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### Economic Currents: The State of the State Economy

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# economic CURRENTS



ALAN CLAYTON-MATTHEWS

*The state economy appears poised for future growth, but serious issues remain. The “unwinding” of the economic excesses of the 1990s is delaying a genuine economic turnaround, but many other issues are weighing heavily on the economy. These include the risk of terrorism, weak global economic performance, a weak dollar (this issues cuts two ways), and the threat of deflation. When a recovery arrives, job growth will probably lag, and be modest when it appears. We should not expect to return to the heady days of the late 1990s anytime soon.*

Massachusetts is still mired in a recession that began, according to the Massachusetts Current Economic Index, in December 2000. (If dated by the payroll employment peak, the start moves to January 2001.) Technology-related sectors continue to shed jobs, and job losses are dispersed throughout most of the economy.

Though current conditions are still bad and consumer and business expectations are weak, the excesses of the technology bubble may be nearly wrung out of the economy. Technology spending appears to be headed back into growth after crashing in 2001 and remaining stagnant throughout 2002. The Massachusetts economy should begin to turn around accordingly. Gross State Product is expected to begin to grow slowly later this year, and overall payroll employment, early next year. Growth over the next several years will be at a slower pace than in the 1990s expansion.

## Economic Indices for Massachusetts

The Massachusetts Current Economic Index for May was 125.9, down 0.2 percent from April (at annual rates), and down 0.5 percent from May of last year. The current index is normalized to 100 in July 1987 and is calibrated to grow at the same rate as the Massachusetts real gross state product over the 1978–1997 period.

The Massachusetts Leading Economic Index for May was 2.4 percent, and the three-month average for March through May was 1.9 percent. The leading index is a forecast of the 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 2.4 percent over the next six months (through November). 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.

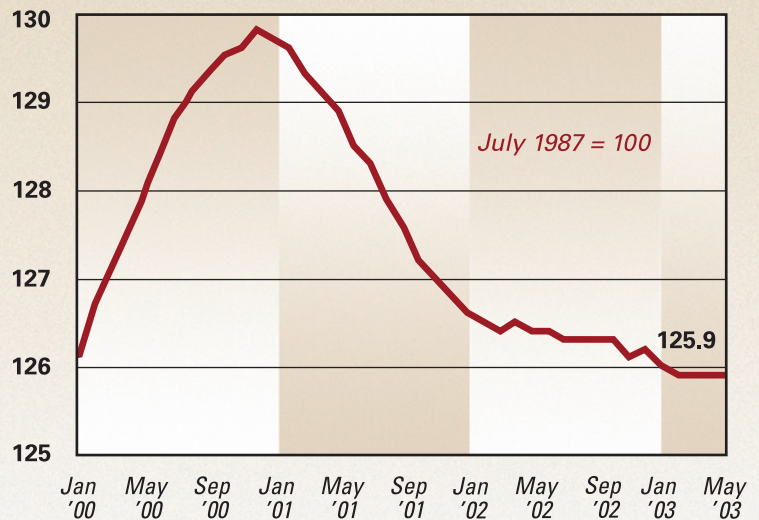
The ten indicators that comprise the leading index are sharply divided, with several offering positive signals and others indicating negative signals about the future course of the Commonwealth's economy. On the negative side are the employment-based indicators, especially total payroll employment and withholding taxes. A careful analysis of April and May employment reports, which correct for the seasonality glitches in the official release, reveals that employment is still declining. This is consistent with stagnant withholding revenues and sales taxes, as well as high initial unemployment claims.

On the positive side are the rebound in stock markets, the strength in motor vehicle sales, and—to a lesser extent—the rise in consumer confidence. It is important to bear in mind that these positive indicators are largely expectation-based; they indicate a shift in consumer and investor attitudes, rather than reflecting actual behaviors (e.g., hiring new employees, investing in capital goods) that will be necessary for a return to growth in the state economy.

Job growth will lag the turnaround in production for several months, however. Firms are waiting to hire until they see the turnaround gain traction. It will take a sustained recovery in business investment spending to get the Massachusetts economy back on track. Now, at least, it appears to be headed in the right direction.

