business Confidence*	58.9	43.5	47.2	57.5	62.0	56.6	59.2	December

\* Level (not percent change).

expansion, net migration turned from negative to positive as the state’s economy improved. In this slower expansion, however, migration is not turning around as quickly.

Because of the state’s high rate of productivity growth, measures of per capita output in recent decades have tended to grow faster in Massachusetts than in the nation as a whole, allowing Massachusetts gross state domestic product to grow as fast as the nation’s, despite having a more slowly growing population and labor force<sup>4</sup>. On this aggregate measure of product, the state may have actually performed slightly better than the nation last year. Between the fourth quarter of 2005 and the fourth quarter of 2006, the state’s real product is estimated (based on the Massachusetts Current Economic Index) to have grown by 3.3 percent, versus 3.1 percent for the U.S. Merchandise exports from Massachusetts to other countries grew by 10.0 percent over the same period, versus 14.8 percent for the nation as a whole. Since the trough in merchandise exports in the beginning of 2002, such exports in both the state and nation have grown 60 percent.

Other measures of national and world demand for information technology products exhibited generally slowing growth last year, especially at the end of the year. These markets are subject to cycles of their own that are shorter and therefore not in sync — except for major turning points — with the overall business cycle. Last year began at an elevated point in the cycle, and some U.S. market measures are exhibiting weakness. In particular, U.S. shipments of computers and electronic products were essentially flat last year, and current dollar U.S. investment in information processing equipment and software, which grew by 4.2 percent from the fourth quarter of 2005 to

the fourth quarter of 2006, actually fell at an annual rate of 3.5 percent in the last quarter of 2006.

Despite the slowdown in national tech sector demand growth, the outlook for business at the end of the year was good. The Bloomberg stock index for Massachusetts grew more than 15 percent during the year, and the Associated Industries of Massachusetts (AIM) Business Confidence index ended the year at 59.2, well in expansionary territory.

**The housing market decline**

The housing market, which began weakening in 2005, declined in 2006, with a sharp fall in sales and permits, modest price declines, and a large increase in inventories. Mortgage delinquencies and foreclosures rose. According to the Massachusetts Association of Realtors, sales in 2006 fell 12 percent for single family homes and 10 percent for condominiums from the previous year, while 2006 median prices for single family homes averaged 2.5 percent lower, and condos 0.1 percent lower, than in 2005. Meanwhile, active listings rose 27 percent in 2006, putting further downward pressure on prices. The Office of Federal Housing Enterprise Oversight’s (OFHEO) house price index rose a moderate 2.6 percent in 2006, but this index may be overstating appreciation by 3 to 4 percentage points<sup>5</sup>. The number of housing permits issued fell by 11 percent in 2006.

Many householders are finding it increasingly difficult to hold onto their homes. The rise in delinquency and foreclosure rates has been especially steep for sub-prime mortgages, and these are likely to continue to rise this year as low-interest “teaser” rates expire and homeowners find they cannot afford to pay the mortgage.



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The support that rises in home equity and low or falling interest rates gave to the economy during the recession and first years of expansion ended last year. With credit tapped out, consumer spending, as indicated by regular sales tax revenues for use and services, barely kept up with inflation in 2006. Retail trade employment fell for the second straight year, by 0.3 percent. With declining residential building, construction employment fell for the first year since the expansion began, by 1.1 percent.

**Growing unemployment in an expansion**

This is the first expansion in recent history in which unemployment is growing. It started out normally. In the first two-and-one half years of the expansion, between April 2003 and August 2005, the number of unemployed Massachusetts residents fell by 36,100 to 164,000; but then something