SUBMITTED JUNE 25, 2003

### Massachusetts Current Economic Index



### Massachusetts Leading Economic Index



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

Several risks will weigh heavily on the state's economy and restrain growth to a lower level than we experienced in the last recovery. These include the war on terrorism and the continuing threat of terrorist incidents, weak foreign economies, a weak dollar, and the threat of deflation.

### A Long, Shallow Recession: How This One Compares

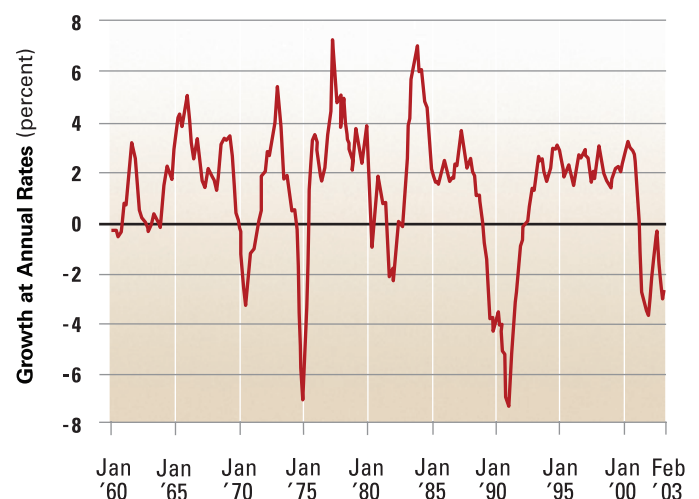
Focusing on payroll employment as a measure of the state's business cycles, the recession was 28 months old in May, the most recent month for which employment was reported. This makes it the second longest in the post-WWII era. In terms of cumulative net job losses, this recession is also about to be the second largest in recent history. Through May, Massachusetts lost approximately 158,000 jobs, representing 4.7 percent of peak employment.

*Thankfully, the current recession does not come close to matching the last economic downturn in terms of severity.*

Thankfully, the current recession does not come close to matching the last one (late 1980s/early 1990s) in severity. That recession spanned 40 months, and the state lost 11.4 percent of its payroll jobs. Standing just behind that (in recent times) was the short but sharp recession in the mid-1970s, when the state lost 4.7 percent of its jobs in 11 months.

As a rough rule of thumb, deeper recessions follow longer and more rapid expansions. A bigger expansion generates more excesses—over-investment in speculative boondoggles, bubbles in asset prices, excessively high wage rates, etc.—for the recession to “wring out” of the economy. One might, therefore, expect that this recession should be at least as severe as the last, as the 1990s expansion lasted 105 months, while that in the 1980s lasted 78 months. Also, more jobs were added in the 1990s expansion: 20.8 percent of the trough level versus 19.7 percent in the 1980s. The excesses this time around, however, though substantial in terms of over-expansion in the technology sector, were not as severe, and they have been more or less wrung out through flexible downward wages, aggressive cost cutting, the long bear market, and obsolescence of computers and other technology equipment.

### Massachusetts Employment Growth Rate



Source: Massachusetts Division of Employment and Training; calculations by author

### Recent Massachusetts Employment Cycles

EXPANSIONS			
Dates	Growth Rate (percent)	Number of Months	Job Change (percent)
8/71–7/74	2.5	35	7.4
6/75–3/80	3.5	57	18.0
7/80–6/81	1.9	11	1.8
6/82–12/88	2.8	78	19.7
4/92–1/01	2.2	105	20.8
<b>Average/Total</b>	<b>2.7</b>	<b>286</b>	<b>N/A</b>
CONTRACTIONS			
2/70–8/71	1.9	18	-2.8
7/74–6/75	-5.2	11	-4.7
3/80–7/80	-3.2	4	-1.1
6/81–6/82	-1.8	12	-1.8
12/88–4/92	-3.6	40	-11.4
1/01–5/93	-2.0	28	-4.7
<b>Average/Total</b>	<b>-2.9</b>	<b>113</b>	<b>N/A</b>
OVERALL AVERAGE/TOTAL			
2/70–4/01	1.1	399	N/A