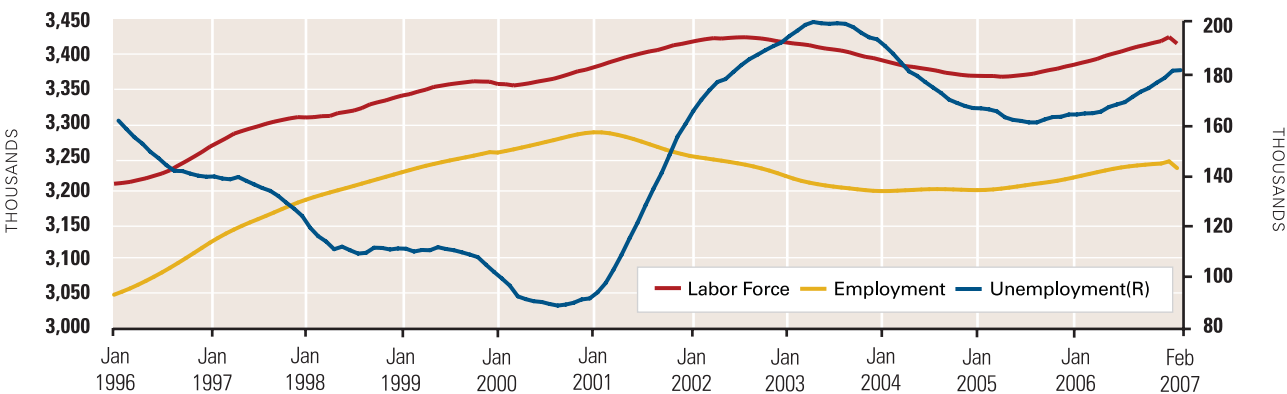
unusual happened. Unemployment began rising steadily again, by 20,400 from August 2005 to February 2007. During this time, the unemployment rate rose one-half a percentage point to 5.3 percent, and now (as of February 2007) is 0.8 percent higher than the U.S., the only time in an expansion phase since the early 1970s (except in the early phase of a recovery) that the state’s unemployment rate has been higher than that of the rest of the nation.

Nevertheless, this rise in the number of unemployed Massachusetts residents and in the unemployment rate does not indicate a weakening labor market, because it has risen as a result of more persons entering the market seeking jobs, rather than more persons losing jobs. The labor force participation rate rose last year, while the number of monthly initial unemployment claims remained in the low 30,000s (on a seasonally adjusted basis), a level

**Figure 3. Massachusetts Product and Housing Indicators**  
Percent Change from Prior Year

	2000	2001	2002	2003	2004	2005	2006	Reference Period
<b>Product</b>								
Current Economic Index	5.6	-1.1	-0.3	0.8	3.1	3.1	3.3	4th Quarter
Gross Domestic Product, U.S.	2.2	0.2	1.9	3.7	3.4	3.1	3.1	4th Quarter
Merchandise Exports	19.4	-27.1	11.8	10.9	12.1	5.4	10.0	4th Quarter
Merchandise Exports, U.S.	9.4	-14.7	1.7	9.9	11.1	10.7	14.8	4th Quarter
Investment in Information Processing Equipment and Software, U.S.	14.8	-14.8	-5.3	8.9	2.6	5.7	5.2	4th Quarter
Value of Shipments, Computers and Electronic Products, U.S.	11.3	-24.5	-6.6	-3.0	4.5	8.7	1.7	4th Quarter
Semiconductor Equipment Shippings: North America	49.5	-65.7	7.2	9.6	36.8	-7.1	21.1	December
Semiconductor Billings, Worldwide	26.1	-42.9	23.2	28.0	14.7	8.7	9.0	4th Quarter
Semiconductor Billings, Americas	23.0	-55.3	5.8	16.9	7.0	14.5	2.4	4th Quarter
Bloomberg Stock Index for Massachusetts	-21.9	-8.7	-17.7	47.0	18.9	0.6	15.5	31-Dec
<b>Housing</b>								
Housing Permits	-7.3	-5.1	3.3	7.9	12.5	11.3	-10.6	Annual Average
House Price Index (OFHEO)	14.4	12.3	12.2	9.5	11.3	9.9	2.6	Annual Average
House Price Index, U.S. (OFHEO)	6.8	7.9	6.9	6.8	10.7	13.1	9.1	Annual Average
Median Price, Single Family (MAR)					10.8	5.9	-2.5	Annual Average
Median Price, Condos (MAR)						7.7	-0.1	Annual Average
Sales, Single Family (MAR)	-11.0	2.4	6.5	1.3	2.8	-3.4	-12.3	Annual Average
Sales, Condo (MAR)	-3.8	1.8	15.0	6.3	22.3	17.4	-10.1	Annual Average
Listings (MAR)					3.5	19.8	26.8	Annual Average

Figure 4. Massachusetts Household Employment, Labor Force, and Unemployment



Source: Massachusetts Division of Unemployment Assistance

consistent with an improving labor market. The trend in long-term unemployment (unemployment for 27 weeks or more) has been declining steadily each year since 2003, and last year the proportion of the working-age population who were long-term unemployed averaged about half what it was in 2003, and is as low in Massachusetts as in the rest of the nation.