Source: Massachusetts Division of Employment and Training; dating of cycles and calculations by author

*Three factors that may account for the relative shallowness of this recession are economic diversity, low interest rates, and excess bonuses and realized stock options.*

This would all suggest that the recession should end soon. Moreover, this is consistent with the rule of thumb, because the former boom was really a much longer one that began in the summer of 1975 and was interrupted only briefly by two very short and mild recessions. Between June 1975 and the end of the “miracle years” (December 1988), the number of jobs in Massachusetts increased by 40 percent. Employment grew at an annual rate of 3.5 percent in the first leg of the expansion, from June 1975 to March 1980, and at 2.8 percent in the last leg, from June 1982 to December 1988. In contrast, employment grew at an annual rate of 2.2 percent during the 1990s.

The current recession has also been milder in terms of job loss. So far, the job count has been declining at an annual rate of 2.0 percent, versus 3.6 percent in the early 1990s and 5.2 percent in the short but sharp recession of the mid-1970s. The unemployment rate peaked at 9.6 percent in the last recession. It is expected to peak at just over 6 percent early next year, according to the recent New England Economic Project forecast for Massachusetts.

Three factors may account for the relative shallowness of this recession:

**1) Economic diversity.** Health services, education services, and medical sciences have continued to grow or remain stable in terms of jobs.

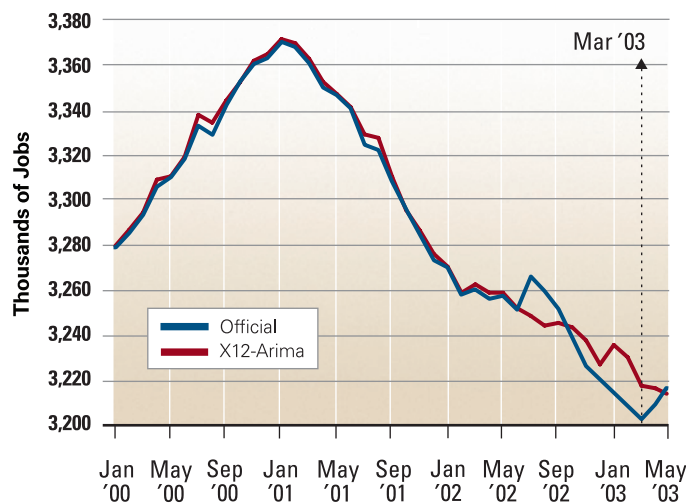
**2) Low interest rates.** Due to a combination of aggressive monetary policy and low inflation, low interest rates have supported the housing market, providing additional wealth to offset stock market losses, and cash through debt refinancing.

**3) Excess bonuses and realized stock options.** Earned before the bubble burst, these have provided a large “rainy day” fund for a number of middle- and high-income households, enabling them to maintain their spending and keep their homes.

## The New NAICS Payroll Survey Has Some Glitches...

According to the official seasonally adjusted payroll data, payroll employment in Massachusetts increased by nearly 15,000 jobs from March to May, largely in the leisure and hospitality industry. Experts agree that there are problems with the official data, and the problems appear to be with the seasonal adjustment procedure that the BLS is using, not with the non-adjusted survey data.<sup>1</sup>

### Massachusetts Payroll Employment



Source: Massachusetts Division of Employment and Training; X12-Arima seasonal adjustments by author

The alternative seasonally adjusted data and the official payroll series are in close agreement through June 2002, the period covered by the last benchmark revision. Since that time, the two series are in relative agreement on the trend in payroll jobs, but they differ sharply in the month-to-month changes. It appears that the official data, with their adjustment quirks, overstated job increase in July 2002, overstated job losses from July 2002 through March 2003, and overstated job gains in April and May. In these recent months, data adjusted for seasonality using the alternative method indicated a decline of 3,600 jobs, to the official job gain of 14,800. Significantly, the alternative series suggests that employment losses are continuing, which is consistent with state withholding taxes and initial unemployment claims.

## ...but NAICS Provides a Good Picture of Recession Impacts by Sector

The new NAICS coding system gives a better picture of the state’s technology sectors than the old SIC system. It helps us understand not only which sectors have been decimated in this recession but also which sectors continued to grow.

## Job Changes This Recession Through May 2003

	Since January 2001		Last Six Months	
	Number of Jobs	Percent	Number of Jobs	Percent
<b>Construction</b>	-5,100	-3.7	-9,000	-6.4
<b>Manufacturing</b>	-75,900	-18.6	-7,900	-2.3
Fabricated Metal Product	-9,100	-19.7	-1,200	-3.2
Machinery	-8,900	-27.5	-800	-3.4
Computer and Electronic Products	-28,800	-26.9	-2,600	-3.3
Medical Equipment and Supplies	-100	-0.9	0	0.1
Textile Mills	-1,900	-16.3	-400	-3.9
Plastics and Rubber Products	-3,600	-16.4	-200	-1.2
<b>Wholesale Trade</b>	-9,000	-6.3	300	0.2
<b>Retail Trade</b>	-2,200	-0.6	5,500	1.6
Utilities	-800	-6.8	-500	-4.5
Transportation and Warehousing	-8,200	-9.9	-1,100	-1.4
Air Transportation	-2,800	-22.7	-1,000	-9.4
<b>Information</b>	-22,900	-19.6	-2,400	-2.4
Software Publishers	-6,000	-23.0	-300	-1.3
<b>Financial Activities</b>	600	0.3	1,100	0.5
Credit Intermediation and Related Activities	4,300	7.2	1,800	2.9
Securities, Commodity, and Investment Activities	-5,700	-10.4	-2,300	-4.4
Insurance Carriers and Related Activities	100	0.1	-400	-0.5
Real Estate	700	2.5	-100	-0.3
<b>Professional and Business Services</b>	-67,900	-13.4	-8,200	-1.8
Professional, Scientific, and Technical Services	-32,700	-13.1	-3,600	-1.6
Computer Systems Design and Related Services	-23,400	-35.0	-2,300	-5.0
Scientific Research and Development Services	3,000	9.3	200	0.4
Employment Services	-25,500	-33.3	-2,000	-3.8
Services to Buildings and Dwellings	-1,800	-3.9	-2,500	-5.2
Educational Services	7,400	5.1	2,400	1.6
Health Care and Social Assistance	18,100	4.5	2,600	0.6
Hospitals	11,400	8.1	2,300	1.5
Child Day Care Services	-1,100	-5.2	-500	-2.2
<b>Leisure and Hospitality</b>	6,200	2.2	-1,100	-0.4
Accommodation	-5,500	-14.6	-2,200	-6.4
Personal and Laundry Services	1,500	4.3	800	2.3
Federal Government	-4,000	-7.3	-2,500	-4.7
State Government	-7,200	-6.7	-2,200	-2.1
Local Government	4,300	1.6	-3,600	-1.3
<b>Total Nonfarm</b>	-158,100	-4.7	-23,700	-0.7
<b>ADDENDUM</b>				
U.S. Nonagricultural Employment	-2,369,000	-1.8	-342,000	-0.3
Massachusetts, December 1988 – April 1991	-315,800	-10.0	N/A	N/A

Source: Massachusetts Division of Employment and Training; seasonally adjusted by author

*There are several indications that the recession is bottoming out. Most importantly, the technology sector is on the verge of growing, at least in terms of sales and output.*

Well over one-third of the manufacturing job losses occurred in the computer and electronic products industry, which has lost 27 percent of its jobs since the peak. Other sectors tied to technology or to manufacturing also lost jobs disproportionately to the economy as a whole. Twenty percent of jobs in the broad information super sector were lost. Within that sector, software publishing employment declined by 23 percent. In professional and business services, computer systems design and related services lost 35 percent, and employment services—which fed the technology sectors' hunger for workers during the boom—lost 33 percent.