Although the Massachusetts labor market may be improving, the higher unemployment rate here reflects a weaker labor market than in the rest of the nation as a whole, a weakness resulting from the slow pace of the current expansion.

In recent decades, the Massachusetts unemployment rate has tended to be lower than that in the U.S. because the state’s labor force is more highly educated, and unemployment rates are typically lower with higher levels of educational attainment. For example, in 2006, according to the monthly Current Population Surveys, the state’s unemployment rate varied from 8.3 percent for those with less than a high school education to 2.8 percent for those with a B.A. or higher degree. This means that the relative weakness in the state’s labor market is even greater than the difference between the Massachusetts and U.S. rates might suggest.

In order to use the difference in state versus national unemployment rates as a measure of relative labor market conditions, one must control for educational attainment (as well as other differences in demographics associated with unemployment). At almost every level of educational attainment, the state’s average unemployment rate last year was higher than the nation: 0.4 percentage points higher for those with a bachelor’s or higher degree, 1.2 percent higher for those with some college education below a bachelor’s degree, and 2.2 percent higher for those with a high school diploma. For those with less than a high school diploma, the unemployment rate in Massachusetts was less than that of the U.S., by 1.3 percentage points.

This could be accounted for by the state’s higher proportion of recent foreign-born immigrants with less than a high school education. This group comes to metropolitan areas to work, and indeed, cannot afford not to work, and so its members tend to have lower unemployment rates than similarly educated “natives.”

When education and several other demographic factors related to unemployment rates are controlled for, a clear pattern emerges between the difference in state versus U.S. unemployment rates, and therefore relative labor market weakness<sup>6</sup>. In the last years of the high-tech boom, 2000 and 2001, the demographically adjusted unemployment rate was about one-half a percentage point lower in Massachusetts than in the nation. For example, in 2001, the national unemployment rate averaged 4.7 percent, while the state’s unemployment rate averaged 3.7 percent, a full percentage point lower. But if the Massachusetts labor force had the same composition as the nation’s, in terms of its distributions of educational attainment, age, sex, minority status, and recent immigrants, its unemployment rate would have been 4.3 percent; higher than the state’s official rate of 3.7 percent, but still 0.4 percent less than that of the U.S. as a whole, reflecting a strong labor market. In the recession and the state’s slow recovery, the demographically adjusted unemployment rate rose above that of the U.S. In 2006, it averaged about 1.2 percentage

Figure 5. Unemployment Rates, 2006  
Annual Average

Educational Attainment	MA	U.S.	Difference
Less than High School	8.32	9.63	-1.31
High School Degree	7.46	5.30	2.17
Some College	5.18	3.99	1.19
BA or Higher Degree	2.78	2.40	0.38
Recent Migrants < High School	7.87	5.53	2.34

Source: U.S. Bureau of the Census, Current Population Surveys

points higher than the U.S. (5.8 percent in Massachusetts versus 4.6 percent in the U.S.), substantially greater than the official, unadjusted difference of less than one-half a percentage point (5.0 percent versus 4.6 percent). If one were to judge the relative weakness in labor markets simply by the official, unadjusted rate, Massachusetts would appear to have had a stronger labor market throughout the recession, and then a weaker labor market only last year. The demographically adjusted unemployment rate gives a truer picture of what we know to be the actual situation; that the state's labor market was weaker than the nation's from 2003 on.

This pattern is also in accord both with recent migration trends and with economic theory, which suggests that migration flows respond to relative labor market weakness. Net migration into Massachusetts was positive through the middle of 2002, when the state's adjusted unemployment rate was below that of the nation, and net migration into Massachusetts has been negative since, when the state's adjusted unemployment rate was higher than that of the nation. The education-level unemployment rates also suggest how the incentive to migrate varies. With the exception of recent, low-educated immigrants, the push out of the state is greatest for those with lower levels of education, and least for those who are highly educated. This is also in accord with where job growth has been the strongest in Massachusetts, in technology and science-related fields, and in the knowledge sector.