Technology and manufacturing were not the only big losers. Due to business cost reduction efforts and the 9/11 terrorist attacks, air transportation employment is down 23 percent, and accommodation—primarily jobs in hotels and motels—is down 15 percent. The three-year bear market in stocks has also resulted in the first major decline in employment in the financial securities industry in recent decades. The sector has dropped over 10 percent of its jobs since the recession began.

Despite the severity and length of the recession, some sectors do not appear to have been impacted. The health sector has continued to provide job growth, especially in hospitals, in which employment has grown 8.1 percent during the recession. Health sciences, composed of medical devices, pharmaceuticals, and biotechnology, also appear to be doing well. For example, though the manufacturing super sector as a whole lost 19 percent of its jobs, employment in medical equipment and supplies dropped by less than 1 percent. Within the professional and business services super sector, scientific research and development services expanded employment by 9.3 percent. It is likely that many of these jobs are tied to medical sciences.

Private educational services have also continued to grow throughout the recession, adding 5 percent more jobs. Low interest rates, strong housing prices, and household wealth accumulated during the boom have virtually nullified the effect of the recession on the retail sector. Retail trade employment shed less than 1 percent of its jobs. Jobs related to residential real estate and refinancing have benefited, growing by 2.5 percent in real estate and by 7.2 percent in credit intermediation and related activity (i.e., institutions and businesses providing mortgage financing). Interestingly, jobs in personal and laundry services have grown 4.3 percent during the recession, most

likely due to a combination of middle-class wealth and a growing supply of cheap immigrant labor.

### **Signs of a Turnaround in Technology Production**

There are several indications that the recession is bottoming out. Most importantly, the technology sector is on the verge of growing, at least in terms of sales and output. U.S. investment in information and processing equipment<sup>2</sup> in the first quarter is up by 5.2 percent at annual rates, and the index of industrial production of information processing equipment in the three-month period ending in May is up 9.9 percent from the prior three-month period.<sup>3</sup>

### **Industrial Production: Information Processing Equipment, U.S.**

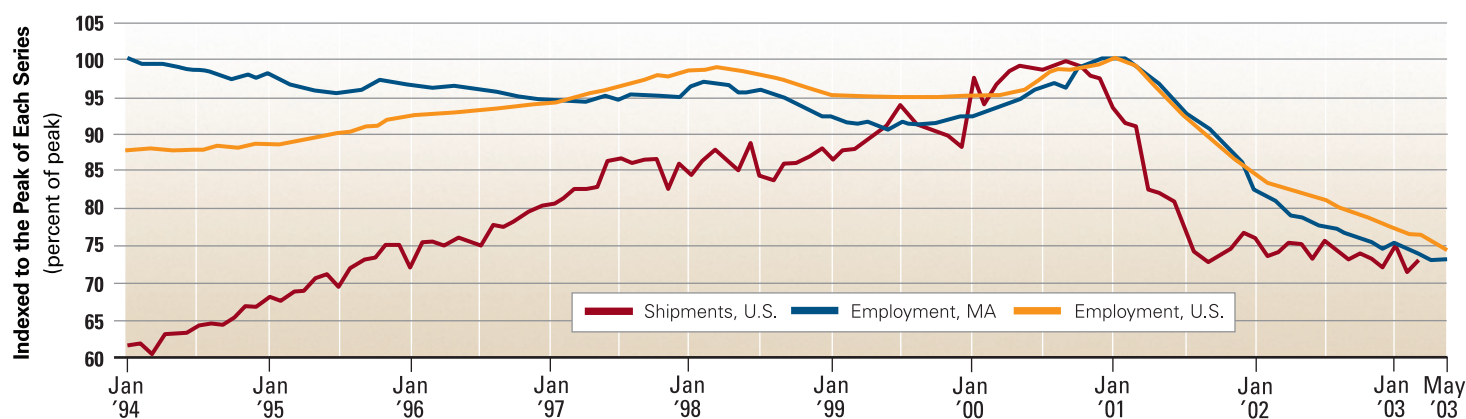


Source: The Federal Reserve Board

In the national computers and electronic products NAICS sector, shipments have been flat for a year and a half. Orders grew in the first quarter, however, and inventories are at 1993 levels. Unfilled orders in the first quarter grew for the first time since the bubble burst. While shipments have been flat, employment has continued to decline, as employers keep cutting costs and aligning their workforce sizes to expected production levels.