Prospects for 2007

Based on available economic indicators in the beginning of 2007, the state economy appears to be on course to continue its slow but steady expansion through the rest of the year, but at a slightly slower pace than last year. The leading index for February is projecting growth at a 3.1 percent rate through August. The positives include strong world economic growth, which should provide enough

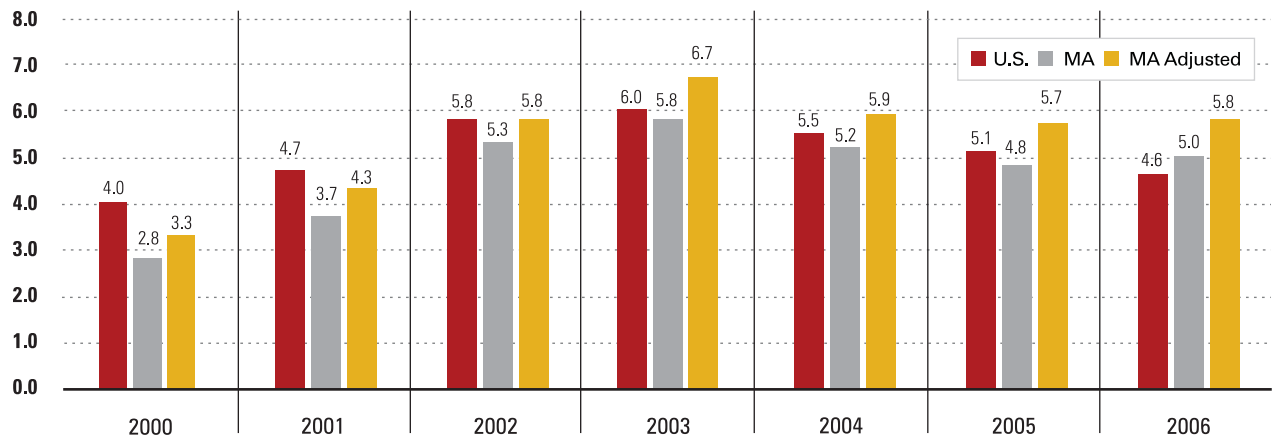
demand for the state's technology and science-based products and services to offset weakness in the domestic economy from the local and national downturn in the housing market. The high level of demand in information technology markets appears to be steady, if not necessarily growing. The negatives include a relatively weak labor market that could stunt labor force growth and encourage continued levels of high out-migration, and falling house prices that would lower household wealth, consumer spending, and construction activity.

Based on sales and price data from the end of last year and the first two months of this, the state's housing market is showing surprising strength, although the reprieve is likely to be temporary. On a seasonally adjusted basis, median prices for both single-family detached homes and condominiums have been rising slightly from August (from the Massachusetts Association of Realtors, seasonally adjusted by the author). As of February this year, the median price of single-family homes was down only 5 percent from its peak. In the last several months, sales of both single-families and condos have risen sharply, and active listings have fallen.


The quarterly OFHEO housing price index from HUD seems to be consistent with this trend. It showed prices in Massachusetts falling slowly in the second and third quarters of last year, at annual rates of 2.3 and 0.9 percent respectively, and rising slightly in the fourth quarter, at an annual rate of 2.8 percent. OFHEO recognizes that, because of the inclusion of cash-out mortgages in their data, their index may be biased upwards, perhaps by as much as 3 to 4 percentage points in New England. In any case, the OFHEO index is also exhibiting a better performance in the last quarter of 2006 than earlier in the year.

Housing permits in the beginning of the year continued to be depressed. Single-family permits in the first two months of this year were 30 percent below the average of 2005, on a seasonally adjusted basis.

Figure 6. Unemployment Rates  
U.S., Massachusetts, and Massachusetts Adjusted to U.S. Demographics



Source: U.S. Bureau of the Census, Current Population Surveys; U.S. Bureau of Labor Statistics; Author's calculations

Given the still abnormally high level of listings, rising delinquency and foreclosure rates related to sub-prime mortgages, continued slow growth of jobs, and untenably high price of homes in Massachusetts, there is still considerable downward pressure on house prices. 

ALAN CLAYTON-MATTHEWS, *an associate professor and the director of quantitative methods in the Public Policy Program at the University of Massachusetts Boston, is co-editor of this journal.*

ENDNOTES

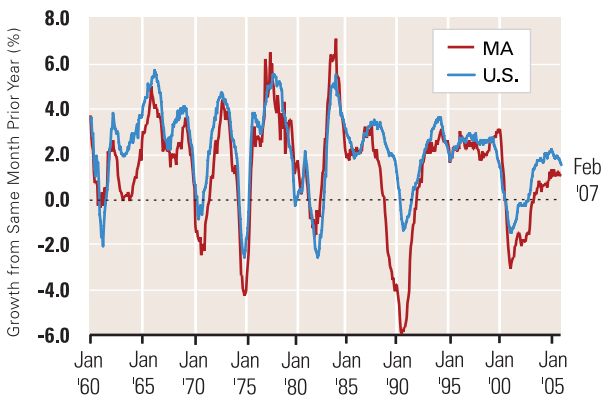
1. The turning point was in February of 2003 as measured by the Massachusetts Current Economic Index. Payroll employment began growing in December 2003.
2. The state's labor force declined by 57,500 between its peak in August 2002 and April 2005. It then surpassed the peak in January of this year, before dropping again in February. As of February 2007, it is 9,200 below its previous peak.
3. Population and migration changes from the Census Bureau are from July of the prior year to July of the current year.
4. From 1977 to 2005, real Massachusetts gross state domestic product grew at an annual average of 3.4 percent, versus 3.1 percent for real U.S. gross domestic product.
5. The Office of Federal Housing Enterprise Oversight index is based on mortgage transactions that include a sizeable proportion of cash-out loans. In an internal study, OFHEO estimated that the upward bias in price appreciation due to cash-out loans in New England was 3.7 percent in a recent year.
6. A linear probability regression was estimated on sample individuals who were in the labor force, using the 84 monthly Current Population Surveys from January 2000 through December 2006. The dependent variable was a dummy variable indicating whether or not the person was unemployed. The independent factors included age (entered as a cubic polynomial), minority status (nonwhite or Hispanic), sex, educational attainment (less than high school, high school diploma, some college, bachelor's degree, advanced degree), recent immigrant status (came to the U.S. in the last 10 years and had less than a high school education), 84 monthly dummies indicating the year and month of the survey (January 2000 was omitted as the reference period), and an interaction of a Massachusetts dummy variable (indicating residence in Massachusetts) with each of the 84 monthly dummies. These latter 84 dummy variable interaction coefficients form the estimates of the demographically controlled-for differences between the Massachusetts and U.S. (actually, the rest of the U.S.) unemployment rates. The annual average difference estimate for each year was formed by averaging the 12 dummy coefficients for the corresponding year.

# State Data Section

## KEY INDICATORS: RECENT TRENDS

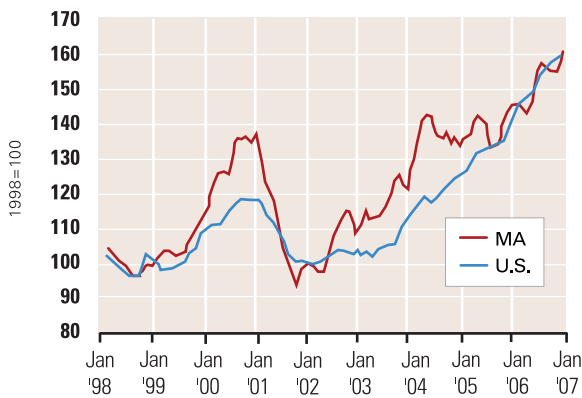
The data in the following figures provide a supplement to the analysis contained in "Economic Currents." Recent Trends in these key data series indicate fast growing gross product, slow but steady employment growth and therefore fast-growing labor productivity.

PAYROLL EMPLOYMENT GROWTH  
Massachusetts and U.S.



Source: U.S. Bureau of Labor Statistics

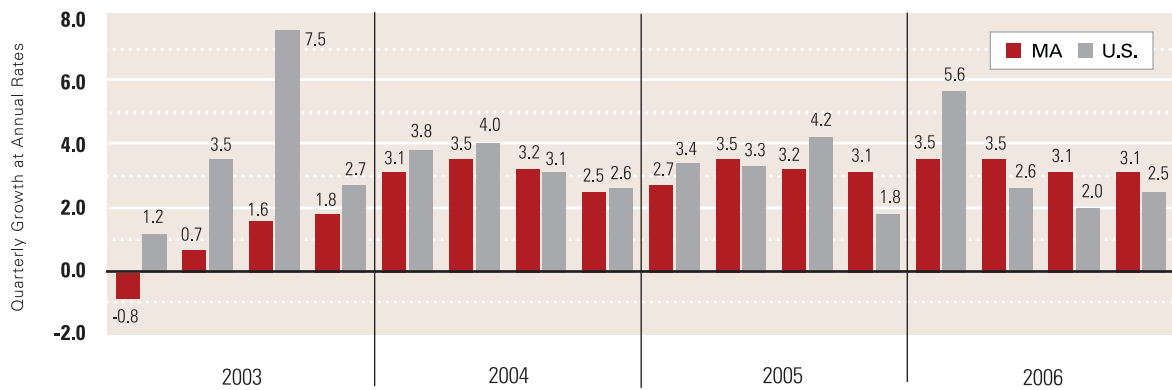
GROWTH IN REAL PRODUCT  
Massachusetts Current Economic Index vs. U.S. GDP