If output is about to increase, are employment declines in this industry over? It does seem plausible that job losses might cease—or at least slow down—soon. From the peak

## Computers and Electronic Products Shipments versus Employment



Source: U.S. Department of Commerce and Census Bureau

in September 2000 though April 2003, shipments at the national level fell 27 percent, while employment through May had fallen 25 percent from its peak in January 2001. No shipment data are available at the state level, but Massachusetts employment in this industry, through May, had fallen 27 percent from its peak in December 2000, suggesting the national and state industries are in sync. More job losses can be expected, simply because of productivity gains. If production were to remain at current levels, these gains could lead to a further 10 percent loss in jobs. Any production increase, on the other hand, would counteract the job losses due to productivity gains to some extent.

The situation for semiconductors is mixed. In April, national semiconductor billings in the Americas were down 9.5 percent from a year ago, even though worldwide billings were up 9.5 percent. American companies are losing share to the Asia Pacific region.<sup>4</sup> Semiconductor equipment shippings and bookings from North American companies lost the momentum they had last summer, with shipments in May 3.5 percent below a year ago.<sup>5</sup> Semiconductor firms in Massachusetts appear to be doing better. According to the NAICS employment data for the state, semiconductor employment was down just 1.4 percent in May from the prior year. In the three-month period ending in May, employment grew at a 5.0 percent annual rate over the prior three-month period. Nationally, employment in this sector is down 9.7 percent from a year ago, with job declines continuing.

This situation in national technology production markets is similar to that of a year ago, when growth appeared to be returning, only to lead to disappointing results later in the summer. This time, however, the nascent upward trend is more likely to continue. It has now been four years since the surge in purchases of equipment to prepare for the Y2K event, and equipment put in place then is rapidly becoming obsolete. The urge to replace this equipment can only be stronger than a year ago.

### Other Positive Developments

Monetary and fiscal policies are also supporting a recovery. The Fed seems determined to keep interest rates low until it is sure the national economy is firmly in recovery mode, even indicating that it is now more worried about deflation than inflation. Congress recently passed a massive tax reduction package that should have a positive impact on both consumer and business spending beginning in the second half of this year.

Several other indicators normally associated with an economic turning point are headed in the right direction, as well. Stock prices are rising, reflecting improved bottom lines and expectations. In particular, the Bloomberg stock index for Massachusetts, heavily influenced by technology companies doing business in Massachusetts, is up over 20 percent from its low point last fall. Massachusetts merchandise exports in the first quarter appear to be back on their growth trend established last year. These exports reflect the salutary effects of a weakening dollar, links with Asian technology markets, and worldwide demand for medical devices and pharmaceuticals.

Initial unemployment claims, though still at high levels, have been creeping downward from a peak last October, a pattern normally associated with a labor market on the verge of improving. Motor vehicle sales continue to do well in Massachusetts, indicating that some purchasing power still remains. Consumer confidence also appears to be headed up. The May figures for the nation continued their post-Iraq rebound, led by an improvement in future expectations. Several of these indicators are reflected in the Massachusetts Leading Economic Index, which averaged 1.9 percent for the March–May period.

### A Recovery Is Likely, but It May Have Risks and Uncertainties

The recession may be nearly over, but the turnaround in employment will lag that of production by several months.



According to the New England Economic Project (NEEP) forecast for Massachusetts, employment is expected to begin growing in the first quarter of 2004, and the recovery should gain momentum throughout the year. For the next several years, however, the economy is expected to grow significantly more slowly than in the 1990s.