Source: U.S. Department of Commerce, WISERTRADE; seasonally adjusted by author

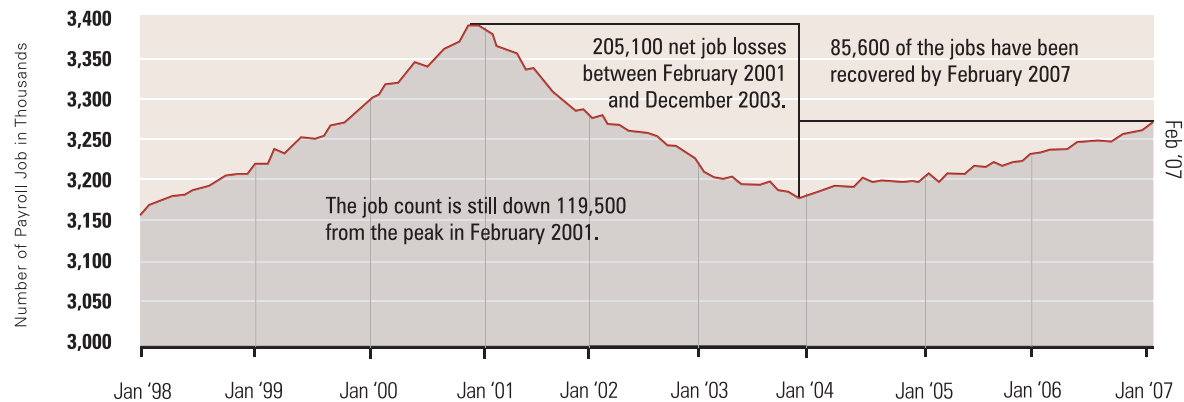


GROWTH IN REAL PRODUCT • Massachusetts Current Economic Index vs. U.S. GDP



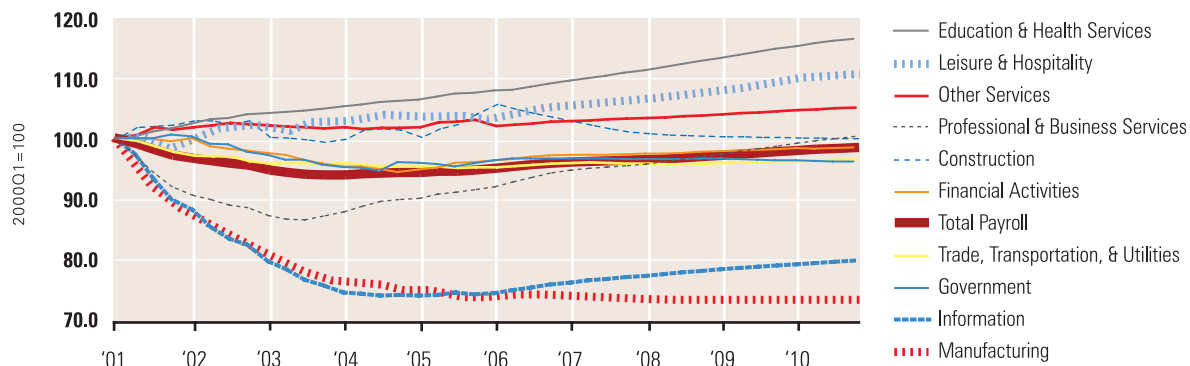
Source: U.S. Bureau of Economic Analysis; MassBenchmarks

MASSACHUSETTS PAYROLL EMPLOYMENT



Source: Massachusetts Division of Unemployment Assistance

PAYROLL EMPLOYMENT, MASSACHUSETTS



Source: New England Economic Partnership (NEEP)