In the NEEP forecast, employment growth is expected to peak at a 2 percent annual rate in mid-2005. In contrast, employment growth averaged 2.2 percent in the 1990s expansion. Several factors account for the lackluster outlook, including the role of confidence, the war on terrorism, budget deficits, the weakness of the international economy, and the threat of deflation.

As Keynes stressed, the impact of expectations—or “animal spirits”—has a strong influence on the direction of the economy. Since the bubble burst in the spring of 2000, and especially since the terrorist attacks of September 2001, expectations have changed from “irrational exuberance” to the other, darker, side. Consumer expectations seem to be recovering, but business expectations are still lagging. Both the national NAPM index and the Massachusetts Associated Industries index are below 50 percent, indicating expectations of continued contraction, rather than expansion. The NAPM index represents manufacturers, and the AIM index is heavily weighted toward manufacturers. Executives in these firms are extremely cautious in their assessment of the future, partly as a reaction to past excesses, but largely because the global situation is uncertain.

The U.S. war on terrorism, the war with Iraq, and conflict in the Middle East were important factors affecting consumer confidence and business spending in the winter and spring. Though the level of uncertainty has lifted somewhat, the threat of terror will continue to cast a damper on expectations for the foreseeable future. Furthermore, the cost of increased vigilance, from defense to public safety to business security costs, will drop productivity below what it would have been and divert resources from private investment and consumption expenditures. These effects will slow both national and regional growth in the long term, until and unless the policy is effective in dramatically reducing acts of terror. The effect on the Massachusetts economy will be similar to its effect on the national economy. Some defense and technology firms will benefit from security spending, but on balance, the dampening effect on private investment spending will have an adverse impact on the state.

Weakness in the international economy also has ramifications on both the U.S. and Massachusetts economies. The European economy is weak; Germany appears to be falling into recession. The Japanese economy has yet to recover. China and the Asia Pacific region have been growing, with strong demand for the Commonwealth’s

technology products, but the SARS epidemic has disrupted their economies.

Countervailing these negative effects on demand for the state’s exports is the weakening dollar, which makes U.S. products cheaper for foreign buyers, and foreign products more expensive for domestic buyers. This will have beneficial impacts for the state’s exporters of goods and services. At the same time that the weakening dollar will help restore balance in the current trade account, however, it will mean fewer foreign funds flowing into the United States on the capital account. Foreign investment in the country served as an important contribution to U.S. growth in the 1990s, and Massachusetts probably benefited disproportionately, since so much investment was directed at the technology sector. To the extent that foreign investment declines with the weakening dollar, Massachusetts is likely to be adversely affected.

The threat of deflation is remote, but if it occurs, it will have serious consequences for the economy. Falling prices are a good thing, but not if incomes are falling as well. The latter situation is what policymakers are worried about. Deflation would help creditors, whose real net worth would increase—assuming their assets were in money or money markets. It would hurt debtors, though, whose shrinking incomes would make it increasingly difficult to pay fixed-debt obligations such as mortgages and credit card bills. Given the high value of real estate in Massachusetts and the correspondingly high levels of mortgage debt, deflation accompanied by falling nominal incomes would have serious impacts on the real estate market. Foreclosures and personal bankruptcies could skyrocket, with devastating impacts on real estate values. Massachusetts needs to solve the problem of high housing costs, but destructive deflation is not the answer. ◀

SUBMITTED JULY 1, 2003

<sup>1</sup> A more accurate picture of recent employment trends can be obtained by applying a more traditional seasonal adjustment procedure, and that is what has been done here. We are using the BLS X-12 ARIMA seasonal adjustment procedure, with default options. These alternative seasonally adjusted data are used in this report and in the Massachusetts Current and Leading Indices.

<sup>2</sup> From the NIPA accounts, in current dollars. U.S. Department of Commerce, Bureau of Economic Analysis, May 29, 2003.

<sup>3</sup> Board of Governors of the Federal Reserve System, Report on Industrial Production, June 17, 2003.

<sup>4</sup> Semiconductor Industry Association, press release, May 30, 2003.

<sup>5</sup> Semiconductor Equipment and Materials International, press release, May 15, 2003.

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